



**Islamic Republic of Afghanistan
National Procurement Authority**

**Request for Bids
Goods
(One-Envelope Bidding Process)**

For

**Assignment Title: Supply, Installation and Configuration of Hardware &
Datacenter for AMIS in 4 Lots**

**Ref No: NPA/SAO/1400/G-3136/ICB (AF-SAO-FSP-HARDWARE-232677-
GO-RFB)**

Project ID: (P159655)

Grant Numbers: TF-A6277ARTF: TF-A6277

STEP Ref. No.: AF-SAO-FSP-HARDWARE-232677-GO-RFB

Project: Fiscal Performance Improvement Support Project

Purchaser: Supreme Audit Office

Country: Kabul-Afghanistan

Issued on: June 21, 2021

Standard Procurement Document

Summary

Specific Procurement Notice

Specific Procurement Notice - Request for Bids (RFB)

The template attached is the Specific Procurement Notice for Request for Bids, one-envelope Bidding process. This is the form to be used by the Borrower.

Request for Bids – Goods (One-Envelope Bidding Process)

PART 1 – BIDDING PROCEDURES

Section I - Instructions to Bidders (ITB)

This Section provides information to help Bidders prepare their Bids. It is based on a one-envelope Bidding process. Information is also provided on the submission, opening, and evaluation of Bids and on the award of Contracts. **Section I contains provisions that are to be used without modification.**

Section II - Bid Data Sheet (BDS)

This Section includes provisions that are specific to each procurement and that supplement Section I, Instructions to Bidders.

Section III - Evaluation and Qualification Criteria

This Section specifies the criteria to determine the Most Advantageous Bid. The Most Advantageous Bid is the Bid of the Bidder that meets the qualification criteria and whose Bid has been determined to be:

- (a) substantially responsive to the bidding document, and
- (b) the lowest evaluated cost.

Section IV - Bidding Forms

This Section includes the forms for the Bid submission, Price Schedules, Bid Security, and the Manufacturer's Authorization to be completed and submitted by the Bidder as part of its Bid.

Section V - Eligible Countries

This Section contains information regarding eligible countries.

Section VI - Fraud and Corruption

This section includes the fraud and corruption provisions which apply to this Bidding process.

PART 2 – SUPPLY REQUIREMENTS**Section VII - Schedule of Requirements**

This Section includes the List of Goods and Related Services, the Delivery and Completion Schedules, the Technical Specifications and the Drawings that describe the Goods and Related Services to be procured.

PART 3 – CONDITIONS OF CONTRACT AND CONTRACT FORMS**Section VIII - General Conditions of Contract (GCC)**

This Section includes the general clauses to be applied in all contracts. **The text of the clauses in this Section shall not be modified.**

Section IX - Special Conditions of Contract (SCC)

This Section consists of Contract Data and Specific Provisions which contains clauses specific to each contract. The contents of this Section modify or supplement, but not over-write, the General Conditions and shall be prepared by the Purchaser.

Section X - Contract Forms

This Section contains the Letter of Acceptance, Contract Agreement and other relevant forms.

Specific Procurement Notice

Request for Bids Goods

(One-Envelope Bidding Process)

Country: Islamic Republic of Afghanistan

Name of Project: Fiscal Performance Improvement Support Project

Contract Title: Supply, Installation and Configuration of Hardware & Datacenter for AMIS in 4 Lots

Grant No.: TF-A6277

RFB Reference No.: NPA/SAO/1400/G-3136/ICB (AF-SAO-FSP-HARDWARE-232677-GO-RFB)

1. The **Supreme Audit Office (SAO)** has received financing from the World Bank toward the cost of the **Fiscal Performance Improvement Support Project**, and intends to apply part of the proceeds toward payments under the contracts for **Supply, Installation and Configuration of Hardware & Datacenter for AMIS in 4 Lots**.
2. The National Procurement Authority, the **Supreme Audit Office (SAO)** now invites sealed Bids from eligible Bidders for **Supply, Installation and Configuration of Hardware & Datacenter for AMIS in 4 Lots**.
3. Bidders are required to meet the Qualification requirements listed briefly hereunder. Bidders are advised to refer to the Bidding Documents for complete details in this regard.

(a) Completed substantially at least one similar contract within the last five years with a minimum value of;

Lot – 1: **Datacenter Equipment US\$ 100,000**

Lot – 2: **Laptops, Printers and Related Software US\$ 160,000**

Lot – 3: **Servers, Related Software and Configuration US\$ 140,000**

Lot – 4: **Network Equipment, Configuration and Miscellaneous US\$ 130,000**

Note: If the bidders wish to qualify for award of the contract for more than one lot then the bidder must demonstrate having completed at least one similar contract to meet the aggregate of the qualifying criteria for the individual lots.

(b) Bidder must demonstrate access to liquid assets or credit facilities by submitting the Banker's certificate for an amount of;

Lot – 1: **Datacenter Equipment US\$ 35,500**

Lot – 2: **Laptops, Printers and Related Software US\$ 59,500**

Lot – 3: **Servers, Related Software and Configuration US\$ 52,500**

Lot – 4: **Network Equipment, Configuration and Miscellaneous US\$ 60,000**

Note: If the bidders wish to qualify for award of the contract for more than one lot then the bidder must demonstrate having required liquid assets to meet the aggregate of the qualifying criteria for the individual lots.

(c) Minimum Annual Financial Turnover in any one year during the last 5 years shall be:

Lot – 1: **Datacenter Equipment US\$ 160,000**

Lot – 2: **Laptops, Printers and Related Software US\$ 260,000**

Lot – 3: **Servers, Related Software and Configuration US\$ 230,000**

Lot – 4: **Network Equipment, Configuration and Miscellaneous US\$ 215,000**

Note: if the bidders wish to qualify for award of contract for more than one lot then the bidder must demonstrate having required Annual Turnover to meet the aggregate of the qualifying criteria for the individual lots.

(d) Bidders may Bid for one or several contracts, as further defined in the request for bids document. Bidders wishing to offer discounts in case they are awarded more than one contract will be allowed to do so, provided those discounts are included in the Letter of Bid

4. Bidding will be conducted through international competitive procurement using a Request for Bids (RFB) as specified in the World Bank’s “Procurement Regulations for IPF Borrowers” *July 2016* (“Procurement Regulations”), and is open to all eligible Bidders as defined in the Procurement Regulations.
5. Interested eligible Bidders may obtain further information from National Procurement Authority (NPA); Email: pdf_d_06@npa.gov.af, hikmatullah.asad@npa.gov.af, z.jalalzi@gmail.com, sherzad.zahid@gmail.com, sattar.soroush2016@gmail.com, and inspect the bidding document during office hours from **8:00 to 16:00 Hrs** from **Saturday to Wednesday** and from **8:00 to 15:00 Hrs** on **Thursdays** at the address given below.
6. The bidding document in **English** may be obtained by interested eligible Bidders upon the submission of a written application to the below address free of charge.
7. Bids must be delivered to the address below on or before **August 12, 2021. Electronic Bidding will not be permitted.** Late Bids will be rejected. Bids will be publicly opened in the presence of the Bidders’ designated representatives and anyone who chooses to attend at the address below on **August 12, 2021 at 10:00 AM (Kabul Local time).**
8. The bidders or their authorized representatives are invited to attend a Pre-Bid Meeting which will take place on **July 06, 2021 at 10:00 Hrs**, Supreme Audit Office, Kabul – Afghanistan, to clarify issues and to answer any matter that may be raised at that stage
9. All Bids must be accompanied by a bid security in the form of (Bank Guarantee) for each lot as following:

- Lot 1: **Datacenter Equipment USD 5,000.00 (Five Thousand US Dollars)**
- Lot 2: **Laptops, Printers and Related Software USD 10,000.00 (Ten Thousand US Dollars)**
- Lot 3: **Servers, Related Software and Configuration USD 10,000.00 (Ten Thousand US Dollars)**
- Lot 4: **Network Equipment, Configuration and Miscellaneous USD 9,000.00 (Nine Thousand USD Dollars)**

10. The address referred to above is:

Attention: Saboor Safi

Address: Administrative Office of the President, National Procurement Authority,
Procurement Facilitation Directorate, Kabul, Afghanistan

Telephone: +93-202926290 / +93 (0) 202147488

Electronic Mail Address: saboor.safi@npa.gov.af, bfs-mpa@npa.gov.af

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PART 1 – Bidding Procedures

Section I - Instructions to Bidders

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Section I. Instructions to Bidders

A. General

1. **Scope of Bid**
 - 1.1 In connection with the Specific Procurement Notice, Request for Bids (RFB), specified **in the Bid Data Sheet (BDS)**, the Purchaser, as specified **in the BDS**, issues this bidding document for the supply of Goods and, if applicable, any Related Services incidental thereto, as specified in Section VII, Schedule of Requirements. The name, identification and number of lots (contracts) of this RFB are **specified in the BDS**.
 - 1.2 Throughout this bidding document:
 - (a) the term “in writing” means communicated in written form (e.g. by mail, e-mail, fax, including if **specified in the BDS**, distributed or received through the electronic-procurement system used by the Purchaser) with proof of receipt;
 - (b) if the context so requires, “singular” means “plural” and vice versa; and
 - (c) “Day” means calendar day, unless otherwise specified as “Business Day”. A Business Day is any day that is an official working day of the Borrower. It excludes the Borrower’s official public holidays.
2. **Source of Funds**
 - 2.1 The Borrower or Recipient (hereinafter called “Borrower”) **specified in the BDS** has applied for or received financing (hereinafter called “funds”) from the International Bank for Reconstruction and Development or the International Development Association (hereinafter called “the Bank”) in an amount **specified in the BDS**, toward the project named **in the BDS**. The Borrower intends to apply a portion of the funds to eligible payments under the contract for which this bidding document is issued.
 - 2.2 Payment by the Bank will be made only at the request of the Borrower and upon approval by the Bank in accordance with the terms and conditions of the Loan (or other financing) Agreement. The Loan (or other financing) Agreement prohibits a withdrawal from the Loan account for the purpose of any payment to persons or entities, or for any import of goods, if such payment or import is prohibited by

decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations. No party other than the Borrower shall derive any rights from the Loan (or other financing) Agreement or have any claim to the proceeds of the Loan (or other financing).

3. Fraud and Corruption

3.1 The Bank requires compliance with the Bank's Anti-Corruption Guidelines and its prevailing sanctions policies and procedures as set forth in the WBG's Sanctions Framework, as set forth in Section VI.

3.2 In further pursuance of this policy, Bidders shall permit and shall cause their agents (where declared or not), subcontractors, subconsultants, service providers, suppliers, and their personnel, to permit the Bank to inspect all accounts, records and other documents relating to any initial selection process, prequalification process, bid submission, proposal submission, and contract performance (in the case of award), and to have them audited by auditors appointed by the Bank.

4. Eligible Bidders

4.1 A Bidder may be a firm that is a private entity, a state-owned enterprise or institution subject to ITB 4.6, or any combination of such entities in the form of a joint venture (JV) under an existing agreement or with the intent to enter into such an agreement supported by a letter of intent. In the case of a joint venture, all members shall be jointly and severally liable for the execution of the entire Contract in accordance with the Contract terms. The JV shall nominate a Representative who shall have the authority to conduct all business for and on behalf of any and all the members of the JV during the Bidding process and, in the event the JV is awarded the Contract, during contract execution. Unless specified **in the BDS**, there is no limit on the number of members in a JV.

4.2 A Bidder shall not have a conflict of interest. Any Bidder found to have a conflict of interest shall be disqualified. A Bidder may be considered to have a conflict of interest for the purpose of this Bidding process, if the Bidder:

(a) directly or indirectly controls, is controlled by or is under common control with another Bidder; or

(b) receives or has received any direct or indirect subsidy from another Bidder; or

(c) has the same legal representative as another Bidder; or

- (d) has a relationship with another Bidder, directly or through common third parties, that puts it in a position to influence the Bid of another Bidder, or influence the decisions of the Purchaser regarding this Bidding process; or
 - (e) or any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the works that are the subject of the Bid; or
 - (f) or any of its affiliates has been hired (or is proposed to be hired) by the Purchaser or Borrower for the Contract implementation; or
 - (g) would be providing goods, works, or non-consulting services resulting from or directly related to consulting services for the preparation or implementation of the project specified in the BDS ITB 2.1 that it provided or were provided by any affiliate that directly or indirectly controls, is controlled by, or is under common control with that firm; or
 - (h) has a close business or family relationship with a professional staff of the Borrower (or of the project implementing agency, or of a recipient of a part of the loan) who: (i) are directly or indirectly involved in the preparation of the bidding document or specifications of the Contract, and/or the Bid evaluation process of such Contract; or (ii) would be involved in the implementation or supervision of such Contract unless the conflict stemming from such relationship has been resolved in a manner acceptable to the Bank throughout the Bidding process and execution of the Contract.
- 4.3 A firm that is a Bidder (either individually or as a JV member) shall not participate in more than one Bid, except for permitted alternative Bids. This includes participation as a subcontractor. Such participation shall result in the disqualification of all Bids in which the firm is involved. A firm that is not a Bidder or a JV member, may participate as a subcontractor in more than one Bid.
- 4.4 A Bidder may have the nationality of any country, subject to the restrictions pursuant to ITB 4.8. A Bidder shall be deemed to have the nationality of a country if the Bidder is constituted, incorporated or registered in and operates in conformity with the provisions of the laws of that country, as evidenced by its articles of incorporation (or equivalent documents of

constitution or association) and its registration documents, as the case may be. This criterion also shall apply to the determination of the nationality of proposed subcontractors or subconsultants for any part of the Contract including related Services.

- 4.5 A Bidder that has been sanctioned by the Bank, pursuant to the Bank's Anti-Corruption Guidelines, in accordance with its prevailing sanctions policies and procedures as set forth in the WBG's Sanctions Framework as described in Section VI paragraph 2.2 d., shall be ineligible to be prequalified for, initially selected for, bid for, propose for, or be awarded a Bank-financed contract or benefit from a Bank-financed contract, financially or otherwise, during such period of time as the Bank shall have determined. The list of debarred firms and individuals is available at the electronic address specified in the BDS.
- 4.6 Bidders that are state-owned enterprises or institutions in the Purchaser's Country may be eligible to compete and be awarded a Contract(s) only if they can establish, in a manner acceptable to the Bank, that they (i) are legally and financially autonomous (ii) operate under commercial law, and (iii) are not under supervision of the Purchaser.
- 4.7 A Bidder shall not be under suspension from Bidding by the Purchaser as the result of the operation of a Bid-Securing Declaration or Proposal-Securing Declaration.
- 4.8 Firms and individuals may be ineligible if so indicated in Section V and (a) as a matter of law or official regulations, the Borrower's country prohibits commercial relations with that country, provided that the Bank is satisfied that such exclusion does not preclude effective competition for the supply of goods or the contracting of works or services required; or (b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, the Borrower's country prohibits any import of goods or contracting of works or services from that country, or any payments to any country, person, or entity in that country.
- 4.9 A Bidder shall provide such documentary evidence of eligibility satisfactory to the Purchaser, as the Purchaser shall reasonably request.
- 4.10 A firm that is under a sanction of debarment by the Borrower from being awarded a contract is eligible to participate in this

procurement, unless the Bank, at the Borrower’s request, is satisfied that the debarment;

(a) relates to fraud or corruption; and

(b) followed a judicial or administrative proceeding that afforded the firm adequate due process.

5. Eligible Goods and Related Services

5.1 All the Goods and Related Services to be supplied under the Contract and financed by the Bank may have their origin in any country in accordance with Section V, Eligible Countries.

5.2 For purposes of this ITB, the term “goods” includes commodities, raw material, machinery, equipment, and industrial plants; and “related services” includes services such as insurance, installation, training, and initial maintenance.

5.3 The term “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 components.

B. Contents of Request for Bids Document

6. Sections of Bidding Document

6.1 The bidding document consist of Parts 1, 2, and 3, which include all the sections indicated below, and should be read in conjunction with any Addenda issued in accordance with ITB 8.

PART 1 Bidding Procedures

- Section I - Instructions to Bidders (ITB)
- Section II - Bidding Data Sheet (BDS)
- Section III - Evaluation and Qualification Criteria
- Section IV - Bidding Forms
- Section V - Eligible Countries
- Section VI - Fraud and Corruption

PART 2 Supply Requirements

- Section VII - Schedule of Requirements

PART 3 Contract

- Section VIII - General Conditions of Contract (GCC)
- Section IX - Special Conditions of Contract (SCC)
- Section X - Contract Forms

6.2 The Specific Procurement Notice, Request for Bids (RFB), issued by the Purchaser is not part of this bidding document.

6.3 Unless obtained directly from the Purchaser, the Purchaser is not responsible for the completeness of the document, responses to requests for clarification, the Minutes of the pre-Bid meeting (if any), or Addenda to the bidding document in accordance with ITB 8. In case of any contradiction, documents obtained directly from the Purchaser shall prevail.

6.4 The Bidder is expected to examine all instructions, forms, terms, and specifications in the bidding document and to furnish with its Bid all information or documentation as is required by the bidding document.

7. Clarification of Bidding Document

7.1 A Bidder requiring any clarification of the bidding document shall contact the Purchaser in writing at the Purchaser's address specified **in the BDS**. The Purchaser will respond in writing to any request for clarification, provided that such request is received prior to the deadline for submission of Bids within a period specified **in the BDS**. The Purchaser shall forward copies of its response to all Bidders who have acquired the bidding document in accordance with ITB 6.3, including a description of the inquiry but without identifying its source. If so specified **in the BDS**, the Purchaser shall also promptly publish its response at the web page identified **in the BDS**. Should the clarification result in changes to the essential elements of the bidding document, the Purchaser shall amend the bidding document following the procedure under ITB 8 and ITB 22.2.

8. Amendment of Bidding Document

8.1 At any time prior to the deadline for submission of Bids, the Purchaser may amend the bidding document by issuing addenda.

8.2 Any addendum issued shall be part of the bidding document and shall be communicated in writing to all who have obtained the bidding document from the Purchaser in

accordance with ITB 6.3. The Purchaser shall also promptly publish the addendum on the Purchaser's web page in accordance with ITB 7.1.

- 8.3 To give prospective Bidders reasonable time in which to take an addendum into account in preparing their Bids, the Purchaser may, at its discretion, extend the deadline for the submission of Bids, pursuant to ITB 22.2.

C. Preparation of Bids

- 9. Cost of Bidding** 9.1 The Bidder shall bear all costs associated with the preparation and submission of its Bid, and the Purchaser shall not be responsible or liable for those costs, regardless of the conduct or outcome of the Bidding process.
- 10. Language of Bid** 10.1 The Bid, as well as all correspondence and documents relating to the Bid exchanged by the Bidder and the Purchaser, shall be written in the language specified **in the BDS**. Supporting documents and printed literature that are part of the Bid may be in another language provided they are accompanied by an accurate translation of the relevant passages into the language specified **in the BDS**, in which case, for purposes of interpretation of the Bid, such translation shall govern.
- 11. Documents Comprising the Bid** 11.1 The Bid shall comprise the following:
- (a) **Letter of Bid** prepared in accordance with ITB 12;
 - (b) **Price Schedules**: completed in accordance with ITB 12 and ITB 14;
 - (c) **Bid Security** or **Bid-Securing Declaration**, in accordance with ITB 19.1;
 - (d) **Alternative Bid**: if permissible, in accordance with ITB 13;
 - (e) **Authorization**: written confirmation authorizing the signatory of the Bid to commit the Bidder, in accordance with ITB 20.3;
 - (f) **Qualifications**: documentary evidence in accordance with ITB 17 establishing the Bidder's qualifications to perform the Contract if its Bid is accepted;
 - (g) **Bidder's Eligibility**: documentary evidence in accordance with ITB 17 establishing the Bidder's eligibility to bid;

- (h) **Eligibility of Goods and Related Services:** documentary evidence in accordance with ITB 16, establishing the eligibility of the Goods and Related Services to be supplied by the Bidder;
- (i) **Conformity:** documentary evidence in accordance with ITB 16 and 30, that the Goods and Related Services conform to the bidding document; and
- (j) Any other document required **in the BDS**.

11.2 In addition to the requirements under ITB 11.1, Bids submitted by a JV shall include a copy of the Joint Venture Agreement entered into by all members. Alternatively, a letter of intent to execute a Joint Venture Agreement in the event of a successful Bid shall be signed by all members and submitted with the Bid, together with a copy of the proposed Agreement.

11.3 The Bidder shall furnish in the Letter of Bid information on commissions and gratuities, if any, paid or to be paid to agents or any other party relating to this Bid.

12. Letter of Bid and Price Schedules

12.1. The Letter of Bid and Price Schedules shall be prepared using the relevant forms furnished in Section IV, Bidding Forms. The forms must be completed without any alterations to the text, and no substitutes shall be accepted except as provided under ITB 20.3. All blank spaces shall be filled in with the information requested.

13. Alternative Bids

13.1. Unless otherwise specified **in the BDS**, alternative Bids shall not be considered.

14. Bid Prices and Discounts

14.1 The prices and discounts quoted by the Bidder in the Letter of Bid and in the Price Schedules shall conform to the requirements specified below.

14.2 All lots (contracts) and items must be listed and priced separately in the Price Schedules.

14.3 The price to be quoted in the Letter of Bid in accordance with ITB 12.1 shall be the total price of the Bid, excluding any discounts offered.

14.4 The Bidder shall quote any discounts and indicate the methodology for their application in the Letter of Bid, in accordance with ITB 12.1.

14.5 Prices quoted by the Bidder shall be fixed during the Bidder's performance of the Contract and not subject to variation on any account, unless otherwise specified **in the**

BDS. A Bid submitted with an adjustable price quotation shall be treated as nonresponsive and shall be rejected, pursuant to ITB 29. However, if in accordance with **the BDS**, prices quoted by the Bidder shall be subject to adjustment during the performance of the Contract, a Bid submitted with a fixed price quotation shall not be rejected, but the price adjustment shall be treated as zero.

- 14.6 If so specified in ITB 1.1, Bids are being invited for individual lots (contracts) or for any combination of lots (packages). Unless otherwise specified **in the BDS**, prices quoted shall correspond to 100 % of the items specified for each lot and to 100% of the quantities specified for each item of a lot. Bidders wishing to offer discounts for the award of more than one Contract shall specify in their Bid the price reductions applicable to each package, or alternatively, to individual Contracts within the package. Discounts shall be submitted in accordance with ITB 14.4 provided the Bids for all lots (contracts) are opened at the same time.
- 14.7 The terms EXW, CIP, and other similar terms shall be governed by the rules prescribed in the current edition of Incoterms, published by the International Chamber of Commerce, as specified **in the BDS**.
- 14.8 Prices shall be quoted as specified in each Price Schedule included in Section IV, Bidding Forms. The disaggregation of price components is required solely for the purpose of facilitating the comparison of Bids by the Purchaser. This shall not in any way limit the Purchaser's right to contract on any of the terms offered. In quoting prices, the Bidder shall be free to use transportation through carriers registered in any eligible country, in accordance with Section V, Eligible Countries. Similarly, the Bidder may obtain insurance services from any eligible country in accordance with Section V, Eligible Countries. Prices shall be entered in the following manner:
- (a) For Goods manufactured in the Purchaser's Country:
 - (i) the price of the Goods quoted EXW (ex-works, ex-factory, ex warehouse, ex showroom, or off-the-shelf, as applicable), including all customs duties and sales and other taxes already paid or payable on the components and raw material used in the manufacture or assembly of the Goods;

- (ii) any Purchaser's Country sales tax and other taxes which will be payable on the Goods if the Contract is awarded to the Bidder; and
 - (iii) the price for inland transportation, insurance, and other local services required to convey the Goods to their final destination (Project Site) specified **in the BDS**.
- (b) For Goods manufactured outside the Purchaser's Country, to be imported:
 - (i) the price of the Goods, quoted CIP named place of destination, in the Purchaser's Country, as specified **in the BDS**;
 - (ii) the price for inland transportation, insurance, and other local services required to convey the Goods from the named place of destination to their final destination (Project Site) specified **in the BDS**;
- (c) For Goods manufactured outside the Purchaser's Country, already imported:
 - (i) the price of the Goods, including the original import value of the Goods; plus any mark-up (or rebate); plus any other related local cost, and custom duties and other import taxes already paid or to be paid on the Goods already imported;
 - (ii) the custom duties and other import taxes already paid (need to be supported with documentary evidence) or to be paid on the Goods already imported;
 - (iii) the price of the Goods, obtained as the difference between (i) and (ii) above;
 - (iv) any Purchaser's Country sales and other taxes which will be payable on the Goods if the Contract is awarded to the Bidder; and
 - (v) the price for inland transportation, insurance, and other local services required to convey the Goods from the named place of destination to their final destination (Project Site) specified **in the BDS**.
- (d) for Related Services, other than inland transportation and other services required to convey the Goods to their final destination, whenever such Related Services are specified in the Schedule of Requirements, the

price of each item comprising the Related Services (inclusive of any applicable taxes).

15. Currencies of Bid and Payment

- 15.1 The currency(ies) of the Bid and the currency(ies) of payments shall be the same. The Bidder shall quote in the currency of the Purchaser's Country the portion of the Bid price that corresponds to expenditures incurred in the currency of the Purchaser's Country, unless otherwise specified **in the BDS**.
- 15.2 The Bidder may express the Bid price in any currency. If the Bidder wishes to be paid in a combination of amounts in different currencies, it may quote its price accordingly but shall use no more than three foreign currencies in addition to the currency of the Purchaser's Country.

16. Documents Establishing the Eligibility and Conformity of the Goods and Related Services

- 16.1 To establish the eligibility of the Goods and Related Services in accordance with ITB 5, Bidders shall complete the country of origin declarations in the Price Schedule Forms, included in Section IV, Bidding Forms.
- 16.2 To establish the conformity of the Goods and Related Services to the bidding document, the Bidder shall furnish as part of its Bid the documentary evidence that the Goods conform to the technical specifications and standards specified in Section VII, Schedule of Requirements.
- 16.3 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 and Related Services, demonstrating substantial responsiveness of the Goods and Related Services to the technical specification, and if applicable, a statement of deviations and exceptions to the provisions of the Section VII, Schedule of Requirements.
- 16.4 The Bidder shall also furnish a list giving full particulars, including available sources and current prices of spare parts, special tools, etc., necessary for the proper and continuing functioning of the Goods during the period **specified in the BDS** following commencement of the use of the goods by the Purchaser.
- 16.5 Standards for workmanship, process, material, and equipment, as well as references to brand names or catalogue numbers specified by the Purchaser in the Schedule of Requirements, are intended to be descriptive only and not restrictive. The Bidder may offer other standards of quality, brand names, and/or catalogue numbers, provided that it demonstrates, to the Purchaser's satisfaction, that the

substitutions ensure substantial equivalence or are superior to those specified in the Section VII, Schedule of Requirements.

**17. Documents
Establishing the
Eligibility and
Qualifications of
the Bidder**

17.1 To establish Bidder's eligibility in accordance with ITB 4, Bidders shall complete the Letter of Bid, included in Section IV, Bidding Forms.

17.2 The documentary evidence of the Bidder's qualifications to perform the Contract if its Bid is accepted shall establish to the Purchaser's satisfaction:

(a) that, if required **in the BDS**, a Bidder that does not manufacture or produce the Goods it offers to supply shall submit the Manufacturer's Authorization using the form included in Section IV, Bidding Forms 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;

(b) that, if required **in the BDS**, in case of a Bidder not doing business within the Purchaser's Country, the Bidder is or will be (if awarded the Contract) represented by an Agent in the country equipped and able to carry out the Supplier's maintenance, repair and spare parts-stocking obligations prescribed in the Conditions of Contract and/or Technical Specifications; and

(c) that the Bidder meets each of the qualification criterion specified in Section III, Evaluation and Qualification Criteria.

**18. Period of Validity
of Bids**

18.1. Bids shall remain valid for the Bid Validity period specified **in the BDS**. The Bid Validity period starts from the date fixed for the Bid submission deadline (as prescribed by the Purchaser in accordance with ITB 22.1). A Bid valid for a shorter period shall be rejected by the Purchaser as nonresponsive.

18.2. In exceptional circumstances, prior to the expiration of the Bid validity period, the Purchaser may request Bidders to extend the period of validity of their Bids. The request and the responses shall be made in writing. If a Bid Security is requested in accordance with ITB 19, it shall also be extended for a corresponding period. A Bidder may refuse the request without forfeiting its Bid Security. A Bidder

granting the request shall not be required or permitted to modify its Bid, except as provided in ITB 18.3.

- 18.3. If the award is delayed by a period exceeding fifty-six (56) days beyond the expiry of the initial Bid validity period, the Contract price shall be determined as follows:
- (a) in the case of fixed price contracts, the Contract price shall be the Bid price adjusted by the factor specified **in the BDS**;
 - (b) in the case of adjustable price contracts, no adjustment shall be made;
 - (c) in any case, Bid evaluation shall be based on the Bid price without taking into consideration the applicable correction from those indicated above.

19. Bid Security

- 19.1. The Bidder shall furnish as part of its Bid, either a Bid-Securing Declaration or a Bid Security, as specified **in the BDS**, in original form and, in the case of a Bid Security, in the amount and currency specified **in the BDS**.
- 19.2. A Bid Securing Declaration shall use the form included in Section IV, Bidding Forms.
- 19.3. If a Bid Security is specified pursuant to ITB 19.1, the Bid Security shall be a demand guarantee in any of the following forms at the Bidder's option:
- (a) an unconditional guarantee issued by a bank or non-bank financial institution (such as an insurance, bonding or surety company);
 - (b) an irrevocable letter of credit;
 - (c) a cashier's or certified check; or
 - (d) another security specified **in the BDS**,

from a reputable source, and an eligible country. If an unconditional guarantee is issued by a non-bank financial institution located outside the Purchaser's Country, the issuing non-bank financial institution shall have a correspondent financial institution located in the Purchaser's Country to make it enforceable unless the Purchaser has agreed in writing, prior to Bid submission, that a correspondent financial institution is not required. In the case of a bank guarantee, the Bid Security shall be submitted either using the Bid Security Form included

in Section IV, Bidding Forms, or in another substantially similar format approved by the Purchaser prior to Bid submission. The Bid Security shall be valid for twenty-eight (28) days beyond the original validity period of the Bid, or beyond any period of extension if requested under ITB 18.2.

- 19.4. If a Bid Security is specified pursuant to ITB 19.1, any Bid not accompanied by a substantially responsive Bid Security shall be rejected by the Purchaser as non-responsive.
- 19.5. If a Bid Security is specified pursuant to ITB 19.1, the Bid Security of unsuccessful Bidders shall be returned as promptly as possible upon the successful Bidder's signing the Contract and furnishing the Performance Security pursuant to ITB 46.
- 19.6. The Bid Security of the successful Bidder shall be returned as promptly as possible once the successful Bidder has signed the Contract and furnished the required Performance Security.
- 19.7. The Bid Security may be forfeited or the Bid Securing Declaration executed:
 - (a) if a Bidder withdraws its Bid during the period of Bid validity specified by the Bidder in the Letter of Bid, or any extension thereto provided by the Bidder; or
 - (b) if the successful Bidder fails to:
 - (i) sign the Contract in accordance with ITB 45; or
 - (ii) furnish a Performance Security in accordance with ITB 46.
- 19.8. The Bid Security or Bid- Securing Declaration of a JV must be in the name of the JV that submits the Bid. If the JV has not been legally constituted into a legally enforceable JV at the time of Bidding, the Bid Security or Bid-Securing Declaration shall be in the names of all future members as named in the letter of intent referred to in ITB 4.1 and ITB 11.2.
- 19.9. If a Bid Security is not required **in the BDS**, pursuant to ITB 19.1, and
 - (a) if a Bidder withdraws its Bid during the period of Bid validity specified by the Bidder on the Letter of Bid; or

- (b) if the successful Bidder fails to: sign the Contract in accordance with ITB 45; or furnish a performance security in accordance with ITB 46;

the Borrower may, if provided for **in the BDS**, declare the Bidder ineligible to be awarded a contract by the Purchaser for a period of time as stated **in the BDS**.

20. Format and Signing of Bid

- 20.1 The Bidder shall prepare one original of the documents comprising the Bid as described in ITB 11 and clearly mark it “ORIGINAL.” Alternative Bids, if permitted in accordance with ITB 13, shall be clearly marked “ALTERNATIVE.” In addition, the Bidder shall submit copies of the Bid, in the number **specified in the BDS** and clearly mark them “COPY.” In the event of any discrepancy between the original and the copies, the original shall prevail.
- 20.2 Bidders shall mark as “CONFIDENTIAL” information in their Bids which is confidential to their business. This may include proprietary information, trade secrets, or commercial or financially sensitive information.
- 20.3 The original and all copies of the Bid shall be typed or written in indelible ink and shall be signed by a person duly authorized to sign on behalf of the Bidder. This authorization shall consist of a written confirmation as specified **in the BDS** and shall be attached to the Bid. The name and position held by each person signing the authorization must be typed or printed below the signature. All pages of the Bid where entries or amendments have been made shall be signed or initialed by the person signing the Bid.
- 20.4 In case the Bidder is a JV, the Bid shall be signed by an authorized representative of the JV on behalf of the JV, and so as to be legally binding on all the members as evidenced by a power of attorney signed by their legally authorized representatives.
- 20.5 Any inter-lineation, erasures, or overwriting shall be valid only if they are signed or initialed by the person signing the Bid.

D. Submission and Opening of Bids

21. Sealing and Marking of Bids

21.1. The Bidder shall deliver the Bid in a single, sealed envelope (one-envelope Bidding process). Within the single envelope the Bidder shall place the following separate, sealed envelopes:

- (a) in an envelope marked “ORIGINAL”, all documents comprising the Bid, as described in ITB 11; and
- (b) in an envelope marked “COPIES”, all required copies of the Bid; and,
- (c) if alternative Bids are permitted in accordance with ITB 13, and if relevant:
 - i. in an envelope marked “ORIGINAL -ALTERNATIVE”, the alternative Bid; and
 - ii. in the envelope marked “COPIES – ALTERNATIVE BID” all required copies of the alternative Bid.

21.2. The inner and outer envelopes, shall:

- (a) bear the name and address of the Bidder;
- (b) be addressed to the Purchaser in accordance with ITB 22.1;
- (c) bear the specific identification of this Bidding process indicated in ITB 1.1; and
- (d) bear a warning not to open before the time and date for Bid opening.

21.3 If all envelopes are not sealed and marked as required, the Purchaser will assume no responsibility for the misplacement or premature opening of the Bid.

22. Deadline for Submission of Bids

22.1. Bids must be received by the Purchaser at the address and no later than the date and time specified **in the BDS**. When so specified **in the BDS**, Bidders shall have the option of submitting their Bids electronically. Bidders submitting Bids electronically shall follow the electronic Bid submission procedures specified **in the BDS**.

22.2. The Purchaser may, at its discretion, extend the deadline for the submission of Bids by amending the bidding document in accordance with ITB 8, in which case all rights and obligations of the Purchaser and Bidders previously subject

to the deadline shall thereafter be subject to the deadline as extended.

23. Late Bids

23.1. The Purchaser shall not consider any Bid that arrives after the deadline for submission of Bids, in accordance with ITB 22. Any Bid received by the Purchaser after the deadline for submission of Bids shall be declared late, rejected, and returned unopened to the Bidder.

24. Withdrawal, Substitution, and Modification of Bids

24.1. A Bidder may withdraw, substitute, or modify its Bid after it has been submitted by sending a written notice, duly signed by an authorized representative, and shall include a copy of the authorization (the power of attorney) in accordance with ITB 20.3, (except that withdrawal notices do not require copies). The corresponding substitution or modification of the Bid must accompany the respective written notice. All notices must be:

- (a) prepared and submitted in accordance with ITB 20 and 21 (except that withdrawal notices do not require copies), and in addition, the respective envelopes shall be clearly marked “WITHDRAWAL,” “SUBSTITUTION,” or “MODIFICATION;” and
- (b) received by the Purchaser prior to the deadline prescribed for submission of Bids, in accordance with ITB 22.

24.2. Bids requested to be withdrawn in accordance with ITB 24.1 shall be returned unopened to the Bidders.

24.3. No Bid may be withdrawn, substituted, or modified in the interval between the deadline for submission of Bids and the expiration of the period of Bid validity specified by the Bidder on the Letter of Bid or any extension thereof.

25. Bid Opening

25.1. Except as in the cases specified in ITB 23 and ITB 24.2, the Purchaser shall, at the Bid opening, publicly open and read out all Bids received by the deadline at the date, time and place specified **in the BDS** in the presence of Bidders’ designated representatives and anyone who chooses to attend. Any specific electronic Bid opening procedures required if electronic bidding is permitted in accordance with ITB 22.1, shall be as specified **in the BDS**.

25.2. First, envelopes marked “WITHDRAWAL” shall be opened and read out and the envelope with the corresponding Bid shall not be opened, but returned to the Bidder. If the withdrawal envelope does not contain a copy of the “power

of attorney” confirming the signature as a person duly authorized to sign on behalf of the Bidder, the corresponding Bid will be opened. No Bid withdrawal shall be permitted unless the corresponding withdrawal notice contains a valid authorization to request the withdrawal and is read out at Bid opening.

- 25.3. Next, envelopes marked “SUBSTITUTION” shall be opened and read out and exchanged with the corresponding Bid being substituted, and the substituted Bid shall not be opened, but returned to the Bidder. No Bid substitution shall be permitted unless the corresponding substitution notice contains a valid authorization to request the substitution and is read out at Bid opening.
- 25.4. Next, envelopes marked “MODIFICATION” shall be opened and read out with the corresponding Bid. No Bid modification shall be permitted unless the corresponding modification notice contains a valid authorization to request the modification and is read out at Bid opening.
- 25.5. Next, all remaining envelopes shall be opened one at a time, reading out: the name of the Bidder and whether there is a modification; the total Bid Prices, per lot (contract) if applicable, including any discounts and alternative Bids; the presence or absence of a Bid Security, if required; and any other details as the Purchaser may consider appropriate.
- 25.6. Only Bids, alternative Bids and discounts that are opened and read out at Bid opening shall be considered further in the evaluation. The Letter of Bid and the Price Schedules are to be initialed by representatives of the Purchaser attending Bid opening in the manner specified **in the BDS**.
- 25.7. The Purchaser shall neither discuss the merits of any Bid nor reject any Bid (except for late Bids, in accordance with ITB 23.1).
- 25.8. The Purchaser shall prepare a record of the Bid opening that shall include, as a minimum:
 - (a) the name of the Bidder and whether there is a withdrawal, substitution, or modification;
 - (b) the Bid Price, per lot (contract) if applicable, including any discounts;
 - (c) any alternative Bids;

- (d) the presence or absence of a Bid Security or Bid-Securing Declaration, if one was required.

25.9. The Bidders' representatives who are present shall be requested to sign the record. The omission of a Bidder's signature on the record shall not invalidate the contents and effect of the record. A copy of the record shall be distributed to all Bidders.

E. Evaluation and Comparison of Bids

26. Confidentiality

26.1 Information relating to the evaluation of Bids and recommendation of contract award, shall not be disclosed to Bidders or any other persons not officially concerned with the Bidding process until the information on Intention to Award the Contract is transmitted to all Bidders in accordance with ITB 40.

26.2 Any effort by a Bidder to influence the Purchaser in the evaluation or contract award decisions may result in the rejection of its Bid.

26.3 Notwithstanding ITB 26.2, from the time of Bid opening to the time of Contract Award, if any Bidder wishes to contact the Purchaser on any matter related to the Bidding process, it should do so in writing.

27. Clarification of Bids

27.1 To assist in the examination, evaluation, comparison of the Bids, and qualification of the Bidders, the Purchaser may, at its discretion, ask any Bidder for a clarification of its Bid. Any clarification submitted by a Bidder in respect to its Bid and that is not in response to a request by the Purchaser shall not be considered. The Purchaser's request for clarification and the response shall be in writing. No change, including any voluntary increase or decrease, in the prices or substance of the Bid shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors discovered by the Purchaser in the Evaluation of the Bids, in accordance with ITB 31.

27.2 If a Bidder does not provide clarifications of its Bid by the date and time set in the Purchaser's request for clarification, its Bid may be rejected.

28. Deviations, Reservations, and Omissions

28.1 During the evaluation of Bids, the following definitions apply:

- (a) “Deviation” is a departure from the requirements specified in the bidding document;
- (b) “Reservation” is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the bidding document; and
- (c) “Omission” is the failure to submit part or all of the information or documentation required in the bidding document.

29. Determination of Responsiveness

29.1 The Purchaser’s determination of a Bid’s responsiveness is to be based on the contents of the Bid itself, as defined in ITB 11.

29.2 A substantially responsive Bid is one that meets the requirements of the bidding document without material deviation, reservation, or omission. A material deviation, reservation, or omission is one that:

- (a) if accepted, would:
 - (i) affect in any substantial way the scope, quality, or performance of the Goods and Related Services specified in the Contract; or
 - (ii) limit in any substantial way, inconsistent with the bidding document, the Purchaser’s rights or the Bidder’s obligations under the Contract; or
- (b) if rectified, would unfairly affect the competitive position of other Bidders presenting substantially responsive Bids.

29.3 The Purchaser shall examine the technical aspects of the Bid submitted in accordance with ITB 16 and ITB 17, in particular, to confirm that all requirements of Section VII, Schedule of Requirements have been met without any material deviation or reservation, or omission.

29.4 If a Bid is not substantially responsive to the requirements of bidding document, it shall be rejected by the Purchaser and may not subsequently be made responsive by correction of the material deviation, reservation, or omission.

30. Nonconformities, Errors and Omissions

30.1 Provided that a Bid is substantially responsive, the Purchaser may waive any nonconformities in the Bid.

30.2 Provided that a Bid is substantially responsive, the Purchaser may request that the Bidder submit the necessary

information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities or omissions in the Bid related to documentation requirements. Such omission shall not be related to any aspect of the price of the Bid. Failure of the Bidder to comply with the request may result in the rejection of its Bid.

30.3 Provided that a Bid is substantially responsive, the Purchaser shall rectify quantifiable nonmaterial nonconformities related to the Bid Price. To this effect, the Bid Price shall be adjusted, for comparison purposes only, to reflect the price of a missing or non-conforming item or component in the manner specified **in the BDS.**

31. Correction of Arithmetical Errors

31.1 Provided that the Bid is substantially responsive, the Purchaser shall correct arithmetical errors on the following basis:

- (a) if there is a discrepancy between the unit price and the line item total that is obtained by multiplying the unit price by the quantity, the unit price shall prevail and the line item total shall be corrected, unless in the opinion of the Purchaser there is an obvious misplacement of the decimal point in the unit price, in which case the line item total as quoted shall govern and the unit price shall be corrected;
- (b) if there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and
- (c) if there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a) and (b) above.

31.2 Bidders shall be requested to accept correction of arithmetical errors. Failure to accept the correction in accordance with ITB 31.1, shall result in the rejection of the Bid.

32. Conversion to Single Currency

32.1 For evaluation and comparison purposes, the currency(ies) of the Bid shall be converted in a single currency as specified **in the BDS.**

33. Margin of Preference

33.1 Unless otherwise specified **in the BDS**, a margin of preference shall not apply.

34. Evaluation of Bids

- 34.1 The Purchaser shall use the criteria and methodologies listed in this ITB and Section III, Evaluation and Qualification criteria. No other evaluation criteria or methodologies shall be permitted. By applying the criteria and methodologies, the Purchaser shall determine the Most Advantageous Bid. This is the Bid of the Bidder that meets the qualification criteria and whose Bid has been determined to be:
- (a) substantially responsive to the bidding document; and
 - (b) the lowest evaluated cost.
- 34.2 To evaluate a Bid, the Purchaser shall consider the following:
- (a) evaluation will be done for Items or Lots (contracts), as specified **in the BDS**; and the Bid Price as quoted in accordance with ITB 14;
 - (b) price adjustment for correction of arithmetic errors in accordance with ITB 31.1;
 - (c) price adjustment due to discounts offered in accordance with ITB 14.4;
 - (d) converting the amount resulting from applying (a) to (c) above, if relevant, to a single currency in accordance with ITB 32;
 - (e) price adjustment due to quantifiable nonmaterial nonconformities in accordance with ITB 30.3; and
 - (f) the additional evaluation factors are specified in Section III, Evaluation and Qualification Criteria.
- 34.3 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.
- 34.4 If this bidding document allows Bidders to quote separate prices for different lots (contracts), the methodology to determine the lowest evaluated cost of the lot (contract) combinations, including any discounts offered in the Letter of Bid, is specified in Section III, Evaluation and Qualification Criteria.
- 34.5 The Purchaser's evaluation of a Bid will exclude and not take into account:

- (a) in the case of Goods manufactured in the Purchaser's Country, sales and other similar taxes, which will be payable on the goods if a contract is awarded to the Bidder;
- (b) in the case of Goods manufactured outside the Purchaser's Country, already imported or to be imported, customs duties and other import taxes levied on the imported Good, sales and other similar taxes, which will be payable on the Goods if the contract is awarded to the Bidder;
- (c) any allowance for price adjustment during the period of execution of the contract, if provided in the Bid.

34.6 The Purchaser's evaluation of a Bid may require the consideration of other factors, in addition to the Bid Price quoted in accordance with ITB 14. These factors may be related to the characteristics, performance, and terms and conditions of purchase of the Goods and Related Services. The effect of the factors selected, if any, shall be expressed in monetary terms to facilitate comparison of Bids, unless otherwise specified **in the BDS** from amongst those set out in Section III, Evaluation and Qualification Criteria. The criteria and methodologies to be used shall be as specified in ITB 34.2(f).

35. Comparison of Bids

35.1 The Purchaser shall compare the evaluated costs of all substantially responsive Bids established in accordance with ITB 34.2 to determine the Bid that has the lowest evaluated cost. The comparison shall be on the basis of CIP (place of final destination) prices for imported goods and EXW prices, plus cost of inland transportation and insurance to place of destination, for goods manufactured within the Borrower's country, together with prices for any required installation, training, commissioning and other services. The evaluation of prices shall not take into account custom duties and other taxes levied on imported goods quoted CIP and sales and similar taxes levied in connection with the sale or delivery of goods.

36. Abnormally Low Bids

36.1 An Abnormally Low Bid is one where the Bid price, in combination with other constituent elements of the Bid, appears unreasonably low to the extent that the Bid price raises material concerns with the Purchaser as to the capability of the Bidder to perform the Contract for the offered Bid price.

- 36.2 In the event of identification of a potentially Abnormally Low Bid, the Purchaser shall seek written clarification from the Bidder, including a detailed price analyses of its Bid price in relation to the subject matter of the contract, scope, delivery schedule, allocation of risks and responsibilities and any other requirements of the bidding document.
- 36.3 After evaluation of the price analyses, in the event that the Purchaser determines that the Bidder has failed to demonstrate its capability to perform the contract for the offered Bid price, the Purchaser shall reject the Bid.
- 37. Qualification of the Bidder**
- 37.1 The Purchaser shall determine, to its satisfaction, whether the eligible Bidder that is selected as having submitted the lowest evaluated cost and substantially responsive Bid, meets the qualifying criteria specified in Section III, Evaluation and Qualification Criteria.
- 37.2 The determination shall be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB 17. The determination shall not take into consideration the qualifications of other firms such as the Bidder's subsidiaries, parent entities, affiliates, subcontractors (other than specialized subcontractors if permitted in the bidding document), or any other firm(s) different from the Bidder.
- 37.3 An affirmative determination shall be a prerequisite for award of the Contract to the Bidder. A negative determination shall result in disqualification of the Bid, in which event the Purchaser shall proceed to the Bidder who offers a substantially responsive Bid with the next lowest evaluated cost to make a similar determination of that Bidder's qualifications to perform satisfactorily.
- 38. Purchaser's Right to Accept Any Bid, and to Reject Any or All Bids**
- 38.1 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 Contract Award, without thereby incurring any liability to Bidders. In case of annulment, all Bids submitted and specifically, bid securities, shall be promptly returned to the Bidders.
- 39. Standstill Period**
- 39.1 The Contract shall not be awarded earlier than the expiry of the Standstill Period. The Standstill Period shall be ten (10) Business Days unless extended in accordance with ITB 44. The Standstill Period commences the day after the date the Purchaser has transmitted to each Bidder the Notification of Intention to Award the Contract. Where only one Bid is

submitted, or if this contract is in response to an emergency situation recognized by the Bank, the Standstill Period shall not apply.

40. Notification of Intention to Award

40.1 The Purchaser shall send to each Bidder the Notification of Intention to Award the Contract to the successful Bidder. The Notification of Intention to Award shall contain, at a minimum, the following information:

- (a) the name and address of the Bidder submitting the successful Bid;
- (b) the Contract price of the successful Bid;
- (c) the names of all Bidders who submitted Bids, and their Bid prices as readout, and as evaluated;
- (d) a statement of the reason(s) the Bid (of the unsuccessful Bidder to whom the notification is addressed) was unsuccessful, unless the price information in c) above already reveals the reason;
- (e) the expiry date of the Standstill Period;
- (f) instructions on how to request a debriefing and/or submit a complaint during the standstill period.

F. Award of Contract

41. Award Criteria

41.1 Subject to ITB 38, the Purchaser shall award the Contract to the Bidder offering the Most Advantageous Bid. The Most Advantageous Bid is the Bid of the Bidder that meets the qualification criteria and whose Bid has been determined to be:

- (a) substantially responsive to the bidding document; and
- (b) the lowest evaluated cost.

42. Purchaser's Right to Vary Quantities at Time of Award

42.1 At the time the Contract is awarded, the Purchaser reserves the right to increase or decrease the quantity of Goods and Related Services originally specified in Section VII, Schedule of Requirements, provided this does not exceed the percentages specified **in the BDS**, and without any change in the unit prices or other terms and conditions of the Bid and the bidding document.

43. Notification of Award

43.1 Prior to the expiration of the Bid Validity Period and upon expiry of the Standstill Period, specified in ITB 39.1 or any extension thereof, and upon satisfactorily addressing any complaint that has been filed within the Standstill Period,

the Purchaser shall notify the successful Bidder, in writing, that its Bid has been accepted. The notification of award (hereinafter and in the Contract Forms called the “Letter of Acceptance”) shall specify the sum that the Purchaser will pay the Supplier in consideration of the execution of the Contract (hereinafter and in the Conditions of Contract and Contract Forms called “the Contract Price”).

43.2 Within ten (10) Business Days after the date of transmission of the Letter of Acceptance, the Purchaser shall publish the Contract Award Notice which shall contain, at a minimum, the following information:

- (a) name and address of the Purchaser;
- (b) name and reference number of the contract being awarded, and the selection method used;
- (c) names of all Bidders that submitted Bids, and their Bid prices as read out at Bid opening, and as evaluated;
- (d) names of all Bidders whose Bids were rejected either as nonresponsive or as not meeting qualification criteria, or were not evaluated, with the reasons therefor;
- (e) the name of the successful Bidder, the final total contract price, the contract duration and a summary of its scope; and
- (f) successful Bidder’s Beneficial Ownership Disclosure Form, if specified in BDS ITB 45.1.

43.3 The Contract Award Notice shall be published on the Purchaser’s website with free access if available, or in at least one newspaper of national circulation in the Purchaser’s Country, or in the official gazette. The Purchaser shall also publish the contract award notice in UNDB online.

43.4 Until a formal Contract is prepared and executed, the Letter of Acceptance shall constitute a binding Contract.

44. Debriefing by the Purchaser

44.1 On receipt of the Purchaser’s Notification of Intention to Award referred to in ITB 40.1, an unsuccessful Bidder has three (3) Business Days to make a written request to the Purchaser for a debriefing. The Purchaser shall provide a

debriefing to all unsuccessful Bidders whose request is received within this deadline.

- 44.2 Where a request for debriefing is received within the deadline, the Purchaser shall provide a debriefing within five (5) Business Days, unless the Purchaser decides, for justifiable reasons, to provide the debriefing outside this timeframe. In that case, the standstill period shall automatically be extended until five (5) Business Days after such debriefing is provided. If more than one debriefing is so delayed, the standstill period shall not end earlier than five (5) Business Days after the last debriefing takes place. The Purchaser shall promptly inform, by the quickest means available, all Bidders of the extended standstill period
- 44.3 Where a request for debriefing is received by the Purchaser later than the three (3)-Business Day deadline, the Purchaser should provide the debriefing as soon as practicable, and normally no later than fifteen (15) Business Days from the date of publication of Public Notice of Award of contract. Requests for debriefing received outside the three (3)-day deadline shall not lead to extension of the standstill period.
- 44.4 Debriefings of unsuccessful Bidders may be done in writing or verbally. The Bidders shall bear their own costs of attending such a debriefing meeting.

45. Signing of Contract

- 45.1 The Purchaser shall send to the successful Bidder the Letter of Acceptance including the Contract Agreement, and, if specified in the BDS, a request to submit the Beneficial Ownership Disclosure Form providing additional information on its beneficial ownership. The Beneficial Ownership Disclosure Form, if so requested, shall be submitted within eight (8) Business Days of receiving this request.
- 45.2 The successful Bidder shall sign, date and return to the Purchaser, the Contract Agreement within twenty-eight (28) days of its receipt.
- 45.3 Notwithstanding ITB 45.2 above, in case signing of the Contract Agreement is prevented by any export restrictions attributable to the Purchaser, to the country of the Purchaser, or to the use of the products/goods, systems or services to be supplied, where such export restrictions arise from trade regulations from a country supplying those products/goods, systems or services, the Bidder shall not be bound by its Bid,

always provided however, that the Bidder can demonstrate to the satisfaction of the Purchaser and of the Bank that signing of the Contact Agreement has not been prevented by any lack of diligence on the part of the Bidder in completing any formalities, including applying for permits, authorizations and licenses necessary for the export of the products/goods, systems or services under the terms of the Contract.

**46. Performance
Security**

- 46.1 Within twenty-eight (28) days of the receipt of Letter of Acceptance from the Purchaser, the successful Bidder, if required, shall furnish the Performance Security in accordance with the GCC 18, using for that purpose the Performance Security Form included in Section X, Contract Forms, or another Form acceptable to the Purchaser. If the Performance Security furnished by the successful Bidder is in the form of a bond, it shall be issued by a bonding or insurance company that has been determined by the successful Bidder to be acceptable to the Purchaser. A foreign institution providing a bond shall have a correspondent financial institution located in the Purchaser's Country, unless the Purchaser has agreed in writing that a correspondent financial institution is not required.
- 46.2 Failure of the successful Bidder to submit the above-mentioned Performance Security or sign the Contract shall constitute sufficient grounds for the annulment of the award and forfeiture of the Bid Security. In that event the Purchaser may award the Contract to the Bidder offering the next Most Advantageous Bid.

**47. Procurement
Related
Complaint**

- 47.1 The procedures for making a Procurement-related Complaint are as specified in the BDS.

Section II - Bid Data Sheet (BDS)

The following specific data for the 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.

ITB Reference	A. General
ITB 1.1	<p>The reference number of the Request for Bids (RFB) is: NPA/SAO/1400/G-3136/ICB (AF-SAO-FSP-HARDWARE-232677-GO-RFB)</p> <p>The Purchaser is: Supreme Audit Office (SAO)</p> <p>The name of the RFB is: Supply, Installation and Configuration of Hardware & Datacenter for AMIS in 4 Lots</p> <p>The number and identification of lots (contracts) comprising this RFB is: Lot 1: Datacenter Equipment Lot 2: Laptops, Printers and Related Software Lot 3: Servers, Related Software and Configuration Lot 3: Network Equipment, Configuration and Miscellaneous</p>
ITB 1.2(a)	Not applicable
ITB 2.1	<p>The Borrower is: Supreme Audit Office (SAO)</p> <p>Loan or Financing Agreement amount: US\$ 60 Million</p> <p>The name of the Project is: Fiscal Performance Improvement Support Projects</p>
ITB 4.1	Maximum number of members in the Joint Venture (JV) shall be: Three JV members.
ITB 4.5	A list of debarred firms and individuals is available on the Bank's external website: http://www.worldbank.org/debarr .
	B. Contents of Bidding Document
ITB 7.1	<p>For Clarification of Bid purposes only, the Employer's address is:</p> <p>Attention: Amjad Quraishi/Procurement Specialist</p> <p>Street Address: Pashtonistan Watt,</p> <p>Administrative Office of the President, National Procurement Authority, Procurement Facilitation Directorate, Kabul, Afghanistan</p>

	<p>Floor/Room number: NPA Conference Room</p> <p>City: Kabul</p> <p>ZIP Code: N/A</p> <p>Country: Afghanistan</p> <p>Telephone: +93 (0)202926283</p> <p>Facsimile number: N/A</p> <p>Electronic mail address: pfd_d_06@npa.gov.af, CC to: hikmatullah.asad@npa.gov.af, z.jalalzi@gmail.com, sherzad.zahid@gmail.com and sattar.sorosh2016@gmail.com</p>
	C. Preparation of Bids
ITB 10.1	<p>The language of the Bid is: <i>English</i> language.</p> <p>All correspondence exchange shall be in <i>English</i> language.</p> <p>Language for translation of supporting documents and printed literature is <i>English</i> language.</p>
ITB 11.1 (j)	<p>The Bidder shall submit the following additional documents in its Bid:</p> <ol style="list-style-type: none"> 1) Company Registration Certificate; 2) Eligibility Documents 3) Stable Financial Situation 4) None Conflict of Interest form
ITB 13.1	Alternative Bids shall not be considered.
ITB 14.5	The prices quoted by the Bidder shall not be subject to adjustment during the performance of the Contract.
ITB 14.6	<p>Prices quoted for each lot (contract) shall correspond at least to 100 percent of the items specified for each lot (contract).</p> <p>Prices quoted for each item of a lot shall correspond at least to 100 percent of the quantities specified for this item of a lot.</p>
ITB 14.7	The Incoterms edition is: Incoterms 2010, CIP basis
ITB 14.8 (b)(i) and (c)(v)	Place of destination: Hamid Karzai International Airport or Kabul Custom Kabul, Afghanistan

ITB 14.8 (a)(iii), (b)(ii) and (c)(v)	Place of destination: Hamid Karzai International Airport or Kabul Custom Kabul, Afghanistan
ITB 15.1	The Bidder is required to quote in the currency of the Purchaser's Country the portion of the Bid price that corresponds to expenditures incurred in that currency.
ITB 16.4	Period of time the Goods are expected to be functioning (for the purpose of spare parts): 3 Years
ITB 17.2 (a)	<p>Manufacturer's authorization is required for following items of (Computer Package) lot 1 only:</p> <ul style="list-style-type: none"> • Laptops • Servers • Network Equipment (Firewall, Switches, IP Phones, Core switches, VOIP - IP phone server/Call manager <p><i>Bidder may submit 'Dealership Certificate' issued by the Manufacturer which will be considered equivalent to the Manufacturer's Authorization.</i></p>
ITB 17.2 (b)	After sales service is: Required.
ITB 18.1	The Bid validity period shall be 120 days.
ITB 18.3 (a)	The Bid price shall be adjusted by the following factor(s): None
ITB 19.1	<p>A Bid Security shall be required.</p> <p>Bid Security shall be required in the form of a Bank Guarantee in USD or any other freely convertible currency as below;</p> <p>Lot 1: USD 5,000.00 (Five Thousand US Dollars)</p> <p>Lot 2: USD 10,000.00 (Ten Thousand US Dollars)</p> <p>Lot 3: USD 10,000.00 (Ten Thousand US Dollars)</p> <p>Lot 4: USD 9,000.00 (Nine Thousand USD Dollars)</p> <p>Note: If a bidder applies for all lots the aggregate amount of Bid Security Shall be: USD 34000 (Thirty-Four Thousand USD Dollars)</p> <p>Bid security from a reputable bank from employer's country or bidder's country. If it is from bidder's country, it shall be confirmed by a corresponding bank in Afghanistan.</p>

	<p>The validity of the bid security shall be 148 days from the deadline for bid submission. Bids accompanied with bid security validity less than the mentioned above shall not be considered.</p> <p>The source of exchange rate shall be: Da Afghanistan Bank</p> <p>The date of the exchange rate shall be: Bid submission deadline</p> <p>A Bid-Securing Declaration shall not be acceptable.</p>
ITB 19.3 (d)	Other types of acceptable securities: None
ITB 20.1	<p>In addition to the original of the Bid, the number of copies is:</p> <p>One Original + Two Copies + one soft copy</p> <p>Note: Bidders MUST ensure that all copies of bids include all the pages/ document submitted in the original bid.</p> <p>In the event of any discrepancy between the original and the copies, the original shall prevail.</p>
ITB 20.3	<p>The written confirmation of authorization to sign on behalf of the Bidder shall consist of: Power of Attorney in favor of authorized signatory in original. (The original Power of Attorney shall be submitted with the Original Bid. In case the power of attorney is submitted in copy, the bidder shall provide its original form within 14 days upon receipt of notification from the bid evaluation committee. If the original power of attorney has not been provided within the above timeline, such bid will be considered non-responsive)</p>
	D. Submission and Opening of Bids
ITB 22.1	<p>For <u>bid submission purposes</u> only, the Employer's address is:</p> <p>Attention: Mr. Saboor Safi</p> <p>Street Address: Secretary of Bid Opening, Deputy of Operation and Resources, National Procurement Authority (NPA); Administrative Office of the President (AOP), Pashtonistan Watt, Kabul- Afghanistan</p> <p>Floor/Room number: First Floor</p> <p>City: Kabul</p> <p>ZIP Code: Not Applicable</p> <p>Country: Afghanistan</p> <p>Email: saboor.safi@npa.gov.af</p>

	<p>Telephone: (+93) 202926290</p> <p>The Deadline for Submission is:</p> <p>Date: August 12, 2021</p> <p>Time: 10:00 AM (Kabul Local Time)</p> <p>Note: In case the specified deadline for bid submission is declared holiday for the purchaser, the bids shall be submitted and opened at the specified time on the next working day.</p> <p>Bidders <i>shall not</i> have the option of submitting their Bids electronically.</p> <p>The electronic Bidding submission procedures shall be: Not Applicable</p>
ITB 25.1	<p>The Bid opening shall take place at:</p> <p>Address: National Procurement Authority (NPA), Administrative Office of the President,</p> <p>Floor/ Room number: NPA Conference Room</p> <p>City: Kabul</p> <p>Country: Afghanistan</p> <p>Date: August 12, 2021</p> <p>Time: 10:00 AM (Kabul Local Time)</p> <p>The electronic Bid opening procedures shall be: Not Applicable</p>
ITB 25.6	<p>The Letter of Bid and Price Schedules shall be initialed by all representatives (Bid Opening committee) of the Purchaser conducting Bid opening.</p>
E. Evaluation and Comparison of Bids	
ITB 30.3	<p>The adjustment shall be based on the <i>average</i> price of the item or component as quoted in other substantially responsive Bids. If the price of the item or component cannot be derived from the price of other substantially responsive Bids, the Purchaser shall use its best estimate.</p>
ITB 32.1	<p>The currency that shall be used for Bid evaluation and comparison purposes to convert at the selling exchange rate all Bid prices expressed in various currencies into a single currency is: USD</p> <p>The source of exchange rate shall be: Da Afghanistan Bank</p> <p>The date of the exchange rate shall be: Bid submission deadline</p>
ITB 33.1	<p>A margin of domestic preference “shall not” apply.</p>

ITB 34.2(a)	<p>Evaluation will be done for Lots(contracts)</p> <p>Bids will be evaluated lot by lot. If a Price Schedule shows items listed but not priced, their prices shall be assumed to be included in the prices of other items. An item not listed in the Price Schedule shall be assumed to be not included in the Bid, and provided that the Bid is substantially responsive, the average or highest price (as specified in the BDS) of the item quoted by substantially responsive Bidders will be added to the Bid price and the equivalent total cost of the Bid so determined will be used for price comparison.</p> <p>The BRT Tax rate for registered bidder in Afghanistan is 2 % and for none register is 7%. However, bids will be evaluated exclusive of BRT tax.</p>
ITB 34.6	<p>The adjustments shall be determined using the following criteria, from amongst those set out in Section III, Evaluation and Qualification Criteria: <i>[refer to Section III, Evaluation and Qualification Criteria; insert complementary details if necessary]</i></p> <p>(a) Deviation in Delivery schedule: Not Permitted</p> <p>(b) Deviation in payment schedule: No</p> <p>(c) the cost of major replacement component, mandatory spare parts, and service: No</p> <p>(d) the availability in the Purchaser’s Country of spare parts and after-sales services for the equipment offered in the Bid: Yes</p> <p>(e) Life cycle costs: the costs during the life of the goods or equipment No</p> <p>(f) the performance and productivity of the equipment offered; No</p>
F. Award of Contract	
ITB 42	<p>The maximum percentage by which quantities may be increased is: 15%</p> <p>The maximum percentage by which quantities may be decreased is: 15%</p>
ITB 45. 1	<p>The successful Bidder shall submit the Beneficial Ownership Disclosure Form.</p>
ITB 47.1	<p>The procedures for making a Procurement-related Complaint are detailed in the “Procurement Regulations for IPF Borrowers (Annex III).” If a Bidder wishes to make a Procurement-related Complaint, the Bidder should submit its complaint following these procedures, in writing (by the quickest means available, that is either by email or fax), to:</p> <p style="text-align: center;">For the attention: Najeeb-ur-Rahman Rahmani</p>

	<p>Title/position: Deputy Auditor General Finance and Administration</p> <p>Entity: Supreme Audit Office of Afghanistan</p> <p>Email address: najeebrahman.rahmani@hotmail.com</p> <p>In summary, a Procurement-related Complaint may challenge any of the following:</p> <ol style="list-style-type: none">1. the terms of the Bidding Documents; and2. the Purchaser's decision to award the contract.
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Section III - Evaluation and Qualification Criteria

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1. Margin of Preference (ITB 33) not applicable

If the Bidding Data Sheet so specifies, the Purchaser will grant a margin of preference to goods manufactured in the Purchaser's Country for the purpose of Bid comparison, in accordance with the procedures outlined in subsequent paragraphs.

Substantially responsive Bids will be classified in one of three groups, as follows:

- (a) **Group A:** Bids offering goods manufactured in the Purchaser's Country, for which (i) labor, raw materials, and components from within the Purchaser's Country account for more than thirty (30) percent of the EXW price; and (ii) the production facility in which they will be manufactured or assembled has been engaged in manufacturing or assembling such goods at least since the date of Bid submission;
- (b) **Group B:** All other Bids offering Goods manufactured in the Purchaser's Country;
- (c) **Group C:** Bids offering Goods manufactured outside the Purchaser's Country that have been already imported or that will be imported.

To facilitate this classification by the Purchaser, the Bidder shall complete whichever version of the Price Schedule furnished in the bidding document is appropriate provided, however, that the completion of an incorrect version of the Price Schedule by the Bidder shall not result in rejection of its Bid, but merely in the Purchaser's reclassification of the Bid into its appropriate Bid group.

The Purchaser will first review the Bids to confirm the appropriateness of, and to modify as necessary, the Bid group classification to which Bidders assigned their Bids in preparing their Bid Forms and Price Schedules.

The Bids in each group will then be compared to determine the Bid with the lowest evaluated cost in that group. The lowest evaluated cost Bid from each group shall then be compared with each other and if as a result of this comparison a Bid from Group A or Group B is the lowest, it shall be selected for the award.

If as a result of the preceding comparison, a Bid from Group C is the lowest evaluated cost, all Bids from Group C shall be further compared with the Bid with the lowest evaluated cost from Group A after adding to the evaluated costs of goods offered in each Bid from Group C, for the purpose of this further comparison only, an amount equal to 15% (fifteen percent) of the respective CIP Bid price for goods to be imported and already imported goods. Both prices shall include unconditional discounts and be corrected for arithmetical errors. If the Bid from Group A is the lowest, it shall be selected for award. If not, the lowest evaluated cost from Group C shall be selected.

Most Advantageous Bid

The Purchaser shall use the criteria and methodologies listed in Section 2 and 3 below to determine the Most Advantageous Bid. The Most Advantageous Bid is the Bid of the Bidder that meets the qualification criteria and whose Bid has been determined to be:

- (a) substantially responsive to the bidding document; and
- (b) the lowest evaluated cost.

2. Evaluation (ITB 34)

2.1. Evaluation Criteria (ITB 34.6)

The Purchaser's evaluation of a Bid may take into account, in addition to the Bid Price quoted in accordance with ITB 14.8, one or more of the following factors as specified in ITB 34.2(f) and in BDS referring to ITB 34.6, using the following criteria and methodologies.

- (a) Delivery schedule. (As per Incoterms specified in the BDS): **Yes**

The Goods specified in the List of Goods are required to be delivered within the acceptable time range (after the earliest and before the final date, both dates inclusive) specified in Section VII, Schedule of Requirements. No credit will be given to deliveries before the earliest date, and Bids offering delivery after the final date shall be treated as nonresponsive.

- (b) Deviation in payment schedule: **Not Applicable**

- (c) Cost of major replacement components, mandatory spare parts, and service: **No**

- (d) Availability in the Purchaser's Country of spare parts and after sales services for equipment offered in the Bid: **Yes**

An adjustment equal to the cost to the Purchaser of establishing the minimum service facilities and parts inventories if quoted separately, shall be added to the Bid price, for evaluation purposes only.

- (e) Life Cycle Costs: **Not Applicable**

- (f) Performance and productivity of the equipment: **Not Applicable**

- (g) Specific additional criteria: **Not Applicable**

2.2. Multiple Contracts (ITB 34.4)

If in accordance with ITB 1.1, Bids are invited for individual lots or for any combination of lots, the contract will be awarded to the Bidder or Bidders offering a substantially responsive Bid(s) and the lowest evaluated cost to the Purchaser for combined lots, after considering all possible combination of lots, subject to the selected Bidder(s) meeting the required qualification criteria (this Section III, Sub-Section ITB 37 Qualification Requirements) for a lot or combination of lots as the case may be.

In determining Bidder or Bidders that offer the total lowest evaluated cost to the Purchaser for combined lots, the Purchaser shall apply the following steps in sequence:

- (a) evaluate individual lots to determine the substantially responsive Bids and corresponding evaluated costs;
- (b) for each lot, rank the substantially responsive Bids starting from the lowest evaluated cost for the lot;
- (c) apply to the evaluated costs listed in b) above, any applicable discounts/price reductions offered by a Bidder (s) for the award of multiple contracts based on the discounts and the methodology for their application offered by the respective Bidder; and
- (d) determine contract award on the basis of the combination of lots that offer the total lowest evaluated cost to the Purchaser.

2.3. Alternative Bids (ITB 13.1): Not Applicable

3. Qualification (ITB 37)

3.1 Qualification Criteria (ITB 37.1)

After determining the substantially responsive Bid which offers the lowest-evaluated cost in accordance with ITB 34, and, if applicable, the assessment of any Abnormally Low Bid (in accordance with ITB 36) the Purchaser shall carry out the post-qualification of the Bidder in accordance with ITB 37, using only the requirements specified. Requirements not included in the text below shall not be used in the evaluation of the Bidder's qualifications.

- (i) Financial Capability

The Bidder shall furnish documentary evidence that it meets the following financial requirement(s):

Bidder must demonstrate access to liquid assets or credit facilities by submitting the Banker's certificate for an amount of;

Lot – 1: Datacenter Equipment US\$ 35,500

Lot – 2: Laptops, Printers and Related Software US\$ 59,500

Lot – 3: Servers, Related Software and Configuration US\$ 52,500

Lot –4: Network Equipment, Configuration and Miscellaneous US\$ 51,000.

Note: If the bidders wish to qualify for award of the contract for more than one lot then the bidder must demonstrate having required liquid assets or credit facilities to meet the aggregate of the qualifying criteria for the individual lots.

Minimum annual turnover in any one of the last five Financial Years shall be of an amount equal to:

Lot 1: USD 160,000.00 (One Hundred Sixty Thousand US Dollars)

Lot 2: USD 260,000.00 (Two Hundred Sixty Thousand US Dollars)

Lot 3: USD 230,000.00 (Two Hundred Thirty Thousand US Dollars)

Lot 4: USD 215,000.00 (Two Hundred Fifteen USD Dollars)

Note: if the bidders wish to qualify for award of contract for more than one lot then the bidder must demonstrate having required Annual Turnover to meet the aggregate of the qualifying criteria for the individual lots.

In case of JV, each partner shall meet minimum of (25) percent and the lead minimum of (40) percent of eligibility criteria. Eligibility percentage of each partner is added up and the total percentage of eligibility criteria for all partners shall be (100) percent. Non-compliance with above requirements results to disqualification of JV's bid. Subcontractor's experience and resource are not considered for meeting the requirements' purpose by the bidder.

(ii) Experience and Technical Capacity

The Bidder shall furnish documentary evidence to demonstrate that it meets the following experience requirement(s):

The Bidder must provide evidence having satisfactorily completed at least one contract for supply of similar goods in size and magnitude in any one of the last three years of not less than:

Lot 1: USD 100,000.00 (One Hundred Thousand US Dollars)

Lot 2: USD 160,000.00 (One Hundred Sixty Thousand US Dollars)

Lot 3: USD 140,000.00 (One Hundred Forty Thousand US Dollars)

Lot 4: USD 130,000.00 (One Hundred Thirty USD Dollars)

Note: If the bidders wish to qualify for award of the contract for more than one lot then the bidder must demonstrate having completed at least one similar contract to meet the aggregate of the qualifying criteria for the individual lots.

In case of JV, at least one partner shall meet the minimum of (100) percent of similar experience criteria.

(iii) Documentary Evidence

The Bidder shall furnish documentary evidence to demonstrate that the Goods it offers meet the following usage requirement: *As of technical specifications.*

Bidders applying for more than one lot then their capacity will be assessed in line with (ITB 34.4) Multiple Contracts

2.5 Personnel

The Bidder must demonstrate that it will have the personnel for the key positions that meet the following requirements:

No.	Position	Information System Experience
1	Project Team Leader/Project Manager:	The supplier should nominate a well-qualified and experienced project manager for this assignment. With a Bachelor's degree in business management, IT, IS, Computer Science, Information Science or other relevant qualifications. Certification in PMP/Prince2 will be an added advantage. Must possess at least 8 years' experience of working on IT Infrastructure projects. Have strong experience deploying TURN KEY solutions in a diverse set of organizations. The project manager should be well versed with the various activities and risks associated with such a project which will be evidenced from his CV. The purchaser discourages the use of more than one project manager over the life of the project and any changes made to the project team, as identified above, without the purchaser's written approval would draw liquidation damages. Therefore, it is expected that the project manager would be a regular employee of the supplier and would have remained attached with the organization for a period of at least two years prior to this assignment. Suppliers willing to use international resources, over the entire duration of the project on a full time basis will be ranked higher.
2	Domain Expert – Public Sector Auditing	The supplier should include an expert on public sector auditing in their project team to ensure that the supplier understands the specific audit requirements of the purchaser. The domain expert will be an individual with extensive experience of at least 10 years in public sector auditing and accounting. He/she should have an internationally recognized professional accounting qualification or a Master's degree in accounting, finance, economics or related fields. An ideal candidate will have thorough understanding and knowledge of the audit methodology and workings of the Supreme Audit Institutions using Westminster model. Experience in implementing, managing or advising clients in large-scale turnkey public financial management information systems and/or audit systems will be an added advantage.
3	Software Configuration Manager	The technical team of the supplier will be led by the configuration manager. The purchaser does not wish to have any large-scale customization of the software requiring new programming and coding. Therefore, the role of the technical team, led by the configuration manager will be pivotal in ensuring that various software parameters are configured as <i>accurately</i> as possible, to match the requirements of the purchaser. The configuration manager should have a degree in computer science, Information technology software engineering, or related field. The

		configuration manager should not be changed during the course of the project implementation and should have extensive experience of 10 years configuring and deploying the proposed AMIS solution in a diverse set of organizations. Experience of deploying AMIS in an SAI will be considered an advantage.
4	Training Manager and Change Management Specialist	Roughly, the same set of basic attributes, as described above for the project manager, are expected from the training manager and change management specialist. With a Bachelor's degree in business management, IT, IS, Computer Science, Information Science or other relevant qualifications. Certification in PMP/Prince2 will be an added advantage. Must possess at least 5 years' experience of working on IT Infrastructure projects, conducting training, preparing manuals and guidelines, preparing training modules and delivering trainings. Both are expected to have reasonable experience (a minimum of two years out of the five-year experience requirement) of working <i>with</i> public sector organizations. Having Afghanistan or regional experience and knowledge of audit process/methodology in similar audit organizations would be valued higher.
5	Computer Hardware, Network and Communications Expert	The network expert will be an individual with extensive experience of networking and communications security. With the relevant Bachelor's Degree in Telecommunications, IT, Computer Science or Electrical Engineering, at least five years' experience in design planning and implementation, of Network POPs. Should have experience in setting up and managing ISP service delivery equipment. An ideal candidate will have thorough understanding and knowledge of the infrastructural requirements and able to transfer this knowledge to the local team for sustainability of the system post implementations.

The Bidder shall provide details of the proposed personnel and their experience records in the relevant Forms included in Section IV, Bidding Forms.

a. Subcontractors/vendors/manufacturers

Subcontractors/vendors/manufacturers for the following major items of supply or services must meet the following minimum criteria, herein listed for that item:

Item No.	Description of Item	Minimum Criteria to be met
1	Training	Should be in the same business for the last 2 years with thorough, demonstrable and verifiable experience of performing the relevant function(s) on projects of comparable scale
2	Maintenance	Should be in the same business for the last 2 years with thorough, demonstrable and verifiable experience of performing the relevant function(s) on projects of comparable scale

Section IV - Bidding Forms

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Letter of Bid

INSTRUCTIONS TO BIDDERS: DELETE THIS BOX ONCE YOU HAVE COMPLETED THE DOCUMENT

The Bidder must prepare this Letter of Bid on stationery with its letterhead clearly showing the Bidder's complete name and business address.

Note: All italicized text is to help Bidders in preparing this form.

Date of this Bid submission: *[insert date (as day, month and year) of Bid submission]*

RFB No.: *[insert number of RFB process]*

Request for Bid No.: *[insert identification]*

Alternative No.: *[insert identification No if this is a Bid for an alternative]*

To: *[insert complete name of Purchaser]*

- (a) **No reservations:** We have examined and have no reservations to the bidding document, including Addenda issued in accordance with Instructions to Bidders (ITB 8);
- (b) **Eligibility:** We meet the eligibility requirements and have no conflict of interest in accordance with ITB 4;
- (c) **Bid/Proposal-Securing Declaration:** We have not been suspended nor declared ineligible by the Purchaser based on execution of a Bid-Securing Declaration or Proposal-Securing Declaration in the Purchaser's Country in accordance with ITB 4.7;
- (d) **Conformity:** We offer to supply in conformity with the bidding document and in accordance with the Delivery Schedules specified in the Schedule of Requirements the following Goods: *[insert a brief description of the Goods and Related Services]*;
- (e) **Bid Price:** The total price of our Bid, excluding any discounts offered in item (f) below is:

Option 1, in case of one lot: Total price is: *[insert the total price of the Bid in words and figures, indicating the various amounts and the respective currencies]*;

Or

Option 2, in case of multiple lots: (a) Total price of each lot *[insert the total price of each lot in words and figures, indicating the various amounts and the respective currencies]*; and (b) Total price of all lots (sum of all lots) *[insert the total price of all lots in words and figures, indicating the various amounts and the respective currencies]*;

- (f) **Discounts:** The discounts offered and the methodology for their application are:

- (i) The discounts offered are: [*Specify in detail each discount offered.*]
- (ii) The exact method of calculations to determine the net price after application of discounts is shown below: [*Specify in detail the method that shall be used to apply the discounts*];
- (g) **Bid Validity Period:** Our Bid shall be valid for the period specified in BDS 18.1 (as amended, if applicable) from the date fixed for the Bid submission deadline specified in BDS 22.1 (as amended, if applicable), and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (h) **Performance Security:** If our Bid is accepted, we commit to obtain a performance security in accordance with the bidding document;
- (i) **One Bid per Bidder:** We are not submitting any other Bid(s) as an individual Bidder, and we are not participating in any other Bid(s) as a Joint Venture member, or as a subcontractor, and meet the requirements of ITB 4.3, other than alternative Bids submitted in accordance with ITB 13;
- (j) **Suspension and Debarment:** We, along with any of our subcontractors, suppliers, consultants, manufacturers, or service providers for any part of the contract, are not subject to, and not controlled by any entity or individual that is subject to, a temporary suspension or a debarment imposed by the World Bank Group or a debarment imposed by the World Bank Group in accordance with the Agreement for Mutual Enforcement of Debarment Decisions between the World Bank and other development banks. Further, we are not ineligible under the Purchaser’s Country laws or official regulations or pursuant to a decision of the United Nations Security Council;
- (k) **State-owned enterprise or institution:** [*select the appropriate option and delete the other*] [*We are not a state-owned enterprise or institution*] / [*We are a state-owned enterprise or institution but meet the requirements of ITB 4.6*];
- (l) **Commissions, gratuities, fees:** We have paid, or will pay the following commissions, gratuities, or fees with respect to the Bidding process or execution of the Contract: [*insert complete name of each Recipient, its full address, the reason for which each commission or gratuity was paid and the amount and currency of each such commission or gratuity*]

Name of Recipient	Address	Reason	Amount

(If none has been paid or is to be paid, indicate “none.”)

- (m) **Binding Contract:** We understand that this Bid, together with your written acceptance thereof included in your Letter of Acceptance, shall constitute a binding contract between us, until a formal contract is prepared and executed;

- (n) **Purchaser Not Bound to Accept:** We understand that you are not bound to accept the lowest evaluated cost Bid, the Most Advantageous Bid or any other Bid that you may receive; and
- (o) **Fraud and Corruption:** We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf engages in any type of Fraud and Corruption.

Name of the Bidder: *[insert complete name of the Bidder]

Name of the person duly authorized to sign the Bid on behalf of the Bidder: **[insert complete name of person duly authorized to sign the Bid]

Title of the person signing the Bid: [insert complete title of the person signing the Bid]

Signature of the person named above: [insert signature of person whose name and capacity are shown above]

Date signed [insert date of signing] **day of** [insert month], [insert year]

*: In the case of the Bid submitted by a Joint Venture specify the name of the Joint Venture as Bidder.

** : Person signing the Bid shall have the power of attorney given by the Bidder. The power of attorney shall be attached with the Bid Schedules.

Bidder Information Form

[The Bidder shall fill in this Form in accordance with the instructions indicated below. No alterations to its format shall be permitted and no substitutions shall be accepted.]

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

RFB No.: *[insert number of RFB process]*

Alternative No.: *[insert identification No if this is a Bid for an alternative]*

Page _____ of _____ pages

1. Bidder's Name <i>[insert Bidder's legal name]</i>
2. In case of JV, legal name of each member: <i>[insert legal name of each member in JV]</i>
3. Bidder's actual or intended country of registration: <i>[insert actual or intended country of registration]</i>
4. Bidder's year of registration: <i>[insert Bidder's year of registration]</i>
5. Bidder's Address in country of registration: <i>[insert Bidder's legal address in country of registration]</i>
6. Bidder's Authorized Representative Information Name: <i>[insert Authorized Representative's name]</i> Address: <i>[insert Authorized Representative's Address]</i> Telephone/Fax numbers: <i>[insert Authorized Representative's telephone/fax numbers]</i> Email Address: <i>[insert Authorized Representative's email address]</i>
7. Attached are copies of original documents of <i>[check the box(es) of the attached original documents]</i> <input type="checkbox"/> Articles of Incorporation (or equivalent documents of constitution or association), and/or documents of registration of the legal entity named above, in accordance with ITB 4.4. <input type="checkbox"/> In case of JV, letter of intent to form JV or JV agreement, in accordance with ITB 4.1. <input type="checkbox"/> In case of state-owned enterprise or institution, in accordance with ITB 4.6 documents establishing: <ul style="list-style-type: none"> • Legal and financial autonomy • Operation under commercial law • Establishing that the Bidder is not under the supervision of the Purchaser
8. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership. <i>[If required under BDS ITB 45.1, the successful Bidder shall provide additional information on beneficial ownership, using the Beneficial Ownership Disclosure Form.]</i>

Bidder's JV Members Information Form

[The Bidder shall fill in this Form in accordance with the instructions indicated below. The following table shall be filled in for the Bidder and for each member of a Joint Venture].

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

RFB No.: *[insert number of Bidding process]*

Alternative No.: *[insert identification No if this is a Bid for an alternative]*

Page _____ of _____ pages

1. Bidder's Name: <i>[insert Bidder's legal name]</i>
2. Bidder's JV Member's name: <i>[insert JV's Member legal name]</i>
3. Bidder's JV Member's country of registration: <i>[insert JV's Member country of registration]</i>
4. Bidder's JV Member's year of registration: <i>[insert JV's Member year of registration]</i>
5. Bidder's JV Member's legal address in country of registration: <i>[insert JV's Member legal address in country of registration]</i>
6. Bidder's JV Member's authorized representative information Name: <i>[insert name of JV's Member authorized representative]</i> Address: <i>[insert address of JV's Member authorized representative]</i> Telephone/Fax numbers: <i>[insert telephone/fax numbers of JV's Member authorized representative]</i> Email Address: <i>[insert email address of JV's Member authorized representative]</i>
7. Attached are copies of original documents of <i>[check the box(es) of the attached original documents]</i> <input type="checkbox"/> Articles of Incorporation (or equivalent documents of constitution or association), and/or registration documents of the legal entity named above, in accordance with ITB 4.4. <input type="checkbox"/> In case of a state-owned enterprise or institution, documents establishing legal and financial autonomy, operation in accordance with commercial law, and that they are not under the supervision of the Purchaser, in accordance with ITB 4.6.
8. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership. <i>[If required under BDS ITB 45.1, the successful Bidder shall provide additional information on beneficial ownership for each JV member using the Beneficial Ownership Disclosure Form.]</i>

Price Schedule Forms

*[The Bidder shall fill in these Price Schedule Forms in accordance with the instructions indicated. The list of line items in column 1 of the **Price Schedules** shall coincide with the List of Goods and Related Services specified by the Purchaser in the Schedule of Requirements.]*

Price Schedule: Goods Manufactured Outside the Purchaser's Country, to be Imported

LOT-1

(Group C Bids, goods to be imported)								Date: _____
Currencies in accordance with ITB 15								RFB No: _____
								Alternative No: _____
								Page N° _____ of _____
1	2	3	4	5	6	7	8	9
Line Item N°	Description of Goods	Country of Origin	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price CIP [<i>insert place of destination</i>] in accordance with ITB 14.8(b)(i)	CIP Price per line item (Col. 5x6)	Price per line item for inland transportation and other services required in the Purchaser's Country to convey the Goods to their final destination specified in BDS	Total Price per Line item (Col. 7+8)
1	Automatic voltage Regulator with Power Stabilizer	<i>[insert country of origin of the Good]</i>	<i>[insert quoted Delivery Date]</i>	1	<i>[insert unit price CIP per unit]</i>	<i>[insert total CIP price per line item]</i>	<i>[insert the corresponding price per line item]</i>	<i>[insert total price of the line item]</i>
2	Air conditioning (HVAC)			1				
3	UPS (40 KVA)			2				
4	Smoke detectors with Alarm (Supply & Installation)			4				

5	Humidity & Temperature Sensors With Alarm and Notification System (Supply & Installation)			2				
6	Emergency Handheld fire extinguishers			2				
7	Server Racks with Installation			8				
8	Automatic Fire suppression system (FM 200)			1				
9	Rack and Server Configuration in NDC as Disaster Recovery Site			1				
10	Network Connectivity Configuration between Primary Data Center (SAO) and Disaster Recovery Site (ADNC)			1				

11	Service Charges of Racks in ANDC for 1 Year			12 Months				
12	Configuration and Installation			1 Bundle				
							Total Price	

Name of Bidder *[insert complete name of Bidder]* Signature of Bidder *[signature of person signing the Bid]* Date *[Insert Date]*

Price Schedule: Goods Manufactured Outside the Purchaser's Country, to be Imported

LOT-2

(Group C Bids, goods to be imported)								Date: _____
Currencies in accordance with ITB 15								RFB No: _____
								Alternative No: _____
								Page N° _____ of _____
1	2	3	4	5	6	7	8	9
Line Item N°	Description of Goods	Country of Origin	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price CIP [<i>insert place of destination</i>] in accordance with ITB 14.8(b)(i)	CIP Price per line item (Col. 5x6)	Price per line item for inland transportation and other services required in the Purchaser's Country to convey the Goods to their final destination specified in BDS	Total Price per Line item (Col. 7+8)
1	Volume License for Office 2019 Standardization of Existing laptops for Field Auditors			100 license				
2	Laptop Computers with Windows 10			100 PC				
3	Antivirus Endpoint for Users			400 PC				

4	MFP High Speed Printers Scanners (All in one)			30 PC					
5	Heavy Duty Photocopiers (MFP)			3 PC					
6	Portable scanners			100 PC					
								Total Price	

Name of Bidder *[insert complete name of Bidder]* Signature of Bidder *[signature of person signing the Bid]* Date *[Insert Date]*

Price Schedule: Goods Manufactured Outside the Purchaser's Country, to be Imported

LOT-3

(Group C Bids, goods to be imported)								Date: _____
Currencies in accordance with ITB 15								RFB No: _____
								Alternative No: _____
								Page N° _____ of _____
1	2	3	4	5	6	7	8	9
Line Item N°	Description of Goods	Country of Origin	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price CIP [<i>insert place of destination</i>] in accordance with ITB 14.8(b)(i)	CIP Price per line item (Col. 5x6)	Price per line item for inland transportation and other services required in the Purchaser's Country to convey the Goods to their final destination specified in BDS	Total Price per Line item (Col. 7+8)
1	Servers			10 PC				
2	Anti-virus End point (Enterprise Server/ Bundle)			20 Nodes/2 Years				
3	Windows server 2019 Standard licenses			11 Licenses				
4	SQL SERVER Enterprise Edition (Database)			5 Per Core licenses				

5	Email Server (Application and Configuration for 600 Users Perpetual Licenses)			1 System				
6	Configuration / Installation and Setup			1 Bundled				
Total Price								

Name of Bidder *[insert complete name of Bidder]* Signature of Bidder *[signature of person signing the Bid]* Date *[Insert Date]*

Price Schedule: Goods Manufactured Outside the Purchaser's Country, to be Imported

LOT-4

(Group C Bids, goods to be imported)								Date: _____
Currencies in accordance with ITB 15								RFB No: _____
								Alternative No: _____
								Page N° _____ of _____
1	2	3	4	5	6	7	8	9
Line Item N°	Description of Goods	Country of Origin	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price CIP [<i>insert place of destination</i>] in accordance with ITB 14.8(b)(i)	CIP Price per line item (Col. 5x6)	Price per line item for inland transportation and other services required in the Purchaser's Country to convey the Goods to their final destination specified in BDS	Total Price per Line item (Col. 7+8)
1	Firewall ASA			3 PC				
2	Routers			2 PC				
3	Load Balancer (if not part of AMIS by default)			2 Number				
4	Access Switches (48 Ports)			20 PC				
5	Core Switch at Data center (48 Ports)			3 PC				

6	Enterprise wireless access points			20 PC				
7	RADIUS server for the wireless			1 PC				
8	Wireless access controller (if not inbuilt in wireless access point)			1 PC				
9	Basic Security Incident and Event Management (SIEM) solution			1 Bundled Appliance				
10	Intranet website + Portal (Setup & Hosting)			1 PC				
11	Storage Area Network (SAN)			1 PC				
12	SAN Switch			1 System				
13	Tape Library and Tapes			1 PC				
14	Hyper Convergence Infrastructure (HCI) Node			1 License				

15	VOIP - IP phone server/Call manager			2 PCS				
16	VOIP Licenses			100 license				
17	VOIP - POE Switches			8 PC				
18	VOIP - IP Phone-end point			100 PC				
19	Configuration / Installation and Setup			1 Bundled				
							Total Price	

Name of Bidder *[insert complete name of Bidder]* Signature of Bidder *[signature of person signing the Bid]* Date *[Insert Date]*

Price Schedule: Goods Manufactured Outside the Purchaser’s Country, already imported*

(Group C Bids, Goods already imported)										Date: _____	
Currencies in accordance with ITB 15										RFB No: _____	
										Alternative No: _____	
										Page N° _____ of _____	
1	2	3	4	5	6	7	8	9	10	11	12
Line Item N°	Description of Goods	Country of Origin	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price including Custom Duties and Import Taxes paid, in accordance with ITB 14.8(c)(i)	Custom Duties and Import Taxes paid per unit in accordance with ITB 14.8(c)(ii) , [to be supported by documents]	Unit Price net of custom duties and import taxes, in accordance with ITB 14.8 (c) (iii) (Col. 6 minus Col.7)	Price per line item net of Custom Duties and Import Taxes paid, in accordance with ITB 14.8(c)(i) (Col. 5×8)	Price per line item for inland transportation and other services required in the Purchaser’s Country to convey the goods to their final destination, as specified in BDS in accordance with ITB 14.8 (c)(v)	Sales and other taxes paid or payable per item if Contract is awarded (in accordance with ITB 14.8(c)(iv)	Total Price per line item (Col. 9+10)
<i>[insert number of the item]</i>	<i>[insert name of Goods]</i>	<i>[insert country of origin of the Good]</i>	<i>[insert quoted Delivery Date]</i>	<i>[insert number of units to be supplied and name of the physical unit]</i>	<i>[insert unit price per unit]</i>	<i>[insert custom duties and taxes paid per unit]</i>	<i>[insert unit price net of custom duties and import taxes]</i>	<i>[insert price per line item net of custom duties and import taxes]</i>	<i>[insert price per line item for inland transportation and other services required in the Purchaser’s Country]</i>	<i>[insert sales and other taxes payable per item if Contract is awarded]</i>	<i>[insert total price per line item]</i>
										Total Bid Price	

Name of Bidder *[insert complete name of Bidder]* Signature of Bidder *[signature of person signing the Bid]* Date *[insert date]*

* *[For previously imported Goods, the quoted price shall be distinguishable from the original import value of these Goods declared to customs and shall include any rebate or mark-up of the local agent or representative and all local costs except import duties and taxes, which have been and/or have to be paid by the Purchaser. For clarity the Bidders are asked to quote the price including import duties, and additionally to provide the import duties and the price net of import duties which is the difference of those values.]*

Price Schedule: Goods Manufactured in the Purchaser’s Country

Purchaser’s Country _____		(Group A and B Bids) Currencies in accordance with ITB 15					Date: _____ RFB No: _____ Alternative No: _____ Page N° _____ of _____			
1	2	3	4	5	6	7	8	9	10	
Line Item N°	Description of Goods	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price EXW	Total EXW price per line item (Col. 4x5)	Price per line item for inland transportation and other services required in the Purchaser’s Country to convey the Goods to their final destination	Cost of local labor, raw materials and components from with origin in the Purchaser’s Country % of Col. 5	Sales and other taxes payable per line item if Contract is awarded (in accordance with ITB 14.8(a)(ii))	Total Price per line item (Col. 6+7)	
<i>[insert number of the item]</i>	<i>[insert name of Good]</i>	<i>[insert quoted Delivery Date]</i>	<i>[insert number of units to be supplied and name of the physical unit]</i>	<i>[insert EXW unit price]</i>	<i>[insert total EXW price per line item]</i>	<i>[insert the corresponding price per line item]</i>	<i>[Insert cost of local labor, raw material and components from within the Purchase’s country as a % of the EXW price per line item]</i>	<i>[insert sales and other taxes payable per line item if Contract is awarded]</i>	<i>[insert total price per item]</i>	
								Total Price		

Name of Bidder *[insert complete name of Bidder]* Signature of Bidder *[signature of person signing the Bid]* Date *[insert date]*

Price and Completion Schedule - Related Services

Currencies in accordance with ITB 15						Date: _____
						RFB No: _____
						Alternative No: _____
						Page N° _____ of _____
1	2	3	4	5	6	7
Service N°	Description of Services (excludes inland transportation and other services required in the Purchaser's Country to convey the goods to their final destination)	Country of Origin	Delivery Date at place of Final destination	Quantity and physical unit	Unit price	Total Price per Service (Col. 5*6 or estimate)
<i>[insert number of the Service]</i>	<i>[insert name of Services]</i>	<i>[insert country of origin of the Services]</i>	<i>[insert delivery date at place of final destination per Service]</i>	<i>[insert number of units to be supplied and name of the physical unit]</i>	<i>[insert unit price per item]</i>	<i>[insert total price per item]</i>
Total Bid Price						

Name of Bidder *[insert complete name of Bidder]* Signature of Bidder *[signature of person signing the Bid]* Date *[insert date]*

** [For previously imported Goods, the quoted price shall be distinguishable from the original import value of these Goods declared to customs and shall include any rebate or mark-up of the local agent or representative and all local costs except import duties and taxes, which have been and/or have to be paid by the Purchaser. For clarity the Bidders are asked to quote the price including import duties, and additionally to provide the import duties and the price net of import duties which is the difference of those values.]*

Form of Bid Security

(Bank Guarantee)

[The bank shall fill in this Bank Guarantee Form in accordance with the instructions indicated.]

[Guarantor letterhead or SWIFT identifier code]

Beneficiary: *[Purchaser to insert its name and address]*

RFB No.: *[Purchaser to insert reference number for the Request for Bids]*

Alternative No.: *[Insert identification No if this is a Bid for an alternative]*

Date: *[Insert date of issue]*

BID GUARANTEE No.: *[Insert guarantee reference number]*

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that _____ *[insert name of the Bidder, which in the case of a joint venture shall be the name of the joint venture (whether legally constituted or prospective) or the names of all members thereof]* (hereinafter called "the Applicant") has submitted or will submit to the Beneficiary its Bid (hereinafter called "the Bid") for the execution of _____ under Request for Bids No. _____ ("the RFB").

Furthermore, we understand that, according to the Beneficiary's conditions, Bids must be supported by a Bid guarantee.

At the request of the Applicant, we, as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of _____ (_____) upon receipt by us of the Beneficiary's complying demand, supported by the Beneficiary's statement, whether in the demand itself or a separate signed document accompanying or identifying the demand, stating that either the Applicant:

- (a) has withdrawn its Bid during the period of Bid validity set forth in the Applicant's Letter of Bid ("the Bid Validity Period"), or any extension thereto provided by the Applicant; or
- (b) having been notified of the acceptance of its Bid by the Beneficiary during the Bid Validity Period or any extension thereto provided by the Applicant, (i) has failed to sign the contract agreement, or (ii) has failed to furnish the performance security, in

accordance with the Instructions to Bidders (“ITB”) of the Beneficiary’s bidding document.

This guarantee will expire: (a) if the Applicant is the successful Bidder, upon our receipt of copies of the Contract agreement signed by the Applicant and the performance security issued to the Beneficiary in relation to such Contract agreement; or (b) if the Applicant is not the successful Bidder, upon the earlier of (i) our receipt of a copy of the Beneficiary’s notification to the Applicant of the results of the Bidding process; or (ii) twenty-eight days after the end of the Bid Validity Period.

Consequently, any demand for payment under this guarantee must be received by us at the office indicated above on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758.

[Signature(s)]

Note: All italicized text is for use in preparing this form and shall be deleted from the final product.

Form of Bid Security (Bid Bond)

[The Surety shall fill in this Bid Bond Form in accordance with the instructions indicated.]

BOND NO. _____

BY THIS BOND *[name of Bidder]* as Principal (hereinafter called “the Principal”), and *[name, legal title, and address of surety]*, **authorized to transact business in** *[name of country of Purchaser]*, as Surety (hereinafter called “the Surety”), are held and firmly bound unto *[name of Purchaser]* as Obligee (hereinafter called “the Purchaser”) in the sum of *[amount of Bond]*¹ *[amount in words]*, for the payment of which sum, well and truly to be made, we, the said Principal and Surety, bind ourselves, our successors and assigns, jointly and severally, firmly by these presents.

WHEREAS the Principal has submitted or will submit a written Bid to the Purchaser dated the ____ day of _____, 20__, for the supply of *[name of Contract]* (hereinafter called the “Bid”).

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if the Principal:

- (a) has withdrawn its Bid during the period of Bid validity set forth in the Principal’s Letter of Bid (“the Bid Validity Period”), or any extension thereto provided by the Principal; or
- (b) having been notified of the acceptance of its Bid by the Purchaser during the Bid Validity Period or any extension thereto provided by the Principal; (i) failed to execute the Contract agreement; or (ii) has failed to furnish the Performance Security, in accordance with the Instructions to Bidders (“ITB”) of the Purchaser’s bidding document.

then the Surety undertakes to immediately pay to the Purchaser up to the above amount upon receipt of the Purchaser’s first written demand, without the Purchaser having to substantiate its demand, provided that in its demand the Purchaser shall state that the demand arises from the occurrence of any of the above events, specifying which event(s) has occurred.

The Surety hereby agrees that its obligation will remain in full force and effect up to and including the date 28 days after the date of expiration of the Bid Validity Period set forth in the Principal’s Letter of Bid or any extension thereto provided by the Principal.

IN TESTIMONY WHEREOF, the Principal and the Surety have caused these presents to be executed in their respective names this ____ day of _____ 20__.

Principal: _____ Surety: _____
 Corporate Seal (where appropriate)

¹ The amount of the Bond shall be denominated in the currency of the Purchaser’s Country or the equivalent amount in a freely convertible currency.

(Signature)

(Printed name and title)

(Signature)

(Printed name and title)

Form of Bid-Securing Declaration

[The Bidder shall fill in this Form in accordance with the instructions indicated.]

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

Bid No.: *[number of RFB process]*

Alternative No.: *[insert identification No if this is a Bid for an alternative]*

To: *[complete name of Purchaser]*

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 automatically be suspended from being eligible for bidding or submitting proposals in any contract with the Purchaser for the period of time of *[number of months or years]* starting on *[date]*, if we are in breach of our obligation(s) under the Bid conditions, because we:

- (a) have withdrawn our Bid during the period of Bid validity specified in the Letter of Bid;
or
- (b) having been notified of the acceptance of our Bid by the Purchaser during the period of Bid validity, (i) fail or refuse to sign the Contract; or (ii) fail or refuse to furnish the Performance Security, if required, in accordance with the ITB.

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 days after the expiration of our Bid.

Name of the Bidder* _____

Name of the person duly authorized to sign the Bid on behalf of the Bidder** _____

Title of the person signing the Bid _____

Signature of the person named above _____

Date signed _____ day of _____, _____

*: In the case of the Bid submitted by joint venture specify the name of the Joint Venture as Bidder

** : Person signing the Bid shall have the power of attorney given by the Bidder attached to the Bid

[Note: In case of a Joint Venture, the Bid-Securing Declaration must be in the name of all members to the Joint Venture that submits the Bid.]

Manufacturer's Authorization

*[The Bidder shall require the Manufacturer to fill in this Form in accordance with the instructions indicated. This letter of authorization should be on the letterhead of the Manufacturer and should be signed by a person with the proper authority to sign documents that are binding on the Manufacturer. The Bidder shall include it in its Bid, if so indicated in the **BDS**.]*

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

RFB No.: *[insert number of RFB process]*

Alternative No.: *[insert identification No if this is a Bid for an alternative]*

To: *[insert complete name of Purchaser]*

WHEREAS

We *[insert complete name of Manufacturer]*, who are official manufacturers of *[insert type of goods manufactured]*, having factories at *[insert full address of Manufacturer's factories]*, do hereby authorize *[insert complete name of Bidder]* to submit a Bid the purpose of which is to provide the following Goods, manufactured by us *[insert name and or brief description of the Goods]*, and to subsequently negotiate and sign the Contract.

We hereby extend our full guarantee and warranty in accordance with Clause 28 of the General Conditions of Contract, with respect to the Goods offered by the above firm.

Signed: *[insert signature(s) of authorized representative(s) of the Manufacturer]*

Name: *[insert complete name(s) of authorized representative(s) of the Manufacturer]*

Title: *[insert title]*

Dated on _____ day of _____, _____ *[insert date of signing]*

Section V - Eligible Countries

Eligibility for the Provision of Goods, Works and Non Consulting Services in Bank-Financed Procurement

In reference to ITB 4.8 and ITB 5.1, for the information of the Bidders, at the present time firms, goods and services from the following countries are excluded from this Bidding process:

Under ITB 4.8(a) and ITB 5.1: *[insert a list of the countries following approval by the Bank to apply the restriction or state “none”]*.

Under ITB 4.8(b) and ITB 5.1: *[insert a list of the countries following approval by the Bank to apply the restriction or state “none”]*

Section VI - Fraud and Corruption

(Section VI shall not be modified)

1. Purpose

1.1 The Bank's Anti-Corruption Guidelines and this annex apply with respect to procurement under Bank Investment Project Financing operations.

2. Requirements

2.1 The Bank requires that Borrowers (including beneficiaries of Bank financing); bidders (applicants/proposers), consultants, contractors and suppliers; any sub-contractors, sub-consultants, service providers or suppliers; any agents (whether declared or not); and any of their personnel, observe the highest standard of ethics during the procurement process, selection and contract execution of Bank-financed contracts, and refrain from Fraud and Corruption.

2.2 To this end, the Bank:

- a. Defines, for the purposes of this provision, the terms set forth below as follows:
 - i. "corrupt practice" is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;
 - ii. "fraudulent practice" is any act or omission, including misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain financial or other benefit or to avoid an obligation;
 - iii. "collusive practice" is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;
 - iv. "coercive practice" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;
 - v. "obstructive practice" is:
 - (a) deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive, or collusive practice; and/or threatening, harassing, or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or

- (b) acts intended to materially impede the exercise of the Bank’s inspection and audit rights provided for under paragraph 2.2 e. below.
- b. Rejects a proposal for award if the Bank determines that the firm or individual recommended for award, any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/ or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;
- c. In addition to the legal remedies set out in the relevant Legal Agreement, may take other appropriate actions, including declaring misprocurement, if the Bank determines at any time that representatives of the Borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices during the procurement process, selection and/or execution of the contract in question, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur, including by failing to inform the Bank in a timely manner at the time they knew of the practices;
- d. Pursuant to the Bank’s Anti- Corruption Guidelines, and in accordance with the Bank’s prevailing sanctions policies and procedures, may sanction a firm or individual, either indefinitely or for a stated period of time, including by publicly declaring such firm or individual ineligible (i) to be awarded or otherwise benefit from a Bank-financed contract, financially or in any other manner;¹ (ii) to be a nominated² sub-contractor, consultant, manufacturer or supplier, or service provider of an otherwise eligible firm being awarded a Bank-financed contract; and (iii) to receive the proceeds of any loan made by the Bank or otherwise to participate further in the preparation or implementation of any Bank-financed project;
- e. Requires that a clause be included in bidding/request for proposals documents and in contracts financed by a Bank loan, requiring (i) bidders (applicants/proposers), consultants, contractors, and suppliers, and their sub-contractors, sub-consultants, service providers, suppliers, agents personnel, permit the Bank to inspect³ all accounts, records and other documents relating

¹ For the avoidance of doubt, a sanctioned party’s ineligibility to be awarded a contract shall include, without limitation, (i) applying for pre-qualification, expressing interest in a consultancy, and bidding, either directly or as a nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider, in respect of such contract, and (ii) entering into an addendum or amendment introducing a material modification to any existing contract.

² A nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider (different names are used depending on the particular bidding document) is one which has been: (i) included by the bidder in its pre-qualification application or bid because it brings specific and critical experience and know-how that allow the bidder to meet the qualification requirements for the particular bid; or (ii) appointed by the Borrower.

³ Inspections in this context usually are investigative (i.e., forensic) in nature. They involve fact-finding activities undertaken by the Bank or persons appointed by the Bank to address specific matters related to investigations/audits, such as evaluating the veracity of an allegation of possible Fraud and Corruption, through the appropriate mechanisms. Such activity includes but is not limited to: accessing and examining a firm’s or individual’s financial records and information, and making copies thereof as relevant; accessing and examining any other documents, data and information (whether in hard copy or electronic format) deemed relevant for the investigation/audit, and making copies thereof as

to the procurement process, selection and/or contract execution, and to have them audited by auditors appointed by the Bank.

relevant; interviewing staff and other relevant individuals; performing physical inspections and site visits; and obtaining third party verification of information.

PART 2 – Supply Requirements

Section VII - Schedule of Requirements

Contents

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Notes for Preparing the Schedule of Requirements

The Schedule of Requirements shall be included in the bidding document by the Purchaser, and shall cover, at a minimum, a description of the goods and services to be supplied and the delivery schedule.

The objective of the Schedule of Requirements is to provide sufficient information to enable Bidders to prepare their Bids efficiently and accurately, in particular, the Price Schedule, for which a form is provided in Section IV. In addition, the Schedule of Requirements, together with the Price Schedule, should serve as a basis in the event of quantity variation at the time of award of contract pursuant to ITB 42.1.

The date or period for delivery should be carefully specified, taking into account (a) the implications of delivery terms stipulated in the Instructions to Bidders pursuant to the *Incoterms* rules (i.e., EXW, or CIP, FOB, FCA terms—that “delivery” takes place when goods are delivered **to the carriers**), and (b) the date prescribed herein from which the Purchaser’s delivery obligations start (i.e., notice of award, contract signature, opening or confirmation of the letter of credit).

1. List of Goods and Delivery Schedule

Line Item N°	Description of Goods	Quantity	Physical unit	Final Destination (Project Site) as specified in BDS	Delivery (as per Incoterms) Date		
					Earliest Delivery Date	Latest Delivery Date	Bidder's offered Delivery date [<i>to be provided by the Bidder</i>]
LOT 1: Datacenter Equipment							
1	Automatic voltage Regulator with Power Stabilizer	1	PC	Supreme Audit Office (SAO)	After the signing of contract/ For foreign bidders after the opening of LC.	150 days	
2	Air conditioning (HVAC)	1	Complete System	SAO			
3	UPS (40 KVA)	2	PC	SAO			
4	Smoke detectors with Alarm (Supply & Installation)	4	PC	SAO			
5	Humidity & Temperature Sensors With Alarm and Notification System (Supply & Installation)	2	System	SAO			
6	Emergency Handheld fire extinguishers	2	PC	SAO			
7	Server Racks with Installation	8	PC	SAO			
8	Automatic Fire suppression system (FM 200)	1	System	SAO			

9	Rack and Server Configuration in NDC as Disaster Recovery Site	1	Site	SAO			
10	Network Connectivity Configuration between Primary Data Center (SAO) and Disaster Recovery Site (ADNC)	1	Site	SAO			
11	Service Charges of Racks in ANDC for 1 Year	12 Months	Months	SAO			
12	Configuration and Installation	1 Bundle	LMS	SAO			
LOT 2: Laptops, Printers and Related Software's							
1	Volume License for Office 2019 Standardization of Existing laptops for Field Auditors	100	License	SAO	After the signing of contract/ For foreign bidders after the opening of LC.	150 Days	
2	Laptop Computers with Windows 10	100	PC	SAO			
3	Antivirus Endpoint for Users	400	PC	SAO			
4	MFP High Speed Printers Scanners (All in one)	30	PC	SAO			

5	Heavy Duty Photocopiers (MFP)	3	PC	SAO			
6	Portable scanners	100	PC	SAO			
LOT 3: Servers, Related Software's and Configuration							
1	Servers	10	PC	SAO	After the signing of contract/ For foreign bidders after the opening of LC.	150 days	
2	Anti-virus End point (Enterprise Server/ Bundle)	20	Nodes/ 2years	SAO			
3	Windows server 2019 Standard licenses	11	licenses	SAO			
4	SQL SERVER Enterprise Edition (Database)	5	Per Core licenses	SAO			
5	Email Server (Application and Configuration for 600 Users Perpetual Licenses)	1	System	SAO			
6	Configuration / Installation and Setup	1	Bundled	SAO			
LOT 4: Network Equipment, Configuration and Miscellaneous							
1	Firewall ASA	1	PC	SAO	After the signing of contract/ For	150 days	
2	Routers	2	PC	SAO			
3	Load Balancer (if not part of AMIS by default)	2	Number	SAO			
4	Access Switches (48 Ports)	20	PC	SAO			
5	Core Switch at Data center (48 Ports)	3	PC	SAO			

6	Enterprise wireless access points	20	PC	SAO	foreign bidders after the opening of LC.		
7	RADIUS server for the wireless	1	PC	SAO			
8	Wireless access controller (if not inbuilt in wireless access point)	1	PC	SAO			
9	Basic Security Incident and Event Management (SIEM) solution	1	Bundled appliance	SAO			
10	Intranet website + Portal (Setup & Hosting)	1	Bundled	SAO			
11	Storage Area Network (SAN)	1	PC	SAO			
12	SAN Switch	1	PC	SAO			
13	Tape Library and Tapes	1	System	SAO			
14	Hyper Convergence Infrastructure (HCI) Node	1	PC	SAO			
15	VOIP - IP phone server/Call manager						
16	VOIP Licenses	100	License	SAO			
17	VOIP - IP phone server/Call manager	2	PC	SAO			
18	VOIP - POE Switches	8	PC	SAO			

19	VOIP - IP Phone-end point	100	PC	SAO			
20	Configuration / Installation and Setup	1	Bundled	SAO			

2. List of Related Services and Completion Schedule

[This table shall be filled in by the Purchaser. The Required Completion Dates should be realistic, and consistent with the required Goods Delivery Dates (as per Incoterms)]

Service	Description of Service	Quantity ¹	Physical Unit	Place where Services shall be performed	Final Completion Date(s) of Services
N/A					

Architectural Requirements to be met by the Information System

1. The AMIS MUST be supplied and configured to implement the following proposed architecture as represented in the logical diagram below, at a high level.
 - 1.1 – **Conceptual Future State IT architecture Design**

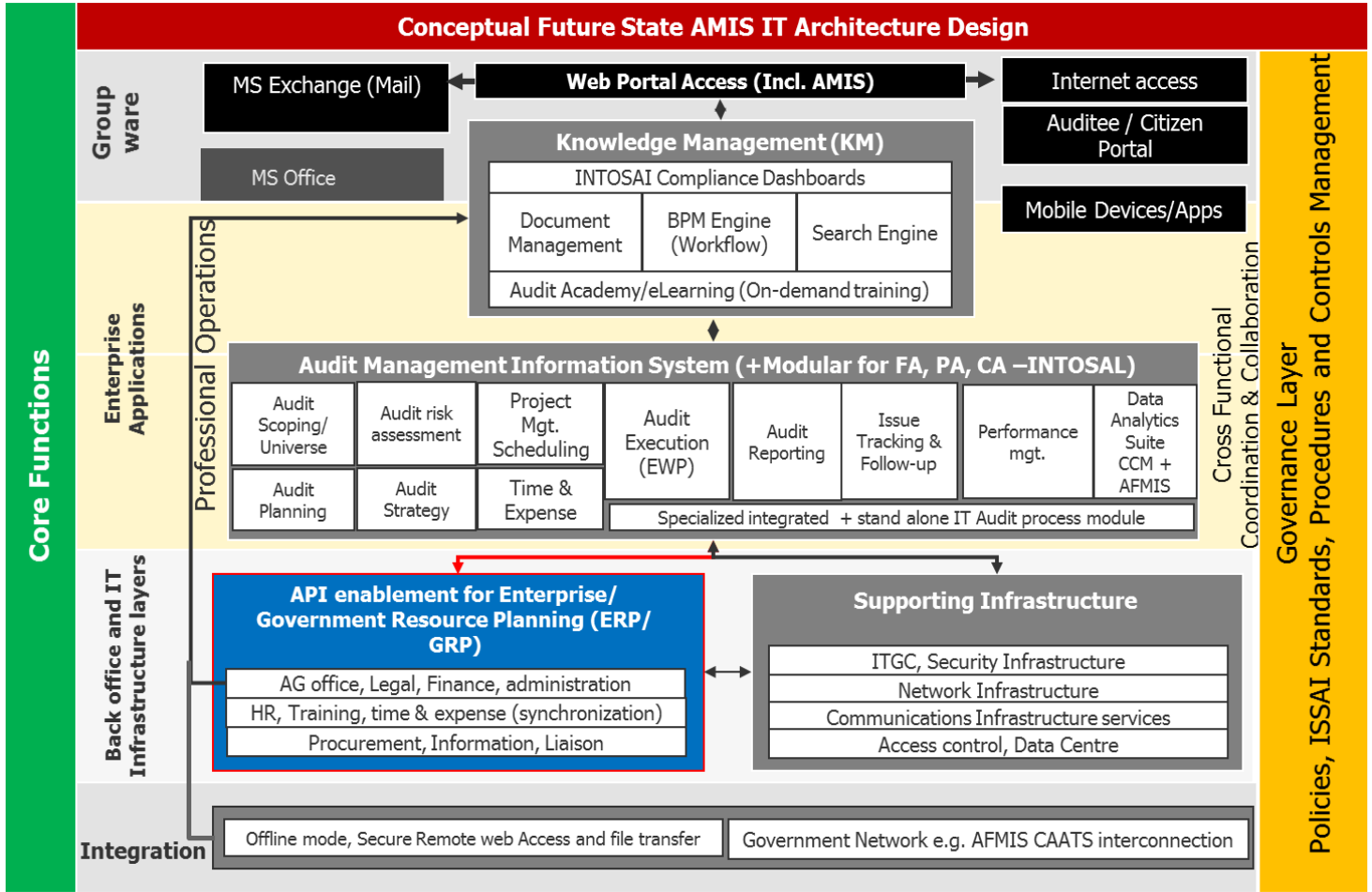


Figure 1: Conceptual future state IT architecture for the SAO

3. Technical Specifications

The detailed specifications and Configurations can be found in the following section named “Details of Specifications and Configuration”

Lot 1: Datacenter Equipment

<i>Item No</i>	<i>Name of Goods</i>	<i>Technical Specifications and Standards</i>	<i>Bidder to provide brand name, year of manufacture and country of manufacturer.</i>
1	UPS (40 KVA)	<p><i>Output Power Capacity 45KVA/40Kw</i></p> <p><i>Power factor (minimum) 80% (Not less than 0.8 lagging). Desired run time 3 Hours</i></p> <p><i>Desired run time (at full load) 2 Hours</i></p> <p><i>Future expansion 30%, Input Voltages 150-285 V</i></p> <p><i>Output Voltage 220/230/240 V, Frequency 50 Hz</i></p> <p><i>Built-in feature SNMP, environmental control, RS-232</i></p> <p><i>Redundant Bypass kit Automatic</i></p> <p><i>Batteries recharge time (up to 90%) 3 hrs.</i></p> <p><i>Hot-swappable Batteries Yes</i></p> <p><i>Failover capability Yes</i></p> <p><i>Network Shutdown Software for Windows and Linux Yes</i></p> <p><i>Vendor Proposed Candidate Hardware (Please quote exact Brand and Model)</i></p>	
2	Smoke detectors with Alarm (Supply & Installation)	<p>a. <i>Auto pulse control panel</i></p> <p>b. <i>Smoke detectors.</i></p> <p>c. <i>Flame detector.</i></p> <p>d. <i>Horns.</i></p> <p>e. <i>Strobes.</i></p> <p>f. <i>Associated cabling</i></p>	
3	Humidity & Temperature Sensors With Alarm and	<i>Humidity & Temperature Sensors With Alarm and Notification System (Supply & Installation)Domain controllers/DNS servers</i>	

	Notification System (Supply & Installation)		
4	Emergency Handheld fire extinguishers	<i>Emergency Handheld fire extinguishers</i>	
5	RACK Specifications	<p><i>Rack Height/Type 48U</i></p> <p><i>Hosts per Rack >8</i></p> <p><i>Color Black</i></p> <p><i>Perforated Front and Rear Doors Yes</i></p> <p><i>Additional Support Baying hardware, Documentation CD, Key(s), Keyed-alike doors and side panels, Levelling feet, Mounting Hardware, Pre-installed casters, Side Panels</i></p> <p><i>Detailed Specs</i></p> <ul style="list-style-type: none"> • <i>Net Depth with Stabilizing Feet: 50.30 in. (1278 mm.)</i> • <i>Net Weight: 275.20 lbs. (125.10 kg.)</i> • <i>Weight Capacity (static load): 3000.00 lbs. (1363.64 kg)</i> • <i>Weight Capacity (dynamic load): 2250.00 lbs. (1022.73 kg)</i> • <i>Minimum Mounting Depth: 7.52 in. (191 mm)</i> • <i>Maximum Mounting Depth: 36.02 in. (915 mm)</i> • <i>Rack Height: 42U</i> • <i>Colour: Black</i> • <i>Vertical Posts: 16 gauge</i> • <i>Front Door: 16 gauge</i> • <i>Rear Door: 18 gauge</i> • <i>Roof: 18 gauge</i> • <i>EIA Mounting Rails: 14 gauge</i> • <i>Side Panels: 18 gauge</i> • <i>Regulatory Approvals: EIA-310-D</i> <p><i>Vendor Proposed Candidate Hardware (Please quote exact Brand and Model)</i></p>	
6	Automatic Fire suppression system (FM 200)	<i>Complete working set/system (Including actuators, discharge hose, pipe network components, discharge nozzles, FM 200 clean agent, Pneumatic</i>	

		<p><i>pilot line and fittings, valve rebuild kits, software, manuals, tank, tank w/Valve, warning signs, etc.)</i></p> <p><i>Supply & Installation of Sunder & Beacon, Supply & Installation of Releasing Indicator, Supply & Installation of Fire Alarm Bell, Supply & Installation of 2x1.5mm² Fire Alarm Cable, Supply & Installation of CAT5 Cable, Supply & Installation of EMT pipe 3/4", Supply & Installation of Clean agent (FM 200) Cylinder with solenoid valve, manual release valve and check valve.</i></p> <p><i>Supply of Bracket for cylinder, Supply & Installation of Hose pipe for connection of cylinder with Riser, Supply & Installation of GI pipe 32mm with fittings, Supply of Clamp for pipes, Nozzle (360 Degree FM 200 Nozzle), Supply & installation of Raised fire proof floor with 30cm height, Installation, Testing and commission</i></p>	
7	<p>Rack and Server Configuration in NDC as Disaster Recovery Site</p> <p>Network Connectivity Configuration between Primary Data Center (SAO) and Disaster Recovery Site (ADNC)</p> <p>Service Charges of Racks in ANDC for 1 Year</p>	<p>Rack and Server Configuration in NDC as Disaster Recovery Site</p>	
8	<p>Service charges of racks in ANDC for 1 yea</p>	<p><i>Service charges for RACK in ANDC</i></p>	
9	<p>Automatic voltage Regulator with Power Stabilizer</p>	<p>Complete system</p>	
4	<p>Network connectivity configuration between primary data center SAO and disaster recovery site ANDC</p>	<p>Network connectivity configuration between primary data center SAO and disaster recovery site ANDC</p>	

5	Miscellaneous		
6			

Lot 2: Laptops, Printers and Related Software's

<i>Item No</i>	<i>Name of Goods</i>	<i>Technical Specifications and Standards</i>	<i>Bidder to provide brand name, year of manufacture and country of manufacturer.</i>
1	Volume License for Office 2019 Standardization of Existing laptops for Field Auditors	Volume License for Office 2019 Standardization of Existing laptops for Field Auditors	
2	Laptop Computers with Windows 10	<p><i>Processor and core logic</i> 10th Gen Intel Core i7-10510U Processor or Higher</p> <p><i>System memory</i> 16GB DDR4 Memory or higher</p> <p><i>Storage subsystem/Hard Disk</i> At least M.2 512GB PCIe NVMe Class 40 SSD or significant equivalent</p> <p><i>Form Factor</i> SSD Form factor M.2, with finger print reader, 13.03 x 8.7 x 0.67 inches</p> <p><i>Display</i> 14.0 FHD (1920 x 1080) Touch Display</p> <p><i>Graphics Card</i> Intel HD graphics 520 with DisplayPort over USB Type-C</p> <p><i>Keyboard and pointing device</i> Dual Pointing, 82 key with Smartcard, Contactless Smartcard, Fingerprint Reader, Thunderbolt3</p> <p><i>Audio</i> Stereo audio system</p> <p><i>Communication interface</i> Gigabit Ethernet</p> <p><i>Interfaces</i> 1xPS/2 compatible mouse or USB 1Xrj45 jack for Ethernet</p> <p>1x External VGA port</p> <p><i>Webcam</i> 1.3MP or more HD with dual array digital microphones</p> <p><i>Connectivity</i> USB-C ports (2), Wireless LAN Type IEEE 802.11b/g/n/ac, Bluetooth 4.1</p> <p>HDMI 1.4 or more</p> <p>USB 3.0 (Always On)</p> <p>2 x USB-C/Thunderbolt 3/DisplayPort</p> <p>Headphone/microphone combo jack</p>	

		<p><i>Media card reader</i> MMC, SD, xD, MS, MS Pro, MS Duo, MS Pro Duo</p> <p><i>Weight</i> 3.01 lbs</p> <p><i>Service and support</i> At least 3 Year service warranty on parts</p> <p><i>Carry case</i> X1 with sufficient Padding for Protection</p> <p><i>Power supply</i> Input AC 220 V (50 Hz), output 65 Watt, 20 V, 3.25 A, with 2 pin and compatible with Afghanistan power ratings and plug types (C/F)</p> <p><i>Battery</i> 3 Cell 60 Whr Long Life Cycle Battery with 3 year warranty</p> <p><i>Manufacturer warranty</i> At least three (3) Year manufacturer warranty on hardware</p> <p><i>Operating System</i> Windows 10, Pro 64-bit with Microsoft Genuine license key</p> <p><i>Other Software</i> Latest version of Microsoft Office (2019) with Original License key, Original Drivers and Installation/recovery DVDs</p> <p><i>Latest Version of Either Kaspersky or ESET anti-virus with licensed CDs/DVDs</i></p> <p><i>Personal firewalls installed</i></p> <p><i>Host based Intrusion detections software installed</i></p> <p><i>Vendor Proposed Candidate Hardware (Please quote exact Brand and Model)</i></p> <p><i>Price / Notebook</i></p>	
3	Antivirus Endpoint for Users	<i>Antivirus Endpoint for Users</i>	
4	MFP High Speed Printers + Scanners (All in one)	<p><i>Type</i> Flatbed, MFP, B/W Multifunctional for A4/A3 format</p> <p><i>ADF Scan speed</i> Up to 25 ppm</p> <p><i>Colour:</i> Up to 180 images per minute, b/w: 180 image per minute, (A4, 300dpi with DP-7110)</p> <p><i>Scan size</i> Up to A3, Banner up to 1,900 mm with optional Document Processor</p> <p><i>ADF Capacity</i> Up to 500 sheets facedown, max. output capacity 4,300 sheets</p> <p><i>Engine capacity</i> Up to 40/21 pages per minute A4/A3 in colour and b/w</p> <p><i>Copy</i> Digital copy features 1-999 continuous copy</p> <p><i>Paper handling</i> Upto 150-sheet multipurpose tray, 52 – 300 g/m² (Banner 135 – 165 g/m²), A6R – SRA3 (320 x 450 mm), Tab paper (136 – 256 g/m²), Banner max. 320 x 1,220 mm; 2x 500-sheet universal paper cassette, 52 – 300 g/m², upper cassette A6R up to A4R, lower cassette A6R up to SRA3</p> <p><i>Optical resolution</i> Up to 4800 dpi</p>	

		<p>Scan resolution 1200 x 1200 dpi (print, at reduced speed) 600 x 600 dpi (scan/copy) Bit depth 48-bit Other Multipage document, Two-side scanning capability Networking capability Remote printing Scan to email, Scan to FTP, Scan to SMB, Scan to USB Host, Scan-to-box, Network TWAIN, WSD scan General memory Upto Standard 2048 MB, 8 GB SSD + standard 320 GB HDD Time to first print Approx. 4.2 seconds or less Vendor Proposed Candidate Hardware (Please quote exact Brand and Model) Price / Scanner</p>	
<p>5</p>	<p>Heavy Duty Photocopiers (MFP)</p>	<p>TYPE Monochrome Laser Multifunctional CORE FUNCTIONS Standard: Print, Copy, Scan, Send, Store Optional: Fax PROCESSOR Canon Dual Custom Processor (Shared) CONTROL PANEL 10.1" TFT LCD WSVGA Color Touch-panel MEMORY 3.0 GB RAM HARD DISK DRIVE Standard: 250 GB Maximum: 1 TB MIRRORING HARD DISK DRIVE Optional (250 GB, 1 TB) Method: Raid1 PRINT RESOLUTION 1200 dpi x 1200 dpi INTERFACE CONNECTION Network Standard: 1000Base-T/100Base-TX/10Base-T, Wireless LAN (IEEE 802.11 b/g/n) Optional: NFC, Bluetooth Others Standard: USB 2.0 x2 (Host), USB 3.0 x1 (Host), USB 2.0 x1 (Device) Optional: Serial Interface, Copy Control Interface PAPER CAPACITY (LTR, 20LB BOND) Standard: 1,185 Sheets Maximum: 6,335 Sheets SUPPORTED MEDIA WEIGHTS Paper Cassettes: 16 lb. Bond to 34 lb. Bond (60 to 128 g/m2) Stack Bypass: 14 lb. Bond to 80 lb. Cover (52 to 220 g/m2) Duplexing: 16 lb. Bond to 28 lb. Bond (60 to 105 g/m2) WARM-UP TIME From Power On: 24 Seconds or Less</p>	

		<p> <i>From Deep Sleep Mode: 10 Seconds or Less</i> <i>Quick Startup Mode: 4 Seconds</i>⁴ DIMENSIONS (W X D X H) 23-1/8" x 29-1/8" x 47" (587 mm x 740 mm x 1,193 mm)⁵ INSTALLATION SPACE (WXD) Basic [With ADF (Stack Bypass and Cassette Drawers Open)]: 35" x 46-1/2" (889 mm x 1,182 mm) Fully Configured [With ADF+Paper Deck Unit-F1+ Booklet Finisher-Y1 (Cassette Drawers Open)]: 71-3/8" x 50-3/8" (1,811 mm x 1,280 mm) WEIGHT Approx. 240.7 lb. (109.2 kg)⁶ </p> <p> PRINT SPECIFICATIONS PRINT SPEED Up to 51 ppm (Letter) Up to 37 ppm (Letter-R) Up to 25 ppm (Legal) Up to 25 ppm (11" x 17") </p> <p> STANDARD PAGE DESCRIPTION LANGUAGES UFR II, PCL®6, Adobe® PS® 3 </p> <p> DIRECT PRINT Available from USB, Advanced Box, Remote UI, and Web Access (Opt.)⁷ </p> <p> SUPPORTED FILE TYPES PDF, TIFF, JPEG, EPS, XPS </p> <p> PRINTING FROM MOBILE DEVICES AND CLOUD-BASED SERVICES A range of software and MEAP-based solutions are available to provide printing from mobile devices or Internet-connected devices and cloud-based services depending on your requirements. </p> <p> FONTS PCL fonts: 93 Roman, 10 Bitmap fonts, 2 OCR fonts, Andalé Mono WT J/K/S/T (Japanese, Korean, Simplified and Traditional Chinese),⁸ Barcode Fonts⁹ PS fonts: 136 Roman </p> <p> OPERATING SYSTEM¹⁰ UFR II: Windows Vista®/Server 2008/Windows® 7/Server 2008 R2/Server 2012/Windows 8.1/Server 2012 R2/Windows 10/Server 2016, MAC OS X (10.7 or later) PCL: Windows Vista/Server 2008/Windows 7/Server 2008 R2/Server 2012/Server 2012 R2/Windows 10/Server 2016 PS: Windows Vista/Server 2008/Windows 7/Server 2008 R2/Server 2012/Windows 8.1/Server 2012 R2/Windows 10/Server 2016, MAC OS X (10.7 or later) PPD: MAC OS X (10.3.9 or later), Windows Vista/Windows 7/Windows 8/Windows 8.1/Windows 10 </p>	
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		<p>COPY SPECIFICATIONS COPY SPEED Up to 51 ppm (Letter) Up to 37 ppm (Letter-R) Up to 25 ppm (Legal) Up to 25 ppm (11" x 17") FIRST-COPY-OUT-TIME As fast as 3.7 seconds COPY RESOLUTION Reading: Up to 600 x 600 Printing: 1200 x 1200 MULTIPLE COPIES Up to 999 Copies COPY EXPOSURE Automatic or Manual (9 Levels) MAGNIFICATION 25%-400% (1% Increments) PRESET REDUCTIONS 25%, 50%, 64%, 73%, 78% PRESET ENLARGEMENTS 121%, 129%, 200%, 400% BASIC COPY FEATURES Preset Reduction/Enlargement Ratios by Area, Paper Setting, Previous Settings, Favorite Settings, Finishing, Two-Sided, Density Adjustment, Original Type Selection, Interrupt Mode, Setting Confirmation/Cancel SPECIAL COPY FEATURES Suspend Job Timeout, Subset Finishing (PS only), Profile Settings, Secured Print, Forced Hold Printing, Watermark, Page Border, Header/Footer, Page Layout, Two-sided Printing, Collating, Booklet Printing, Grouping, Mixed Paper Sizes/Orientations, Offsetting, Printing on Transparencies, Front/Back Covers, Toner Reduction, Poster Printing</p> <p>SCAN SPECIFICATIONS TYPE Standard Single Pass Duplexing Automatic Document Feeder DOCUMENT FEEDER PAPER CAPACITY Single Pass DADF-A1: 150 Sheets (20 lb. Bond) DADF-AV1: 100 Sheets (20 lb. Bond) DOCUMENT FEEDER SUPPORTED MEDIA SIZES 11" x 17", Legal, Letter, Letter-R, Statement, Statement-R DOCUMENT FEEDER SUPPORTED MEDIA WEIGHTS Single Pass DADF-A1 BW Original: 13 lb. Bond to 58 lb. Cover (50 to 157 g/m2)</p>	
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		<p><i>CL Original: 17 lb. Bond to 58 lb. Cover (64 to 157 g/m2)</i> <i>DADF-AVI BW Original: 13 lb. Bond to 34 lb. Bond (50 to 128 g/m2)</i> <i>CL Original: 17 lb. Bond to 34 lb. Bond (64 to 128 g/m2)</i> PLATEN ACCEPTABLE ORIGINALS Sheet, Book, 3-Dimensional Objects [Up to 4.4 lb. (2 kg)] PULL SCAN Color Network ScanGear2 for both Twain and WIA <i>Supported OS: Windows Vista/7/8.1/10 Windows Server 2008/Server 2008 R2/Server 2012/Server 2012 R2/Server 2016</i> SCAN RESOLUTION 600 x 600, 400 x 400, 300 x 300, 200 x 400, 200 x 200, 200 x 100, 150 x 150, 100 x 100 SCAN TO MOBILE DEVICES AND CLOUD-BASED SERVICES A range of solutions is available to provide scanning to mobile devices and cloud-based services depending on your requirements. SCAN SPEED (LETTER) Single Pass DADF-A1 Single-sided Scanning BW: 80 ipm (300 dpi)/80 ipm (600 dpi) Color: 80 ipm (300 dpi)/60 ipm (600 dpi) Double-sided Scanning BW: 160 ipm (300 dpi)/150 ipm (600 dpi) Color: 160 ipm (300 dpi)/80 ipm (600 dpi) DADF-AVI Single-sided Scanning BW: 70 ipm (300 dpi)/51 ipm (600 dpi) Color: 70 ipm (300 dpi)/51 ipm (600 dpi) Double-sided Scanning BW: 35 ipm (300 dpi)/25.5 ipm (600 dpi) Color: 35 ipm (300 dpi)/25.5 ipm (600 dpi)</p> <p>SECURITY SPECIFICATIONS AUTHENTICATION Standard: Universal Login Manager, uniFLOW Online Express, 11, 12 User Authentication, Department ID Authentication, Access Management System, Device and Function Level Log-in Optional: uniFLOW DATA Standard: Trusted Platform Module (TPM), Hard Disk Password Lock, Hard Disk Drive Erase, Mail Box Password Protection, Hard Disk Drive Encryption (FIPS140-2 Validated) Optional: Hard Disk Drive Mirroring, Hard Disk Drive removal, IEEE 2600.2 Common Criteria Certification, Data Loss Prevention (Requires uniFLOW)</p>	
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6	Portable scanners	<p><i>Type Flatbed or handheld</i></p> <p><i>Max Grey depth 8-bit 256 grey levels</i></p> <p><i>Interface type USB 2.0</i></p> <p><i>Max Colour depth 24-bit 16.7M colours</i></p> <p><i>Style Portable</i></p> <p><i>Vendor Proposed Candidate Hardware (Please quote exact Brand and Model)</i></p> <p><i>Price / Portable Scanner</i></p>	

Lot 3: Servers and Related Software’s & Configuration

1	Servers	<p>Servers Specifications: 2x Intel® Xeon® Gold 6138 2.0G,20C/40T,10.4GT/s 3UPI,27M Cache,Turbo,HT (125W), Support Up to four 2nd Generation Intel® Xeon® Scalable processors, up to 28 cores each</p> <p>128 GB Memory, (2x 64GB) RDIMM 2666MT/s Dual Rank</p> <p>Network daughter card options 4x 1GbE, 4x 10GbE, 2x 10GbE+2x 1GbE, or 2x 25GbE</p> <p>Front ports: 1 x Dedicated iDRAC Direct USB, 2 x USB 3.0, 1 x VGA</p> <p>Rear ports: 1 x Dedicated iDRAC network port, 1 x Serial, 2 x USB 3.0, 1 x VGA Video card: 2 x VGA</p> <p>Up to 13 x Gen3 slots, (3 x8 + 10 x16)</p> <p>Dual, Hot-plug, Redundant Power Supply (1+1), 1100W, Hot plug power supplies with full redundancy option, 8 hot plugs fans with full redundancy</p> <p>4 x 1.8TB 10K RPM SAS 12Gbps 512e 2.5in Hot-plug Hard Drive, PERC H730P+ RAID Controller, 2Gb NV Cache, Adapter, Full Height; Front drive bays: Up to 24 x 2.5” SAS/SATA (HDD/SSD) with up to 12 NVMe PCIe SSD</p>	
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		DVD+/-R ROM, SATA, Internal ; Broadcom 5720 Quad Port 1Gb Network Daughter Card; Intel X550 Dual Port 10G Base-T Adapter, Full Height; 2x Jumper Cord - C13/C14, 2M, 250V, 10A (APCC countries except ANZ); ReadyRails Sliding Rails With Cable Management Arm; RAID 5 for 3 or more HDDs or SSDs (Matching Type/Speed/Capacity); iDRAC9, Express, Dell EMC LCD Bezel Yes Serial , Video , USB 3.0 , RJ-45 , Management Port Yes	
2	Anti-virus End point (Enterprise Server/ Bundle)	Anti-virus End point (Enterprise Server/ Bundle)	
3	Windows server 2019 Standard licenses	Windows server 2019 Standard licenses	
4	SQL SERVER Enterprise Edition (Database)	SQL SERVER Enterprise Edition (Database)	
5	Domino Email Enterprise or equality Server (Application and Configuration for 600 Users Perpetual Licenses)	Domino Email Enterprise or equality Server (Application and Configuration for 600 Users Perpetual Licenses)	
6	Configuration / Installation and Setup	Configuration / Installation and Setup	
Lot 4: Network Equipment, Configuration and Miscellaneous			
1	Firewall ASA	Firewall ASA	
2	Routers	Throughput >1 Gbps VPN Throughput 500 Mbps Network Interfaces 4 fixed 10/100/1000 + E1+Serial Concurrent IPSec VPN Tunnels >1000 Concurrent Sessions 256000 New Session / Second 15000 Active/Active and Active/Passive Support Yes Virtualization Support Security Zones VLANs Virtual Routers 16 DES (56-bit), 3DES (168-bit) and AES (256-bit) SHA-1, MD5, Yes	

		<p>Authentication User authentication with X-Auth, PEM, Pre-shared Keys, Static and Default Routes Yes</p> <p>BGP , OSPF , RIP V2, Source Based Routing , Policy Based Routing , ECMP , Reverse Path Forwarding (RPF) , IGMP (v1, v2) Routing Protocols Support Yes</p> <p>MD5 Hashing Yes</p> <p>BGP instances 15</p> <p>BGP Peers 128</p> <p>GBP Routes 250,000</p> <p>OSPF Instances 8</p> <p>OSPF Routes 250,000</p> <p>RIP v2 Routes 250,000</p> <p>Static Routes 250,000</p> <p>Source Based Routing Yes</p> <p>Policy Based Routing Yes</p> <p>Multicast , RPF , IGMP (v1, v2) IGP Proxy , PIM SM , PIM SSM , Multicast inside IPsec Tunnel Yes</p> <p>PKI Support Yes</p> <p>Unified Threat Management (IPS , Antivirus, Antispam , Integrated URL Filtering , External URL filtering) Yes</p> <p>System Management WebUI, CLI, Telnet, SSH, NSM, All management via VPN Tunnel on any interface.</p> <p>IPS (Deep /Stateful Inspection) Yes</p> <p>Antivirus Yes</p> <p>Antispam Yes</p> <p>Dual stack IPv4/Ipv6 firewall and VPN Yes</p> <p>PKI Support Yes</p> <p>Vendor Proposed Candidate Hardware (Please quote exact Brand and Model)</p> <p>Price / Firewall</p>	
3	RADIUS Server for Wireless LAN	<p>Processor Speed > 2.9 GHz</p> <p>Number of Processor/Cores 2 x Quad core</p> <p>RAM Memory Size 2 x 8 or 16 GB DDR</p> <p>100/1000 Mbps NIC Cards 2</p> <p>Power Supplies 2 / Single-phase, 3-Phase AC input</p> <p>Storage (SAS) >150GB 10 K RPM</p> <p>Rack Mountable Yes</p> <p>Optical Drive DVD R-W</p> <p>Cooling Fans 2</p> <p>RAID Support Yes</p> <p>RADIUS features Wireless authentication (EAP/WPA2-Enterprise) modes</p> <p>Policy based configuration</p> <p>Full SQL authentication</p> <p>Multiple authentication backends</p>	

		<p>Authentication protocols PAP, CHAP, MS-CHAP, MS-CHAPv2, EAP-MD5, SIP/HTTP digest PEAP (with EAP-MS-CHAPv2 and EAP-TLS), EAP-TLS</p> <p>LADAP, active directory authentication, authentication proxy</p> <p>Security Hashed passwords, SQL data sources, syslog server, Authorization by LDAP-stored attributes</p> <p>RADIUS Proxy Load balancing, local processing + proxying</p> <p>Operating System Microsoft Windows 200x</p> <p>Additional Software Required (Preferably Symantec or Kaspersky or Equivalent)</p> <p>Vendor Proposed Candidate Hardware (Please quote exact Brand and Model)</p> <p>Price / Server (Including price of all required OS software and all additional required software)</p>	
4	10. Load Balancer (Required only if AMIS application does not have its own software based load balancing capabilities)	<p>Throughput 1 Gbps</p> <p>Requests/Second support 100,000</p> <p>L7 Concurrent Connections 200,000</p> <p>L4 concurrent Connections 30,000,000</p> <p>Server Support 16</p> <p>RAM 4 GB</p> <p>Full Duplex Support at 10/100/1000 Mbps Yes</p> <p>Ports 2 X 10/100/1000Mbps Auto-negotiation Ethernet ports</p> <p>Layer 7 Content Switching Yes</p> <p>IP & Cookie persistence Yes</p> <p>Intuitive web based interface Yes</p> <p>SSL Acceleration 10,000 TPS</p> <p>Storage 100 % solid state Compact Flash</p> <p>Round Robin, Weighted Round Robin, Least Connection, Weighted Least Connection Agent-based Adaptive, Chained Failover (Fixed Weighting), Layer 7 Content Switching scheduling & load balancing support Yes</p> <p>Black List (Access Control List system), IP address filtering, Firewall filtering, (everything forbidden except VS's), DDOS mitigation support Yes</p> <p>Vendor Proposed Candidate Hardware (Please quote exact Brand and Model)</p> <p>Price / Load Balancer</p>	
5	Access Switches (48 Ports)	<p>Number of Ports 48 Ethernet 10/100 ports</p> <p>Switch Type Layer 2</p> <p>Power over Ethernet Support Yes</p> <p>Throughput 10/100 Mbps</p>	

		<p>Features Flow control, , DHCP support,, ARP support, VLAN support, , TFTP, STP/RSTP, NTP, SNMP, Standards IEEE 802.1D, IEEE 802.1Q, IEEE 802.1p, IEEE 802.3x, IEEE 802.3ad (LACP), IEEE 802.1w , 802.3at (PoE), 802.10 (C.I.A), IP connectivity Yes Memory 128 MB DRAM & 32 MB Flash Rack Mount Support Yes AC Power Yes Vendor Proposed Candidate Hardware (Please quote exact Brand and Model) Price / Switch</p>	
6	Core Switches	<p>CONFIGURATION Redundant Power Supply- Hot swappable 24 x 10/100/1000 Mbps Ports 48 x GBIC/SFP ports 10 Gigabit Ethernet XENPAK/X 2 port densities scaling to 120 Hot swappable modules Hot-swappable fan tray with redundant fans 9 slot chassis based Performance Features: Scale up to at least 720-Gbps switching fabric Minimum of 2 usable slots for payload modules Should have Power supply redundancy Rack-Mountable Full-Duplex Operation on Ethernet and gigabit Ethernet ports Multiple Load Sharing Trunks Hot-Swapping: Fan-Tray, Module, Power Supply Temperature Alarm and Power Monitoring Layer 2 & 3 hardware forwarding at 48 Mpps Layer 4 (TCP/UDP) hardware-based filtering at 48 Mpps No performance penalty with advanced Layer 3/4 services enabled Support for 32,000 Media Access Control (MAC) addresses Bandwidth aggregation up to 16 Gbps through Gigabit EtherChannel Hardware-based multicast management Hardware-based per port, VLAN ACLs Baby Giants (up to 1600 bytes) Quality of Service (QoS) Layer 2 The system must support quality of service (QoS) mechanisms to help regulate traffic flow through the network. The system must support ingress QoS features. Describe the features you support.</p>	

		<p>The system must support egress QoS features. Describe the features you support.</p> <p>The system must support the ability to set the trust state of a port for QoS.</p> <p>The platform's QoS must support the ability to mark packets in both the ingress and egress directions.</p> <p>The supplier must specify the basis of marking</p> <p>The platform's QoS must support the ability to schedule packets on both ingress and egress as part of a congestion avoidance mechanism. The supplier must describe the implementation.</p> <p>The supplier must describe the platform's implementation of packet policing for both ingress and egress directions.</p> <p>The supplier must provide the hardware implementation of buffers and queues on their platform. Indicate whether these are per port, per module, or per system.</p> <p>The supplier must describe their platform's congestion avoidance mechanisms.</p> <p>The system must support the appropriate versions of IGMP snooping</p> <p>The system must support PIM snooping.</p> <p>Describe the process of joining a multicast group with your platform.</p> <p>The system must support Fast-Leave Processing.</p> <p>The platform multicast implementation must support processing of Non-RPF Traffic.</p> <p>The system must have the capability to rate-limit RPF failure traffic as part of its multicast implementation.</p> <p>The system must support Router Group Management Protocol (RGMP).</p> <p>The system must support Bidirectional-PIM.</p> <p>The system must support some form of multicast suppression.</p> <p>The system must support source-specific multicast (SSM).</p> <p>Security</p> <p>Device Security</p> <p>The system must support Access Control Lists (ACLs).</p> <p>The supplier must specify how many ACLs can their platform support</p> <p>The supplier must specify the hardware requirements for ACLs on their platform</p> <p>The supplier must describe the implementation of QoS ACLs on your platform.</p> <p>The supplier must describe the implementation of ACLs on their platform.</p>	
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		<p>The supplier must describe the implementation of VLAN ACLs (VACLs) on your platform.</p> <p>The application of any kind of ACL must not affect the performance of the platform.</p> <p>The system must support the application of both ACLs and VLAN ACLs on the same interface.</p> <p>The system must have the ability to capture traffic using VACLs.</p> <p>The system must support a feature that helps protect the network against spoofed source IP traffic.</p> <p>The system must support a feature that will allow for the mitigation of broadcast storms.</p> <p>The system must support a method of blocking unicast floods.</p> <p>The system must support security measures to prevent man-in-the-middle or DoS attacks that might take advantage of DHCP.</p> <p>The system must support security techniques to prevent man-in-the-middle or DoS attacks that might use IP spoofing of source addresses.</p> <p>The system must support security measures to prevent man-in-the-middle attacks that might take advantage of the ARP process.</p> <p>The system must implement some kind of hardware rate-limiters to prevent receiving an unwanted number of protocol data units (PDUs) or more than a certain number of PDUs from a neighboring switch.</p> <p>The system must provide mechanisms to mitigate DoS attacks directed at the management supervisory module. Describe these mechanisms.</p> <p>The system must support Secure Copy (SCP).</p> <p>The system must support Secure Shell Version 2 (SSHv2).</p> <p>Port Security</p> <p>The system must support port security.</p> <p>The system must support the ability to allow traffic only from specific MAC addresses on a port. The supplier must describe the implementation.</p> <p>The system must support the ability to restrict traffic based on host MAC address.</p> <p>The system must support “sticky” port security.</p> <p>802.1x</p> <p>The system must support IEEE 802.1x authentication.</p> <p>Define your implementation of IEEE 802.1x as it pertains to device roles.</p> <p>The supplier must describe the implementation of IEEE 802.1x on their platform.</p>	
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		<p>The supplier must describe the IEEE 802.1x extensions supported on their platform.</p> <p>Device Management</p> <p>AAA – Authentication</p> <p>The system must support user authentication to control access.</p> <p>The system must support login authentication. The supplier must describe the implementation.</p> <p>The system must support local authentication. The supplier must describe the implementation.</p> <p>The system must support local user authentication. The supplier must describe the implementation.</p> <p>The system must support TACACS+ authentication. The supplier must describe the implementation.</p> <p>The system must support RADIUS authentication. The supplier must describe the implementation.</p> <p>The system must support Kerberos authentication. The supplier must describe the implementation.</p> <p>AAA – Authorization</p> <p>The system must support user authorization to control system access based on a user's identity. The system must support TACACS+ authorization. The supplier must describe the implementation.</p> <p>The system must support RADIUS authorization. The supplier must describe the implementation.</p> <p>AA – Accounting</p> <p>The system must support accounting methods to monitor user access. The supplier must describe the implementation of user accounting on your platform.</p> <p>General Management</p> <p>The system must provide the ability to check a module or port status from the command-line interface (CLI).</p> <p>The system must provide the ability to check the status of copper cabling from the CLI.</p> <p>The system must allow user connectivity via Telnet and Secure Shell (SSH).</p> <p>The system must have the ability to monitor or display user sessions.</p> <p>The system must have the ability to test connectivity to remote host machines.</p> <p>The system must support Layer 2 traceroute. The system must support an auto-discovery protocol that can see neighbors on the network.</p> <p>The system must support network booting for disaster recovery situations.</p> <p>Message Logging</p> <p>Describe the platform's support for logging of system messages.</p>	
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		<p>The system must support a feature that allows the system to page or e-mail an engineer in the case of a system event. If yes, is the event threshold must be configurable.</p> <p>SNMP / RMON</p> <p>The system must support Simple Network Management Protocol (SNMP) using the appropriate and latest versions.</p> <p>The system must support Remote Monitoring (RMON) as defined by RFC 1757 and RFC 2021.</p> <p>The system must support the collecting of network statistics, for example, NetFlow.</p> <p>High Availability</p> <p>System-Level High Availability</p> <p>The supplier must describe any redundant hardware within the system.</p> <p>The system must support redundancy for the supervisor modules. There must be software mechanisms in place to make the supervisor module switchovers hitless.</p> <p>The system must support a mechanism to deal with line cards that may be flapping or frequently resetting.</p> <p>The system must support a First Hop Redundancy Protocol. Describe your implementation.</p> <p>The system must support a mechanism that can prevent interface flapping from causing network instability.</p> <p>The system must support a modular operating system. The supplier must describe how this operating system handles software module failure and its impact of packet forwarding.</p> <p>Link-Level High Availability</p> <p>The system must support bidirectional forwarding detection (BFD). The supplier must describe the implementation.</p> <p>The system must support IEEE 802.3ad or other port aggregation technology. The supplier must describe the implementation.</p> <p>The supplier must describe how their platform distributes packets across the different links when using port aggregation.</p> <p>The system must support a mechanism that can detect unidirectional links.</p> <p>Network Management of the solution</p> <p>The purchaser requires a comprehensive network management solution to address network and service-level monitoring; diagnostics and troubleshooting; provisioning and change management; and statistics analysis and reporting.</p>	
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		<p>SAO would like to simplify this function significantly and achieve benefits for the organization.</p> <p>For each scenario, the supplier must provide a technical and functional description of the network management solution offered.</p> <p>General Solution Management Requirements The network management software must provide a comprehensive view of the IP communications solution and underlying transport infrastructure via an easy-to-use, web-based graphical user interface (GUI). The solution should also run on an open platform such as Windows 2012 Server and use standard protocols and interfaces (such as SNMP and HTTP) to gather information from the network.</p> <p>Network Monitoring and Management The network management software must display and continuously monitor the operational status of each element in the IP communications network and underlying transport infrastructure. This should include visualization using logical topologies and service views.</p> <p>The management software must display configuration attribute information and generate reports that document move, add, and change operations and outages on IP endpoints in the network.</p> <p>The management software must generate real-time notifications via SNMP traps, Syslog notifications, and e-mail to inform higher-level management applications and/or operators of problems.</p> <p>Service Monitoring and Management The management solution must set service-related thresholds and monitor the IP communications components to detect violation of the thresholds.</p> <p>The management solution must continuously monitor and evaluate active calls for voice quality using open standards and MOS scores and reporting any problems that occur.</p> <p>The management solution must report such problems to a higher-layer application via north-bound interfaces.</p> <p>Diagnostics and Troubleshooting The management solution must provide contextual diagnostic tools for troubleshooting.</p> <p>The management solution must provide tests to simulate / replicate end-user activity (such as making calls and leaving voice mail).</p>	
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		<p>The management solution must measure the performance of WAN links and node-to-node network quality.</p> <p>The management solution must support probable path trace performance between two endpoints of a monitored segment.</p>	
7	Enterprise wireless access points	<p>Type Enterprise, with roaming support (can be either controller-less or supports any type of controller)</p> <p>Capacity Supports up-to 500 clients</p> <p>Roaming support Yes</p> <p>Interfaces • 1x 100, 1000, 2500 Multigigabit Ethernet (RJ-45) – IEEE 802.3bz</p> <ul style="list-style-type: none"> • Management console port (RJ-45) • USB 2.0 @ 3.75W (enabled via future software) <p>Target time awake Yes</p> <p>Bluetooth Yes</p> <p>Wifi 6 certifiable Yes</p> <p>Radios At-least our radios: 5 GHz (4x4) Flexible radio with 2.4 or 5 GHz (4x4) and Unified RF Engine</p> <p>Dual 5-GHz radio support</p> <p>Multigigabit Ethernet support Yes, uplink speeds of upto 2.5 Gbps including 100Mbps and 1 Gbps</p> <p>10GBASE-T (IEEE 802.3bz) and Category 5e Frequency support OFDMA and MU-MIMO, 802.11n v2.0 ac/ax/ Yes, 4x4 downlink MU-MIMO with four spatial streams, CSD support</p> <p>Wireless standards IEEE 802.11a, 802.11b, 802.11g, 802.11d, WMM/802.11e, 802.11h, 802.11n, 802.11k, 802.11r, 802.11u, 802.11w, 802.11ac Wave1 and Wave2</p> <p>BSS coloring Yes</p> <p>Antennas Integrated Internal and external, with flexible radio either on 2.4GHz or 5 Ghz 2.4 GHz, peak gain 4 dBi, internal antenna, omnidirectional in azimuth</p> <p>Supports Self-Identifiable Antennas (SIA) on one RP-TNC port</p> <p>Smart antenna connector Yes</p> <p>Vendor Proposed Candidate Hardware (Please quote exact Brand and Model)</p>	
8	Wireless access controller (if not inbuilt in wireless access point)	Wireless access controller (if not inbuilt in wireless access point)	
9	Basic Security Incident and Event	Basic Security Incident and Event Management (SIEM) solution	

	Management (SIEM) solution		
10	Intranet website + Portal (Setup & Hosting)	Intranet website + Portal (Setup & Hosting)	
11	Storage Area Network (SAN)	<p>Type Fiber Channel Based</p> <p>OS Support Compatible with all OS software proposed in this tender , compatibility with Microsoft Windows Server all versions , Linux</p> <p>Storage Capacity Min 6 TB SAS in RAID level 5</p> <p>Expandable to minimum 15 Terabyte</p> <p>Storage Expansion Options Yes</p> <p>Controller Cache 1 GB per controller</p> <p>Scalability Up to 48 drives in storage array</p> <p>RAID Controller Dual Active</p> <p>RAID Levels RAID 0,1,3,5 ,6 and 10</p> <p>Host Connect Two 4 Gb Fibre Channel ports per controller</p> <p>LUN Min 512 LUNs</p> <p>LUN sizes upto 16 TB</p> <p>LUN expansion and deletion support</p> <p>Management Web GUI , CLI</p> <p>10/100 Ethernet</p> <p>SNMP , SSL SSH SMTP , HTTP support via CLI software</p> <p>Hot Plug Support Expansion and Replacement for redundant controllers , enclosures, fans , power supplies , I/O modules</p> <p>Fans and power supplies Dual-redundant, hot swappable</p> <p>Rack support Yes</p> <p>Management Software Yes (Supported Software)</p> <p>Firmware upgradable Yes</p> <p>Vendor Proposed Candidate Hardware (Please quote exact Brand and Model)</p> <p>Price</p>	
12	SAN Switch	<p>Number of Ports 12 autosensing ports (1, 2 or 4Gb self-configuring). Programmable to fixed port speeds of 1 Gb, 2 Gb or 4 Gb.</p> <p>SFP Media Types</p> <p>Type Support for Multivendor server / storage environments</p> <p>Fiber Channel Switch Yes</p> <p>Fiber Channel SFPs 4 GB</p> <p>Advanced Fabric Services ISL Trunking (optional)</p> <p>Hardware Enforced Zoning</p> <p>Web Tools</p> <p>Enhanced Group Management</p>	

		<p>Management Features Radius API IP SNMP 100/100 Ethernet (RJ-45) , serial Port AC Power Supply Yes Vendor Proposed Candidate Hardware (Please quote exact Brand and Model)</p>	
13	Tape Library and Tapes	<p>Type Fiber Channel Connected Tape Library Tape Drives 2 x LTO4 FC 4 Gb drives Tapes 80 x pack LTO4 Media , 800 GB Capacity/tape 2 x LTO Cleaning Cartridge Minimal Number of Slots 48 Drive Interface > 4 Gbit/s Fiber channel</p> <p>Capacity Minimum 38.4 TB Native Transfer Rate > 432 GB/hr Certification Certified for standard industry leading backup software and SAN- support Vendor Proposed Candidate Hardware (Please quote exact Brand and Model) Price (Inclusive of proposed Data backup Management Software)</p>	
14	Hyper Convergence Infrastructure	<p>Every HCI Node must be an HCI APPLIANCE. Node should be having Hyper Converged software that allows delivery of enterprise-class storage services using latest x86 server infrastructure without dependence on a separate Storage Area Network (SAN) and associated components such as SAN Switches and HBAs The HCI system must contain a simplified provisioning and administration of virtual networking through a centralized network management software The system must have a centralized console to provide control and visibility for the entire virtual infrastructure The system must provide a tool based physical-to-virtual conversion to migrate existing physical workloads to the virtual platform with minimal disruption The solution should deliver zero data loss capability in case of disk, host, network or Rack power failure Supplier should provide OEM services for configuration, implementation of entire HCI Solution, configuration of backup, setting up replication and failover-failback HCI Node Specifications Compute</p>	

		<p>The solution should be scalable in a non- disruptive manner by adding additional nodes to the cluster at a later point of time without having to power down any nodes</p> <p>Scale hyper converged node (compute + storage), compute-intensive or storage- intensive independent of each other should be supported</p> <p>In the event of a node failure, virtual machines should automatically run on another node</p> <p>The system must provide the ability to scale-up (by adding more disks to existing nodes) or scale-out (by adding more nodes to the cluster) in terms of storage and compute</p> <p>The solution must be able to sustain one node failure and it shall in no way affect/degrade the production services & usable resources and applications</p> <p>The system must provide the ability to create rapidly on-board new hosts to the data center platform by automatically deploying reference configurations including networking settings</p> <p>The system must provide guidance on right-sizing, resource consumption, risks and future issues that are unique to every data center environment</p> <p>The system must provide the ability to hot-add cpu and memory and hot-plug disks and NICs (provided the same is supported by the guest operating system). This should be via GUI.</p> <p>Network and Security</p> <p>The system must have dynamic routing between virtual networks</p> <p>Each Hyper Converged node should provide minimum 40Gbps SFP+ networking ports</p> <p>IPv6 support for hypervisor and VM guests</p> <p>Must have support for 10GbE and 1GbE NICs</p> <p>Must have separate networks for virtual machine and management traffic</p> <p>Must support for Virtual Distributed Switch (VDS) and Network I/O Control (NOIC)</p> <p>Placement of data in physical proximity to the application thus reducing overall network utilization and latency. Data re-localization to maintain network efficiency when VM moves to another node in the cluster</p> <p>Hypervisor Support</p> <p>Support for all mainstream hypervisors (ESXi, Hyper-V, KVM, XenServer) giving customers choice and avoiding vendor lock-in.</p> <p>Official support for mainstream hypervisors (ESXi, Hyper-V, KVM, XenServer)</p>	
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		<p>Single management interface for multiple hypervisor deployments</p> <p>Must have ability to convert cluster from one hypervisor to another on the fly without data movement</p> <p>Ability to mix different hypervisors between primary and DR datacenters (i.e. use an alternate hypervisor as a DR target)</p> <p>Scalability</p> <p>Provides a flexible pay-as-you-grow deployment model that enables customers to expand cluster resources to meet real-time business demands with predictable linear scale while completely eliminating 3-5 year planning cycles, expensive over-provisioning and forklift upgrades forever.</p> <p>Ability to add nodes non-disruptively</p> <p>Ability to remove nodes non-disruptively</p> <p>Ability to scale-out one node at a time</p> <p>Ability to expand cluster resources in a scale-out model with predictable linear performance</p> <p>Ability to scale storage capacity independent of compute Platform scalability beyond hypervisor limitations (i.e. >64 nodes)</p> <p>Management tool is built into the distributed system and scales with the cluster</p> <p>All cluster nodes participate in a disk rebuild operation and disk rebuilds get more efficient as the cluster scales</p> <p>Management</p> <p>Supports management shifts from infrastructure focused management to an application or VM-centric focused design.</p> <p>Consumer Grade (designed to be simple and requires no specific knowledge of underlying infrastructure)</p> <p>Application / VM-centric Design</p> <p>Core management tasks completed in a single management tool</p> <p>Single management tool supports multiple clusters in multiple geographic locations</p> <p>Single management tool supports any hypervisor and manages mixed hypervisor environments</p> <p>Management tool provides visibility of network infrastructure</p> <p>Management tool deployment architecture is highly available by design</p> <p>Management tool is built into the distributed system, scales with the cluster, and does not require separate hardware infrastructure</p>	
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		<p>Platform includes a sizer feature to ‘right-size’ the initial configuration to support desired workloads</p> <p>Management tool includes a capacity planning feature to ‘right size’ expansion to support application growth and addition of new workloads.</p> <p>Management tool provides Predictive Analysis and Capacity Optimization</p> <p>Management tool supports customizable dashboards</p> <p>Management tool has ‘Google Like’ search capabilities</p> <p>Support for Rest APIs</p> <p>Support for Powershell cmdlets</p> <p>Self-Healing and Non-Disruptive Updates</p> <p>The Hyper-converged system must have autonomous healing and non-disruptive updates.</p> <p>Ability to automatically recover from failures without user intervention (disk, node, etc.)</p> <p>Ability to automatically re-direct IO to another controller VM in the event the local CVM goes offline (autopathing)</p> <p>Ability to update hyper-converged system software in 1-2 clicks with no impact to running workloads</p> <p>Ability to update host hypervisor in 1-2 clicks with no impact to running workloads</p> <p>Ability to update hardware firmware in 1-2 clicks with no impact to running workloads</p> <p>Ability to perform updates from a single management interface without need for 3rd party tools</p> <p>Data Protection and Recoverability</p> <p>Supports distributed data protection and recoverability features</p> <p>Support for multiple data resiliency options in a single cluster (e.g. Replication Factor 2 or 3)</p> <p>Ability to set custom RF level for each workload across the cluster</p> <p>Software defined resiliency across distributed system (as opposed to local hardware defined RAID)</p> <p>Support for synchronous and asynchronous data replication</p> <p>Integrated VM/virtual disk level backup and recovery solutions</p> <p>Official support from mainstream enterprise data protection software (Commvault, Veeam, etc.)</p> <p>Support for native snapshot based backups at VM and virtual disk level</p> <p>Disk from across the cluster participates in a disk rebuild operation and disk rebuilds get more efficient as the cluster scales</p>	
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		<p>Self Service Granular Restore (e.g. users can restore individual files from a local VM snapshot without admin involvement)</p> <p>Capacity Optimization</p> <p>Support for enterprise class storage technologies that drive efficient storage utilization and maximize data efficiency.</p> <p>Deduplication (storage capacity savings for workloads with redundant data sets)</p> <p>Compression (storage capacity savings for workloads with binary level redundancy with data blocks)</p> <p>Erasure Coding (capacity efficient data resiliency)</p> <p>Auto-Rebalancing of data across the cluster (eliminating hotspots and enabling efficient flash wear leveling)</p> <p>Supports Thin Provisioning</p> <p>Enables reduction in data center footprint (Rackspace, power, cooling) over traditional 3-tier architecture</p> <p>Single Platform For All Workloads</p> <p>Provides a single platform that can run all workloads, reduce infrastructure complexity and eliminate resource silos.</p> <p>Eliminates the need for application specific storage devices (SAN, NAS, DAS) and associated resource silos</p> <p>Single product roadmap for entire solution, eliminating complex multi-vendor solutions with disjointed roadmaps and conflicting priorities</p> <p>True single support organization for entire solution</p> <p>Support for mainstream database software and application middleware</p> <p>Customer references and case studies for all major applications</p> <p>Multi-Site</p> <p>Support for enterprise class features that enable multi-site configurations.</p> <p>Support for Stretch or Metro Clustering across a WAN or metropolitan area network</p>	
15	VOIP Licenses	VOIP Licenses	
16	VOIP - POE Switches	<p>Number of Ports 48 Gigabit Ethernet</p> <p>10/100/1000 ports</p> <p>Switch Type Layer 2</p> <p>Power over Ethernet Support Yes</p> <p>Throughput 10/100/1000 Mbps</p> <p>Features Flow control, , DHCP support,, ARP support, VLAN support, , TFTP, STP/RSTP, NTP, SNMP,</p>	

		Standards IEEE 802.1D, IEEE 802.1Q, IEEE 802.1p, IEEE 802.3x, IEEE 802.3ad (LACP), IEEE 802.1w , 802.3at (PoE), 802.10 (C.I.A), Memory 512 MB DRAM & 128 MB Flash Rack Mount Support Yes AC Power Yes POE Maximum PoE ports: 24 ports up to 15.4 W. Maximum PoE+ ports: 12 ports up to 30 W Vendor Proposed Candidate Hardware (Please quote exact Brand and Model) Price / Switch	
17	VOIP - IP Phone-end point	VOIP - IP Phone-end point	
18	VOIP - IP phone server/Call manager	<i>Complete working set/system (Including actuators, discharge hose, pipe network components, discharge nozzles, FM 200 clean agent, Pneumatic pilot line and fittings, valve rebuild kits, software, manuals, tank, tank w/Valve, warning signs, etc.)</i> <i>Supply & Installation of Sunder & Beacon, Supply & Installation of Releasing Indicator, Supply & Installation of Fire Alarm Bell, Supply & Installation of 2x1.5mm2 Fire Alarm Cable, Supply & Installation of CAT5 Cable, Supply & Installation of EMT pipe 3/4", Supply & Installation of Clean agent (FM 200) Cylinder with solenoid valve, manual release valve and check valve.</i> <i>Supply of Bracket for cylinder, Supply & Installation of Hose pipe for connection of cylinder with Riser, Supply & Installation of GI pipe 32mm with fittings, Supply of Clamp for pipes, Nozzle (360 Degree FM 200 Nozzle), Supply & installation of Raised fire proof floor with 30cm height, Installation, Testing and commission</i>	
19	Configuration / Installation and Setup	Configuration / Installation and Setup	

Details of Specifications and Configuration

3.1.1. Detailed ICT Infrastructure specifications.

3.1.1.1 Suppliers should refer to the proposed IT architecture design proposed in this bidding document for details on some of the business requirements to help suppliers understand the possible scenario of AMIS within the SAO.

3.1.1.2 All suppliers should provide details of their hardware requirement according to their proposed solution. These details will include detailed specifications of key hardware items and per unit costs and quantities required. If the supplier feels that there may be a need to amend the proposed IT architecture to derive optimal performance from the system, a separate note should be provided by the vendor clearly spelling out the changes required/suggested and its impact on various requirements including hardware.

3.1.1 The target configuration requirements/ specifications specified below are based on the above infrastructure.

Database Servers

Database Server		Number of Servers: 1	Proposed Brand & Country of Item
Requirement	Minimum Specification	Vendor Proposed Specification	
Processor	2x Intel® Xeon® Gold 6138 2.0G,20C/40T,10.4GT/s 3UPI,27M Cache,Turbo,HT (125W), Support Up to four 2nd Generation Intel® Xeon® Scalable processors, up to 28 cores each		
RAM Memory Size	128 GB Memory, (2x 64GB) RDIMM 2666MT/s Dual Rank		
I/O & Ports	Network daughter card options 4x 1GbE, 4x 10GbE, 2x 10GbE+2x 1GbE, or 2x 25GbE Front ports: 1 x Dedicated iDRAC		

	<p>Direct USB, 2 x USB 3.0, 1 x VGA Rear ports: 1 x Dedicated iDRAC network port, 1 x Serial, 2 x USB 3.0, 1 x VGA Video card: 2 x VGA Up to 13 x Gen3 slots, (3 x8 + 10 x16)</p>		
Power Supplies	<p>Dual, Hot-plug, Redundant Power Supply (1+1), 1100W, Hot plug power supplies with full redundancy option, 8 hot plugs fans with full redundancy</p>		
Storage (SAS)	<p>4 x 1.8TB 10K RPM SAS 12Gbps 512e 2.5in Hot-plug Hard Drive, PERC H730P+ RAID Controller, 2Gb NV Cache, Adapter, Full Height; Front drive bays: Up to 24 x 2.5” SAS/SATA (HDD/SSD) with up to 12 NVMe PCIe SSD</p>		
Other	<p>DVD+/-R ROM, SATA, Internal ; Broadcom 5720 Quad Port 1Gb Network Daughter Card; Intel X550 Dual Port 10G Base-T Adapter, Full Height; 2x Jumper Cord - C13/C14, 2M, 250V, 10A (APCC countries except ANZ); ReadyRails Sliding Rails With Cable Management Arm; RAID 5 for 3 or more HDDs or SSDs (Matching Type/Speed/Capacity);</p>		

	iDRAC9, Express, Dell EMC LCD Bezel		
Rack Mountable	Yes		
Interfaces	Serial , Video , USB 3.0 , RJ-45 , Management Port		
RAID Support	Yes		
Input Requirements	220-240 V		
Operating System (Microsoft® Windows Server® 2019 R2 Standard bit 64 Licensed; Supported operating systems: Canonical® Ubuntu® Server LTS Citrix® Hypervisor, Microsoft Windows Server® LTSC with Hyper-V, Oracle® Linux Red Hat® Enterprise Linux SUSE® Linux Enterprise Server VMware® ESXi)			
Database Software (Oracle / Microsoft SQL Server)			
Additional Software Required (if any) Software host based intrusion detection software, personal firewalls			
Vendor Proposed Candidate Hardware (Please quote exact brand and Model)			
Price / Server (Including price of all required OS database software and all additional required software)			
Total Price			

Application Servers

Application Servers		Number of Servers: 2	Proposed Brand & Country of Item
Requirement	Minimum Specification	Vendor Proposed Specification	
Processor Speed	2x Intel® Xeon® Gold 6138 2.0G,20C/40T,10.4GT/s 3UPI,27M Cache, Turbo,HT (125W), Support Up to four 2nd Generation Intel® Xeon® Scalable processors, up to 28 cores each		

RAM Memory Size	128 GB Memory, (2x 64GB) RDIMM 2666MT/s Dual Rank		
I/O & Ports	Network daughter card options 4x 1GbE, 4x 10GbE, 2x 10GbE+2x 1GbE, or 2x 25GbE Front ports: 1 x Dedicated iDRAC Direct USB, 2 x USB 3.0, 1 x VGA Rear ports: 1 x Dedicated iDRAC network port, 1 x Serial, 2 x USB 3.0, 1 x VGA Video card: 2 x VGA Up to 13 x Gen3 slots, (3 x8 + 10 x16)		
Power Supplies	Dual, Hot-plug, Redundant Power Supply (1+1), 1100W, Hot plug power supplies with full redundancy option, 8 hot plugs fans with full redundancy		
Storage (SAS)	4 x 1.8TB 10K RPM SAS 12Gbps 512e 2.5in Hot-plug Hard Drive, PERC H730P+ RAID Controller, 2Gb NV Cache, Adapter, Full Height; Front drive bays: Up to 24 x 2.5” SAS/SATA (HDD/SSD) with up to 12 NVMe PCIe SSD		
Rack Mountable	Yes		
Other	DVD+/-R ROM, SATA, Internal ; Broadcom 5720 Quad Port 1Gb Network Daughter Card; Intel X550 Dual Port 10G Base-T Adapter, Full		

	Height; 2x Jumper Cord - C13/C14, 2M, 250V, 10A (APCC countries except ANZ); ReadyRails Sliding Rails With Cable Management Arm; RAID 5 for 3 or more HDDs or SSDs (Matching Type/Speed/Capacity); iDRAC9, Express, Dell EMC LCD Bezel		
Interfaces	Serial , Video , USB 2.0 , RJ-45 , Management Port		
RAID Support	Yes		
Input Requirements	220-240 V		
Operating System (Microsoft® Windows Server® 2019 R2 Standard bit 64 Licensed; Supported operating systems: Canonical® Ubuntu® Server LTS Citrix® Hypervisor, Microsoft Windows Server® LTSC with Hyper-V, Oracle® Linux Red Hat® Enterprise Linux SUSE® Linux Enterprise Server VMware® ESXi)			
Additional Software Required include: Software host based intrusion detection software, personal firewalls			
Vendor Proposed Candidate Hardware (Please quote exact Brand and Model)			
Price / Server (Including price of all required OS software and all additional required software)			
Total Price			

File Servers

File Servers		Number of Servers: 1	Proposed Brand & Country of Item
Requirement	Minimum Specification	Vendor Proposed Specification	
Processor Speed	2x Intel® Xeon® Gold 6138 2.0G,20C/40T,10.4GT/s 3UPI,27M Cache, Turbo, HT (125W), Support Up to four 2nd		

	Generation Intel® Xeon® Scalable processors, up to 28 cores each		
RAM Memory Size	128 GB Memory, (2x 64GB) RDIMM 2666MT/s Dual Rank		
I/O & Ports	Network daughter card options 4x 1GbE, 4x 10GbE, 2x 10GbE+2x 1GbE, or 2x 25GbE Front ports: 1 x Dedicated iDRAC Direct USB, 2 x USB 3.0, 1 x VGA Rear ports: 1 x Dedicated iDRAC network port, 1 x Serial, 2 x USB 3.0, 1 x VGA Video card: 2 x VGA Up to 13 x Gen3 slots, (3 x8 + 10 x16)		
Power Supplies	Dual, Hot-plug, Redundant Power Supply (1+1), 1100W, Hot plug power supplies with full redundancy option, 8 hot plugs fans with full redundancy		
Storage (SAS)	4 x 1.8TB 10K RPM SAS 12Gbps 512e 2.5in Hot-plug Hard Drive, PERC H730P+ RAID Controller, 2Gb NV Cache, Adapter, Full Height; Front drive bays: Up to 24 x 2.5” SAS/SATA (HDD/SSD) with up to 12 NVMe PCIe SSD		
Rack Mountable	Yes		
Other	DVD+/-R ROM, SATA, Internal ; Broadcom 5720 Quad		

	Port 1Gb Network Daughter Card; Intel X550 Dual Port 10G Base-T Adapter, Full Height; 2x Jumper Cord - C13/C14, 2M, 250V, 10A (APCC countries except ANZ); ReadyRails Sliding Rails With Cable Management Arm; RAID 5 for 3 or more HDDs or SSDs (Matching Type/Speed/Capacity); iDRAC9, Express, Dell EMC LCD Bezel		
Interfaces	Serial , Video , USB 2.0 , RJ-45 , Management Port		
RAID Support	Yes		
Input Requirements	220-240 V		
Operating System (Microsoft® Windows Server® 2019 R2 Standard bit 64 Licensed; Supported operating systems: Canonical® Ubuntu® Server LTS Citrix® Hypervisor, Microsoft Windows Server® LTSC with Hyper-V, Oracle® Linux Red Hat® Enterprise Linux SUSE® Linux Enterprise Server VMware® ESXi)			
Additional Software Required include: Software host based intrusion detection software, personal firewalls			
Vendor Proposed Candidate Hardware (Please quote exact Brand and Model)			
Price / Server (Including price of all required OS software and all additional required software)			
Total Cost			

Email servers

Email Servers (Hardware and Software)		Number of Servers: 1	Proposed Brand & Country of Item
Requirement	Minimum Specification	Vendor Proposed Specification	

Processor Speed	2x Intel® Xeon® Gold 6138 2.0G,20C/40T,10.4GT/s 3UPI,27M Cache,Turbo,HT (125W), Support Up to four 2nd Generation Intel® Xeon® Scalable processors, up to 28 cores each		
RAM Memory Size	128 GB Memory, (2x 64GB) RDIMM 2666MT/s Dual Rank		
Data volumes per server	10		
Servers per DAG	3 primary, 3 secondary		
CPU utilization	50%		
Number of DAGs	1		
I/O and Ports	Network daughter card options 4x 1GbE, 4x 10GbE, 2x 10GbE+2x 1GbE, or 2x 25GbE Front ports: 1 x Dedicated iDRAC Direct USB, 2 x USB 3.0, 1 x VGA Rear ports: 1 x Dedicated iDRAC network port, 1 x Serial, 2 x USB 3.0, 1 x VGA Video card: 2 x VGA Up to 13 x Gen3 slots, (3 x8 + 10 x16)		
Power Supplies	Dual, Hot-plug, Redundant Power Supply (1+1), 1100W, Hot plug power supplies with full redundancy option, 8 hot plugs fans with full redundancy		
Storage (SAS)	4 x 1.8TB 10K RPM SAS 12Gbps 512e 2.5in Hot- plug Hard Drive, PERC H730P+ RAID Controller, 2Gb NV Cache, Adapter, Full Height; Front drive bays: Up to 24 x 2.5”		

	SAS/SATA (HDD/SSD) with up to 12 NVMe PCIe SSD		
Rack Mountable	Yes		
Other:	DVD+/-R ROM, SATA, Internal ; Broadcom 5720 Quad Port 1Gb Network Daughter Card; Intel X550 Dual Port 10G Base-T Adapter, Full Height; 2x Jumper Cord - C13/C14, 2M, 250V, 10A (APCC countries except ANZ); ReadyRails Sliding Rails With Cable Management Arm; RAID 5 for 3 or more HDDs or SSDs (Matching Type/Speed/Capacity); iDRAC9, Express, Dell EMC LCD Bezel		
Interfaces	Serial , Video , USB 2.0 , RJ-45 , Management Port		
RAID Support	Yes		
Input Requirements	220-240 V		
	Operating System Microsoft® Windows Server® 2019 R2 Standard bit 64 Licensied; Supported operating systems: Canonical® Ubuntu® Server LTS Citrix® Hypervisor, Microsoft Windows Server® LTSC with Hyper-V, Oracle® Linux Red Hat® Enterprise Linux SUSE® Linux Enterprise Server VMware® ESXi		
	Additional Software Required (Latest version of HCL Domino, MS Exchange Server Enterprise or equivalent if supplier can provide better alternative) for minimum 400 user accounts with individual and group chat facility . Software host based intrusion detection software, personal firewalls		
	Vendor Proposed Candidate Hardware (Please quote exact Brand and Model)		
	Price / Server (Including price of all required OS software and all additional required software)		
	Total Price		

Domain Controllers and Active Directory

Domain Controllers/AD and DNS servers		Number of Servers: 1	Proposed Brand & Country of Item
Requirement	Minimum Specification	Vendor Proposed Specification	
Processor Speed	2x Intel® Xeon® Gold 6138 2.0G,20C/40T,10.4GT/s 3UPI,27M Cache,Turbo,HT (125W), Support Up to four 2nd Generation Intel® Xeon® Scalable processors, up to 28 cores each		
RAM Memory Size	128 GB Memory, (2x 64GB) RDIMM 2666MT/s Dual Rank		
I/O & Ports	Network daughter card options 4x 1GbE, 4x 10GbE, 2x 10GbE+2x 1GbE, or 2x 25GbE Front ports: 1 x Dedicated iDRAC Direct USB, 2 x USB 3.0, 1 x VGA Rear ports: 1 x Dedicated iDRAC network port, 1 x Serial, 2 x USB 3.0, 1 x VGA Video card: 2 x VGA Up to 13 x Gen3 slots, (3 x8 + 10 x16)		
Power Supplies	Dual, Hot-plug, Redundant Power Supply (1+1), 1100W, Hot plug power supplies with full redundancy option, 8 hot plugs fans with full redundancy		
Storage (SAS)	4 x 1.8TB 10K RPM SAS 12Gbps 512e 2.5in Hot-plug Hard Drive,		

	PERC H730P+ RAID Controller, 2Gb NV Cache, Adapter, Full Height; Front drive bays: Up to 24 x 2.5” SAS/SATA (HDD/SSD) with up to 12 NVMe PCIe SSD		
Rack Mountable	Yes		
Other	DVD+/-R ROM, SATA, Internal ; Broadcom 5720 Quad Port 1Gb Network Daughter Card; Intel X550 Dual Port 10G Base-T Adapter, Full Height; 2x Jumper Cord - C13/C14, 2M, 250V, 10A (APCC countries except ANZ); ReadyRails Sliding Rails With Cable Management Arm; RAID 5 for 3 or more HDDs or SSDs (Matching Type/Speed/Capacity); iDRAC9, Express, Dell EMC LCD Bezel		
Interfaces	Serial , Video , USB 2.0 , RJ-45 , Management Port		
RAID Support	Yes		
Input Requirements	220-240 V		
Operating System	Windows server 2019 or latest version + CALs for 1200 users or Enterprise license or Agreement		
Additional Software Required	(Latest version of Microsoft Office 2019 Enterprise (Licensed) for standardizing and installing on all existing notebooks). This should cover about 100 computers/user licenses Software host based intrusion detection software, personal firewalls		
Vendor Proposed Candidate Hardware	(Please quote exact Brand and Model)		

Price / Server (Including price of all required OS software and all additional required software)		
Total Cost		

Antivirus Server

Antivirus Server		Number of Servers: 1	Proposed Brand & Country of Item
Requirement	Minimum Specification	Vendor Proposed Specification	
Processor Speed	2x Intel® Xeon® Gold 6138 2.0G,20C/40T,10.4GT/s 3UPI,27M Cache,Turbo,HT (125W), Support Up to four 2nd Generation Intel® Xeon® Scalable processors, up to 28 cores each		
RAM Memory Size	128 GB Memory, (2x 64GB) RDIMM 2666MT/s Dual Rank		
I/O & Ports	Network daughter card options 4x 1GbE, 4x 10GbE, 2x 10GbE+2x 1GbE, or 2x 25GbE Front ports: 1 x Dedicated iDRAC Direct USB, 2 x USB 3.0, 1 x VGA Rear ports: 1 x Dedicated iDRAC network port, 1 x Serial, 2 x USB 3.0, 1 x VGA Video card: 2 x VGA Up to 13 x Gen3 slots, (3 x8 + 10 x16)		
Power Supplies	Dual, Hot-plug, Redundant Power Supply (1+1), 1100W, Hot plug power supplies with full redundancy option, 8 hot plugs fans with full redundancy		

Storage (SAS)	4 x 1.8TB 10K RPM SAS 12Gbps 512e 2.5in Hot-plug Hard Drive, PERC H730P+ RAID Controller, 2Gb NV Cache, Adapter, Full Height; Front drive bays: Up to 24 x 2.5” SAS/SATA (HDD/SSD) with up to 12 NVMe PCIe SSD		
Rack Mountable	Yes		
Other	DVD+/-R ROM, SATA, Internal ; Broadcom 5720 Quad Port 1Gb Network Daughter Card; Intel X550 Dual Port 10G Base-T Adapter, Full Height; 2x Jumper Cord - C13/C14, 2M, 250V, 10A (APCC countries except ANZ); ReadyRails Sliding Rails With Cable Management Arm; RAID 5 for 3 or more HDDs or SSDs (Matching Type/Speed/Capacity); iDRAC9, Express, Dell EMC LCD Bezel		
RAID Support	Yes		
Operating System	Microsoft® Windows Server® 2019 R2 Standard bit 64 Licenssed; Supported operating systems: Canonical® Ubuntu® Server LTS Citrix® Hypervisor, Microsoft Windows Server® LTSC with Hyper-V, Oracle® Linux Red Hat® Enterprise Linux SUSE® Linux Enterprise Server VMware® ESXi		
Additional Software Required (Preferably Symantec or Kaspersky or Equivalent)			
Vendor Proposed Candidate Hardware (Please quote exact Brand and Model)			

Price / Server (Including price of all required OS software and all additional required software)		
Total Cost		

Main Firewall+Router+IPS+IDS (Single Device) for PDC (2) and Backup site (1)

Main Firewall (VPN) +Router+IPS+IDS (Single Device). Or latest version Note: This will double as a gateway routing device for ingress egress filtering. Supplier may propose with justification separate internet gateway routers and firewalls with redundancy option provided they offer superior security and functionality required as per ITA other than the single combo device.		Number: 3	Proposed Brand & Country of Item
Requirement	Minimum Specification	Vendor Proposed Specification	
Throughput	>1 Gbps		
VPN Throughput	500 Mbps		
Network Interfaces	4 fixed 10/100/1000 + E1+Serial		
Concurrent IPSec VPN Tunnels	>1000		
Concurrent Sessions	256000		
New Session / Second	15000		
Active/Active and Active/Passive Support	Yes		
Virtualization Support	Security Zones VLANs		
Virtual Routers	16		
DES (56-bit), 3DES (168-bit) and AES (256-bit) SHA-1, MD5,	Yes		
Authentication	User authentication with X-Auth, PEM, Pre-shared Keys,		
Static and Default Routes	Yes		
BGP , OSPF , RIP V2, Source Based Routing , Policy Based Routing , ECMP , Reverse Path Forwarding (RPF) , IGMP (v1, v2) Routing Protocols Support	Yes		
MD5 Hashing	Yes		

BGP instances	15		
BGP Peers	128		
GBP Routes	250,000		
OSPF Instances	8		
OSPF Routes	250,000		
RIP v2 Routes	250,000		
Static Routes	250,000		
Source Based Routing	Yes		
Policy Based Routing	Yes		
Multicast , RPF , IGMP (v1, v2) IGP Proxy , PIM SM , PIM SSM , Multicast inside IPsec Tunnel	Yes		
PKI Support	Yes		
Unified Threat Management (IPS , Antivirus, Antispam , Integrated URL Filtering , External URL filtering)	Yes		
System Management	WebUI, CLI, Telnet, SSH, NSM, All management via VPN Tunnel on any interface.		
IPS (Deep /Stateful Inspection)	Yes		
Antivirus	Yes		
Antispam	Yes		
Dual stack IPv4/Ipv6 firewall and VPN	Yes		
PKI Support	Yes		
Vendor Proposed Candidate Hardware (Please quote exact Brand and Model)			
Price / Firewall			
Total Cost			

Firewall (VPN) + Router + IPS + IDS (Single Device) for screened subnets/ LAN security as per Network diagram

Firewall + Router + IPS + IDS (Single Device)		Number of Firewalls: 2	Proposed Brand & Country of Item
Requirement	Minimum Specification	Vendor Proposed Specification	
Throughput	160 Mbps		
VPN Throughput	40 Mbps		
Network Interfaces	5 fixed 10/100/1000 + E1+Serial		
Concurrent IPSec VPN Tunnels	25		
Concurrent Sessions	8000		
New Session / Second	2800		
Active/Active and Active/Passive Support	Yes		
Virtualization Support (Security Zones , VLANs)	Yes		
Virtual Routers	3		
DES (56-bit), 3DES (168-bit) and AES (256-bit) SHA-1, MD5	Yes		
Static and Default Routes	Yes		
BGP , OSPF , RIP V2, Source Based Routing , Policy Based Routing , ECMP , Reverse Path Forwarding (RPF) , IGMP (v1, v2) Routing Protocols Support	Yes		
IPS , IDS (Deep / Stateful Inspection)	Yes		
Antivirus	Yes		
Antispam	Yes		
Dual stack Ipv4/Ipv6 firewall and VPN	Yes		
Vendor Proposed Candidate Hardware (Please quote exact Brand and Model)			
Price / Firewall			
Total Cost			

Core Switch at PDC

Core Switch		Number of Switches: 3	Proposed Brand & Country of Item
Requirement	Minimum Specification	Vendor Proposed Specification	
Number of Ports	24 Port 10/100/ Gigabit Fast Ethernet Module, Firewall Module		
Switching Capacity	500 Gbps		
Power Over Ethernet Support	Yes		
Switch Fabric (Gbps)	Layer 2, Layer 3 / 4		
Slots	Min 7 Slots in Chassis		
Multilayer Support	Yes		
Forwarding Rate (at 64 Byte Packets)	300 Mpps		
Memory	512MB DRAM & 64 MB Flash		
Processor	1+1 Redundant		
Power Supply	1+1 Redundant and Load Sharing		
Layer2 trace route, SNMPv1	Yes		
Per Port Priority Limiting, & ACL Based Per Flow & Aggregate-Flow Rate Limiting, Weighted Round Robin, Strict Policy Queuing	Yes		
VLAN Primary, private, Isolated & port security	Yes		

Core Switch		Number of Switches: 3	Proposed Brand & Country of Item
Requirement	Minimum Specification	Vendor Proposed Specification	
802.11x Guest VLAN, Authentication Key Management, ISIS Password, OSPF Plain Text Authentication	Yes		
Standard Router ACLs (RACLs)- Inbound, Extended Router ACLs (RACLs)- Inbound	Yes		
Multinetting (Multiple IP interface per VLAN), Authentication	Yes		
BGP, RIP v1/v2, OSPF Routing protocols, Hardware based routing	Yes		
Port Mirroring (SPAN), SPAN between modules, RMON, CLI configuration and monitoring, Embedded Web Server Agent, Proxy ARP, Bootp/DHCP Relay, Bootp Client	Yes		
Qos Classification, IP TOS, Marking 802.11p, WRR, RED, SPQ,	Yes		

Core Switch		Number of Switches: 3	Proposed Brand & Country of Item
Requirement	Minimum Specification	Vendor Proposed Specification	
Bandwidth Management			
Support for DVMRP, MBGP, MSDP, PIM-Spare Mode, PIM-Dense Mode, Bi-direction PIM	Yes		
Support for MPLS, VPN Ingress LER, Transit LSR	Yes		
Additional Features	Fault containment, Protected Memory Space, Process Restart ability, Embedded Event Manager, Multicast Sub second Convergence, Field Replaceable Clock modules, Redundant Cooling Fans		
Support for policing, Multicast, Load Sharing & Ether Channel Hashing, Netflow, DNS, SSH, ping, Telnet, Traceroute, Path MTU Discovery	Yes		
Vendor Proposed Candidate Hardware (Please quote exact Brand and Model)			
Price / Switch			
Total Cost			

Load Balancer (Required only if AMIS application does not have its own software based load balancing capabilities)

Load Balancer		Number of Load Balancer: 2	Proposed Brand & Country of Item
Requirement	Minimum Specification	Vendor Proposed Specification	

Throughput	1 Gbps		
Requests/Second support	100,000		
L7 Concurrent Connections	200,000		
L4 concurrent Connections	30,000,000		
Server Support	16		
RAM	4 GB		
Full Duplex Support at 10/100/1000 Mbps	Yes		
Ports	2 X 10/100/1000Mbps Auto-negotiation Ethernet ports		
Layer 7 Content Switching	Yes		
IP & Cookie persistence	Yes		
Intuitive web based interface	Yes		
SSL Acceleration	10,000 TPS		
Storage	100 % solid state Compact Flash		
Round Robin, Weighted Round Robin, Least Connection, Weighted Least Connection Agent-based Adaptive, Chained Failover (Fixed Weighting), Layer 7 Content Switching scheduling & load balancing support	Yes		
Black List (Access Control List system), IP address filtering, Firewall filtering, (everything forbidden except VS's), DDOS mitigation support	Yes		
Vendor Proposed Candidate Hardware (Please quote exact Brand and Model)			
Price / Load Balancer			
Total Cost			

Floor Access Switches for SAO Offices

Access Switch		Number of Switches: 20	Proposed Brand & Country of Item
Requirement	Minimum Specification	Vendor Proposed Specification	
Number of Ports	48 Ethernet 10/100 ports		
Switch Type	Layer 2		

Power over Ethernet Support	Yes		
Throughput	10/100 Mbps		
Features	Flow control, , DHCP support,, ARP support, VLAN support, , TFTP, STP/RSTP, NTP, SNMP,		
Standards	IEEE 802.1D, IEEE 802.1Q, IEEE 802.1p, IEEE 802.3x, IEEE 802.3ad (LACP), IEEE 802.1w , 802.3at (PoE), 802.10 (C.I.A),		
IP connectivity	Yes		
Memory	128 MB DRAM & 32 MB Flash		
Rack Mount Support	Yes		
AC Power	Yes		
Vendor Proposed Candidate Hardware (Please quote exact Brand and Model)			
Price / Switch			
Total Cost			

POE Access Switches for VoIP system

Access Switch		Number of Switches: 8	Proposed Brand & Country of Item
Requirement	Minimum Specification	Vendor Proposed Specification	
Number of Ports	48 Gigabit Ethernet 10/100/1000 ports		
Switch Type	Layer 2		
Power over Ethernet Support	Yes		
Throughput	10/100/1000 Mbps		
Features	Flow control, , DHCP support,, ARP support, VLAN support, , TFTP, STP/RSTP, NTP, SNMP,		
Standards	IEEE 802.1D, IEEE 802.1Q, IEEE 802.1p, IEEE 802.3x, IEEE 802.3ad (LACP), IEEE 802.1w , 802.3at (PoE), 802.10 (C.I.A),		

Memory	512 MB DRAM & 128 MB Flash		
Rack Mount Support	Yes		
AC Power	Yes		
POE	Maximum PoE ports: 24 ports up to 15.4 W. Maximum PoE+ ports: 12 ports up to 30 W		
Vendor Proposed Candidate Hardware (Please quote exact Brand and Model)			
Price / Switch			
Total Cost			

Standardization of Existing Notebook Software for Field Auditors

Installation of standard software to allow AMIS compatibility and standardization across existing notebooks		Number licenses (or volume license) required for existing Notebooks: 100	Proposed Brand & Country of Item
Requirement	Minimum Specification	Vendor Proposed Specification	
Operating System	Microsoft Windows 10 Enterprise edition or latest version for Laptops		
Other Software	Microsoft Office 2019 or latest version		
Vendor Proposed Candidate (Please quote exact versions)			
Price / Notebook			

Backup Server/Software Solution

Backup Server (Hardware and Software) It should be a Specialized disk-based backup appliance and backup software from the same vendor		Number: 1	Proposed Brand & Country of Item
Requirement	Minimum Specification	Vendor Proposed Specification	
Backup server	Processor: 2x Intel® Xeon® Gold 6138 2.0G,20C/40T,10.4GT/s 3UPI,27M Cache,Turbo,HT (125W), Support Up to four 2nd Generation		

	<p>Intel® Xeon® Scalable processors, up to 28 cores each</p> <p>Memory: 128 GB</p> <p>Memory, (2x 64GB) RDIMM 2666MT/s Dual Rank</p> <p>Storage: 4 x 1.8TB 10K RPM SAS 12Gbps 512e 2.5in Hot-plug Hard Drive, PERC H730P+ RAID Controller, 2Gb NV Cache, Adapter, Full Height; Front drive bays: Up to 24 x 2.5” SAS/SATA (HDD/SSD) with up to 12 NVMe PCIe SSD</p> <p>Power Supply: Dual, Hot-plug, Redundant Power Supply (1+1), 1100W, Hot plug power supplies with full redundancy option, 8 hot plugs fans with full redundancy</p> <p>Ports: Network daughter card options 4x 1GbE, 4x 10GbE, 2x 10GbE+2x 1GbE, or 2x 25GbE</p> <p>Front ports: 1 x Dedicated iDRAC Direct USB, 2 x USB 3.0, 1 x VGA</p> <p>Rear ports: 1 x Dedicated iDRAC network port, 1 x Serial, 2 x USB 3.0, 1 x VGA</p> <p>Video card: 2 x VGA</p> <p>Up to 13 x Gen3 slots, (3 x8 + 10 x16)</p> <p>Other: DVD+/-R ROM, SATA, Internal ; Broadcom 5720 Quad Port 1Gb Network</p>		
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	<p>Daughter Card; Intel X550 Dual Port 10G Base-T Adapter, Full Height; 2x Jumper Cord - C13/C14, 2M, 250V, 10A (APCC countries except ANZ); ReadyRails Sliding Rails With Cable Management Arm; RAID 5 for 3 or more HDDs or SSDs (Matching Type/Speed/Capacity); iDRAC9, Express, Dell EMC LCD Bezel OS: Microsoft® Windows Server® 2019 R2 Standard bit 64 Licensied; Supported operating systems: Canonical® Ubuntu® Server LTS Citrix® Hypervisor, Microsoft Windows Server® LTSC with Hyper-V, Oracle® Linux Red Hat® Enterprise Linux SUSE® Linux Enterprise Server VMware® ESXi</p>		
Backup software support	<p>The appliance must support the following backup software or substantially equivalent: Symantec backup Exec and Netbackup, IBM Tivoli Storage manager, EMC Avamar, Commvault, VEEAM, VDP, HP data protector</p>		
Type	Backup Software		
Required Certification	Tape Library , SAN		

Tape library	LTO7 Tape Drive with FC Connectivity Qty. 20 x LTO7 Tapes (minimum)		
Management Interfaces	GUI and CLI for OSes Running on the Servers		
Operating System	Windows Server 2019 or latest version, 16 CORE license Compatible with Microsoft Windows 2008/12/16 server, Linux in addition to the OS provided in this bid.		
Media-agents, Disk Agents	Support for Linux, Windows 7/10, Server 201x and other OS provided in this bid.		
Application Agents	MS SQL , Oracle , Backup to Disk : 1 Tbyte		
Drive Support	2 Tape Drives in a SAN		
Library Support	Min 48 slots , barcode support		
Software	Bundled with software that can conduct backup of a virtual environment, at least 8 sockets licensed		
Connectivity (interfaces)	Minimum Qty. 2 x 10GbE SFP+ ports		
Quantity	At least one (1) quantity of 31TB usable capacity licensed		
Flash	Improved Random IO with inclusion of flash SSD for metadata		
VM Recovery	Able to boot VMs directly from the solution using a protection copy. Support backup of VMware VMs and support file level recovery of the VMs		

Fault Detection	Built-in continuous fault detection and healing		
VM Replication	A minimum of 120 licenses of near zero RTO and RPO software for VMs failover		
Write Lock	lock files against edit after archiving		
Data retention and Archiving policy compatibility	The system should be able to archive different documents for different period of time (minimum average of 10 years, except a few cases). The documents requiring different periods of archiving will need to be classified as per the SAO policy. (Note: Retention and archiving of the information, data and or documents shall be governed by the applicable laws and regulations of the government of Afghanistan).		
Vendor Proposed Candidate solution (Please quote exact Brand and Model)			
Price			

Antivirus Software Solution (Enterprise Server Based)

Antivirus Server Software		Number: 2	Proposed Brand & Country of Item
Requirement	Minimum Specification	Vendor Proposed Specification	
Type	Antivirus-Server		
General Specs	Successful prevention , detection and elimination of Viruses, worms , Trojans , adware , spyware , phishing		

	<p>rootkits and other allied threats</p> <p>Heuristic Scanning</p> <p>Allow or Block capability for storage devices and network interfaces (like Bluetooth)</p> <p>Allow, Block or restrict usage of games, IM, P2P etc.</p> <p>Personal Firewall</p> <p>Supporting Linux and Windows clients and servers</p> <p>Support for SQL Server, Oracle etc.</p> <p>Support for mail servers</p> <p>Email notification on detection etc.</p> <p>Centralized management of updates, remote install and remote scan</p> <p>Checking updates for originality</p> <p>Use of RAM and CPU should not slow down the server or computer</p> <p>Small hard drive footprint</p> <p>No restart required after installing updates</p>		
Clients and Servers to Protect	OS provided with all the servers in this bid and client computers in field audit offices and laptops	15 servers and 500 5 devices (user end points)	
OS	Compatible with Microsoft Windows 2008/2012/16/19		

	server, Linux in addition to the OS provided in this bid. Must support Windows 10, Windows 8 and Windows 7.		
Vendor Proposed Candidate solution (Please quote exact Brand and Model)			
Price / Unit			

Web Proxy Server

Web Proxy Server		Number of Servers: 1	Proposed Brand & Country of Item
Requirement	Minimum Specification	Vendor Proposed Specification	
Processor	2x Intel® Xeon® Gold 6138 2.0G,20C/40T,10.4GT/s 3UPI,27M Cache,Turbo,HT (125W), Support Up to four 2nd Generation Intel® Xeon® Scalable processors, up to 28 cores each		
RAM Memory Size	128 GB Memory, (2x 64GB) RDIMM 2666MT/s Dual Rank		
Power Supplies	Dual, Hot-plug, Redundant Power Supply (1+1), 1100W, Hot plug power supplies with full redundancy option, 8 hot plugs fans with full redundancy		
Storage (SAS)	4 x 1.8TB 10K RPM SAS 12Gbps 512e 2.5in Hot-plug Hard Drive, PERC H730P+ RAID		

	Controller, 2Gb NV Cache, Adapter, Full Height; Front drive bays: Up to 24 x 2.5” SAS/SATA (HDD/SSD) with up to 12 NVMe PCIe SSD		
Rack Mountable	Yes		
Other	DVD+/-R ROM, SATA, Internal ; Broadcom 5720 Quad Port 1Gb Network Daughter Card; Intel X550 Dual Port 10G Base-T Adapter, Full Height; 2x Jumper Cord - C13/C14, 2M, 250V, 10A (APCC countries except ANZ); ReadyRails Sliding Rails With Cable Management Arm; RAID 5 for 3 or more HDDs or SSDs (Matching Type/Speed/Capacity); iDRAC9, Express, Dell EMC LCD Bezel		
RAID Support	Yes		
Operating System Microsoft® Windows Server® 2019 R2 Standard bit 64 Licensied; Supported operating systems: Canonical® Ubuntu® Server LTS Citrix® Hypervisor, Microsoft Windows Server® LTSC with Hyper-V, Oracle® Linux Red Hat® Enterprise Linux SUSE® Linux Enterprise Server VMware® ESXi			
Additional Software Required Software host based intrusion detection software, personal firewalls			
Vendor Proposed Candidate Hardware (Please quote exact Brand and Model)			
Price / Server (Including price of all required OS software and all additional required software)			
Total Cost			

RADIUS Server for Wireless LAN

RADIUS Server		Number of Servers: 1	Proposed Brand & Country of Item
Requirement	Minimum Specification	Vendor Proposed Specification	
Processor	2x Intel® Xeon® Gold 6138 2.0G,20C/40T,10.4GT/s 3UPI,27M Cache,Turbo,HT (125W), Support Up to four 2nd Generation Intel® Xeon® Scalable processors, up to 28 cores each		
RAM Memory Size	128 GB Memory, (2x 64GB) RDIMM 2666MT/s Dual Rank		
I/O & Ports	Network daughter card options 4x 1GbE, 4x 10GbE, 2x 10GbE+2x 1GbE, or 2x 25GbE Front ports: 1 x Dedicated iDRAC Direct USB, 2 x USB 3.0, 1 x VGA Rear ports: 1 x Dedicated iDRAC network port, 1 x Serial, 2 x USB 3.0, 1 x VGA Video card: 2 x VGA Up to 13 x Gen3 slots, (3 x8 + 10 x16)		
Power Supplies	Dual, Hot-plug, Redundant Power Supply (1+1), 1100W, Hot plug power supplies with full redundancy option, 8 hot plugs fans with full redundancy		

Storage (SAS)	4 x 1.8TB 10K RPM SAS 12Gbps 512e 2.5in Hot-plug Hard Drive, PERC H730P+ RAID Controller, 2Gb NV Cache, Adapter, Full Height; Front drive bays: Up to 24 x 2.5” SAS/SATA (HDD/SSD) with up to 12 NVMe PCIe SSD		
Rack Mountable	Yes		
Optical Drive	DVD+/-R ROM, SATA, Internal ; Broadcom 5720 Quad Port 1Gb Network Daughter Card; Intel X550 Dual Port 10G Base-T Adapter, Full Height; 2x Jumper Cord - C13/C14, 2M, 250V, 10A (APCC countries except ANZ); ReadyRails Sliding Rails With Cable Management Arm; RAID 5 for 3 or more HDDs or SSDs (Matching Type/Speed/Capacity); iDRAC9, Express, Dell EMC LCD Bezel		
Cooling Fans	2		
RAID Support	Yes		
RADIUS features	Wireless authentication (EAP/WPA2- Enterprise) modes Policy based configuration Full SQL authentication Multiple authentication backends		
Authentication protocols	PAP, CHAP, MS- CHAP, MS-CHAPv2, EAP-MD5, SIP/HTTP digest		

	PEAP (with EAP-MS-CHAPv2 and EAP-TLS), EAP-TLS LDAP, active directory authentication, authentication proxy		
Security	Hashed passwords, SQL data sources, syslog server, Authorization by LDAP-stored attributes		
RADIUS Proxy	Load balancing, local processing + proxying		
Operating System Microsoft® Windows Server® 2019 R2 Standard bit 64 Licensied; Supported operating systems: Canonical® Ubuntu® Server LTS Citrix® Hypervisor, Microsoft Windows Server® LTSC with Hyper-V, Oracle® Linux Red Hat® Enterprise Linux SUSE® Linux Enterprise Server VMware® ESXi			
Additional Software Required (Preferably Symantec or Kaspersky or Equivalent)			
Vendor Proposed Candidate Hardware (Please quote exact Brand and Model)			
Price / Server (Including price of all required OS software and all additional required software)			
Total Cost			

Heavy Duty Photocopiers (MFP)

MAIN UNIT	
TYPE	Monochrome Laser Multifunctional
CORE FUNCTIONS	Standard: Print, Copy, Scan, Send, Store Optional: Fax
PROCESSOR	Canon Dual Custom Processor (Shared)
CONTROL PANEL	10.1" TFT LCD WSVGA Color Touch-panel
MEMORY	3.0 GB RAM
HARD DISK DRIVE	Standard: 250 GB Maximum: 1 TB

MIRRORING HARD DISK DRIVE	Optional (250 GB, 1 TB) Method: Raid1
PRINT RESOLUTION	1200 dpi x 1200 dpi
INTERFACE CONNECTION	Network Standard: 1000Base-T/100Base-TX/10Base-T, Wireless LAN (IEEE 802.11 b/g/n) Optional: NFC, Bluetooth Others Standard: USB 2.0 x2 (Host), USB 3.0 x1 (Host), USB 2.0 x1 (Device) Optional: Serial Interface, Copy Control Interface
PAPER CAPACITY (LTR, 20LB BOND)	Standard: 1,185 Sheets Maximum: 6,335 Sheets
SUPPORTED MEDIA WEIGHTS	Paper Cassettes: 16 lb. Bond to 34 lb. Bond (60 to 128 g/m ²) Stack Bypass: 14 lb. Bond to 80 lb. Cover (52 to 220 g/m ²) Duplexing: 16 lb. Bond to 28 lb. Bond (60 to 105 g/m ²)
WARM-UP TIME	From Power On: 24 Seconds or Less From Deep Sleep Mode: 10 Seconds or Less Quick Startup Mode: 4 Seconds ⁴
DIMENSIONS (W X D X H)	23-1/8" x 29-1/8" x 47" (587 mm x 740 mm x 1,193 mm) ⁵
INSTALLATION SPACE (WxD)	Basic [With ADF (Stack Bypass and Cassette Drawers Open)]: 35" x 46-1/2" (889 mm x 1,182 mm) Fully Configured [With ADF+Paper Deck Unit-F1+ Booklet Finisher-Y1 (Cassette Drawers Open)]: 71-3/8" x 50-3/8" (1,811 mm x 1,280 mm)
WEIGHT	Approx. 240.7 lb. (109.2 kg) ⁶
PRINT SPECIFICATIONS	
PRINT SPEED	Up to 51 ppm (Letter) Up to 37 ppm (Letter-R) Up to 25 ppm (Legal) Up to 25 ppm (11" x 17")
STANDARD PAGE DESCRIPTION LANGUAGES	UFR II, PCL [®] 6, Adobe [®] PS [®] 3
DIRECT PRINT	Available from USB, Advanced Box, Remote UI, and Web Access (Opt.) ⁷
SUPPORTED FILE TYPES	PDF, TIFF, JPEG, EPS, XPS
PRINTING FROM MOBILE DEVICES AND CLOUD-BASED SERVICES	A range of software and MEAP-based solutions are available to provide printing from mobile devices or Internet-connected

	devices and cloud-based services depending on your requirements.
FONTS	PCL fonts: 93 Roman, 10 Bitmap fonts, 2 OCR fonts, Andalé Mono WT J/K/S/T (Japanese, Korean, Simplified and Traditional Chinese), ⁸ Barcode Fonts ⁹ PS fonts: 136 Roman
OPERATING SYSTEM¹⁰	UFRII: Windows Vista®/Server 2008/Windows® 7/Server 2008 R2/Server 2012/Windows 8.1/Server 2012 R2/Windows 10/Server 2016, MAC OS X (10.7 or later) PCL: Windows Vista/Server 2008/Windows 7/Server 2008 R2/Server 2012/Server 2012 R2/Windows 10/Server 2016 PS: Windows Vista/Server 2008/Windows 7/Server 2008 R2/Server 2012/Windows 8.1/Server 2012 R2/Windows 10/Server 2016, MAC OS X (10.7 or later) PPD: MAC OS X (10.3.9 or later), Windows Vista/Windows 7/Windows 8/Windows 8.1/Windows 10
COPY SPECIFICATIONS	
COPY SPEED	Up to 51 ppm (Letter) Up to 37 ppm (Letter-R) Up to 25 ppm (Legal) Up to 25 ppm (11" x 17")
FIRST-COPY-OUT-TIME	As fast as 3.7 seconds
COPY RESOLUTION	Reading: Up to 600 x 600 Printing: 1200 x 1200
MULTIPLE COPIES	Up to 999 Copies
COPY EXPOSURE	Automatic or Manual (9 Levels)
MAGNIFICATION	25%-400% (1% Increments)
PRESET REDUCTIONS	25%, 50%, 64%, 73%, 78%
PRESET ENLARGEMENTS	121%, 129%, 200%, 400%
BASIC COPY FEATURES	Preset Reduction/Enlargement Ratios by Area, Paper Setting, Previous Settings, Favorite Settings, Finishing, Two-Sided, Density Adjustment, Original Type Selection, Interrupt Mode, Setting Confirmation/Cancel
SPECIAL COPY FEATURES	Suspend Job Timeout, Subset Finishing (PS only), Profile Settings, Secured Print, Forced Hold Printing, Watermark, Page Border, Header/Footer, Page Layout, Two-sided Printing, Collating, Booklet Printing, Grouping, Mixed Paper Sizes/Orientations, Offsetting, Printing on Transparencies,

	Front/Back Covers, Toner Reduction, Poster Printing
SCAN SPECIFICATIONS	
TYPE	Standard Single Pass Duplexing Automatic Document Feeder
DOCUMENT FEEDER PAPER CAPACITY	Single Pass DADF-A1: 150 Sheets (20 lb. Bond) DADF-AV1: 100 Sheets (20 lb. Bond)
DOCUMENT FEEDER SUPPORTED MEDIA SIZES	11" x 17", Legal, Letter, Letter-R, Statement, Statement-R
DOCUMENT FEEDER SUPPORTED MEDIA WEIGHTS	Single Pass DADF-A1 BW Original: 13 lb. Bond to 58 lb. Cover (50 to 157 g/m ²) CL Original: 17 lb. Bond to 58 lb. Cover (64 to 157 g/m ²) DADF-AV1 BW Original: 13 lb. Bond to 34 lb. Bond (50 to 128 g/m ²) CL Original: 17 lb. Bond to 34 lb. Bond (64 to 128 g/m ²)
PLATEN ACCEPTABLE ORIGINALS	Sheet, Book, 3-Dimensional Objects [Up to 4.4 lb. (2 kg)]
PULL SCAN	Color Network ScanGear2 for both Twain and WIA Supported OS: Windows Vista/7/8.1/10 Windows Server 2008/Server 2008 R2/Server 2012/Server 2012 R2/Server 2016
SCAN RESOLUTION	600 x 600, 400 x 400, 300 x 300, 200 x 400, 200 x 200, 200 x 100, 150 x 150, 100 x 100
SCAN TO MOBILE DEVICES AND CLOUD-BASED SERVICES	A range of solutions is available to provide scanning to mobile devices and cloud-based services depending on your requirements.
SCAN SPEED (LETTER)	Single Pass DADF-A1 Single-sided Scanning BW: 80 ipm (300 dpi)/80 ipm (600 dpi) Color: 80 ipm (300 dpi)/60 ipm (600 dpi) Double-sided Scanning BW: 160 ipm (300 dpi)/150 ipm (600 dpi) Color: 160 ipm (300 dpi)/80 ipm (600 dpi) DADF-AV1 Single-sided Scanning BW: 70 ipm (300 dpi)/51 ipm (600 dpi) Color: 70 ipm (300 dpi)/51 ipm (600 dpi) Double-sided Scanning BW: 35 ipm (300 dpi)/25.5 ipm (600 dpi) Color: 35 ipm (300 dpi)/25.5 ipm (600 dpi)
SECURITY SPECIFICATIONS	
AUTHENTICATION	Standard: Universal Login Manager, uniFLOW Online Express, ^{11,12} User

	Authentication, Department ID Authentication, Access Management System, Device and Function Level Log-in Optional: uniFLOW
DATA	Standard: Trusted Platform Module (TPM), Hard Disk Password Lock, Hard Disk Drive Erase, Mail Box Password Protection, Hard Disk Drive Encryption (FIPS140-2 Validated) Optional: Hard Disk Drive Mirroring, Hard Disk Drive removal, IEEE 2600.2 Common Criteria Certification, Data Loss Prevention (Requires uniFLOW)
NETWORK	Standard: Encrypted Secure Print, IP/Mac Address Filtering, IPsec, TLS Encrypted Communication, SNMP V3.0, IEEE 802.1X, IPv6, SMTP Authentication, POP Authentication before SMTP
DOCUMENT	Standard: Secure Watermark, Secure Print, Forced Hold Printing, Adobe LiveCycle® Rights Management ES2.5 Integration, Encrypted PDF, Encrypted Secure Print, Device Signatures Optional: User Signatures, Document Scan Locking

Network and Communications Specifications

- 3.2.1 Local Area Network at SAO Offices.
 - 3.2.1.1 The vendor will be required to arrange LAN work required in the SAO office (LAN cable, nodes etc.) after surveying the SAO office locations. Vendor shall also be required to provide and install proper structured cabling (All data cables, power cables and other cables for interconnecting servers and other devices etc.) within the PDC.
 - 3.2.1.2 All Ethernet cables must comply with IEEE 802.3az standard (energy efficient Ethernet).
 - 3.2.1.3 Laying of UPT cables must comply with IEEE 802.3an (Cat 6).
 - 3.2.1.4 Multi-mode Optical fiber cable must be used as primary backbone for LAN infrastructure along with two Category 7 (or at least Cat 6e) UTP cables as secondary and tertiary backbones
 - 3.2.1.5 Establishment Wireless LAN and installation of enterprise wireless access points on SAO premises
 - 3.2.1.6 Design, develop and implement a complete intranet website, which will be used for internal communications, knowledge sharing and collaboration
- 3.2.2 Establishment of the Wide-Area Network:

- 3.2.2.1 A Wide Area Network connecting Data Centre and all remote users will need to be established. The connectivity/ bandwidth charges will be the responsibility of the purchaser after the warranty period and the Supplier will be responsible for designing and establishing the WAN including provision of necessary hardware like routers. The Supplier will be required to:
- i. Review the existing WAN
 - ii. Carry out a survey and recommend new architecture of WAN
 - iii. Provide support for OAT of hardware and software
 - iv. Maintain Data Centre during project implementation or for at least 3 years, whichever is higher.
- 3.2.3 Delivery and establishment of VoIP Communications Equipment:
- 3.2.3.1 Design, supply and install a complete VoIP infrastructure for up to 100 nodes integrated with the existing video conferencing system with up-to-date technology with modern security such as VPN and scalable features to allow further expansion and development, at the SAO office.
- 3.2.4.1 The supplier is expected to supply and install a complete Voice over internet (VoIP) system and equipment at the SAO offices.
- 3.2.5 Delivery of Hardware and Establishment of LAN at SAO
- 3.2.5.1 As part of this contract, the Supplier will be required to deliver hardware including Wireless access points, scanners and printers at SAO according to the delivery schedule provided by the purchaser and establish a Local Area Network. The Supplier will be required to:
- i. Agree on a delivery schedule including timelines with the purchaser for delivery of hardware and establishment of LAN at SAO offices.
 - ii. Deliver laptops with genuine licensed operating systems (Windows 10), MS Office 2019 and Antivirus software, and personal firewalls, installed in each laptop according to delivery schedule.
 - iii. Establish LAN and deliver other hardware at each site according to delivery schedule
 - iv. Install and set up enterprise wireless access point solution that enables seamless roaming within and between subnets on the LAN
 - v. Provide support for OAT of hardware and software
- 3.2.6. **Detailed ICT Infrastructure specifications.**
- 3.2.6.1 Suppliers should refer to the proposed IT architecture Design, which is included as a part of this bidding document to help suppliers understand the possible scenario of AMIS within the SAO.
- 3.2.6.2 All suppliers should provide details of their hardware according to their proposed solution. These details will include detailed specifications of key hardware items as mentioned in the proposed IT Architecture design, per unit costs and quantities required. If the supplier feels that there may be a need to amend the proposed IT architecture to derive optimal performance

from the system, a separate note should be provided by the vendor clearly spelling out the changes required/suggested and its impact on various requirements including hardware.

3.2.6.3 The list below has been provided as a sample of key hardware and related items which are likely to be procured for AMIS implementation.

Equipment	Additional Site Information (e.g., building, floor, department, etc.)
Servers (High End)	Data center
Servers (Low End)	Date center
Scanners	High speed and Portable
Switches	Sites
Routers	Sites
Office Sites Equipment (Data Cabling, Server UPSs)	Sites
<i>Primary & Backup Data Centre Equipment (Racks, DC Power, DC ACs, DC UPS etc..)</i>	
Cooling (ACs)	Data center
Back-up Power UPS	Data center
Fire and Alarm Suppression	Data center
Environmental monitoring,	Data center
Access Control, CCTV	Data center
DC Network cabling	Data center
Racks	Data center
NAC Appliances	Data center
Hardware Network Load Balancers	
DC Switches (Core)	Data center
DC Firewall	Data center
DC Routing (Core)	Data center
Application delivery	Data center
SIEM	Data center
DAM	Data center
End Point	Data center
Secure Web Gateway	Data center
Call manager	Data center
HCI	Data center
Robotic tape library	Data center

3.2.6.4 The following are specifications for the infrastructure for interconnectivity between ANDC, SAO HQ, remote user sites (field audit parties) and third party e.g. audit entity. They should be read in conjunction with the proposed IT architecture redesign, computing hardware Specifications, data center specifications (other non-IT good section) security

requirements and standard software requirements, Ancillary Hardware Specifications. The supplier shall install the requirements below, substantial equivalents or better.

Serial No.	Minimum technical requirements	Compliant (Y/N)	Detailed response with cross reference	Proposed Brand & Country of Item
SAO Headquarters				
1.	The Supreme Audit Office headquarters is based in Kabul. However, the Afghanistan National Data Center (ANDC) in Ministry of ICT also based in Kabul will house the central datacenter to host the AMIS and all shared databases and applications. Due to the nature of SAO's structure, SAO may need to accommodate additional resources at any one moment in time without the added expense on infrastructure, hence virtualization is preferred.			
2.	The following describes the main features of the headquarters site:			
3.	All core services will be deployed here or the ANDC and links to other SAO sites will be facilitated from this location.			
4.	Sufficient redundancy systems will be deployed to cater for most eventualities, and in some cases, the SAO/ANDC Data center will provide Disaster Recovery Centers.			
5.	All users at the respective SAO offices shall have access to all services including seamless access to applications hosted by the data center for the purposes of sharing information.			
Introduction to technical requirement				
6.	The supplier must supply the total solution rather than individual elements.			
7.	Architecture			
8.	We have divided the architecture requirements into key components: secure Interconnectivity			

Serial No.	Minimum technical requirements	Compliant (Y/N)	Detailed response with cross reference	Proposed Brand & Country of Item
	infrastructure that includes the head ends to provide connectivity over the internet and Datacenter infrastructure that includes switching, routing, scalability, openness, and environment.			
9.	Interconnectivity Infrastructure			
10.	This section defines the secure interconnectivity infrastructure and functionality required to centralize AMIS and other shared applications to support remote access integration from the current platform to IP architecture.			
11.	Datacenter Infrastructure			
12.	This section presents the end-to-end requirements for switching, routing, scalability, openness, and environment required for SAO datacenter.			
13.	Network Management			
14.	This section describes SAO's requirements for fault management, configuration management, accounting management, performance management, and security management.			
15.	Development Strategy			
16.	Product roadmaps for the various elements of the vendor solution are required on two levels: a detailed release program for the next 12 months and a long-term development strategy.			
17.	Architecture			
18.	<i>Security</i>			
19.	SAO sees security as the initial building block within any network			

Serial No.	Minimum technical requirements	Compliant (Y/N)	Detailed response with cross reference	Proposed Brand & Country of Item
	and views corporate and personal security safeguards as key enablers in the migration to their future platform. The design intent is to use a spread of technologies and products to build up layers of functionality that protect SAO against attack, misuse, and recognizance. Vendors are requested to submit a security design that fully complies with the following principles and services.			
20.	Security			
21.	Firewall protection for Layers 3 through 7 of the OSI model, including state-full packet inspection of voice and video.			
22.	Network intrusion detection for protection against external/internal threats.			
23.	Host-based intrusion detection for protection of mission-critical servers.			
24.	IP Security (IPsec) encryption (DES, 3DES, AES) for all VPN links.			
25.	Support of SSL acceleration devices for e-business services.			
26.	Network			
27.	The supplier must ensure that security is deployed at the infrastructure, call control, endpoint, and application levels of the IP communication system			
28.	The supplier must describe the role of firewalling in the system			
29.	Encrypted traffic should be to traverse the firewall			
30.	The supplier must describe how data traffic will be separated.			
31.	The host operating system must provide host intrusion detection protection against so-called "Day			

Serial No.	Minimum technical requirements	Compliant (Y/N)	Detailed response with cross reference	Proposed Brand & Country of Item
	Zero" attacks. Describe how this is achieved.			
32.	Describe the cryptographic features that provide identity, integrity, and privacy of application access, administration and end user interfaces, and application program interfaces (APIs).			
33.	Encrypted traffic must be prioritized over the WAN. Describe how this is achieved.			
34.	Describe the techniques used to provide security for multiple database access.			
35.	User Credentials			
36.	Usernames and passwords must be stored locally or remotely through directory integration with LDAP, RADIUS, or other better method.			
37.	The system must ensure that authentication challenges are protected.			
38.	Integrity must be maintained through the lifespan of the connection. Describe how this is achieved.			
39.	Password complexity metrics must be configurable for minimum length, expiration, lockout, use of upper- and lowercase, and a mixture of numbers and letters.			
40.	The system must provide role-based administration. Describe how this is achieved.			
Interconnectivity Infrastructure				
41.	The purchaser requires an infrastructure that will seamlessly integrate the head office and the ANDC hosted data center with the respective remote user accessibility for field audit parties whilst			

Serial No.	Minimum technical requirements	Compliant (Y/N)	Detailed response with cross reference	Proposed Brand & Country of Item
	extending the services to all audit locations. The supplier must make identical services available to employees regardless of geographical location. This ubiquitous access to communication and data services is essential for the purchaser to reach rapidly to users. The supplier's system should enable users to operate in smarter, more cost-effective ways.			
	Remote VPN Firewall			
42.	The SAO design will deploy remote VPN firewalls to the respective remote sites allowing for a secure integration of shared applications and services seamlessly. These remote VPN firewalls will then securely connect to the headend firewalls hosted by SAO HQ through IPSEC tunnels. The more specific characteristics should be as follows			
43.	The platform should support standards-based VPNs using IP Security, Layer 2 Tunneling Protocol (L2TP), Layer 2 Forwarding Protocol (L2F), generic routing encapsulation (GRE), and multiprotocol label switching (MPLS) virtual private networks (VPNs).			
44.	The device should support at least 500Mbps (Firewall performance)			
45.	The device should function as a remote access device for mobile connectivity.			
46.	The device should offer hardware encryption options.			
47.	The device should support VPN access.			
48.	The device should support dynamic VPN addressing.			

Serial No.	Minimum technical requirements	Compliant (Y/N)	Detailed response with cross reference	Proposed Brand & Country of Item
49.	The device should support inter-virtual LAN (VLAN) routing.			
50.	The device should support routing with bandwidth management.			
51.	<i>Scalability</i>			
52.	Should offer scalable processing based on the Dynamic Services Architecture			
53.	Should offer CPU load reduction.			
54.	Dedicated routing engine that provides physical and logical separation to data and control planes.			
55.	Offers flexible I/O options including on-board ports and modular CFM I/O cards.			
56.	The VPN firewall must be modular and have a scalable architecture.			
57.	The platform should support hardware data compression and encryption.			
58.	Security			
59.	The device should support intrusion detection / prevention services.			
60.	The device should support integrated stateful firewall services.			
61.	The device should support Reverse Path Forwarding.			
62.	The device should offer secure access options.			
63.	The device should support Active/passive and active/active HA configurations using dedicated HA-control interfaces.			
64.	The device should provide security zones, VLANs, and virtual routers that allow administrators to deploy security policies to isolate guests and regional servers or databases			

Serial No.	Minimum technical requirements	Compliant (Y/N)	Detailed response with cross reference	Proposed Brand & Country of Item
65.	The device should support firewall, IPsec VPN, IPS, DoS, application security, and other networking and security services.			
66.	The device should support Secure access to data center resources via tight integration of Unified Access Control and threat management			
67.	Performance			
68.	The platform should provide scalable IP routing performance.			
69.	<i>Management</i>			
70.	The device should support a regression to a previous version of software stored on the device itself.			
71.	The device should support a text-based configuration and backup utility.			
72.	The device should support environmental monitoring.			
73.	The device should support network management and monitoring protocols such as SNMP, RMON, NTP, and syslog.			
74.	The device should provide detailed traffic accounting and billing information.			
75.	The platform should support RADIUS, TACACS+, or Kerberos.			
76.	The platform should support the ability to upgrade software remotely.			
77.	The device should support access control.			
78.	The device should support multiple levels of access.			
79.	The device should provide the ability to re-use modules in the event that the platform is upgraded or replaced.			
80.	The device should support the ability to perform remote software upgrades.			

Serial No.	Minimum technical requirements	Compliant (Y/N)	Detailed response with cross reference	Proposed Brand & Country of Item
81.	The device should support the ability to store applications in flash memory.			
82.	Concurrent Services			
83.	The device should support hierarchical quality of service (QoS).			
84.	The device should be able to intelligently identify and classify using Network Based Application Recognition (NBAR).			
85.	The device should support voice / data services integration.			
86.	The device should support both analog and digital dial-access services.			
LAN Hardware – Switches				
87.	The purchaser requires a service oriented LAN switching architecture in a redundant manner that provides high switching capacity for growth. The switching components have been divided into three different layers, the floor access switches, the core distribution switches and the server farm switches			
Floor access switches				
88.	The floor access switches will be of a fixed-configuration 24 or 48 port 10/100/1000 ports with 10 Gbit uplinks combining Gigabit Ethernet connectivity and Power over Ethernet (PoE) with the following characteristics			
Traffic				
89.	The switch should offers the ability to manage data flows asynchronously upstream and downstream from the end station or on the uplink.			
90.	Min 50 Gbps switching fabric			

Serial No.	Minimum technical requirements	Compliant (Y/N)	Detailed response with cross reference	Proposed Brand & Country of Item
91.	6 million packets per second wire-speed forwarding rate			
92.	4-Gbps duplex uplink performance			
93.	8000 MAC address supported			
94.	At least 8-MB memory architecture shared by all ports			
95.	64-MB DRAM and 32-MB Flash memory			
96.	<i>Performance:</i>			
97.	Maximum Transmission Unit (MTU) of up to 1,530 bytes			
98.	<i>Reliability</i>			
99.	High MTBF at least or above than 225,000 hours			
100	Operating Temperature: 0° to 45° C			
101	Environmental Storage Temperature:			
102	- 25° to + 70° C			
103	Requirement for Operating Humidity:			
104	AS/NZS 3260, TS001, CE Marking, EN55024			
105	10% to 85% (non-condensing)			
106	<i>Immunity:</i>			
107	AC line frequency 50/60 Hz			
108	Power supply:			
109	Input Voltage 100 to 127/200 to 240 VAC (auto-ranging),			
110	SNMP Protocol (RFC 1157),			
111	MIB-II (RFC 1213),			
112	Bridge MIB (RFC1493)			
113	RMON MIB II (RFC2021),			
114	Remote Monitoring MIB (RFC 1757),			
115	Interface MIB (2233)			

Serial No.	Minimum technical requirements	Compliant (Y/N)	Detailed response with cross reference	Proposed Brand & Country of Item
116	MAU MIB (RFC 2668)			
117	<i>Management</i>			
118	Command line interface management & SNMP compatibility.			
119	Embedded support for Web based management using standard web browser			
120	Support for SPAN port & RSPAN functionality for measurement using a network analyzer or RMON probe.			
121	Time-domain reflectometer (TDR) to diagnose and resolve cabling problems on copper ports			
122	RMON4 Group (Statistics, Alarm, Events, History), on every port, no impact to performance			
123	Single IP based Management required to manage up to 16 switches in a cluster irrespective of geographic location.			
124	IEEE 802.3x full duplex on 10BASE-T and 100BASE-TX ports			
125	IEEE 802.1D Spanning-Tree Protocol			
126	IEEE 802.1p class-of-service (CoS) prioritization			
127	IEEE 802.1x support			
128	IEEE 802.1Q VLAN			
129	IEEE 802.1s			
130	IEEE 802.1w			
131	IEEE 802.3 10BASE-T specification			
132	IEEE 802.3u 100BASE-TX specification			
133	IEEE 802.3ad			
134	IEEE 802.3z 1000BASE-X specification			
135	Standard Support			

Serial No.	Minimum technical requirements	Compliant (Y/N)	Detailed response with cross reference	Proposed Brand & Country of Item
136	IEEE 802.1D Spanning Tree Protocol support for redundant backbone connections and loop-free networks simplifies network configuration and improves fault tolerance.			
137	IEEE 802.1w Rapid Spanning- Tree Protocol (RSTP) provides rapid convergence of the spanning tree, independent of spanning-tree timers.			
138	Support for Internet Group Management Protocol Version 3 (IGMPv3) snooping in hardware,			
139	Multicast VLAN Registration (MVR)			
140	IEEE 802.1s Multiple Spanning Tree Protocol (MSTP) allows a spanning-tree instance per VLAN, enabling Layer 2 load sharing on redundant links.			
141	<i>Availability</i>			
142	Per-port broadcast, multicast, and unicast storm control prevents faulty end stations from degrading overall system performance.			
143	Support for the 802.1 x standards & NAC, allows users to be authenticated regardless of which LAN ports they are accessing, and it provides unique benefits to customers who have a large base of mobile (wireless) users accessing the network.			
144	802.1x with voice VLAN permits an IP phone access to the voice VLAN regardless of the authorized or unauthorized state of the port.			
145	802.1x with Port Security authenticates the port and manages network access for all MAC addresses, including that of the client.			

Serial No.	Minimum technical requirements	Compliant (Y/N)	Detailed response with cross reference	Proposed Brand & Country of Item
146	IEEE 802.1x with Guest VLAN allows guests without 802.1x clients to have limited network access on the Guest VLAN.			
147	IEEE 802.1x with VLAN assignment allows a dynamic VLAN assignment for a specific user regardless of where the user is connected.			
148	Security Features			
149	Should have support for SSHv2, per port security based on the MAC address Support for SNMPv2 & v3, MAC Address Notification that allows administrators to be notified of new users added or removed from the network.			
150	TACACS+ and RADIUS authentication to enable centralized control of the switch and restricts unauthorized users from altering the configuration.			
151	Support for reclassifying frames based either on 802.1p class-of service			
152	(CoS) value or default CoS value per port assigned by network manager.			
153	Ability to 802.1p class-of-service (CoS) support			
154	QOS			
155	Ability to re-classify traffic based on traffic profile by modifying the CoS bits in the Ethernet header or the ToS byte in the IPv4 header			
Server Farm access switches				
156	The purchaser requires a medium-density modular switch delivering robust intelligent services with comprehensive management features. The switch should provide Gigabit			

Serial No.	Minimum technical requirements	Compliant (Y/N)	Detailed response with cross reference	Proposed Brand & Country of Item
	connectivity speeds to the server farm.			
157	The redundant server farm switches shall be chassis based LAN Switch with the following specifications			
158	CONFIGURATION			
159	Redundant Power Supply- Hot swappable			
160	24 x 10/100/1000 Mbps Ports			
161	8 x GBIC/SFP ports			
162	Hot swappable modules			
163	Hot-swappable fan tray with redundant fans			
164	Performance Features:			
165	Minimum 60-Gbps switching fabric			
166	Minimum of 2 usable slots for payload modules			
167	Should have Power supply redundancy			
168	Rack-Mountable			
169	Full-Duplex Operation on Ethernet and gigabit Ethernet ports			
170	Multiple Load Sharing Trunks			
171	Hot-Swapping: Fan-Tray, Module, Power Supply			
172	Temperature Alarm and Power Monitoring			
173	Layer 2 & 3 hardware forwarding at 48 Mpps			
174	Layer 4 (TCP/UDP) hardware-based filtering at 48 Mpps			
175	No performance penalty with advanced Layer 3/4 services enabled			
176	Support for 32,000 Media Access Control (MAC) addresses			
177	Bandwidth aggregation up to 16 Gbps through Gigabit EtherChannel			

Serial No.	Minimum technical requirements	Compliant (Y/N)	Detailed response with cross reference	Proposed Brand & Country of Item
178	Hardware-based multicast management			
179	Hardware-based per port, VLAN ACLs			
180	Baby Giants (up to 1600 bytes)			
181	Layer 1 Features			
182	Support for 10/100/1000BASE-T , 1000BASESX,-LX, and long haul (-LX/LH, -ZX) full duplex, 10Gbps			
183	Layer 2 Features			
184	Layer 2 hardware forwarding at 48 Mpps,			
185	Layer 2 switch ports and VLAN trunks			
186	IEEE 802.1Q VLAN encapsulation			
187	Dynamic Trunking Protocol (DTP)			
188	VLAN Trunking Protocol (VTP) and VTP domains			
189	Support for 4096 VLAN IDs per switch			
190	Layer 2 multicast addresses: 16,384			
191	Per-VLAN spanning tree, PVST+ Rapid PVST+			
192	802.1s, ad			
193	802.1w			
194	Spanning-tree root guard			
195	IGMP snooping v1 and v2			
196	Port Aggregation Protocol (PagP)			
197	Q-in-Q pass-through			
198	Storm control (formally known as broadcast and multicast suppression)			
199	Unidirectional link detection (UDLD)			
200	Layer 3 Features			
201	Hardware-based IP Forwarding routing at 48 Mpps,			

Serial No.	Minimum technical requirements	Compliant (Y/N)	Detailed response with cross reference	Proposed Brand & Country of Item
202	Static IP routing			
203	Hot Standby Router Protocol (HSRP)			
204	IGMP v1, v2, and v3			
205	IGMP filtering on access and trunk ports			
206	IP multicast routing protocols: DVMRP, PIM Version 2 (Sparse Mode & Dense Mode), SSM			
207	Full Internet Control Message Protocol (ICMP) support			
208	IPv6			
209	QoS and Traffic Management Features			
210	Per-port QoS configuration			
211	Support for four queues per port in hardware			
212	Strict priority queuing			
213	IP differentiated service code point (DSCP) and IP Precedence			
214	Classification and marking based on IP type of service (ToS) or DSCP			
215	Classification and marking based on full Layer 3/4 headers (IP only)			
216	Input and output policing based on Layer 3/4 headers (IP only)			
217	Support for 512 policers on ingress and 512 policers on egress configured as aggregate or individual			
218	Dynamic Buffer Limiting (DBL), congestion-avoidance feature			
219	No performance penalty for granular QoS functions			
220	Auto-QoS CLI for voice-over-IP (VoIP) deployment			
221	Per-port, per-vlan QoS			
222	Hardware-based multicast management			
223	Hardware-based ACLs, router ACLs (RACLs), VLAN ACLs			

Serial No.	Minimum technical requirements	Compliant (Y/N)	Detailed response with cross reference	Proposed Brand & Country of Item
224	Number of queues: four queues per port			
225	Type of buffers dynamic			
226	Comprehensive Management Features			
227	Single console port and single IP address to manage all features of the system			
228	Optional compact Flash memory card to store software images for backup and easy software upgrades			
229	Manageable through network management software on a per-port and per switch basis, providing a common management interface for routers and switches			
230	SNMP v1, v2, and v3 instrumentation, delivering comprehensive in-band management			
231	Command-line interface (CLI)-based management console to provide detailed out-of-band management			
232	Remote Monitoring (RMON) software agent to support four RMON groups (history, statistics, alarms, and events) for enhanced traffic management, monitoring, and analysis			
233	Analysis support, including ingress port, egress port, and VLAN SPAN			
234	HTTPS			
235	Time Domain Reflectometry (TDR)			
236	Advanced Security Features			
237	TACACS+ and RADIUS, which enable centralized control of the switch and restrict unauthorized users from altering the configuration			
238	Standard and extended ACLs on all ports			
239	802.1x user authentication			

Serial No.	Minimum technical requirements	Compliant (Y/N)	Detailed response with cross reference	Proposed Brand & Country of Item
240	Router ACLs (RACLs) on all ports (no performance penalty)			
241	VLAN ACLs (VACLs)			
242	Trunk Port Security			
243	Dynamic Host Configuration Protocol (DHCP) snooping, Option-82 insertion & pass through			
244	Unicast port flood blocking			
245	IP source guard			
246	SSHv1 and SSHv2			
247	NAC over L2 802.1x & IP			
248	Should support the following standards:			
249	IEEE 802.3, 10BASE-T, IEEE 802.3u, 100BASE-TX, IEEE 802.3, 100BASE-FX,			
250	IEEE 802.3z, IEEE 802.3x, IEEE 802.3ab, IEEE 802.3ae, 1000BASE-SX ,			
251	1000BASE-LX/LH , 1000BASE-ZX , IEEE 802.3ad , IEEE 802.1Q, IEEE 802.1D,			
252	IEEE 802.1w , IEEE 802.1s , IEEE 802.1x			
	LAN Core distribution switches			
253	CONFIGURATION			
254	Redundant Power Supply- Hot swappable			
255	24 x 10/100/1000 Mbps Ports			
256	48 x GBIC/SFP ports			
257	10 Gigabit Ethernet XENPAK/X 2 port densities scaling to 120			
258	Hot swappable modules			
259	Hot-swappable fan tray with redundant fans			
260	9 slot chassis based			

Serial No.	Minimum technical requirements	Compliant (Y/N)	Detailed response with cross reference	Proposed Brand & Country of Item
261	Performance Features:			
262	Scale up to at least 720-Gbps switching fabric			
263	Minimum of 2 usable slots for payload modules			
264	Should have Power supply redundancy			
265	Rack-Mountable			
266	Full-Duplex Operation on Ethernet and gigabit Ethernet ports			
267	Multiple Load Sharing Trunks			
268	Hot-Swapping: Fan-Tray, Module, Power Supply			
269	Temperature Alarm and Power Monitoring			
270	Layer 2 & 3 hardware forwarding at 48 Mpps			
271	Layer 4 (TCP/UDP) hardware-based filtering at 48 Mpps			
272	No performance penalty with advanced Layer 3/4 services enabled			
273	Support for 32,000 Media Access Control (MAC) addresses			
274	Bandwidth aggregation up to 16 Gbps through Gigabit EtherChannel			
275	Hardware-based multicast management			
276	Hardware-based per port, VLAN ACLs			
277	Baby Giants (up to 1600 bytes)			
278	Quality of Service (QoS) Layer 2			
279	The system must support quality of service (QoS) mechanisms to help regulate traffic flow through the network.			
280	The system must support ingress QoS features. Describe the features you support.			

Serial No.	Minimum technical requirements	Compliant (Y/N)	Detailed response with cross reference	Proposed Brand & Country of Item
281	The system must support egress QoS features. Describe the features you support.			
282	The system must support the ability to set the trust state of a port for QoS.			
283	The platform's QoS must support the ability to mark packets in both the ingress and egress directions. The supplier must specific the n=basis of marking			
284	The platform's QoS must support the ability to schedule packets on both ingress and egress as part of a congestion avoidance mechanism. The supplier must describe the implementation.			
285	The supplier must describe the platform's implementation of packet policing for both ingress and egress directions.			
286	The supplier must provide the hardware implementation of buffers and queues on their platform. Indicate whether these are per port, per module, or per system.			
287	The supplier must describe their platform's congestion avoidance mechanisms.			
288	The system must support the appropriate versions of IGMP snooping			
289	The system must support PIM snooping.			
290	Describe the process of joining a multicast group with your platform.			
291	The system must support Fast-Leave Processing.			
292	The platform multicast implementation must support processing of Non-RPF Traffic.			

Serial No.	Minimum technical requirements	Compliant (Y/N)	Detailed response with cross reference	Proposed Brand & Country of Item
293	The system must have the capability to rate-limit RPF failure traffic as part of its multicast implementation.			
294	The system must support Router Group Management Protocol (RGMP).			
295	The system must support Bider-PIM.			
296	The system must support some form of multicast suppression.			
297	The system must support source-specific multicast (SSM).Security			
298	Device Security			
299	The system must support Access Control Lists (ACLs).			
300	The supplier must specify how many ACLs can their platform support			
301	The supplier must specify the hardware requirements for ACLs on their platform			
302	The supplier must describe the implementation of QoS ACLs on your platform.			
303	The supplier must describe the implementation of ACLs on their platform.			
304	The supplier must describe the implementation of VLAN ACLs (VACLs) on your platform.			
305	The application of any kind of ACL must not affect the performance of the platform.			
306	The system must support the application of both ACLs and VLAN ACLs on the same interface.			
307	The system must have the ability to capture traffic using VACLs.			
308	The system must support a feature that helps protect the network against spoofed source IP traffic.			

Serial No.	Minimum technical requirements	Compliant (Y/N)	Detailed response with cross reference	Proposed Brand & Country of Item
309	The system must support a feature that will allow for the mitigation of broadcast storms.			
310	The system must support a method of blocking unicast floods.			
311	The system must support security measures to prevent man-in-the-middle or DoS attacks that might take advantage of DHCP.			
312	The system must support security techniques to prevent man-in-the-middle or DoS attacks that might use IP spoofing of source addresses.			
313	The system must support security measures to prevent man-in-the-middle attacks that might take advantage of the ARP process.			
314	The system must implement some kind of hardware rate-limiters to prevent receiving an unwanted number of protocol data units (PDUs) or more than a certain number of PDUs from a neighboring switch.			
315	The system must provide mechanisms to mitigate DoS attacks directed at the management supervisory module. Describe these mechanisms.			
316	The system must support Secure Copy (SCP).			
317	The system must support Secure Shell Version 2 (SSHv2).			
318	Port Security			
319	The system must support port security.			
320	The system must support the ability to allow traffic only from specific MAC addresses on a port. The supplier must describe the implementation.			

Serial No.	Minimum technical requirements	Compliant (Y/N)	Detailed response with cross reference	Proposed Brand & Country of Item
321	The system must support the ability to restrict traffic based on host MAC address.			
322	The system must support “sticky” port security.			
323	802.1x			
324	The system must support IEEE 802.1x authentication.			
325	Define your implementation of IEEE 802.1x as it pertains to device roles.			
326	The supplier must describe the implementation of IEEE 802.1x on their platform.			
327	The supplier must describe the IEEE 802.1x extensions supported on their platform.			
328	Device Management			
329	AAA – Authentication			
330	The system must support user authentication to control access.			
331	The system must support login authentication. The supplier must describe the implementation.			
332	The system must support local authentication. The supplier must describe the implementation.			
333	The system must support local user authentication. The supplier must describe the implementation.			
334	The system must support TACACS+ authentication. The supplier must describe the implementation.			
335	The system must support RADIUS authentication. The supplier must describe the implementation.			
336	The system must support Kerberos authentication. The supplier must describe the implementation.			
337	AAA – Authorization			

Serial No.	Minimum technical requirements	Compliant (Y/N)	Detailed response with cross reference	Proposed Brand & Country of Item
338	The system must support user authorization to control system access based on a user's identity.			
339	The system must support TACACS+ authorization. The supplier must describe the implementation.			
340	The system must support RADIUS authorization. The supplier must describe the implementation.			
341	AA – Accounting			
342	The system must support accounting methods to monitor user access.			
343	The supplier must describe the implementation of user accounting on your platform.			
344	General Management			
345	The system must provide the ability to check a module or port status from the command-line interface (CLI).			
346	The system must provide the ability to check the status of copper cabling from the CLI.			
347	The system must allow user connectivity via Telnet and Secure Shell (SSH).			
348	The system must have the ability to monitor or display user sessions.			
349	The system must have the ability to test connectivity to remote host machines.			
350	The system must support Layer 2 traceroute.			
351	The system must support an auto-discovery protocol that can see neighbors on the network.			
352	The system must support network booting for disaster recovery situations.			
353	Message Logging			

Serial No.	Minimum technical requirements	Compliant (Y/N)	Detailed response with cross reference	Proposed Brand & Country of Item
354	Describe the platform's support for logging of system messages.			
355	The system must support a feature that allows the system to page or e-mail an engineer in the case of a system event. If yes, is the event threshold must be configurable.			
356	SNMP / RMON			
357	The system must support Simple Network Management Protocol (SNMP) using the appropriate and latest versions.			
358	The system must support Remote Monitoring (RMON) as defined by RFC 1757 and RFC 2021.			
359	The system must support the collecting of network statistics, for example, NetFlow.			
360	High Availability			
361	System-Level High Availability			
362	The supplier must describe any redundant hardware within the system.			
363	The system must support redundancy for the supervisor modules. There must be software mechanisms in place to make the supervisor module switchovers hitless.			
364	The system must support a mechanism to deal with line cards that may be flapping or frequently resetting.			
365	The system must support a First Hop Redundancy Protocol. Describe your implementation.			
366	The system must support a mechanism that can prevent interface flapping from causing network instability.			
367	The system must support a modular operating system. The supplier must			

Serial No.	Minimum technical requirements	Compliant (Y/N)	Detailed response with cross reference	Proposed Brand & Country of Item
	describe how this operating system handles software module failure and its impact of packet forwarding.			
368	<i>Link-Level High Availability</i>			
369	The system must support bidirectional forwarding detection (BFD). The supplier must describe the implementation.			
370	The system must support IEEE 802.3ad or other port aggregation technology. The supplier must describe the implementation.			
371	The supplier must describe how their platform distributes packets across the different links when using port aggregation.			
372	The system must support a mechanism that can detect unidirectional links.			
373	Network Management of the solution			
374	The purchaser requires a comprehensive network management solution to address network and service-level monitoring; diagnostics and troubleshooting; provisioning and change management; and statistics analysis and reporting. SAO would like to simplify this function significantly and achieve benefits for the organization.			
375	For each scenario, the supplier must provide a technical and functional description of the network management solution offered.			
376				
377	General Solution Management Requirements			
378	The network management software must provide a comprehensive view of the IP communications solution and underlying transport			

Serial No.	Minimum technical requirements	Compliant (Y/N)	Detailed response with cross reference	Proposed Brand & Country of Item
	infrastructure via an easy-to-use, web-based graphical user interface (GUI). The solution should also run on an open platform such as Windows 2012 Server and use standard protocols and interfaces (such as SNMP and HTTP) to gather information from the network.			
379	Network Monitoring and Management			
380	The network management software must display and continuously monitor the operational status of each element in the IP communications network and underlying transport infrastructure. This should include visualization using logical topologies and service views.			
381	The management software must display configuration attribute information and generate reports that document move, add, and change operations and outages on IP endpoints in the network.			
382	The management software must generate real-time notifications via SNMP traps, Syslog notifications, and e-mail to inform higher-level management applications and/or operators of problems.			
383	Service Monitoring and Management			
384	The management solution must set service-related thresholds and monitor the IP communications components to detect violation of the thresholds.			
385	The management solution must continuously monitor and evaluate active calls for voice quality using open standards and MOS scores and reporting any problems that occur.			

Serial No.	Minimum technical requirements	Compliant (Y/N)	Detailed response with cross reference	Proposed Brand & Country of Item
386	The management solution must report such problems to a higher-layer application via north-bound interfaces.			
387	Diagnostics and Troubleshooting			
388	The management solution must provide contextual diagnostic tools for troubleshooting.			
389	The management solution must provide tests to simulate / replicate end-user activity (such as making calls and leaving voice mail).			
390	The management solution must measure the performance of WAN links and node-to-node network quality.			
391	The management solution must support probable path trace performance between two endpoints of a monitored segment.			
392	Provisioning and Change Management			
393	The management solution must support the creation and management of voice ports on gateways and gateway dial plans.			
394	The management solution must support the configuration of bandwidth control and call-admission parameters for gatekeepers.			
395	To enable more accurate operations, the management solution must provide the ability to view status changes and manage moves, additions, and changes.			
396	The management solution must provide templating features to enable scalable configuration and provisioning of large numbers of devices.			
397				

Serial No.	Minimum technical requirements	Compliant (Y/N)	Detailed response with cross reference	Proposed Brand & Country of Item
398	Development Strategy			
399	One of the potential business risks SAO perceives in investing in AMIS infrastructure is the low level of investment protection in what is currently a new technology area defined by emerging standards and protocols. To enable the purchaser to evaluate this risk, the supplier must provide in detail the product, standards, and service roadmaps offered by the supplier and systems integrators.			
400				
401	Implementation Services			
402	Supplier must list and describe the services available for implementation and how these are delivered. Include such details as critical service factors, methodology, pre-installation preparation, and installation support services.			
	Maintenance Services			
403	Supplier must provide information on the software, hardware, and system-level support services offered, including:			
404	Response times			
405	Parts replacement lead times			
406	Priority assessment			
407	Call management			
408	Help desk			
409	Quality assurance			
410	Levels of support			
411	Warranty			
412	End of Life / End of Support			

Serial No.	Minimum technical requirements	Compliant (Y/N)	Detailed response with cross reference	Proposed Brand & Country of Item
413	Hardware support			
414	Software support			
415	On-site and remote support			
416	Online services self-help diagnostics			
417	Tools and language support			
418	Optimization Services			
419	Suppliers must list and provide details on the services offered to the purchaser to optimize the performance and reliability of the network following completion of the installation.			

3.2.6.5 Network Access Control

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference	Proposed Brand & Country of Item
	General Requirements			
420.	The supplier must provide a brief summary of their proposed solution, including model numbers, configuration, and proposed software options.			
421.	The solution must offer a Standards-Based, Interoperable Access Control, <ul style="list-style-type: none"> ○ Demonstrate how the solution adopts and provides strong support for the TCG's TNC open standards for network access control and security. ○ Demonstrate how the solution adopts the TNC's open standard IF-MAP, enabling integration with 			

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference	Proposed Brand & Country of Item
	third- party network and security devices, including devices that collect and (through IF-MAP) share information on the state and status of a network, user, or device.			
422.	The supplier must provide an overview of their proposed architecture.			
423.	The supplier must describe how their proposed solution can support a wide range of authentication protocols, including PAP, MS-CHAP, Extensible Authentication Protocol (EAP)-MD5, Protected EAP (PEAP), EAP-Flexible Authentication via Secure Tunneling (FAST), and EAP-Transport Layer Security (TLS).			
424.	The supplier must describe how their proposed solution can support a wide range of access control mechanisms, including downloadable access control lists (dACLs), VLAN assignments, URL redirect, and Security Group Access (SGA) tagging using the advanced capabilities of already existing network devices.			
425.	The system should be able to support integration with leading firewalls such as; Fortinet, Palo Alto Networks, Checkpoint, and Juniper SRX Firewalls, enabling each to be employed as policy enforcement points.			
426.	<p>The system should have an onboard profiler that supports</p> <ul style="list-style-type: none"> ○ Fingerprinting Methods: DHCP Fingerprinting (Helper Address or RSPAN port), MAC OUI, SNMP/SNMP Traps, CDP/LLDP, 			

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference	Proposed Brand & Country of Item
	HTTP User Agent, Nmap, WMI and MDM			
427.	The supplier must describe how the solution can leverage next-generation firewall's intelligence driven threat detection to take automated actions at the device and user level. The solution be able to use its comprehensive policy engine and rich contextual information to take different actions based on threat severity and mitigate security risk further			
428.	The solution must have Heterogeneous RADIUS / 802.1x Support: Provides expanded interoperability with industry leading network infrastructure and Operating systems, patch management systems, antivirus systems, and directories and ticketing systems— without infrastructure changes.			
429.	The supplier must describe the policy model that is used by their proposed solution. It must provide a rules-based, attribute-driven policy model for creating flexible and business-relevant access control policies.			
430.	The system must provide the ability to create fine-grained policies by pulling attributes from predefined dictionaries that include information about user and endpoint identity, posture validation, authentication protocols, profiling identity, or other external attribute sources.			
431.	The solution must have the ability to dynamically create attributes and save them for later use.			
432.	The system must allow for federations of LAN users and SSL VPN users. In			

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference	Proposed Brand & Country of Item
	addition to securing LAN access the solution should also enable seamless provisioning of remote access user sessions (SSL VPN) into LAN access user sessions upon login, or alternatively LAN access user sessions into remote access user sessions at login.			
433.	The system must have predefined device templates for a wide range of endpoints, such as IP phones, printers, IP cameras, smartphones, and tablets. The administrator should have the ability to create their own device templates which can be used to automatically detect, classify, and associate administrative-defined identities when endpoints connect to the network.			
434.	The supplier must describe how the proposed solution enables full guest lifecycle management, whereby guest users can access the network for a limited time, either through administrator sponsorship or by self-signing via a guest portal.			
435.	The supplier must describe how their proposed solution provides the ability to verify endpoint posture assessment for PCs and mobile devices connecting to the network, via either a persistent client-based agent or a temporal web agent to validate that an endpoint is conforming to the enterprise posture policies. It should also supports auto-remediation of PC clients as well as periodic reassessment to make sure the endpoint is not in violation of company policies.			
436.	The supplier must describe how their proposed solution enables administrators to centrally configure and manage profiler,			

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference	Proposed Brand & Country of Item
	posture, guest, authentication, and authorization services in a single web-based GUI console, and greatly simplifying administration by providing consistency in managing all these services.			
437.	The supplier should describe how their proposed solution provides a console for monitoring, reporting, and troubleshooting to assist help-desk and network operators in quickly identifying and resolving issues. It should offer comprehensive historical and real-time reporting for all services, logging of all activities, and real-time dashboard metrics of all users and endpoints connecting to the network.			
438.	The supplier must describe how the solution endpoint agent can be used as a stateful end point enforcer, using ACLs provisioned on the endpoint to limit network subnets and services that the end user can access			
439.	The system must be able to support distributed deployment of high specification physical or virtual appliances, configured in high availability mode, with the Administration and monitoring on the same node and policy service on dedicated node, supplied with and advanced Enterprise license, offering support for 300 concurrent endpoint connections			
440.	The supplier must describe their deployment plan for the proposed solution, with proof of product engineers or integrator to undertake the deployment to a standard that is satisfactory			
441.	The Supplier is must provide evidence of similar works accomplished, with			

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference	Proposed Brand & Country of Item
	evidence of having undertaken at least one assignment to deliver or provide on-going support for an enterprise Network access control solution within the last two years. Evidence to this effect must be provided in form of signed contracts or purchase orders			

Data Centre Switching

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference	Proposed Brand & Country of Item
442.	General Requirements			
443.	Data center switching			
444.	Interface options			
445.	The performance of the Proposed Switch should be Wire speed L2/L3 Forwarding			
446.	The Latency of the Proposed Switch should be minimum 3us			
447.	The proposed Switches should have a minimum 1xMgmt Port with 100/1000 Mgmt. Ports			
448.	The Proposed Switches should have a minimum 1x RS232 Serial Ports			
449.	The Proposed Switches should have a minimum of 1x USB Ports			
450.	Support SFP+, SFP and RJ-45 interfaces			
451.	Have at least 96 x 10GbE SFP+ interfaces			
452.	Have at least 8 x 40GbE SFP+ interfaces			
453.	Have at least 48x1GbE(1GBASE-SR) SFP, 48x10GbE(10GBASE-SR) SFP+ and QSFP 8x40GbE(40GBASE-SR) optic modules QSFP			
454.	Switch Scalability			
455.	The switches should provide the ability to add 25/40/50 and 100G interfaces either through the addition of a switching blade			

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference	Proposed Brand & Country of Item
	or use of Stacking or Virtual chassis technology			
456.	Layer 2 features			
457.	<p>The Proposed DC Switches must have the following Layer-2 Features:</p> <ul style="list-style-type: none"> • 802.1w Rapid Spanning Tree • 802.1s Multiple Spanning Tree Protocol • Rapid Per Vlan Spanning Tree (RPVST+) • 4096 VLANs • 802.3ad Link Aggregation/LACP • 64 Ports / Channel • 128 groups per system • MLAG (Multi-Chassis Link Aggregation) <ul style="list-style-type: none"> • Uses IEEE 802.3ad LACP • 128 ports per MLAG • 802.1Q VLANs/Trunking • QinQ • 802.1AB Link Layer Discovery Protocol • 802.3x Flow Control • Jumbo Frames (9216 Bytes) • IGMP v1/v2/v3 snooping 			
	Data Center Bridging (DCB)			
458.	<ul style="list-style-type: none"> • Priority-based flow control (PFC): IEEE 802.1Qbb • Data Center Bridging Capability Exchange protocol (DCBX) • Enhanced Transmission Selection 			
	Layer 3 features			
459.	<p>The DC Switches must have the following Layer-3 Features:</p> <ul style="list-style-type: none"> • Static Routes • Routing Protocols: OSPF, OSPFv3, BGP, MP-BGP, IS-IS, and IPv2 • 128-way Equal Cost Multipath Routing (ECMP) • VRF • Bi-Directional Forwarding Detection 			

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference	Proposed Brand & Country of Item
	(BFD) <ul style="list-style-type: none"> • VRRP • Virtual ARP (VARP) • Route Maps 			
	MPLS: The following MPLS functionality should be supported and all additional licenses should be quoted for: <ul style="list-style-type: none"> • Label-switching router (LSR) and label edge router (LER) functionality • RSVP and LDP for label assignment and distribution (LSP setup), and BGP for advertising label-switched paths (LSPs) • IPv4 over MPLS, IPv6 tunneling • MPLS/BGP L3 VPNs • LDP-based L2 VPNs 			
	Quality of service			
460.	The DC Switches must have the following Quality of Service Features: <ul style="list-style-type: none"> • Minimum Up to 6 queues per port • Strict priority queuing • 802.1p based classification • Egress shaping / Weighted round robin (WRR) • Policing / Shaping • Explicit Congestion Notification (ECN) marking 			
	High-Availability Features			
461.	<ul style="list-style-type: none"> • In-Service Software Upgrade (ISSU) • Hot-swappable field-replaceable power supplies, fan modules, and expansion modules • Graceful restart for Layer 2 hitless forwarding and Layer 3 protocols • 1:1 power redundancy. The second power supply should be quoted for • N:1 fan module redundancy. The 			

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference	Proposed Brand & Country of Item
	second fan module should be quoted for <ul style="list-style-type: none"> • Nonstop bridging for xSTP, Link Aggregation Control Protocol (LACP), Link Layer Discovery Protocol–Media Endpoint Discovery (LLDP/LLDP-MED) • Switch Fabric fast convergence (as low as sub-50 ms) 			
	Fibre Channel and FCoE Features:			
462.	All necessary support licenses for this functionality should be quoted for <ul style="list-style-type: none"> • FCoE transit switch (FIP snooping) • iSCI SAN • iSCI TLV support 			
	Security Features:			
463.	The Proposed DC Switches must have the following Security Features: <ul style="list-style-type: none"> • ACLs using L2, L3, L4 fields • ACL Logging and Counters • Atomic ACL Hitless restart • PDP • Service ACLs • DHCP Relay • MAC Security • TACACS+ • RADIUS • ARP trapping and rate limiting 			
	Virtualization			
464.	Virtualization Support: The Proposed Switches must have the following Virtualization Protocols and functionalities: <ul style="list-style-type: none"> • VXLAN Gateway (draft-mahlingam-dutt-dcops-vxlan-01) • VXLAN Tunnel Endpoint • VXLAN Bridging • Open vSwitch Database (OVSDB) 			
	Network Management			

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference	Proposed Brand & Country of Item
465.	<p>The proposed Switches should have the following Network Management Features:</p> <ul style="list-style-type: none"> • Autodiscovery, Zero-Touch Provisioning (ZTP), Zero-Touch Replacement (ZTR), and upgrades • Automation Management Platform • Configuration rollback and commit • 100/1000 Management Port • RS-232 Serial Console Port • USB Port • SNMP v1, v2, v3 • Management over IPv6 • Telnet and SSHv2 • Syslog • AAA • Industry Standard CLI • Beacon LED for system identification • System Logging • Environment monitoring 			
	Extensibility			
466.	<p>The Proposed Switches should have the following Extensibility:</p> <p>Linux Tools</p> <ul style="list-style-type: none"> • Bash shell access and scripting • RPM support • Custom kernel modules • Software Defined Networking (SDN) • eAPI • Programmatic access to system state • OpenConfig • Native KVM/QEMU support 			
	Standard compliance			
467.	<p>The Proposed Switches should have Compliance to the Standard Protocols:</p> <p>802.1D Bridging and Spanning Tree</p> <ul style="list-style-type: none"> • 802.1p QOS/COS • 802.1Q VLAN Tagging • 802.1w Rapid Spanning Tree • 802.1s Multiple Spanning Tree Protocol • 802.1AB Link Layer Discovery 			

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference	Proposed Brand & Country of Item
	Protocol <ul style="list-style-type: none"> • 802.3ad Link Aggregation with LACP • 802.3x Flow Control • 802.3ab 1000BASE-T • 802.3z Gigabit Ethernet • 802.3ae 10 Gigabit Ethernet • 802.3by 25 Gigabit Ethernet • 802.3ba 40 Gigabit Ethernet • 802.3ba 100 Gigabit Ethernet • RFC 2460 Internet Protocol, Version 6 (IPv6) Specification • RFC 2461 Neighbor Discovery for IP Version 6 (IPv6) • RFC 2462 IPv6 Stateless Address Autoconfiguration • RFC 2463 Internet Control Message Protocol (ICMPv6) for the Internet Protocol Version 6 (IPv6) Specification • IEEE 1588-2008 Precision Time Protocol 			
468.	Support for Open standards DCI Capabilities			
469.	<ul style="list-style-type: none"> • Open, scalable, and standards-based protocol support: EVPN/VXLAN, BGP, NETCONF/RPC, sFlow/gRPC/SNMP • EVPN/MPLS, P2PMP-TE, MLDP 			
470.	Power Supply			
471.	Must have AC dual power supply and cooling			
472.	Manufacturer backed 24x7 Premium Enterprise Support, including advanced device replacement in case of failure for all hardware supplied under this solution - 3 Years			
473.	The Supplier must be a certified reseller and must provide a copy of the certificate of Authorization. The vendor must provide a current, dated and signed authorization from the manufacturer that			

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference	Proposed Brand & Country of Item
	the vendor is an authorized distributor, dealer or serviced representative and is authorized to sell the manufacturer's product			
474.	The supplier is required to provide evidence of similar works accomplished, with evidence of having undertaken at least two assignment to deliver or provide on-going support for an enterprise Data Center Switches within the last five years. Evidence to this effect must be provided in form of signed contracts or purchase orders			
475.	The solution should be delivered as physical rack-mountable hardware appliances - quantity 2, setup in High Availability (HA) configuration			

3.2.6.6 Data Center Firewall and Routing

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference	Proposed Brand & Country of Item
	High End Firewall			
476.	The purchasers network design involves two high end VPN firewalls to serve as head ends one at the primary datacenter to be hosted in Kabul and the other at the DR Datacenter			
	Interface options			
477.	Support SFP+, SFP and RJ-45 interfaces			
	Have at least 4 x 10GbE SFP+ interfaces			
	Have at least 12 x 1GbE SFP interfaces			
	Have at least 12 x 1GbE RJ- 45 interfaces			
	Have at Four 4x10GbE (10GBASE-SR) Single Mode SFP+ optic modules			
	Have at least (four)4x1GbE (1000BASE-LX) Single Mode SFP optic module with LC connector for up to 10km transmission			
478.	On-board Storage			

479.	At least 100GB SSD onboard storage			
480.	Performance			
481.	IPv4 and IPv6 Firewall throughput of at least 10 Gbps			
482.	Threat Prevention of at least 3 Gbps			
483.	Concurrent (ipv4/ipv6) Sessions of at least 2,000,000			
484.	IPSec VPN throughput at least 2 Gbps			
485.	Support a minimum of 20 Virtual Routers			
486.	IPsec VPN throughput of at least 1.3Gbps			
487.	Support at least 2,000 IPsec VPN Tunnels			
488.	Support at least 2,000 GRE Tunnels			
489.	Maximum security policies at least 10,000			
490.	Maximum Security Zones at least 400			
491.	IPv4/IPV6 forwarding table size at least 2,000,000/1,000,000			
492.	The Firewall must have SSL Inspection (The solution must have ability to Decrypt Inbound and Outbound SSL connections), URL Filtering and APP-ID			
493.	VPN			
494.	<p>Must have the following VPN features</p> <ul style="list-style-type: none"> • IPsec crypto algorithms: Data Encryption Standard (DES), triple DES (3DES), Advanced Encryption Standard (AES-256) • IPsec authentication algorithms: MD5, SHA-1, SHA-128, SHA-256 • Pre-shared key and public key infrastructure (PKI) (X.509) • Perfect forward secrecy, anti-reply • IPv4 and IPv6 IPsec VPN • Multi-proxy ID for site-site VPN 			
495.	The solution must have ability to support integration of firewall policies with NAC			
496.	The solution must provide an integrated IDS/IPS solution			
497.	The solution must provide for application identification in Traffic classification. The solution must not rely on post-stateful inspection techniques to identify and control applications. Stateful inspection must be the default operational mode			

498.	The platform should support standards-based VPNs using IP Security, Layer 2 Tunneling Protocol (L2TP), Layer 2 Forwarding Protocol (L2F), generic routing encapsulation (GRE), and multiprotocol label switching (MPLS) virtual private networks (VPNs).			
499.	The device should support at least 8Gbps (Firewall performance)			
500.	The device should function as a remote access device for mobile connectivity.			
501.	The device should offer hardware encryption options.			
502.	The device should support VPN access.			
503.	The device should support dynamic VPN addressing.			
504.	The device should support inter-virtual LAN (VLAN) routing.			
505.	The device should support routing with bandwidth management.			
506.	Scalability			
507.	Should offer scalable processing based on the Dynamic Services Architecture			
508.	Should offer CPU load reduction.			
509.	Dedicated routing engine that provides physical and logical separation to data and control planes.			
510.	Offers flexible I/O options including on-board ports and modular CFM I/O cards.			
511.	The VPN firewall must be modular and have a scalable architecture.			
512.	The platform should support hardware data compression and encryption.			
513.	Security			
514.	The device should support intrusion detection / prevention services.			
515.	The device should support integrated stateful firewall services.			
516.	The device should support Reverse Path Forwarding.			
517.	The device should offer secure access options.			
518.	The device should support Active/passive and active/active HA configurations using dedicated HA-control interfaces.			

519.	The device should provide security zones, VLANs, and virtual routers that allow administrators to deploy security policies to isolate guests and regional servers or databases			
520.	The device should support firewall, IPsec VPN, IPS, DoS, application security, and other networking and security services.			
521.	The device should support Secure access to data center resources via tight integration of Unified Access Control and threat management			
522.	Performance			
523.	The platform should provide scalable IP routing performance.			
524.	Management			
525.	The device should support a regression to a previous version of software stored on the device itself.			
526.	The device should support a text-based configuration and backup utility.			
527.	The device should support environmental monitoring.			
528.	The device should support network management and monitoring protocols such as SNMP, RMON, NTP, and syslog.			
529.	The device should provide detailed traffic accounting and billing information.			
530.	The platform should support RADIUS, TACACS+, or Kerberos.			
531.	The platform should support the ability to upgrade software remotely.			
532.	The device should support access control.			
533.	The device should support multiple levels of access.			
534.	The device should provide the ability to re-use modules in the event that the platform is upgraded or replaced.			
535.	The device should support the ability to perform remote software upgrades.			
536.	The device should support the ability to store applications in flash memory.			
537.	Concurrent Services			
538.	The device should support hierarchical quality of service (QoS).			

539.	The device should be able to intelligently identify and classify using Network Based Application Recognition (NBAR).			
540.	The device should support voice / data services integration.			
541.	The device should support both analog and digital dial-access services.			
542.	High Availability			
543.	Support the following High Availability features: <ul style="list-style-type: none"> • Virtual Router Redundancy Protocol (VRRP) • Stateful high availability • Dual box clustering • Active/passive -Active/active • Configuration synchronization • Firewall session synchronization • Device/link detection • IP monitoring with route and interface failover 			
544.	Data Center Routing			
545.	The System Must have the following routing protocols and services: <ul style="list-style-type: none"> • IPv4, IPv6 • Static routes • RIP v1/v2 • OSPF/OSPF v3 • BGP with Route Reflector • IS-IS • Multicast: Internet Group Management Protocol (IGMP) v1/v2; Protocol Independent Multicast (PIM) sparse mode (SM)/dense mode (DM)/source-specific multicast (SSM); Session Description Protocol (SDP); Distance Vector Multicast Routing Protocol (DVMRP); Multicast Source Discovery Protocol (MSDP); Reverse Path Forwarding (RPF) • Encapsulation: VLAN, Point-to-Point Protocol over Ethernet (PPPoE) • Virtual routers • Policy-based routing, source-based routing• Equal-cost multipath (ECMP) 			

	<ul style="list-style-type: none"> • MPLS (RSVP, LDP) • Circuit cross-connect (CCC), translational cross-connect (TCC) • L2/L2 MPLS VPN • Virtual private LAN service (VPLS), next-generation multicast VPN (NG-MVPN) • MPLS traffic engineering and MPLS fast reroute 			
546.	Must have 4094 802.1q tags per physical interface			
547.	NAT			
548.	<p>Must have the following NAT features:</p> <ul style="list-style-type: none"> • Source NAT with Port Address Translation (PAT) • Bidirectional 1:1 static NAT • Destination NAT with PAT • Persistent NAT • IPv6 address translation 			
549.	Network Management			
550.	<p>Must have the following network management features:</p> <ul style="list-style-type: none"> • SSH, Telnet and SNMP • Application and bandwidth usage reporting • Auto installation • Debug and troubleshooting tools 	M		
551.	Power Supply			
552.	Must have AC dual power supply and cooling			
553.	Redundant PSU 1+1			
554.	The Supplier must be a certified reseller and must provide a copy of the certificate of Authorization. The vendor must provide a current, dated and signed authorization from the manufacturer that the vendor is an authorized distributor, dealer or serviced representative and is authorized to sell the manufacturer's product			
555.	The solution should be delivered as physical rack-mountable hardware appliances - quantity 2, setup in High Availability (HA) configuration.			

556.	Manufacturer backed 24x7 Premium Enterprise Support, including advanced device replacement in case of failure for all hardware supplied under this solution - 3 Years			
557.	URL/Web Filtering and Cloud Intelligence Services license subscription to provide threat detection and prevention for new threats, including malware, malicious websites, zero day exploits, and command and control traffic - 3 Years			
558.	Threat Prevention, IPS, anti-Malware, Anti-Spam, anti-virus License Subscription - 3 Years			
559.	The Supplier is required to provide evidence of similar works accomplished, with evidence of having undertaken at least two assignment to deliver or provide on-going support for an enterprise Data Center firewall within the last five years. Evidence to this effect must be provided in form of signed contracts or purchase orders			

3.2.6.7 Data Centre Application Delivery Controller

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference	Proposed Brand & Country of Item
	General Requirements			
560.	The system must cater for Centralized identity and access control and allows Unify access controls across multiple Applications			
561.	The proposed Solution must Defend the weak links via various methods and allow users to have the ability to provide Secure web access including “Always connected” remote and mobile access			
562.	The system must Eliminate browser plug-ins, provide Secure application tunnels while having a Robust Endpoint Security Solution.			
563.	The system must simplify access to			

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference	Proposed Brand & Country of Item
	authorized applications as well as providing Identity federation and single sign-on (SSO)			
564.	The system must cater for different Vendor Environments, including (but not limited to) Address Hybrid Office 365 deployments as well as automatically synchronize Exchange services as well as AAA server authentication and high availability Step-up authentication, including multi-factor authentication (MFA) DTLS mode for delivering and securing applications Microsoft ActiveSync and Outlook Anywhere support with client-side NTLM and Simplified access management for Citrix XenApp and XenDesktop, and support for Citrix StoreFront Native client support for Microsoft RDP client and Java RDP client PCoIP, Blast, and Blast Extreme proxy support for VMware Horizon, including support for Linux desktops SSO from smart cards for VMware Horizon deployments Local client drive and USB redirection support for VMware Horizon Launch Microsoft RDP native client from Webtop Seamless Microsoft Exchange mailbox migration And must have L7 access control list (ACL), the ability to provide a Protected workspace support and encryption Credential caching and proxy for SSO Java patching (rewrite) for secure access Flexible deployment in virtual VMware environments			
565.	The system must cater for Adaptive authentication and infrastructure consolidation and Intelligent			

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference	Proposed Brand & Country of Item
	integration with identity and access management			
566.	The system must include Centralized reporting and logging with Access to near Real-time access health data			
567.	The system must allow for Identity, context, and application-based authorization as well as Portal access, app tunnel, and network access			
568.	The system must have a Granular access policy enforcement provided by an Advanced Visual Policy Editor (VPE) that allows for an IP geolocation agent (in Visual Policy Editor)			
569.	The system must provide the capability for SAML 2.0 identity federation Support for OAuth 2.0 authorization protocol Integration with Oracle Access Manager (OAM) SSO with support for Kerberos, header-based authentication, credential caching, and SAML 2.0 Support for SAML-based authentication using Edge Client for Android and Edge Client for iOS SAML-artifact binding support SAML ECP profile support Simplified identity federation for applications with multi-valued attributes Context-based authorization with dynamic L4/L7 ACLs			
570.	The system must provide support for Windows machine certificate support Windows Credential Manager integration External logon page support Access control support to BIG-IP LTM virtual server Out-of-the-box configuration wizards			
571.	The system must provide for			

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference	Proposed Brand & Country of Item
	Application Traffic Management and Intelligent load balancing			
572.	The system must provide Support for many different Application protocol support (HTTP/2, SSL/TLS, SIP, etc.)			
573.	The system must provide the ability to be able to pro-actively use Application health monitoring			
574.	The system must provide Application connection state management			
575.	The system must have included where necessary Advanced routing (BGP, RIP, OSPF, ISIS, BFD)			
576.	The system must be able to cater if needed for SDN services (VXLAN, NVGRE)			
577.	The system must have a HTTP/2 gateway Secure Application Delivery			
578.	The System must cater for SSL connection and session mirroring including the ability to be able to provide Hybrid crypto services (Hardware SSL offload for BIG-IP VE), SSL/TLS encryption offload (hardware accelerated) • Algorithm agility (GCM, ECC, Camellia, DSA, RSA) and Suite B support including forward secrecy			
579.	The system must provide for SSL visibility Application Visibility and Monitoring, Analytics and a Performance dashboard			
580.	The system must provide for High-speed logging as well as support for sFlow Programmable Infrastructure			
581.	All devices must support a consistent CLI (Command Line Interface) across the entire product set			
582.	All devices must retain full CLI access for troubleshooting,			

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference	Proposed Brand & Country of Item
	management and configuration purposes even when controlled via a central management tool			
583.	SSL acceleration			
584.	<p>The solution should incorporate support for the following features:</p> <ul style="list-style-type: none"> · L7 DoS and DDoS detection including: HASH DoS, Slowloris, floods, Keep dead, XML bomb · Web scraping prevention · Automated attack defense and bot detection · Advanced protections against threats including: Web injections, data leakage, session hijacking, HPP attacks, buffer over flows, shellshock · Geolocation blocking · IP intelligence reputation services · SSL termination with re-encryption Security incident and violation correlation Client-side certification support · Client authentication · Database security · Response checking · Violation risk scoring · Web service encryption and decryption Device-ID detection and finger printing Live signature updates · WebSocket traffic filtering IP shunning (layer 3 blacklisting in HW) 			
	Support			
585.	The Supplier should propose the following Manufacturer Support for all the devices for a period of 12 months			
586.	Advanced Hardware Replacement - Next Business Day Support-12			

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference	Proposed Brand & Country of Item
	Months			
587.	<p>Supplier must submit the following Documents:</p> <ol style="list-style-type: none"> 1. Detailed Design & Architectural Document involving all the Solution Components proposed in this Section. 2. Data/Traffic Flows wherever applicable 3. Customized Technical Document detailing the functionality of the component with respect to the solution proposed. 			
588.	<p>Traffic Processing:</p> <p>L7 requests per second: a minimum of 600,000</p> <p>L4 connections per second: a minimum of 200K</p> <p>L4 HTTP requests per second: 1M</p> <p>Maximum L4 concurrent connections: 28M</p> <p>Throughput: A minimum of 20Gbps L4/L7</p>			
589.	<p>The Supplier is required to provide evidence of similar works accomplished, with evidence of having undertaken at least two assignment to deliver or provide on-going support for an enterprise Data Center Application Delivery Controller within the last five years. Evidence to this effect must be provided in form of signed contracts or purchase orders</p>			
590.	<p>The Supplier must be a certified reseller and must provide a copy of the certificate of Authorization. The vendor must provide a current, dated and signed authorization from the manufacturer that the vendor is an authorized distributor, dealer or</p>			

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference	Proposed Brand & Country of Item
	serviced representative and is authorized to sell the manufacturer's product			

3.2.6.8 Security Information and Event Management (SIEM)

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference	Proposed Brand & Country of Item
	General Requirements			
591.	The ability to collect various types of log data from a wide variety of sources.			
592.	The ability to collect log data with or without installing an agent on the log source device, system or application.			
593.	The ability to "normalize" any type of log data for more effective reporting and analysis.			
594.	The ability to "scale-down" or "scale-up" dependent upon the environment.			
595.	A role based security model providing user accountability and access control.			
596.	Automated configurable archiving for secure long-term retention of data and events as per SAO policy. The system should be able to archive different documents for different period of time (minimum average of 5 to 10 years, except a few cases). The documents requiring different periods of archiving will need to be classified as per the SAO policy. (Note: Retention and archiving of the information, data and or documents shall be governed by the applicable laws and regulations of the government of Afghanistan).			
597.	Cross-Platform Log Collection Requirements The system must be capable of performing cross-platform Log			

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference	Proposed Brand & Country of Item
	Collection for all servers and network devices			
598.	<p>Flat File Log Collection Requirements</p> <p>The system must be capable of performing log collection for Flat File Logs, including the following ;</p> <p>Web server logs (e.g. Apache, IIS.)</p> <p>Linux system logs</p> <p>DNS and DHCP server logs. (including Windows and Routers, switches)</p>			
599.	Activity auditing, including activities of firewalls, web Application Firewalls (WAFs) and intrusion Detection Firewalls (IDF) and systems (IDS).			
600.	The ability to alert for specific events from collected logs			
601.	General technology requirements			
602.	The supplier must define the solution system architecture, as well as hardware and other software requirements; provide a schematic diagram of the proposed system architecture, including a test environment configuration.			
	The solution must be fully 64 bit compliant.			
	The system must require to have administrative rights on the client machines to install any of the solution components.			
	The supplier must provide the network bandwidth requirements for their proposed solution, e.g. site-to-site,			
603.	The supplier must describe the system data archival and retention approach, and corresponding technology components, tools and features.			
604.	The supplier must specify whether or not a 3rd-party reporting tool is required or recommended for their solution. If yes, please identify the specific product and version.			

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference	Proposed Brand & Country of Item
605.	The supplier must provide specifications, supply and install the recommended hardware server, database server specifications including freeware, printer drivers, and versions.			

3.2.6.9 Database Activity Monitoring

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference	Proposed Brand & Country of Item
	Solution Architecture			
606.	<ul style="list-style-type: none"> • Explain and share the way solution is delivered: Physical appliance or o Virtual appliance • The solution should support external storage such as SAN for increasing audit storage in future. • The supplier must ensure that the system solution components can be centrally managed. • Explain if the solution is single tier architecture or multiple tier architecture • The system must support scaling horizontally or vertically • The system must have a standard browser interface for management and monitoring 			
	Database Discovery & Classification			
607.	<ul style="list-style-type: none"> • The system provide automated discovery of both new and existing database systems and it will map all of them that exists on the network. • The system must provide automated discovery of both new and existing database tables. • The system must be able to keep the historical information about the 			

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference	Proposed Brand & Country of Item
	<p>systems and their configuration.</p> <ul style="list-style-type: none"> • The system must show changes since the last scan. • The system must be able to identify rogue or test databases on the network. • The solution must be able to perform data discovery and classification on tables and views • The system must be able to detect sensitive data types, such as credit card numbers, email address, passwords etc., in database objects. Please provide list of out-of-box data types 			
	<p>Database Vulnerability Assessment, Risk Analysis and Reporting</p>			
608.	<ul style="list-style-type: none"> • List down the various regulatory requirements which are included out-of-box for pre-defined database vulnerability assessment policies. • List down various categories of vulnerabilities that are covered out-of-box. • The system must support custom assessment policies. • The system must be able to identify missing patches from the database servers. • The system must be able to verify that default database accounts do not have a “default” password. • The solution must be able to be used to measure compliance with industry standards and benchmarks such as DISA STIG and CIS. • The system must allow comparison of the results of a discovery, classification or assessment job with a previous run. 			

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference	Proposed Brand & Country of Item
	<ul style="list-style-type: none"> The solution must prevent attempts to exploit known vulnerabilities 			
	Database Activity Monitoring			
609.	<ul style="list-style-type: none"> Hardening measures must be taken in the solution itself whether self-contained appliance or stand-alone software. The system must be able to monitor local database activities and network-based database activities. If the solution is agent based, during normal operations, the agent must be able to write the captured database audit data to the database server. Data in motion must be encrypted among all solution components If the solution is agent based, the supplier must specify the overhead that will be there on the production DB servers If the solution is agent based, the supplier must ensure that we have minimum or no impact on DB servers The system must maintain the integrity of audit data stored on the solution. The supplier must list the various OS/platform (with versions) supported by the solution. List the various Database platforms (with versions) supported by the solution. The audit data is stored on the solution component or on the database server The system must require and rely on the use of native database audit 			

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference	Proposed Brand & Country of Item
	<p>functionality.</p> <ul style="list-style-type: none"> • The system must rely on transaction log auditing to capture or audit database activity. • The system must support data archive and restore audit data • The system must enforce separation of duties • List various parameters of SQL audit log captured by the solution: • The system must be able to capture chain of OS users in the audit log. • The system must be able to profile the behavior of different database users and baseline the default user behavior and identify database user activity/behavior deviation from the built baseline user behavior and alert on these deviations. • List the different database activity types solution can audit (like DML, DDL etc.) • The system must be sized to audit at least 100% of database traffic 			
	Database Security & Audit policies			
610.	<ul style="list-style-type: none"> • The solution must allow to create custom security policies based on the existing out-of-the-box policies • The system must support the editing and creation of security policies that is driven by a user-friendly UI. • The system must be able to create a security policy that can be applied across the entire environment on all of the different types of databases deployed (MSSQL, Oracle, DB2, MySQL, etc). • How can the signatures be customized 			

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference	Proposed Brand & Country of Item
	<ul style="list-style-type: none"> • List down the out-of-box policies 			
	<p>Alerting and Blocking capabilities</p>			
611.	<ul style="list-style-type: none"> • The alerting mechanism provided by solution is real-time, near real-time or with delay • Is the solution sized and licensed to block • The system must rely on database triggers to block the traffic • The solution must integrate with other SIEM seamlessly, out of the box without need for significant customizations. • The solution must support the creation of custom log messages and provide system variable placeholders mechanism to make this use case possible. • Out of band monitoring parameters must be in place • The supplier must specify the latency introduced due to network based blocking • Must have encryption performed by an advanced security option • Solution should provide a prevention control on privileged users in terms of accessing application data • Solution should enable segregation of duty in terms of account management, security administration and database administration • Solution should provide real time control for privileged users using different factor authorization capabilities • System should be certified with market leading applications 			

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference	Proposed Brand & Country of Item
	<ul style="list-style-type: none"> • Should not need application changes and to be transparently deployed • Real time controls with command rules and multi-factor authorization 			
	Database Breach Detection			
612.	<ul style="list-style-type: none"> • The solution must be able to identify data breaches by using the database audit. The breach detection requires use or creation of out-of-box or custom policies for different data breach scenarios. • List the various security use cases for data breach detection that can be achieved using the proposed solution 			
	Encryption Capabilities			
613.	<ul style="list-style-type: none"> • Encryption capability should be transparent to application in a way that no changes are required to be done on application level to accommodate with Encryption capability • System should provide capability to encrypt hot backups and dump files • Encryption should be provided in multi-algorithms to be selected from and to support Industry Standards • System should provide authentication capability using Kerberos, PKI, RADIUS • System must have SSL-based encryption. Encryption capability should provide multiple encryption-key support to be hold within unified directory 			
	Data Masking			

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference	Proposed Brand & Country of Item
614.	<ul style="list-style-type: none"> • Protect sensitive information when copying production data into non-production environments for the purposes of application development, testing or data analysis • Provides a centralized library of out-of-the-box mask formats for common types of sensitive data, such as credit card numbers, phone numbers, national identifiers • "Search capabilities, information security administrators can quickly search the database to identify sensitive data" • Provides a variety of sophisticated masking techniques to meet application requirements while ensuring data privacy • Ensures that a set of related columns is masked as a group to ensure that the masked data across the related columns retain the same relationship. • Sensitive data would never leave the database during the masking process 			

3.2.6.10 End Point Security

Suppliers shall supply an end security solution to cover 500 end points/users with conformity to the following specifications

Serial No.	Minimum Technical Specifications requirement	Compliant (Y/N)	Detailed response with cross-reference	Proposed Brand & Country of Item
	General Requirements			
615.	Potentially Unwanted Application (PUA) Blocking			

Serial No.	Minimum Technical Specifications requirement	Compliant (Y/N)	Detailed response with cross-reference	Proposed Brand & Country of Item
616.	Crypto-Guard Anti-Ransomware			
617.	Server Whitelisting (Server Lockdown)			
618.	Potentially Unwanted Application (PUA) Blocking			
619.	Crypto-Guard Anti-Ransomware			
620.	Server Application Whitelisting (Lockdown)			
621.	Deep Learning Malware Detection			
622.	Off-board scanning for VMs (ESXi and Hyper-V)2			
623.	Synchronised Security with Security Heartbeat™			
624.	Anti-Malware File Scanning			
625.	Live Protection			
626.	Malicious Traffic Detection			
627.	Automated Malware Removal			
628.	Behaviour Analysis/HIPS			
629.	Central Endpoint Management			
630.				

3.2.6.11 Secure Internet (Web) Gateway

Serial No	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference	Proposed Brand & Country of Item
	General Requirements			
631.	The System must be a dedicated secure web gateway and not bundled with a UTM firewall solution. Secure Web gateways (SWG) utilize URL filtering, advanced threat defense, legacy malware protection and application control technologies to defend users from Internet-borne threats and to help enterprises enforce Internet policy compliance.			
632.	The supplier must demonstrate how the SWG achieves the following key requirements: <ul style="list-style-type: none"> • URL filtering • Anti-malware protection • Application control capabilities 			
633.	The system for SWG must be implemented as on-premises appliance (hardware and virtual).			
634.	The system must offer comprehensive Application control, which includes granular social media controls and social media archiving. It should be able apply granular policies to Weibo, Facebook and other Web-based applications, and it also has developed network signatures to block port- evasive applications like BitTorrent and Skype.			
635.	The system must have support for authentication via Security Assertion Markup Language (SAML) for integrated Single Sign on			
	The System must have strong support for SSL/TLS content inspection, include SSL hardware assist to			

Serial No	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference	Proposed Brand & Country of Item
	offload processing from the main CPU.			
	The system must have modules to enables flexible and granular bandwidth control capabilities based on any kind of user classification. Bandwidth utilization parameters can be specified for uplink and downlink traffic			
	The solution must have multiple authentication and directory integration options			
	The solution should have support for 300 users and fully licensed for 3 years including necessary vendor support			
636.	The internet gateway design must have redundant routers ready to aggregate different internet links providing load balancing features and fail over.			
637.	The system must support PIM (Multicast) in both Dense and Sparse mode.			
638.	The system must provide support for ATM interfaces concurrently.			
639.	The system must provide Frame Relay interfaces concurrently.			
640.	The system must support standards-based VPNs using IP Security, Layer 2 Tunneling Protocol (L2TP), Layer 2 Forwarding Protocol (L2F), generic routing encapsulation (GRE), and multiprotocol label switching (MPLS) virtual private networks (VPNs).			
641.	The device should function as a remote access device for mobile connectivity.			
642.	The device should offer hardware encryption options.			
643.	The device should support VPN			

Serial No	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference	Proposed Brand & Country of Item
	access.			
644.	The device should support dynamic VPN addressing.			
645.	The device should support inter-virtual LAN (VLAN) routing.			
646.	The device should support routing with bandwidth management.			
647.	Scalability			
648.	Hardware CPU offload “services” cards should be available for CPU load reduction.			
649.	The core router must be modular and have a scalable architecture.			
650.	The system must support hardware data compression and encryption.			
651.	Performance			
652.	The system must provide scalable IP routing performance.			
653.	Management			
654.	The device should support a regression to a previous version of software stored on the device itself.			
655.	The device should support a text-based configuration and backup utility.			
656.	The device should support environmental monitoring.			
657.	The device should support network management and monitoring protocols such as SNMP, RMON, NTP, and syslog.			
658.	The device should provide detailed traffic accounting and billing information.			
659.	The system must support RADIUS, TACACS+, or Kerberos.			
660.	The system must support the ability to upgrade software remotely.			
661.	The device should support access control.			

Serial No	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference	Proposed Brand & Country of Item
662.	The device should support multiple levels of access.			
663.	The device should provide the ability to re-use modules in the event that the platform is upgraded or replaced.			
664.	The device should support the ability to perform remote software upgrades.			
665.	The device should support the ability to store applications in flash memory.			
666.	Security			
667.	The device should support intrusion detection / prevention services.			
668.	The device should support integrated stateful firewall services.			
669.	The device should support Reverse Path Forwarding.			
670.	The device should offer secure access options.			
671.	Concurrent Services			
672.	The device should support hierarchical quality of service (QoS).			
673.	The device should be able to intelligently identify and classify using Network Based Application Recognition (NBAR).			
674.	The device should support voice / data services integration.			
675.	The device should support both analog and digital dial-access services.			

3.2.6.12 Hyper Convergence Infrastructure

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference	Proposed Brand & Country of Item
676.	General Requirements			
677.	Every HCI Node must be an HCI APPLIANCE. Node should be having Hyper Converged software that			

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference	Proposed Brand & Country of Item
	allows delivery of enterprise-class storage services using latest x86 server infrastructure without dependence on a separate Storage Area Network (SAN) and associated components such as SAN Switches and HBAs			
678.	The HCI system must contain a simplified provisioning and administration of virtual networking through a centralized network management software			
679.	The system must have a centralized console to provide control and visibility for the entire virtual infrastructure			
680.	The system must provide a tool based physical-to-virtual conversion to migrate existing physical workloads to the virtual platform with minimal disruption			
681.	The solution should deliver zero data loss capability in case of disk, host, network or Rack power failure			
682.	Supplier should provide OEM services for configuration, implementation of entire HCI Solution, configuration of backup, setting up replication and failover-failback			
683.	HCI Node Specifications			
684.	Compute			
685.	The solution should be scalable in a non- disruptive manner by adding additional nodes to the cluster at a later point of time without having to power down any nodes			
	Scale hyper converged node (compute + storage), compute-intensive or			

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference	Proposed Brand & Country of Item
	storage- intensive independent of each other should be supported			
	In the event of a node failure, virtual machines should automatically run on another node			
	The system must provide the ability to scale-up (by adding more disks to existing nodes) or scale-out (by adding more nodes to the cluster) in terms of storage and compute			
686.	The solution must be able to sustain one node failure and it shall in no way affect/degrade the production services & usable resources and applications			
687.	The system must provide the ability to create rapidly on-board new hosts to the data center platform by automatically deploying reference configurations including networking settings			
688.	The system must provide guidance on right-sizing, resource consumption, risks and future issues that are unique to every data center environment			
689.	The system must provide the ability to hot-add cpu and memory and hot-plug disks and NICs (provided the same is supported by the guest operating system). This should be via GUI.			
690.	Network and Security			
691.	The system must have dynamic routing between virtual networks			
692.	Each Hyper Converged node should provide minimum 40Gbps SFP+ networking ports			
693.	IPv6 support for hypervisor and VM guests			
694.	Must have support for 10GbE and 1GbE NICs			

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference	Proposed Brand & Country of Item
695.	Must have separate networks for virtual machine and management traffic			
696.	Must support for Virtual Distributed Switch (VDS) and Network I/O Control (NOIC)			
697.	Placement of data in physical proximity to the application thus reducing overall network utilization and latency. Data re-localization to maintain network efficiency when VM moves to another node in the cluster			
698.	Hypervisor Support			
699.	Support for all mainstream hypervisors (ESXi, Hyper-V, KVM, XenServer) giving customers choice and avoiding vendor lock-in.			
700.	Official support for mainstream hypervisors (ESXi, Hyper-V, KVM, XenServer)			
701.	Single management interface for multiple hypervisor deployments			
702.	Must have ability to convert cluster from one hypervisor to another on the fly without data movement			
703.	Ability to mix different hypervisors between primary and DR datacenters (i.e. use an alternate hypervisor as a DR target)			
704.	Scalability			
705.	Provides a flexible pay-as-you-grow deployment model that enables customers to expand cluster resources to meet real-time business demands with predicable linear scale while completely eliminating 3-5 year planning cycles, expensive over-provisioning and forklift upgrades forever.			
706.	Ability to add nodes non-disruptively			

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference	Proposed Brand & Country of Item
707.	Ability to remove nodes non-disruptively			
708.	Ability to scale-out one node at a time			
709.	Ability to expand cluster resources in a scale-out model with predicable linear performance			
710.	Ability to scale storage capacity independent of compute Platform scalability beyond hypervisor limitations (i.e. >64 nodes) Management tool is built into the distributed system and scales with the cluster			
711.	All cluster nodes participate in a disk rebuild operation and disk rebuilds get more efficient as the cluster scales			
712.	Management			
713.	Supports management shifts from infrastructure focused management to an application or VM-centric focused design.			
714.	Consumer Grade (designed to be simple and requires no specific knowledge of underlying infrastructure)			
715.	Application / VM-centric Design			
716.	Core management tasks completed in a single management tool			
717.	Single management tool supports multiple clusters in multiple geographic locations			
718.	Single management tool supports any hypervisor and manages mixed hypervisor environments			
719.	Management tool provides visibility of network infrastructure			
720.	Management tool deployment architecture is highly available by design			

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference	Proposed Brand & Country of Item
721.	Management tool is built into the distributed system, scales with the cluster, and does not require separate hardware infrastructure			
722.	Platform includes a sizer feature to ‘right-size’ the initial configuration to support desired workloads			
723.	Management tool includes a capacity planning feature to ‘right size’ expansion to support application growth and addition of new workloads.			
724.	Management tool provides Predictive Analysis and Capacity Optimization			
725.	Management tool supports customizable dashboards			
726.	Management tool has ‘Google Like’ search capabilities			
727.	Support for Rest APIs			
728.	Support for Powershell cmdlets			
729.	Self-Healing and Non-Disruptive Updates			
730.	The Hyper-converged system must have autonomous healing and non-disruptive updates.			
731.	Ability to automatically recover from failures without user intervention (disk, node, etc.)			
732.	Ability to automatically re-direct IO to another controller VM in the event the local CVM goes offline (autopathing)			
733.	Ability to update hyper-converged system software in 1-2 clicks with no impact to running workloads			
734.	Ability to update host hypervisor in 1-2 clicks with no impact to running workloads			
735.	Ability to update hardware firmware in 1-2 clicks with no impact to running workloads			

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference	Proposed Brand & Country of Item
736.	Ability to perform updates from a single management interface without need for 3rd party tools			
737.	Data Protection and Recoverability			
738.	Supports distributed data protection and recoverability features			
739.	Support for multiple data resiliency options in a single cluster (e.g. Replication Factor 2 or 3)			
740.	Ability to set custom RF level for each workload across the cluster			
741.	Software defined resiliency across distributed system (as opposed to local hardware defined RAID)			
742.	Support for synchronous and asynchronous data replication			
743.	Integrated VM/virtual disk level backup and recovery solutions			
744.	Official support from mainstream enterprise data protection software (Commvault, Veeam, etc.)			
745.	Support for native snapshot based backups at VM and virtual disk level			
746.	Disk from across the cluster participates in a disk rebuild operation and disk rebuilds get more efficient as the cluster scales			
747.	Self Service Granular Restore (e.g. users can restore individual files from a local VM snapshot without admin involvement)			
748.	Capacity Optimization			
749.	Support for enterprise class storage technologies that drive efficient storage utilization and maximize data efficiency.			
750.	Deduplication (storage capacity savings for workloads with redundant data sets)			

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference	Proposed Brand & Country of Item
751.	Compression (storage capacity savings for workloads with binary level redundancy with data blocks)			
752.	Erasure Coding (capacity efficient data resiliency)			
753.	Auto-Rebalancing of data across the cluster (eliminating hotspots and enabling efficient flash wear leveling)			
754.	Supports Thin Provisioning			
755.	Enables reduction in data center footprint (Rackspace, power, cooling) over traditional 3-tier architecture			
756.	Single Platform For All Workloads			
757.	Provides a single platform that can run all workloads, reduce infrastructure complexity and eliminate resource silos.			
758.	Eliminates the need for application specific storage devices (SAN, NAS, DAS) and associated resource silos			
759.	Single product roadmap for entire solution, eliminating complex multi-vendor solutions with disjointed roadmaps and conflicting priorities			
760.	True single support organization for entire solution			
761.	Support for mainstream database software and application middleware			
762.	Customer references and case studies for all major applications			
763.	Multi-Site			
764.	Support for enterprise class features that enable multi-site configurations.			
765.	Support for Stretch or Metro Clustering across a WAN or metropolitan area network			
766.	Support for synchronous and asynchronous replication between sites			

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference	Proposed Brand & Country of Item
767.	Supports automated site-to-site failover and failback			
768.	Support for non-identical server and storage configurations in the remote site			
769.	Replication at a VM or Virtual Disk Level (as opposed to LUN/Volume granularity)			
770.	Support for Cross Hypervisor Backup and Disaster recovery			
771.	Public Cloud Readiness			
772.	Ability to seamlessly integrate with public and hybrid clouds and manage any workload regardless of where it operates.			
773.	Ability to run hyper-converged software in the public cloud			
774.	Ability to use the best CSP as a target for long-term data retention for backup, disaster recovery, and archival as per SAO policy.			
775.	Fully integrated cloud based backup with no cloud-specific management tools required			
776.	Security			
777.	Features to ensure the hyper-converged platform is secure.			
778.	Platform hardened by default in code (instead of manually hardened after deployment)			
779.	Has multifactor authentication for management interface			
780.	Allows logging and auditing of all administrative actions with mechanism to ensure log integrity			
781.	Enables encrypted management traffic by default			
782.	Has support for Self-Encrypting Drives (validated to FIPS 140-2 Level 2 Compliant)			

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference	Proposed Brand & Country of Item
783.	Has Self-Remediating Security Automation (system automatically reverts back to approved secure state at designated interval)			
784.	Fully automated Security Technical Implementation Guide (STIG) compliance			

3.3 Ancillary Hardware Specifications

3.3.1 Shared Data Storage Devices:

3.3.1.1 Storage Area Network (SAN)

SAN		Number : 1	Proposed Brand & Country of Item
Requirement	Minimum Specification	Vendor Proposed Specification	
Type	Fiber Channel Based		
OS Support	Compatible with all OS software proposed in this tender , compatibility with Microsoft Windows Server all versions , Linux		
Storage Capacity	Min 6 TB SAS in RAID level 5 Expandable to minimum 15 Terabyte		
Storage Expansion Options	Yes		
Controller Cache	1 GB per controller		
Scalability	Up to 48 drives in storage array		
RAID Controller	Dual Active		
RAID Levels	RAID 0,1,3,5 ,6 and 10		
Host Connect	Two 4 Gb Fibre Channel ports per controller		

LUN	Min 512 LUNs LUN sizes upto 16 TB LUN expansion and deletion support		
Management	Web GUI , CLI 10/100 Ethernet SNMP , SSL SSH SMTP , HTTP support via CLI software		
Hot Plug Support	Expansion and Replacement for redundant controllers , enclosures, fans , power supplies , I/O modules		
Fans and power supplies	Dual-redundant, hot swappable		
Rack support	Yes		
Management Software	Yes (Supported Software)		
Firmware upgradable	Yes		
Vendor Proposed Candidate Hardware (Please quote exact Brand and Model)			
Price			
Total Cost			

3.3.1.2 SAN Switch

SAN Switches		Number : 2	Proposed Brand & Country of Item
Requirement	Minimum Specification	Vendor Proposed Specification	
Number of Ports	12 autosensing ports (1, 2 or 4Gb self-configuring). Programmable to fixed port speeds of 1 Gb, 2 Gb or 4 Gb. SFP Media Types		
Type	Support for Multivendor server / storage environments		
Fiber Channel Switch	Yes		

Fiber Channel SFPs	4 GB		
Advanced Fabric Services	ISL Trunking (optional) Hardware Enforced Zoning Web Tools Enhanced Group Management		
Management Features	Radius API IP SNMP 100/100 Ethernet (RJ-45) , serial Port		
AC Power Supply	Yes		
Vendor Proposed Candidate Hardware (Please quote exact Brand and Model)			
Price / SAN Switch			

3.3.1.3 Tape Library & Tapes

Tape Library		Number : 1	Proposed Brand & Country of Item
Requirement	Minimum Specification	Vendor Proposed Specification	
Type	Fiber Channel Connected Tape Library		
Tape Drives	2 x LTO4 FC 4 Gb drives		
Tapes	80 x pack LTO4 Media , 800 GB Capacity/tape 2 x LTO Cleaning Cartridge		
Minimal Number of Slots	48		
Drive Interface	> 4 Gbit/s Fiber channel		
Capacity	Minimum 38.4 TB Native		
Transfer Rate	> 432 GB/hr		

Certification	Certified for standard industry leading backup software and SAN- support		
Vendor Proposed Candidate Hardware (Please quote exact Brand and Model)			
Price (Inclusive of proposed Data backup Management Software)			

3.3.1.4 Hyper Convergence Infrastructure (HCI) Node

HCI Appliance		Number of HCI: 1	Proposed Brand & Country of Item
Requirement	Minimum Specification	Vendor Proposed Specification	
<i>Processor</i>	Intel Xeon Scalable Processors of at least 8000, Skylake or substantially equivalent		
No of Processors per node	2		
No. Of Cores	>=24		
No. of Threads	>=2 per Core		
Processor Base Frequency	>= 2.3 GHz		
Memory	>=768 GB Memory with 32 GB DDR4 Modules @2400 MHz or Higher		
Storage	>=100 TB useable disk capacity per node without data de-duplication and compression. Storage shall be configured using enterprise grade SSD disks of capacity <=4TB per disk. Additional storage capacity overhead if any (for ex. Cache etc.) shall be sized and provisioned additionally by the		

	<p>bidder to meet the requirement. In case of one node failure ≥ 54 TB total useable disk capacity should be available at MR1 site without data de-duplication and compression in proposed HCI solution. In case of one node failure at MR2; ≥ 36 TB total useable disk capacity should be available at MR1 site without data de-duplication and compression in proposed HCI solution. Supports zero data loss in case of minimum one disk failure per node.</p>		
Cooling	<p>Hot swap fans, N+1 redundant, $N \geq 1$. N fans running should allow the fully loaded server without any performance or capacity degrade at full computational load.</p>		
Power	<p>Minimum N+1 redundant, hot swappable, $N \geq 1$ where N power supply modules are sized to power fully loaded server running at full computational load without any capacity or performance degrade.</p>		
Vendor Proposed Candidate Hardware (Please quote exact Brand and Model)			
Price / HCI Node			
Total Cost			

3.3.1.5 IP Phone Server (Call manager /agent)

VOIP Call manager server	VOIP Call manager: 2	Proposed Brand &
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Requirement	Minimum Specification	Vendor Proposed Specification	Country of Item
Type	VoIP phone server		
Processor	2 vCPU with 800 MHz reservation		
Memory	6 GB with 6 GB reservation		
Disk	250 GB disk with pre-aligned disk partitions		
Number of users	Up to 2500		
Activation Code Based Device On-Boarding	Yes		
Jabber Configuration File Management	Yes		
CMR for SIP Trunk Calls	Yes		
RFC 2833 on Conference Bridge	Yes		
Native Voice XML	Native Voice XML support for Mobile Voice Access		
Search Conference Rooms via UDS Proxy	Yes		
Other Features	Anonymize External Name and Number		
Security and Compliance	OAuth Support for SIP Line Side Call Recording for Authenticated Calls Elliptic Curve Cryptography Support Granular Access Control		
Vendor Proposed Candidate Hardware and bundled software (Please quote exact Brand and Model)			
Price / unit			
Total Cost			

3.3.2 Shared Output and Input Devices:

3.3.2.1 General Requirements: Unless otherwise specified, all shared output and input devices must be capable of handling A4 standard sized paper.

3.3.2.2 All-in-one Printers/scanner: Seven (7) *High-speed, high-quality printers to be provided*

1. MFP High Speed Scanners + Printers (All-in-one) for SAO and Field Audit Offices

MFP High Speed Scanners + Printers (All-in-one) for SAO and Field Audit Offices		Number of Scanners: 30	Proposed Brand & Country of Item
Requirement	Minimum Specification	Vendor Proposed Specification	
Type	Flatbed, MFP, B/W Multifunctional for A4/A3 format		
ADF Scan speed	Up to 25 ppm Colour: Up to 180 images per minute, b/w: 180 image per minute, (A4, 300dpi with DP-7110)		
Scan size	Up to A3, Banner up to 1,900 mm with optional Document Processor		
ADF Capacity	Up to 500 sheets facedown, max. output capacity 4,300 sheets		
Engine capacity	Up to 40/21 pages per minute A4/A3 in colour and b/w		
Copy	Digital copy features 1-999 continuous copy		
Paper handling	Upto 150-sheet multipurpose tray, 52 – 300 g/m ² (Banner 135 – 165 g/m ²), A6R – SRA3 (320 x 450 mm), Tab paper (136 – 256 g/m ²), Banner max. 320 x 1,220 mm; 2x 500-sheet universal paper cassette, 52 – 300		

	g/m ² , upper cassette A6R up to A4R, lower cassette A6R up to SRA3		
Optical resolution	Up to 4800 dpi		
Scan resolution	1200 x 1200 dpi (print, at reduced speed) 600 x 600 dpi (scan/copy)		
Bit depth	48-bit		
Other	Multipage document, Two-side scanning capability Networking capability Remote printing		
	Scan to email, Scan to FTP, Scan to SMB, Scan to USB Host, Scan-to-box, Network TWAIN, WSD scan		
General memory	Upto Standard 2048 MB, 8 GB SSD + standard 320 GB HDD		
Time to first print	Approx. 4.2 seconds or less		
Vendor Proposed Candidate Hardware (Please quote exact Brand and Model)			
Price / Scanner			

2. Portable Scanners for Field Audit Parties

Portable Scanners For Field Audit Parties		Number of Scanners: 100	Proposed Brand & Country of Item
Requirement	Minimum Specification	Vendor Proposed Specification	
Type	Flatbed or handheld		
Max Grey depth	8-bit 256 grey levels		
Interface type	USB 2.0		
Max Colour depth	24-bit 16.7M colours		
Style	Portable		
Vendor Proposed Candidate Hardware (Please quote exact Brand and Model)			
Price / Portable Scanner			

3.3.3 Power/Air Conditioning Devices:

3.3.3.1 Air-conditioning & installation Works, Video Surveillance and Biometric/Swipe Card Access, at PDC

3.3.3.2 Vendor will be required to provide cooling and air conditioning suitable for the servers and systems at PDC. The vendor may visit the proposed data center site and submit the Air conditioning and other related cost in the below field. The Video Surveillance and Biometric /Swipe Card Access solutions should also be proposed, suitable for the PDC

Air Conditioning installation Works, Video Surveillance and Biometric/Swipe Card Access Equipment and Installation	Total Cost: -----
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3.3.3.1 Uninterruptable Power Supplies: *These should be delivered according to the specifications below:*

1. UPS for PDC

UPS		Number of UPS: 2	Proposed Brand & Country of Item
Requirement	Minimum Specification	Vendor Proposed Specification	
Output Power Capacity	45KVA/40Kw		
Power factor (minimum)	80% (Not less than 0.8 lagging).		
Desired run time	3 Hours		
Desired run time (at full load)	2 Hours		
Future expansion	30%		
Input Voltages	150-285 V		
Output Voltage	220/230/240 V		
Frequency	50 Hz		
Built-in feature	SNMP, environmental control, RS-232		
Redundant Bypass kit	Automatic		
Batteries recharge time (up to 90%)	3 hrs.		
Hot-swappable Batteries	Yes		
Failover capability	Yes		
Network Shutdown Software for Windows and Linux	Yes		

Vendor Proposed Candidate Hardware (Please quote exact Brand and Model)		
Price		

2. Other Smaller UPS for Offices

UPS		Number of UPS: = 4	Proposed Brand & Country of Item
Requirement	Minimum Specification	Vendor Proposed Specification	
Output Power Capacity	1000 VA		
Desired run time (at full load)	15 minutes		
Input Voltages	150-285 V		
Output Voltage	220/230/240 V		
Frequency	50 Hz		
Waveform type	Pure sinewave		
Batteries recharge time (up to 90%)	3 hrs.		
Hot-swappable Batteries	Yes		
Rack mountable	Yes		
Communication	USB , RS 232		
Temperature Environment Supported	0-40 Degree Centigrade		
Software	Power Management CD , Compatible with Microsoft Windows operating system		
Vendor Proposed Candidate Hardware (Please quote exact Brand and Model)			
Price			

3.3.4 Specialized Furnishing/Equipment:

3.3.4.1 Equipment Cabinets/Server Racks: *The racks will be supplied according to the specifications or better*

Server Racks for Primary Data Centre and Secondary Data Center		Number of Racks:8	Proposed Brand & Country of Item
Requirement	Minimum Specification	Vendor Proposed Specification	

Rack Height/Type	48U		
Hosts per Rack	>8		
Colour	Black		
Perforated Front and Rear Doors	Yes		
Additional Support	Baying hardware, Documentation CD, Key(s), Keyed-alike doors and side panels, Levelling feet, Mounting Hardware, Pre-installed casters, Side Panels		
Detailed Specs	<ul style="list-style-type: none"> • Net Depth with Stabilizing Feet: 50.30 in. (1278 mm.) • Net Weight: 275.20 lbs. (125.10 kg.) • Weight Capacity (static load): 3000.00 lbs. (1363.64 kg) • Weight Capacity (dynamic load): 2250.00 lbs. (1022.73 kg) • Minimum Mounting Depth: 7.52 in. (191 mm) • Maximum Mounting Depth: 36.02 in. (915 mm) • Rack Height: 42U • Colour: Black • Vertical Posts: 16 gauge • Front Door: 16 gauge • Rear Door: 18 gauge • Roof: 18 gauge 		

	<ul style="list-style-type: none"> EIA Mounting Rails: 14 gauge Side Panels: 18 gauge Regulatory Approvals: EIA-310-D 		
Vendor Proposed Candidate Hardware (Please quote exact Brand and Model)			
Price / Rack			

3.3.5 Notebooks/Laptop computers for field auditors

Laptop/ Notebook	Number/Quantity	140	Proposed Brand & Country of Item
Requirement	Minimum Specification	Vendor Proposed Specification	
Processor and core logic	10th Gen Intel Core i7-10510U Processor or Higher		
System memory	16GB DDR4 Memory or higher		
Storage subsystem/Hard Disk	At least M.2 512GB PCIe NVMe Class 40 SSD or significant equivalent		
Form Factor	SSD Form factor M.2, with finger print reader, 13.03 x 8.7 x 0.67 inches		
Display	14.0 FHD (1920 x 1080) Touch Display		
Graphics Card	Intel HD graphics 520 with Displayport over USB Type-C		
Keyboard and pointing device	Dual Pointing, 82 key with Smartcard, Contactless Smartcard, Fingerprint Reader, Thunderbolt3		
Audio	Stereo audio system		
Communication interface	Gigabit Ethernet		
Interfaces	1xPS/2 compatible mouse or USB 1Xrj45 jack for Ethernet 1x External VGA port		
Webcam	1.3MP or more HD with dual array digital microphones		

Connectivity	USB-C ports (2), Wireless LAN Type IEEE 802.11b/g/n/ac, Bluetooth 4.1 HDMI 1.4 or more USB 3.0 (Always On) 2 x USB-C/Thunderbolt 3/DisplayPort Headphone/microphone combo jack		
Media card reader	MMC, SD, xD, MS, MS Pro, MS Duo, MS Pro Duo		
Weight	3.01 lbs		
Service and support	At least 3 Year service warranty on parts		
Carry case	X1 with sufficient Padding for Protection		
Power supply	Input AC 220 V (50 Hz), output 65 Watt, 20 V, 3.25 A, with 2 pin and compatible with Afghanistan power ratings and plug types (C/F)		
Battery	3 Cell 60 Whr Long Life Cycle Battery with 3 year warranty		
Manufacturer warranty	At least three (3) Year manufacturer warranty on hardware		
Operating System	Windows 10, Pro 64-bit with Microsoft Genuine license key		
Other Software	Latest version of Microsoft Office (2019) with Original License key, Original Drivers and Installation/recovery DVDs Latest Version of Either Kaspersky or ESET anti-virus with licensed CDs/DVDs Personal firewalls installed Host based Intrusion detections software installed		
Vendor Proposed Candidate Hardware (Please quote exact Brand and Model)			
Price / Notebook			

3.3.6 SIEM Appliance

SIEM appliance	Number/Quantity	1	Proposed Brand & Country of Item
Requirement	Minimum Specification	Vendor Proposed Specification	
Processor capacity	15,000 EPS, 300,000 FPM		
System memory	64 GB 2400 MHz DDR4 RDIMM		
Interfaces	Four network interfaces 2 x 8 Gbps Fiber Channel HBA ports 4 x 10/100/1000 Base T Ethernet interfaces 1 x 10/100/1000 Base-T integrated management module interface 2 x 10 Gbps SFP + Ethernet ports		
Storage	10 x 2.5 inch 1 TB 7.2 K rpm NL SAS, 8 TB total (RAID 6), 5.6 TB available to store event and flow data		
Power supply	Dual redundant 750W AC power supply		
Components	Event Collector Event Processor for processing events Internal storage for events Data Node appliance		
Network management transceivers	2 x 10 Gb Short Range SFP+ management ports, Avago AFBR-709SMZ-IB8 or Finisar FTLX8571D3BCL-BN or BNT BN-CKM-SP-SR 2 x 16 Gb Fiber Channel SFP+ Installed in Emulex Card		
Other Software	Relevant software bundled with the appliance (as per SIEM software specifications)		
Vendor Proposed Candidate Hardware (Please quote exact Brand and Model)			
Price / unit			

3.3.7 Wireless Access Points

Wireless Access Points - Enterprise	Number/Quantity	20	Proposed Brand &
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Requirement	Minimum Specification	Vendor Proposed Specification	Country of Item
Type	Enterprise, with roaming support (can be either controller-less or supports any type of controller)		
Capacity	Supports up-to 500 clients		
Roaming support	Yes		
Interfaces	<ul style="list-style-type: none"> ● 1x 100, 1000, 2500 Multigigabit Ethernet (RJ-45) – IEEE 802.3bz ● Management console port (RJ-45) ● USB 2.0 @ 3.75W (enabled via future software) 		
Target time awake	Yes		
Bluetooth	Yes		
Wifi 6 certifiable	Yes		
Radios	At-least our radios: 5 GHz (4x4) Flexible radio with 2.4 or 5 GHz (4x4) and Unified RF Engine Dual 5-GHz radio support		
Multigigabit Ethernet support	Yes, uplink speeds of upto 2.5 Gbps including 100Mbps and 1 Gbps 10GBASE-T (IEEE 802.3bz) and Category 5e		
Frequency support	OFDMA and MU-MIMO,		
802.11n v2.0 ac/ax/	Yes, 4x4 downlink MU-MIMO with four spatial streams, CSD support		
Wireless standards	IEEE 802.11a, 802.11b, 802.11g, 802.11d, WMM/802.11e, 802.11h, 802.11n, 802.11k, 802.11r, 802.11u, 802.11w, 802.11ac Wave1 and Wave2		
BSS coloring	Yes		
Antennas	Integrated Internal and external, with flexible radio either on 2.4GHz or 5 Ghz 2.4 GHz, peak gain 4 dBi, internal antenna, omnidirectional in azimuth		

	Supports Self-Identifiable Antennas (SIA) on one RP-TNC port		
Smart antenna connector	Yes		
Vendor Proposed Candidate Hardware (Please quote exact Brand and Model)			
Price / unit			

3.3.8 Wireless Controllers (Only, if the wireless access point above can be run without controller or has inbuilt controller)

Wireless Controller	Number/Quantity	2	Proposed Brand & Country of Item
Requirement	Minimum Specification	Vendor Proposed Specification	
Type	Fixed, always on and must be compatible with proposed wireless access points		
Features	Built-in security: secure boot, runtime defenses, image signing, integrity verification, and hardware authenticity Automated device provisioning		
Hard Disk Drives (HDD)	<ul style="list-style-type: none"> • SATA Solid-State Drive (SSD) • 240GB of memory 		
Capacity	Upto 2000 access points and over 5,000 clients		
Through put	Upto 40Gbps		
Maximum VLANs/WLANs	Upto 4000		
Site tags	Upto 2000		
Flex Aps per site	100		
Roaming support	Yes		
Bidirectional rate limiting	Yes		
Guest services	Wireless + Wired		
Integrated wireless policy engine	Yes		

Mobility	Yes		
Interfaces	4x 10 GE/1 GE SFP+/SFP		
Security	Encrypted Traffic Analytics (ETA)		
Power supply	AC power with optional redundant AC power		
APIs	Yes, open and programmable APIs		
Wifi 6 certifiable	Yes		
Throughput	At least 5Gps throughput		
License	Smart license enabled		
Multigigabit Ethernet support	Yes		
Frequency support	OFDMA and MU-MIMO,		
Form factor	1RU		
Vendor Proposed Candidate Hardware (Please quote exact Brand and Model)			
Price / unit			

3.3.9 IP Phones for VoIP System

Wireless Controller	Number/Quantity	100	Proposed Brand & Country of Item
Requirement	Minimum Specification	Vendor Proposed Specification	
Display	5.6-inch (14 cm) graphical TFT color touchscreen display, 16-bit color depth, 320 x 240 effective pixel resolution, with backlight.		
Ethernet Switch	Internal 2-port Ethernet switch which allows for a direct connection to a 10/100/1000 BASE-T Ethernet network through an RJ-45 interface with single LAN connectivity for both the phone and a colocated PC		
Security	Positive device identity through X.509v3 Certificates, digitally signed images, cryptographically secure provisioning, and secure signaling and secure media with AES-128		

Signaling Protocols	Skinny Client Control Protocol (SCCP) and Session Initiation Protocol (SIP)		
Vendor Proposed Candidate Hardware (Please quote exact Brand and Model)			
Price / unit			

3.5 Consumables

- 3.5.1 A list of consumables and prices to be provided for a 3 years operation.
 3.5.2 A list of spare parts and prices to be provided for a 3 years operation.

3.6 Other Non-IT Goods

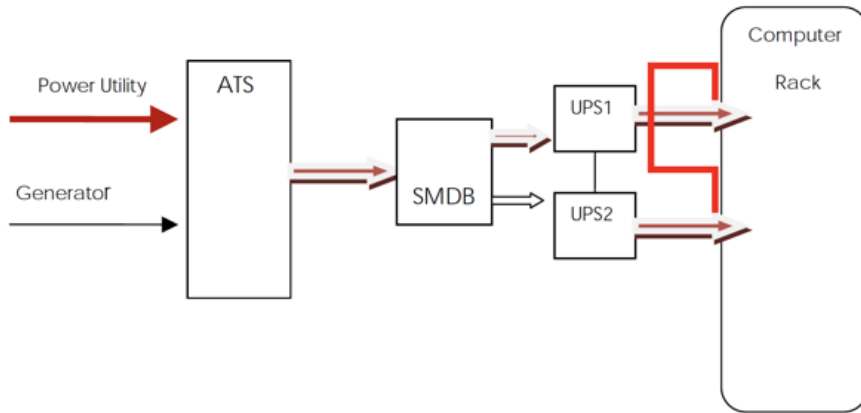
3.6.1 Requirements for the Data Center

3.6.1.1 Data Center Cooling

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference
	General Requirements		
488.	The Supplier should clearly provide the design and solution to supply and install High Performance Air Cooling Machines consisting of direct expansion units with air-cooled condensers to control temperature and humidity.		
489.	The units shall be Close Control down flow Air Conditioning units each having a minimum Sensible Cooling Capacity of 28.4 KW complete with Humidifier installed in the data hall.		
490.	The units shall meet the following: <ul style="list-style-type: none"> • System to have Microprocessor control compatible to BMS with digital / touch pad and alert for alarms. • Provision for fire alarm interface, water detection alarm. • Have Electronic controlled (EC) fan technology 		
491.	The air-conditioning system shall comprise of DX based digital Scroll compressor with electronically controlled evaporator, system with Electronic Controlled motors, and associated electrical work		
492.	The precision air conditioning system for Data hall shall comprise of floor discharge type precision air conditioning units. Cooling shall be via the raised floor through perforated tiles in the front of rows forming a cold/hot aisle arrangement.		
493.	Supply, Testing and Com missioning of Close Control A/C unit		

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference
494.	Installation of the above refrigerant R22 mentioned A/C Units Including Piping, refrying Vacuum and the Pressure test and relevant connections		
495.	Electrical Cabling from Indoor to Outdoor Units		
496.	Outdoor and Indoor Platform for A/C		
497.	Cable trays for Power, AC and Network cabling		

Data Center Power



Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed explanation with cross-reference/evidence
498	General Electrical Requirements		
499	Suppliers shall ensure that Electrical system keeps the TIA 942 Tier III architecture in mind with the following considerations. <ul style="list-style-type: none"> o 2N components architecture o Switch gear & Distribution Board, o Modular back up UPS <ul style="list-style-type: none"> o Lighting (including Emergency lighting) 		
500	Suppliers shall ensure that the supplied system includes the following: <ul style="list-style-type: none"> • Special contactors for capacitors switching • Fuse base and fuses for each capacitor protection 		

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed explanation with cross-reference/evidence
	<ul style="list-style-type: none"> • Step indicator lamps • Control circuit protection fuse /fuse holder • 6 step automatic control regulator for maintaining power factor at the set level and regulating the switching of capacitors steps • 800/5A Current transformer (for mounting after the mains incoming breaker. 		
501	Uninterruptible Power Supply (UPS)		
502	<p>Suppliers shall supply two 45KVA/48Kw UPS system considering the best practice as per Tier-III standards. The UPS must at least meet the following specifications:</p> <p>Output Power Capacity: 45KVA/48Kw Power factor (minimum): 80% (Not less than 0.8 lagging). Desired run time: 3 Hours Desired run time (at full load): 2 Hours Future expansion: 30% Input Voltages: 150-285 V Output Voltage: 220/230/240 V Frequency: +- 50 Hz Built-in feature: SNMP, environmental control, RS-232 Redundant Bypass kit: Automatic Batteries recharge time (up to 90%): 3 hrs. Hot-swappable Batteries: Yes Failover capability: Yes Network Shutdown Software for Windows and Linux: Yes viii. Communication management Interface</p>		
503	The required back up time shall be 3 hours		
504	Rectifier		
505	<p>The rectifiers shall be rated a total of 22KW. Each rectifier cabinet shall have an inbuilt static switch for load transfer in case of a problem and should be modular.</p> <p>The battery strings should be shall be serviceable without affecting the loads</p>		

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed explanation with cross-reference/evidence
	<p>Their advanced intelligent controller should provide intuitive graphical system monitoring via a browser and includes system's operating status, alarm information, battery conditions and history. System monitoring can be achieved through each frame is basically a self-contained system. Overall adding frames and batteries increases system capacity. The runtime expected shall be 1hr. The system shall have an RS232 port or RJ45port for local and remote connection access.</p> <p>The system shall also include battery monitoring; each string and battery block within a string shall have its voltage monitored. The system shall also have the capacity to perform battery discharge testing.</p> <p>The Rectifier should meet the following minimum specifications</p> <ul style="list-style-type: none"> • AC Input power – single/three phase • Frequency -45-66Hz • Power factor at 99% at 20% load • Input protection – varistors for transient protection main fuse I both lines disconnect above 300VAC • DC output Voltage – 53.5VDC (adjustable range 43.5-57.6 VDC) • Max output current 41.7A at 48VDC and nominal input 		
506	Cables and Accessories		
507	DC Battery Cable around 25 meters (Battery Room is 25 meters away from the UPS)		
508	SNMP Card for UPS Monitoring		
509	Supply and installation of 4 WAY SMDB Panel C/W MCCB TPN 400 A Circuit Breaker Incomer and 2		
510	X 150 A MCCB TPN and 2 x 40 MCCB TPN Breaker (1 UPS and 3 A/C the ATS)s) (SMDB shall be fed from)		
511	Armored cable to feed the SMDB1 and from SMDB to the UPSs, besides to 3 A/C units 4 x 95 mm + 1 x 70 mm ²		

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed explanation with cross-reference/evidence
512	Cable tray for the electrical Cable hanged in the ceiling, on the FF to the DATA CENTER		
513	13A Dual Socket 13 Amps + Cabling (each 4 sockets supplied by one Cable and one 32 A MCB)		
514	IP44 Industrial Socket + Plug 16 Amps SPN + Cabling + 16 Amp SPN Circuit Breaker		
515	IP44 Industrial Socket + Plug 32 Amps SPN + Cabling + 32 Amp SPN Circuit Breaker		
516	Supply and Installation of 18/54 Way TPN Input and SPN Output DB Input rating 150 Amp for UPS		
517	Cable tray under the raised floor, supply and Installation of Galvanized cable tray or Trunking under the raised floor system		
518	Earthing System		
519	IP Based UPS Professional management software		

Fire Suppression

Serial No	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference
520	General Requirements		
521	The proposed system shall be complete in all ways. It shall include all mechanical and electrical installation, all detection and control equipment, agent storage containers, FM-200 agent, discharge nozzles, pipe and fittings, manual release and abort stations, audible and visual alarm devices, auxiliary devices and controls, shutdowns, alarm interface, caution/advisory signs, functional checkout and testing and all other operations necessary for a functional, UL Listed and/or FM approved FM-200 Clean Agent Suppression System		
522	Suppliers shall ensure that equipment, installation, testing, maintenance and training of the Clean Agent Suppression System shall be in accordance with the applicable requirements set forth in the latest edition of the following codes and standards:		

Serial No	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference
	<ul style="list-style-type: none"> • NFPA No. 2001 - Clean Agent Fire Extinguishing Systems • Factory Mutual (FM) Approval Guide • Under writers laboratories (UL) Inc. Listings 		
523	Automatic Discharge Systems		
524	<p>a) An automatic discharge system shall be provided to protect the computer rooms or computer areas where the following occurs.</p> <p>b) The enclosure of a unit in a computer system, or the unit's structure, is built all, or in part, of a significant quantity of combustible materials.</p> <p>c) The operation of the computer room or area involves a significant quantity of combustible materials.</p>		
525	Installation location		
526	<p>Automatic discharge systems shall be installed in the following locations:</p> <ul style="list-style-type: none"> a. At the ceiling level throughout the server room area b. Below the raised floor of the server room area containing cables c. Above the suspended ceiling and below the raised floor in the server room 		
527	Fire alarm control panel		
528	Where interlock and shutdown devices are provided, the electrical power to the interlocks and shutdown devices shall be supervised by the fire alarm control panel.	M	
529	The alarms and trouble signals of automatic detection or extinguishing systems shall be arranged to annunciate at a constantly attended location.		
530	Fire extinguishing agent		
531	Where there is a critical need to protect data in process, reduce equipment damage, and facilitate return to service, consideration shall be given to the use of a gaseous agent inside units or total flooding systems in sprinklered or non-sprinklered Server room areas		

Serial No	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference
532	Where gaseous agent or inert gas agent total flooding systems are used, they shall be designed, installed, and maintained in accordance with the requirements of NFPA 12A, Standard on Halon 1301 Fire Extinguishing Systems; NFPA 12, Standard on Carbon Dioxide Extinguishing Systems; or NFPA 2001, Standard on Clean Agent Fire Extinguishing Systems. The agent selected shall not cause damage to the computer equipment and media.		
533	<ol style="list-style-type: none"> 1. The gas mixture used should be completely free of residues and corrosive free to avoid computer equipment damage 2. The gas mixture used should be entirely nontoxic 3. The gas mixture used should be ozone layer friendly and non-atmospheric lifetime 4. The provide should clearly state the components of the gas mixture used indicating percentages of composition 5. The gas mixture used should be easily refillable and cost effective 6. The gas mixture used should not require dedicated extraction ducting 		
534	Specific requirements		
535	Discharge time		
536	The system must adhere to the NFPA standard allowance of one-minute discharge, with extinguishment of 22 seconds for a Class a fire and 17 seconds for a Class B fire		
537	Detection and Alarm Components		
538	<ol style="list-style-type: none"> a. Auto pulse control panel b. Smoke detectors. c. Flame detector. d. Horns. e. Strobes. f. Associated cabling 		
539	Suppression Components		

Serial No	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference
540	a. Manual pull stations b. Abort switches. c. Discharge nozzles and associated pipe-work d. Gas mixture storage cylinders.		

Environmental monitoring, Access Control, CCTV

Serial No.	Minimum Technical requirements	Compliant(Y/N)	Detailed response with cross-reference
541	Monitoring System		
542	The Supplier shall supply, test, install and commission an environmental monitoring system complete with sensors to operate using TCP – IP protocols, through Ethernet 10/100 base T LAN.		
543	The Monitoring System shall report on all of the measurable parameters of the PAU infrastructure and shall provide SMC Operators with warning.		
544	The system shall have different type of alarms described as follows: Message: Inform the SMC Operator the change of the status in any of the monitored parameters Alarm: Inform the operator of system malfunctions.		
545	The monitoring system shall monitor the following parameters: • High Temperature; • Low Temperature; • High Humidity; • Low Humidity; • Loss of Power; • Humidifier Problem, (water Level)		
	Access Control		
546	The Supplier shall supply an integrated alarm and access control system to be installed on all three doors to allow access to the Power room, main data center and the NOC. The access control shall be fully installed with all accompanying accessories and software for the complete operation All doors shall have finger print Biometric readers and PIN card IN and Pin card OUT. It needs to be noted that the main door bio-reader will be exposed on the outside of the datacenter.		
547	The access control shall be capable of providing ANTI-PASSBACK feature. The access control panel shall have to meet the following features		

Serial No.	Minimum Technical requirements	Compliant(Y/N)	Detailed response with cross-reference
	<ul style="list-style-type: none"> • Integrated alarm & access control system for up to 8 zones, 4 areas & 4 doors • Modular RS485 data bus with continuous polling of up to 16 RAS and 15 DGP • PLC with 24 macro logic equations • 255 freely programmable outputs • Built-in PSTN dialer • 2 or 4 state monitored analogue inputs • Programming and servicing by PC either directly on site or from a remote location • Switched mode power supply • Steel enclosures • Be integrated with CCTV system EN50131-1 compliant; Environmental Class 2, Security Grade 2 		
548	Biometric readers		
549	<p>Biometric readers shall meet the following features.</p> <ul style="list-style-type: none"> • Large Template Storage Capacity (10,000 in 1:N; 100,000 in 1:1, or 50,000 in 1:N with bins) • Two-Factor or Three Factor Authentication • Optional Integrated Card Reader (Prox or MIFARE/DESFire) • Field Replaceable Sensors • Backwards Compatible • Remote Device Management • IP Connectivity (LAN, POE) • Powerful Administration Software • Flush Mounted • "Quick - Tilt" Access for easy Maintenance • Time & Attendance Ready 		

Serial No.	Minimum Technical requirements	Compliant(Y/N)	Detailed response with cross-reference
550	CCTV		
551	<p>Suppliers shall supply an IP based surveillance system to monitor activities of the PAU Datacentre. The cameras shall be installed on every door entrance and inside the Data center facility at strategic points to ensure maximum coverage. The cameras shall be Ultra View IP true day/night rugged dome camera 540TVL, H.264 SV. Camera features shall include</p> <ul style="list-style-type: none"> • Networking - Embedded auto-sensing single Ethernet 10/100 Ethernet LAN • System monitoring - Remote alarm notification through SNMP/ HTTP, e-mail or page • Video-H.264-SVC compression, PAL (704x576 @ 25 FPS); NTSC (704x480 @ 30 FPS) • POE 		
552	<p>Suppliers shall supply an enterprise network video recorder for supporting IP cameras storage and playback capable of recording simultaneously up to 24 IP video streams with 2-4TB storage capacity recording software and hardware to record for a minimum of 30 days.</p>		
553	NVR		
554	<p>NVR specifications includes</p> <ul style="list-style-type: none"> • Video – H.264-SVC, MPEG2, MPEG4, dual stream IP cameras • Recording- real time recording simultaneous for all video channels (25fps and 4 CIF) • Dual streaming for recording and play back • 2-4TB storage • Network- dual gigabit Ethernet 		

DC Network cabling, Racks

Furnish and install complete with all accessories a Structured Cabling System (SCS). The SCS shall serve as a vehicle for transport of data, video and voice telephony signals throughout the Datacentre from designated demarcation points to outlets located at various Racks and other terminal equipment.

The system shall utilize a network of fibre optic, and unshielded twisted pair, riser, tie and station cables. Cables and terminations shall be provided and located as shown and in the quantities as determined by the vendor.

Fiber cables shall terminate on fiber patch panels and/or modular patch panels located in all demarcation and termination points as determined by the vendor in their proposal.

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference
555	General Requirements		
556	All 500MHz category 6A information outlets designed for termination of 4-pair balanced twisted-pair category 6A copper cables must possess the following characteristics at the minimum:		
557	Outlets		
558	Exceed category 6A component compliance through the frequency range of 1 to 250MHz with usable bandwidth to 500MHz		
	Provide full integration of cable shielding through the termination process of the outlet.		
	Be available in black, white, red, gray, yellow, blue, green, orange, ivory, bright white, light ivory and alpine white		
	Universal design allows the same outlet to be mounted in flat or angled orientation.		
	Terminates with an ergonomic and easy to use Z-tool to ensure fast and simple terminations.		
	Have a lacing module that offers zero-cross termination, which eliminates pair crossing		
	Have available termination tool included with each box of 20 outlets		
	Be backwards compatible to allow lower performing categories of cables or connecting hardware to operate to their full capacity		
	Support industry standards for T568A or T568B wiring options on each individual outlet		
	Allow installation from the front or rear of the faceplate, and allow for the jack to pass through the faceplate without re-termination		
	Provide color-coded, snap-in icons available for circuit identification		

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference
	Allow for a minimum of 5 terminations without signal degradation below standards compliance limits		
	Be constructed of high impact, glass reinforced nylon.		
	Have, as an option, an outlet, which can be mounted into an IEC 60603-7 compliant opening (keystone)		
	Must be certified by Underwriters Laboratories to United States Standards and C22.2 Canadian Telecommunications Standards		
559	Patch Cords		
560	All Category 6A modular equipment cords shall conform to the flowing minimum performance standards:		
561	Be augmented category 6 component compliant out to 250MHz with operational bandwidth to 500MHz		
562	Be factory assembled and 100% transmission tested with laboratory grade network analyzers for proper performance up to 500MHz		
563	Utilize Category 7 S/FTP stranded screened cable for optimal transmission performance to eliminate Alien Crosstalk, with a round low smoke zero halogen jacket		
	Be backwards compatible with lower performing categories		
	Be equipped with identical modular 8-position plugs on both ends, wired straight through with standards compliant wiring		
	Have full 360° shield coverage and metal plug housing to provide durability and resistance to damage.		
	Have a PCB based plug to enable high levels of performance.		
	Have fixed position front contacts to ensure plug quality and consistent mating with outlets.		
564	Have internal rear contacts to maintain cable pair symmetry to the point of termination.		
565	Have a boot that features an ultra slim design for high density applications and snag free operation.		
566	Use modular plugs, which exceed FCC CFR 47 part 68 subpart F and IEC 60603-7 specifications, and		

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference
	have 50 micro-inches minimum of gold plating over nickel contacts		
	Have a dual jack construction for excellent alien crosstalk performance.		
	Be available in standard lengths of 3, 5, 7, 10, 15 and 20 ft. with custom lengths available upon request		
	Have optional colored clips to allow field color coding even when cords are already installed. Available in Black, White, Red, Gray, Yellow, Blue, Green and Orange		
	Are available with colored jackets, Black, White, Red, Gray, Yellow, Blue, Green and Orange		
	Be certified by Underwriters Laboratories to United States Standards and C22.2 Canadian Telecommunications Standards		
567	Patch Panels		
568	All termination panels shall facilitate cross-connection and inter-connection using modular patch cords and shall conform to EIA standard, 19-inch relay rack mounting requirements.		
	Offered in kit form to include Z-MAX™ Panel outlets.		
	Be made of lightweight, high strength steel with durable black finish in 24 & 48 port 1U configurations		
	Have panel outlets the easily snap into place and are automatically grounded without additional steps		
	Have a quick release lever that allows individual outlets to be easily removed even in tight installations.		
	Be available in both flat and angled configurations.		
	Have port identification numbers on the front of the panel		
	Come equipped with integrated rear wire management system		
	Be provided with high visibility Snap-On magnifying label holders that contain paper labels or Z-MAX icons for port identification.		
569	Fiber Enclosures		
570	All interconnect centers, panels and trays (units) shall provide cross-connect, inter-connect, splicing capabilities and contain cable		

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference
	management for supporting and routing the fiber cables/jumpers.		
	Not be bigger than one rack mount space and accommodate up to 48 ports (96 Strands) of LC plug & play modules or flat adapter plates		
	Have blank adapter plates for future growth of the fiber infrastructure.		
	House up to (4) 24 Strand compact LC plug & play modules or flat adapter plates.		
	Be modular in design with internal fiber managers that provide slack storage to comply with fiber bend radius and the recommended slack storage length.		
	Have a snap-on front shield to be used as a labeling surface and to protect jumpers. This shield can also relocate to another position during termination to maintain circuit identification.		
	Be designed with a drawer mechanism, which allows the panel to slide forward or to the rear, and has defeatable latches to allow removal from the rack or cabinet.		
	Must be certified by Underwriters Laboratories to United States Standards and C22.2 Canadian Telecommunications Standards.		
	Have the ability to house both Fiber and copper adapters in the same 1U panel		
	Have blank adapter plates for future growth of the infrastructure.		
	House up to (4) 24 Strand compact LC plug & play modules, LC flat adapter plates and/or 6 Port Copper Adapter plates.		
	Copper plates have the ability to house Z-Max, TERA and Max outlets		
	Must be certified by Underwriters Laboratories to United States Standards and C22.2 Canadian Telecommunications Standards.		
	Fiber Adapters		
	All optical fiber outlets/adapters shall meet the following characteristics:		
	Be provided in options that offer LC and SC interfaces		
	Provide for a maximum of 6-Duplex SC, 6-Quad LC.		

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference
	Be available in both standard and laser optimized 50/125µm (OM3 & OM4), 62.5/125µm and Singlemode fiber with LC and SC connections		
	Also available in a “Low Loss” 50/125µm version that provides an additional .30dB of headroom over a standard P&P module.		
	Connection to the module is completed by plugging 12 fiber MTP connectors in the rear of the Plug & Play module.		
	All fiber connections are factory terminated and tested.		
	Feature integrated latches for snap-in installation and single-finger removal.		
	Reduced mounting depth for greater cable management space within an enclosure.		
	Interfaces directly into the complete RIC3, SWIC3 and FCP3-DWR fiber cabinet offerings.		
	Be independent lab certified passing IEC61280-4-1 edition 2 TIA/EIA-455-171A.		
	Be independent lab certified Encircled Flux compliant.		
	Have MTP connectors independent lab certified passing IEC61300-3-30 edition 1.0		
571	Fiber Patch Cords		
572	Fiber equipment cords shall possess the following characteristics:		
	Be available in standard lengths of 1, 2, 3 and 5 meters with custom lengths available upon request		
	Utilize 50/125 µm duplex multimode fiber cable that is OFNR riser grade and meets the requirements of NEC/NFPA 70 Section 770-51(B)		
	Feature premium fiber that meets IEEE 802.3ae 10 Gigabit Ethernet requirements as well as IEC 60793-2-10 and TIA 492AAAC specifications for laser bandwidth Differential Modal Delay (DMD) specifications		
	Offer a superior connector polish that meets Telcordia and ISO/IEC specifications for end-face geometry (including radius of curvature, apex offset, and spherical undercut)		

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference
	Use cable and connectors that are complaint with color coding specifications as listed in ANSI/TIA-568-C.3 and ANSI/TIA-598-C		
	Utilize precision zirconia ceramic ferrules on connectors		
	Have LC-SC hybrid versions available		
	Include dust caps on all assemblies		
	Be 100% optically tested to meet the following performance specifications:		
573	Cabinets		
574	For cabinet enclosure installations in a telecommunications room or data center the installer shall have these minimum features listed below:		
	Have overall dimensions of 1000mm (40”) deep by 800mm (31.5”) wide and 2000mm (79”) tall 42U.		
	Be available with fully perforated front and rear doors allowing 71% air flow to maximize thermal efficiency.		
	Front door must have the ability to be reversed in the field.		
	Cabinet must be designed with fully adjustable equipment mounting rails.		
	Must include a “baying kit’ for coupling to other V61A & V81A cabinets.		
	Have an available accessory kit for coupling to VP1A VersaPOD cabinets.		
	Have standard CEA-310E mounting holes having a full 42, 45 & 48 RMS.		
	Be constructed of steel with a total static load capacity of 1000kg (2200lbs).		
	Have a top lid that offers multiple cable entry points as well as features for the installation of a ventilation fan, blank panels and cable entry brush guards.		
	Have a unique feature that allows for the installation of a Lid Divider system for creating cable pathways on the lid of the cabinet using toolless snap in divider plates.		
	Have an open access floor enabling maximum airflow as well as cable routing.		

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference
	Have overall dimensions of 1000mm (40”) deep by 600mm (24”) wide and 2286mm (90”) tall 48U, 2130mm (84”) tall 45U, 2000mm (79”) tall 42U.		
	Be available with fully perforated front and rear doors allowing 71% air flow to maximize thermal efficiency.		
	Front door must have the ability to be reversed in the field.		
	Cabinet must be designed with fully adjustable equipment mounting rails.		
	Must include a “baying kit” for coupling to other V61A & V81A cabinets		
	Standard baying kit should allow for proper cabinet spacing on both 600mm x 600mm as well as 24” x 24” raised computer room floors.		
	Have an available accessory kit for coupling to VP1A VersaPOD cabinets.		
	Have standard CEA-310E mounting holes having a full 42 RMS.		
	Be constructed of steel with a total static load capacity of 1361kg (3000lbs).		
	Have a top lid that offers multiple cable entry points as well as features for the installation of a ventilation fan, blank panels and cable entry brush guards.		
	Have an open access floor enabling maximum airflow as well as cable routing.		
	Vertical Patch Channels (VPC)		
575	When the cabinets are deployed the vertical patch channel system must have these minimum features:		
	Be designed to install within the vertical space located outside the frame rails of the V800 cabinets.		
	Be available in 42U, cabinets		
	Be available in a 4” and 6” Deep version		
	Be modular in design to offer maximum flexibility of cabling options.		
	Come equipped 4” or 6” Cable Management fingers and cover		
	Be constructed of steel.		
	Pathways Support		
576	All pathway support options shall possess the following features and benefits:		

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference
	Be designed to be installed within the cabinet to provide internal cable management.		
	Be available in a variety of widths 100mm (4 in.), 150mm (6 in.) and 300mm (12 in.)		
	Be available in heights of 42U,		
	100mm & 150mm have the ability to mount toolless PDUs		
	Should include all mounting hardware.		
	Should be black in color to match the finish of the cabinet.		
	Be designed to install in the lid of the V8A family of cabinets		
	Come as a set of 2		
	Install without the need for hardware		
	Mounting frame to be black in color to match the overall finish of the cabinet.		
	Be designed to fit into the large opening located on the top of the VersaPOD™ V600, V800 and Wall Cabinets.		
	Brush material should be constructed with durable nylon bristles that are black in color.		
	Should include all mounting hardware.		
	Mounting frame to be black in color to match the overall finish of the cabinet.		
	Be designed to mount in a standard CEA 310E 19” mounting rail.		
	Be constructed of 100% copper material		
	Should include (2) pre-terminated #6 AWG Green insulated cables to allow for connection to the rooms grounding system		
	Should include hardware and provisions for (17) ANSI-J-STD-607-A compliant bonding points.		
	Should include all mounting hardware.		
	Offer options for mounting PDUs to VersaPOD, V600, V800 cabinets and VersaPOD 4-Post racks		
	Offer options for mounting PDU’s perpendicular to the installed equipment or parallel.		
	Provide toolless button mount locations for a variety of PDU lengths.		
	Be constructed of black powder coated steel.		
	Copper Trunk Cables		

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference
577	<p>The pre-terminated Category 6A copper trunk cable shall be assembled using 500MHz Category 6A information outlets and cable and must possess the following characteristics at the minimum:</p> <p>Be factory assembled and 100% transmission tested with laboratory grade network analyzers for proper performance up to 500MHz</p> <p>Be backwards compatible with lower performing categories</p> <p>Utilize high quality 6A F/UTP cable available in CMR, CMP and LSOH jacket materials.</p> <p>Be factory terminated and tested with Z-MAX 6A F/UTP panel and/or work area outlets or modular Z-MAX plugs.</p> <p>Have each leg labeled for proper outlet orientation</p> <p>Have a “straight cut” pattern to the trunk cable ends to create optimal cable orientation and to limit cable crossing.</p> <p>Be available in standard lengths of 3m (9ft) to 90m (295ft) with custom lengths available upon request</p> <p>Have each cable assembly coded with a unique identification number for administrative purposes</p>		
578	Fiber Trunk Cables		
579	<p>Fiber trunk assemblies shall meet the following minimum characteristics:</p> <p>Be available in custom lengths measured in both meters and feet.</p> <p>Utilize 50/125 μm (OM3 & OM4) or 62.5/125 μm multimode and Singlemode fiber cable that is available in OFNR, OFNP, LSOH and Armored jackets</p> <p>Be available in a “Low-Loss” 50/125 μm version</p> <p>Include dust caps on all assemblies</p>		
580	<p>Come shipped on Dual Shelf reels to keep unprotected connectors away from harm during installation.</p> <p>Each cable to be coded with a unique identification number for administrative purposes.</p> <p>Have trunk assembled with option “pulling-eye” for ease of installation and to protect terminated ends.</p> <p>Be available in strand counts of 12, 24, 36, 48, 72, 96 and 144.</p>		

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference
	Be 100% optically tested to meet the following performance specifications:		
	Be independent lab certified passing IEC61280-4-1 edition 2 TIA/EIA-455-171A.		
	Be independent lab certified Encircled Flux compliant.		
	Have MTP connectors independent lab certified passing IEC61300-3-30 edition 1.0		
581	Fiber Cables		
582	In addition to meeting the applicable performance specifications, all optical fiber cable shall be appropriate for the environment in which it is installed.		
583	Multimode Optical Fiber Cable		
584	All multimode optical fiber cable must be a minimum of two strands of 50/125µm multimode.		
585	Have an Aqua colored round lead free cable jacket available in OFNR, OFNP and LSOH constructions.		
586	Shall contain a Rip Cord applied longitudinally under the cable jacket for easy cable jacket removal		
587	Shall contain a lightweight Central Strength member located in the middle of the fibre bundles.		
588	Shall contain both color-coded buffered fibres as well as colour-coded buffer tubes.		
589	Cables shall have length markings in 2 ft. increment		
590	Fibre will be available in strand counts of 4, 6, 12, 24, 48, 72 and 96.		
591	Shall meet these minimum performance parameters: <ul style="list-style-type: none"> • Minimum Bandwidth (MHz-km):850 nm /Laser - 4700 OFL – 3500, 1300 nm/OFL - 500 • Maximum Attenuation (dB/km): 850 nm/3.5, 1300 nm/1.0 • Group Index of Refraction: 850 nm/1.483, 1300 nm/1.479 		
592			
593	Systems Designs Requirements		
594	Horizontal Cabling		

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference
595	Structured cabling system that provides the link between Core Network cabinet to Server cabinets. It consists of the telecommunications outlet/patch panel, the horizontal cables, and that portion of the cross-connect in the (MDA) serving the horizontal cable.		
596	Telecommunications Room (MDA), (MC)		
597	The Telecommunications Room is generally considered to be a Data Center serving facility. The Horizontal Cross-connect links the Horizontal Subsystem and the Backbone Subsystem together.		
598	The Horizontal Cross-connect shall consist of rack or wall mounted wiring blocks or panels for termination of copper cables or rack or wall mount interconnect centers or fiber management panels/trays for the termination of optical fibers.		
599	Cross-connect spaces include the labeling of hardware for providing circuit identification and patch cords or cross-connect wire used for creating circuit connections at the cross-connect		
600	Communication grounding / earthing and bonding shall be in accordance with applicable codes and regulations. It is recommended that the requirements of IEC/TR3 61000-5-2 - Ed. 1.0, ANSI-J-STD-607-A, or both be observed throughout the entire cabling system		
601	The telecommunications room shall be dedicated to the telecommunications function. Access to telecommunications rooms shall be restricted to authorized service personnel and shall not be shared with building services that may interfere with the telecommunications systems or be used for building maintenance services		
602	Lighting in the telecommunications room should be a minimum of 500 lx (50 foot candles) at the lowest point of termination. Light switch should be easily accessible when entering the room.		
603	A minimum of two dedicated duplex or two dedicated simplex electrical outlet, each on a separate circuit, should be provided for equipment power. Additional convenience duplex outlets		

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference
	should be placed at 1.8 m (6 ft) intervals around the perimeter walls.		
604	Entrance Facilities		
605	The entrance facility shall be equipped to contain telecommunications equipment, cable terminations, and associated cross-connects.		
	Separation from sources of EMI shall be as specified ANSI/TIA/EIA-569-B.		
	Communication grounding / earthing and bonding shall be in accordance with applicable codes and regulations. It is recommended that the requirements of IEC/TR3 61000-5-2 - Ed. 1.0, ANSI-J-STD-607-A, or both be observed throughout the entire cabling system.		
	The entrance facility shall not be shared with building services that may interfere with the telecommunications systems or be used for custodial services		
	The entrance facility shall be located in a dry area not subject to flooding and should be as close as possible to the electrical service room in order to reduce the length of the bonding conductor to electrical grounding system.		
	Lighting in the entrance facility should be a minimum of 500 lx (50 foot candles) at the lowest point of termination.		
	A minimum of two dedicated duplex or two dedicated simplex electrical outlet each on a separate circuit should be provided for equipment power. Additional convenience duplex outlets should be placed at 1.8 m (6 ft) intervals around the perimeter walls.		
606			
607	Installation		
608	Site Survey		
609	Prior to placing any cable pathways or cable, the contractor shall survey the site to determine job conditions will not impose any obstructions that would interfere with the safe and satisfactory placement of the cables. The arrangements to remove any obstructions with the Project Manager need to be determined at that time. Special care		

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference
	should be taken to insure that any installation work performed will have no impact on the continued and uninterrupted performance of the Data Center.		
610			
611	Physical Installation		
612	Cable pathways		
613	Pathways shall be designed and installed to meet applicable local and national building and electrical codes or regulations. These should be designed and installed so as not to have any detrimental effect on the proper air flow of the space. This will insure that equipment maintains it's proper operating temperature and any excess heat is allowed to be vented away.		
614	Grounding / Earthing and bonding of pathways shall comply with applicable codes and regulations.		
615	Pathways shall not have exposed sharp edges that may come into contact with telecommunications cables.		
616	Intra-building Cable Routing		
617	<p>The backbone subsystem shall include cable installed in a vertical and horizontal manner between floors and telecommunications rooms.</p> <ul style="list-style-type: none"> ▪ Unless otherwise recommended by the manufacturer, all fiber cables will be run in inner-duct. ▪ Fibers will be terminated in the telecommunications rooms using SC, ST, or LC connectors in wall mounted interconnect centers or rack mounted panels equipped with sufficient ports, slack storage space and splice trays if required to terminate and secure all fibers. ▪ Adequate riser sleeve/slot space shall be available with the ability to ingress the area at a later date in all telecommunications rooms, such that no drilling of additional sleeves/slots is necessary. <p>The backbone cables shall be installed in a star topology, emanating from the MDA to each HDA.</p>		

Serial No.	Minimum Technical requirements	Compliant (Y/N)	Detailed response with cross-reference
	An intermediate cross-connect (ZDA) may be present between the MDA and the HDA. This is known as a hierarchical star topology		

4. Drawings

This bidding document includes *No* drawings.

5. Inspections and Tests

The following inspections and tests shall be performed:

1. Visual inspection
2. Inspection for any physical damage
3. Inspection of good after installation and running.
4. Checking the serial numbers to make sure the same number appear on all the parts of the equipment/machine
5. Any other tests to ensure that the Goods supplied are as per Technical Specifications.

E. TESTING AND QUALITY ASSURANCE REQUIREMENTS

5.1 Inspections

- 5.1.1 Factory Inspections: As part of this contract, the supplier should facilitate the Purchaser, or its agent, to perform site visits (demos) and factory inspections of the Information Technologies and other Goods prior to their shipment to the site.
- 5.1.2 The Supplier will dispatch the goods to the consignee/Final Destination after internal inspection and testing, along with the Supplier's inspection report and the Manufacturer's Warranty Certificate. The Purchaser will test the equipment after completion of the installation and commissioning at the Project site (Final Destination).
- 5.1.3 Inspections following delivery: All technology equipment will be inspected upon delivery and the purchaser reserves the right to reject/return unsatisfactory goods and equipment that differ significantly from the factory inspection at the suppliers cost.
- 5.1.4 The inspection of the Goods shall be carried out to check whether the Goods are in conformity with the technical specifications included in the Contract Agreement and shall be in line with the inspection/test procedures laid down in the technical specifications and the General Conditions of Contract.

5.2 Pre-commissioning Tests

5.2.0 In addition to the Supplier's standard check-out and set-up tests, the Supplier (with the assistance of the Purchaser) must perform sufficient tests on the System and its Subsystems before Installation will be deemed to have occurred and the Purchaser will issue the Installation Certificate(s) (pursuant to GCC Clause 26 and related SCC clauses).

5.3 Operational Acceptance Tests

5.3.0 Pursuant to GCC Clause 27 and related SCC clauses, the Purchaser (with the assistance of the Supplier) will perform the tests on the System and its Subsystems following Installation to determine whether the System and the Subsystems meet all the requirements mandated for Operational Acceptance.

F. SERVICE SPECIFICATIONS – RECURRENT COST ITEMS

6.1 Warranty Defect Repair

6.1.1 The Supplier MUST provide the following services under the Contract:
6.1.1.1 Warranty Defect Repair Service: 3 years (free of charge warranty maintenance support during this period), response time is next business day, on-site or on-call depending on the nature of the problem and hardware, software, network technology.

6.2 Technical Support

6.2.1 The Supplier MUST provide the following services under the Contract.
6.2.1.1 User support / hot line: Support required during normal business office hours 8 hours/day between (08:00-16:30) on all official working days. The Official weekdays in Afghanistan are Saturday to Thursday. Friday is a non-working day.
6.2.1.2 Technical Assistance: Delivery, installation and configuration of the software Hardware must be supported with training and on-site assistance. The assistance provided will include the To-Be processes implementation.
6.2.1.3 Post-Warranty Maintenance Services: 5 years (60 months), response time is next business day, on-site or on-call depending on the nature of the problem and hardware, software, network technology.

General Service Specifications

- Generally and without additional mention in the respective subsections, the Supplier will be obliged to deliver, configure, test, instruct and document all parts and system components that are subject of this tender. All parts and system components will have to be handed over to the purchaser ready for operation.
 - Communication language for the contract and the project will be English.

- All product documentations shall be provided in English. All project documentations, including instructions, shall be provided in English.
- All packaging materials will have to be removed from premises of the purchaser immediately, unless otherwise requested by the purchaser, and are to be disposed of ecologically.
- For the realization of this project, the Supplier will exclusively employ technical personnel with the necessary qualification, experience and competence.
- At the time of realization, the latest available versions and patch level for all system components have to be installed.

Background and Informational Materials

A. BACKGROUND

0.1 The Purchaser

0.1.1. Project Director, Fiscal Performance Improvement Support Project (FSP)

0.1.2. FSP has embarked upon a journey, to modernize the Audit Infrastructure and methodology of Government of Afghanistan. Information Technology is a pivotal component of the above-mentioned modernization process. One of the prime objectives of FSP is to set up a robust and reliable Audit Management System (AMIS) for the Supreme Audit Office (SAO) that would optimize resources and ensure timely and accurate reporting of observations as well as facilitate strategic planning for ensuring that scarce audit resources are applied in the most effective manner.

0.1.3. The Auditor-General of Afghanistan, who is the head of the SAO, is appointed under Article 6 and 7 of the Constitution of the country. His reports are submitted to the State President and National Assembly comprising the elected public representatives and are considered in the Public Accounts Committee. His mandate is provided in the audit law in the Constitution of the country and supported by subsidiary legislation, which enables him to develop independent and objective assessments of the process of governance, which augment the legislative oversight of the people's representative on governmental operations.

0.1.4. The Auditor General is supported by two Deputy Auditors General, 19 Director level officers and about 194 professional staff against its approved strength of 503 staff.

0.1.5. Project Stakeholders

0.1.5.1. The primary stakeholders are considered to be the financiers, project management team and the users of the AMIS. The financiers include the World Bank and Government of Afghanistan, having identified the need and approved the Project. The AMIS project management team is committed to the Project by being entrusted with the responsibility of coordinating and facilitating its completion within the given timeframe. The users, i.e., the officers and staff of the SAO, are the largest unified group and are considered to be main stakeholders who will be benefiting from the Project's successful and timely implementation. These include the several directorates who are responsible for delivery of the core function. Being the users, the top hierarchy of the SAO is a major stakeholder who will ultimately bear the responsibility of proving/justifying the Project's success and also are

considered to be the main beneficiary of successful Project implementation resulting in the performance of the audits and related services cost effectively, diligently and efficiently leading to the realization of the mandate and vision.

- 0.1.5.2. In addition to the above primary stakeholders, provincial and district government offices, ministries and all those associated with the audit entities are considered to be the secondary stakeholders. They will be able to improve their operational and financial performance with the availability and access to the information and reports relating to their respective areas/segments. The Project's success will undoubtedly reduce any perceived or actual mal-practices/unethical practices and enhance objectivity and transparency of reporting.
- 0.1.3 The Director of IT Audit will be the Project Director, making the applicable project related decisions *applicable to the AMIS and performance of the Contract*.

0.2 The Purchaser's Business Objectives for the Information System

- 0.2.1. Auditing is the cornerstone of good public sector governance in achievement of accountability, integrity, improve operations. There has never been a better time to disrupt and innovate to provide an audit with an even greater focus on quality. At SAO we are embracing the benefits of the latest technologies and integrating them into our audit processes to respond to the evolving needs of e-government, INTOSAI and development partners. We invest in technology because we are committed to building a better Afghanistan by promoting efficient, accountable, effective and transparent public administration. The AMIS platform should enable SAO to provide a high-quality audit, thus providing the president and national assembly with greater confidence, a better business perspective and enhanced transparency
- 0.2.2. The Auditor-General's organization is the prime institution in the country for ensuring public accountability and fiscal transparency in governmental operations. The organization is expected to bring about improvements in the financial discipline and internal control environment in the executive departments for minimizing the possibility of waste and fraud.
- 0.2.3. The SAO carries out the following audit activities in accordance with the INTOSAI auditing standards and international best practices:
- 0.2.3.1. Financial (Qatia) Audit whether financial statements are free from material misstatements and compliant with budgetary authorities. The financial audit provided by the SAO Afghanistan covers a very broad range of governmental operations. There are three tiers of government (Municipal, District, Provincial, Central) and three types of organizations (those on the central accounting network, self-accounting entities budgeted by the government and public sector entities). Financial attest is provided at all tiers and for all categories, except those entities whose accounts are, by law, auditable by private sector auditors.

0.2.3.2. Compliance Audits are conducted under roll over planning for all organizations at all tiers. The focus of these audits is to review transactions for compliance against rules and regulations. Regularity and Compliance Audits are carried out annually for all tiers of government. Specific Examples are:

- (i) Central budgetary Directorate that audits expenditure and revenue of the central ministries of government. Performs supervision and management of financial and accounting surveys of central and regional budget departments and departments in accordance with Inspection rules
- (ii) Local budgetary Directorate that audits the 4 local provincial governments
- (iii) Municipality Directorate charged with Management and control of financial and accounting audits of municipalities, and the executive authority of the Municipal Audit Department in accordance with the laws, regulations and standards adopted by the audit to ensure transparency and conscientiousness.
- (iv) Revenue audit directorate

0.2.3.3. Performance Audits focus on the outcomes of various projects and programmes with special emphasis on social sectors.

0.2.3.4. Grant Audits managing inspections of foreign assistance in the ministries, departments, institutions, enterprises, municipalities and other governmental budgetary and non-budgetary institutions

0.2.3.5. Organization and State Owned Enterprises - protecting the interests of public funds through the inspection and control of the activities of enterprises, institutions and state-owned companies based on the principles of international auditing and control in accordance with the policies of the Afghan government.

0.2.3.6. Information System Audits have recently been introduced at SAO. These audits are carried out largely in compliance with ISACA and ISSAI 5300, 5310 standards.

0.2.3.7. Special Studies are conducted on the request of audit clients or on the directives of public accounts committee, based on the TORs agreed.

0.2.3.8. ARTF IP incentives – Provide independent audit reports of line ministries to cover 50% of government expenditure in 3 years.

0.2.4. Training, seminars and publications are the main tools of the SAO to keep abreast of the developments in the profession. Audit Magazine (Mujala) is a quarterly magazine published by the SAO.

0.2.5. The headquarters of the SAO of Afghanistan is located in Kabul. External audit activities are carried out from the headquarters and through field locations depending on the location of the audited entity. The audit methodology that is

used across all SAO Departments may have certain differences in the workflow, which are present due to lack of proper documented processes. However, the vendor would be expected as part of the audit management system to co-develop a workflow with the purchaser during the configuration/customization phase according to the purchaser's "To-Be" / future state processes.

0.2.6. Use of technology for audit is largely limited to word processing and spreadsheets, however, there are a few audit engagements that are using audit software recently purchased and tested on a pilot basis. Although there is an analytics tool, due to limited licenses, there is minimal utilization of computer Assisted Auditing Techniques (CAATs) for data analysis in the field offices. This is mainly limited to the headquarters IT department, where Qatia and IT audit financial data is available in electronic form. Communication between audit parties and their supervisors as well as departments and the headquarters is mainly paper based or email. Review and approval process is also manual, based on paper files and basic office excel and MS word. No central repository/ database in electronic form is available and the information required by the headquarters is collected manually from regional offices, as and when required.

0.2.7. At the end of the year SAO submits reports to PAC as follows:

- (i) Qatia Financial report to president and PAC
- (ii) Revenue and Expenditure audit reports
- (iii) Performance and Special audit reports are provided on demand national assembly and president
- (iv) Security expenditure to national assembly and president

0.2.8. For Public Accounts Committee meetings are prepared by SAO HQ. Follow-up mechanism or tracking of audit issues remains a challenge in paper based working and is mainly limited to review during the following year's audit.

0.2.9. Major issues faced by SAO that limit the efficiency and effectiveness of audit and which it expects to overcome with the introduction of AMIS include:

- (i) Mostly manual audit process
- (ii) Nonstandard audit methodology
- (iii) non-availability of timely management information at headquarter for planning and monitoring of audit activities
- (iv) differences in business processes/ workflows
- (v) quality assurance focused on output rather than method
- (vi) limited supervision because of insufficient supervisory staff to carry out supervision in the field
- (vii) delays in approval process operated manually
- (viii) non-availability of central knowledge resource for field auditors who seeking advice on any technical issues

- (ix) no central repository to access previous audit reports and working papers as well as technical literature
 - (x) limited ability to connect to AFMIS system to perform CAATS
 - (xi) limitation and unsustainable licensing model for the existing audit software
- 0.2.10. SAO's vision is to be an independent, efficient and effective Supreme Audit Institution that promotes public accountability and transparency and it is envisaged that the proposed AMIS will enable SAO to accomplish its mission by improving quality and timeliness of audit. AMIS will provide functionalities to:
- (i) Introduce central, top-down strategic plans to coordinate the activities of the SAO regional offices
 - (ii) Perform quality assurance during an audit (focusing on method), rather than after it (focusing on output)
 - (iii) Provide technical support and help to its audit teams, wherever they are conducting their audits
 - (iv) Cut down on the cost and time involved in operating entirely on a manual record basis
 - (v) Improve the use of Financial Audit Manual, Performance audit manual, compliance audit manual and IT audit manual techniques.
 - (vi) Use relevant and reliable management information to monitor the performance of the organization against goals and objectives set in centrally-driven medium term plans
 - (vii) Effectively track compliance against audit issues
 - (viii) Standardized business processes across the organization
 - (ix) Improve Audit quality – the audit process is best conducted for quality and efficiency when they are conducted as per the international best audit practices (INTOSAI ISSAIs). Mapping the ISSAIs would be easier with a streamlined audit methodology, toolkits and integrated with CAATS, made possible in the automated audit management system.
 - (x) Enhance Capacity - Such an enabled system could also obviate the complex process of learning and understanding of ISSAI through classroom and the system based process would provide a lock-in and compulsory requirement for all the staff to adapt to the automated process, the toolkits, the working papers and the audit quality assurance requirements.
 - (xi) Maintain Confidentiality, privacy and security - Since SAO deals with almost all the government agencies in its audit and have access to various documents including those which are sensitive, and not generally available to the others. These documents are used as audit evidences and will be part of the system and its process. Exposing such a system to another government platform which open to many users may have the risk of exposing sensitive government data and information.

- (xii) Meet development Partner Benchmarks and increased stakeholder confidence - As mentioned in the background above, the implementation of the AMIS and the monitoring and reporting of the implementation of the audit observations and recommendations by the auditee are benchmarks/Project development objectives (PDO) and European Union-State resilience building contract (SRBC), and World Bank's Fiscal Support Improvement Project (FSP). Non implementation of the AMIS by the SAO would imply that the FSP have failed to achieve this PDO.

0.2.10.1. Secondly, a suite of analytics tools fully integrated with the online audit platform would enable us to deliver a higher quality audit by:

- (i) Providing greater confidence in financial reporting to stakeholders e.g. PACS, National Assembly, and President as we identify hidden patterns and trends in auditable unit financial data and provide better insights.
- (ii) Allowing SAO a deeper understanding of audited unit by analyzing larger populations of audit-relevant data to present a fuller picture of activities and identify the risks that matter.
- (iii) Identifying trends and anomalies in audited entity processes and controls, helping direct the SAO teams' investigative effort in the right areas

Hardware Training and Documentation:

- 1- SAO technical staff will be train on hardware installation, configuration and setup.
- 2- All the diagrams and technical documents should be deliver to SAO technical team and illustration should be given to SAO team

S. No	No of Staff	Training Type	No of Days	Comments

1	3	Hardware and System Configuration	5	3 staff should be train on Hardware installation diagrams and configuration
2	3	Network and VOIP Installation configuration	10	Complete Illustration, technical training with all the documents should be submitted to SAO network department and they should be train on the above setup and configuration
3	4	General Training	10	All IT staff should train on the general setup diagrams etc.

PART 3 - Contract

Section VIII - General Conditions of Contract

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Section VIII - General Conditions of Contract

1. Definitions

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

- (a) “Bank” means the World Bank and refers to the International Bank for Reconstruction and Development (IBRD) or the International Development Association (IDA).
- (b) “Contract” means the Contract Agreement entered into between the Purchaser and the Supplier, together with the Contract Documents referred to therein, including all attachments, appendices, and all documents incorporated by reference therein.
- (c) “Contract Documents” means the documents listed in the Contract Agreement, including any amendments thereto.
- (d) “Contract Price” means the price payable to the Supplier as specified in the Contract Agreement, subject to such additions and adjustments thereto or deductions therefrom, as may be made pursuant to the Contract.
- (e) “Day” means calendar day.
- (f) “Completion” means the fulfillment of the Related Services by the Supplier in accordance with the terms and conditions set forth in the Contract.
- (g) “GCC” means the General Conditions of Contract.
- (h) “Goods” means all of the commodities, raw material, machinery and equipment, and/or other materials that the Supplier is required to supply to the Purchaser under the Contract.
- (i) “Purchaser’s Country” is the country specified in the **Special Conditions of Contract (SCC)**.
- (j) “Purchaser” means the entity purchasing the Goods and Related Services, as **specified in the SCC**.
- (k) “Related Services” means the services incidental to the supply of the goods, such as insurance, installation, training and initial maintenance and other such obligations of the Supplier under the Contract.
- (l) “SCC” means the Special Conditions of Contract.

- (m) “Subcontractor” means any person, private or government entity, or a combination of the above, to whom any part of the Goods to be supplied or execution of any part of the Related Services is subcontracted by the Supplier.
 - (n) “Supplier” means the 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 Contract Agreement.
 - (o) “The Project Site,” where applicable, means the place named in the **SCC**.
- 2. Contract Documents**
- 2.1 Subject to the order of precedence set forth in the Contract Agreement, all documents forming the Contract (and all parts thereof) are intended to be correlative, complementary, and mutually explanatory. The Contract Agreement shall be read as a whole.
- 3. Fraud and Corruption**
- 3.1 The Bank requires compliance with the Bank’s Anti-Corruption Guidelines and its prevailing sanctions policies and procedures as set forth in the WBG’s Sanctions Framework, as set forth in Appendix to the GCC.
- 3.2 The Purchaser 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.
- 4. Interpretation**
- 4.1 If the context so requires it, singular means plural and vice versa.
- 4.2 Incoterms
- (a) Unless inconsistent with any provision of the Contract, the meaning of any trade term and the rights and obligations of parties thereunder shall be as prescribed by Incoterms **specified in the SCC**.
 - (b) The terms EXW, CIP, FCA, CFR and other similar terms, when used, shall be governed by the rules prescribed in the current edition of Incoterms specified in the **SCC** and published by the International Chamber of Commerce in Paris, France.
- 4.3 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 the parties with respect thereto made prior to the date of Contract.

4.4 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.

4.5 Nonwaiver

- (a) Subject to GCC Sub-Clause 4.5(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.

4.6 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.

5. Language

- 5.1 The Contract as well as all correspondence and documents relating to the Contract exchanged by the Supplier and the Purchaser, shall be written in the language specified in the **SCC**. Supporting documents and printed literature that are part of the Contract may be in another language provided they are accompanied by an accurate translation of the relevant passages in the language specified, in which case, for purposes of interpretation of the Contract, this translation shall govern.
- 5.2 The Supplier shall bear all costs of translation to the governing language and all risks of the accuracy of such translation, for documents provided by the Supplier.

- 6. Joint Venture, Consortium or Association**
- 6.1 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.
- 7. Eligibility**
- 7.1 The Supplier and its Subcontractors shall have the nationality of an eligible country. A Supplier or Subcontractor shall be deemed to have the nationality of a country if it is a citizen or constituted, incorporated, or registered, and operates in conformity with the provisions of the laws of that country.
- 7.2 All Goods and Related Services to be supplied under the Contract and financed by the Bank shall have their origin in Eligible Countries. For the purpose of this Clause, origin means the country where the goods have been grown, mined, 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 components.
- 8. Notices**
- 8.1 Any notice given by one party to the other pursuant to the Contract shall be in writing to the address specified in the **SCC**. The term “in writing” means communicated in written form with proof of receipt.
- 8.2 A notice shall be effective when delivered or on the notice’s effective date, whichever is later.
- 9. Governing Law**
- 9.1 The Contract shall be governed by and interpreted in accordance with the laws of the Purchaser’s Country, unless otherwise specified in the **SCC**.
- 9.2 Throughout the execution of the Contract, the Supplier shall comply with the import of goods and services prohibitions in the Purchaser’s Country when
- (a) as a matter of law or official regulations, the Borrower’s country prohibits commercial relations with that country; or
- 9.2 (b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, the Borrower’s Country prohibits any import of goods from that country or any payments to any country, person, or entity in that country.

10. Settlement of Disputes

- 10.1 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.
- 10.2 If, after twenty-eight (28) days, the parties have failed to resolve their dispute or difference by such mutual consultation, then either the Purchaser or the Supplier may give notice to the other party of its intention to commence arbitration, as hereinafter provided, as to the matter in dispute, and no arbitration in respect of this matter may be commenced unless such notice is given. Any dispute or difference in respect of which a notice of intention to commence arbitration has been given in accordance with this Clause shall be finally settled by arbitration. Arbitration may be commenced prior to or after delivery of the Goods under the Contract. Arbitration proceedings shall be conducted in accordance with the rules of procedure specified in the SCC.
- 10.3 Notwithstanding any reference to arbitration herein,
- (a) the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree; and
 - (b) the Purchaser shall pay the Supplier any monies due the Supplier.

11. Inspections and Audit by the Bank

- 11.1 The Supplier shall keep, and shall make all reasonable efforts to cause its Subcontractors to keep, accurate and systematic accounts and records in respect of the Goods in such form and details as will clearly identify relevant time changes and costs.
- 11.2 Pursuant to paragraph 2.2 e. of Appendix to the General Conditions the Supplier shall permit and shall cause its subcontractors and subconsultants to permit, the Bank and/or persons appointed by the Bank to inspect the Site and/or the accounts and records relating to the procurement process, selection and/or contract execution, and to have such accounts and records audited by auditors appointed by the Bank if requested by the Bank. The Supplier's and its Subcontractors' and subconsultants' attention is drawn to Sub-Clause 3.1 which provides, inter alia, that acts intended to materially impede the exercise of the Bank's inspection and audit rights constitute a prohibited practice subject to contract termination (as well as to a determination of ineligibility pursuant to the Bank's prevailing sanctions procedures).

- 12. Scope of Supply** 12.1 The Goods and Related Services to be supplied shall be as specified in the Schedule of Requirements.
- 13. Delivery and Documents** 13.1 Subject to GCC Sub-Clause 33.1, the Delivery of the Goods and Completion of the Related Services shall be in accordance with the Delivery and Completion Schedule specified in the Schedule of Requirements. The details of shipping and other documents to be furnished by the Supplier are specified in the **SCC**.
- 14. Supplier's Responsibilities** 14.1 The Supplier shall supply all the Goods and Related Services included in the Scope of Supply in accordance with GCC Clause 12, and the Delivery and Completion Schedule, as per GCC Clause 13.
- 15. Contract Price** 15.1 Prices charged by the Supplier for the Goods supplied and the Related Services performed under the Contract shall not vary from the prices quoted by the Supplier in its Bid, with the exception of any price adjustments authorized in the **SCC**.
- 16. Terms of Payment** 16.1 The Contract Price, including any Advance Payments, if applicable, shall be paid as specified in the **SCC**.
- 16.2 The Supplier's request for payment shall be made to the Purchaser in writing, accompanied by invoices describing, as appropriate, the Goods delivered and Related Services performed, and by the documents submitted pursuant to GCC Clause 13 and upon fulfillment of all other obligations stipulated in the Contract.
- 16.3 Payments shall be made promptly by the Purchaser, but in no case later than sixty (60) days after submission of an invoice or request for payment by the Supplier, and after the Purchaser has accepted it.
- 16.4 The currencies in which payments shall be made to the Supplier under this Contract shall be those in which the Bid price is expressed.
- 16.5 In the event that the Purchaser fails to pay the Supplier any payment by its due date or within the period set forth in the **SCC**, the Purchaser shall pay to the Supplier interest on the amount of such delayed payment at the rate shown in the **SCC**, for the period of delay until payment has been made in full, whether before or after judgment or arbitration award.
- 17. Taxes and Duties** 17.1 For goods manufactured outside the Purchaser's Country, the Supplier shall be entirely responsible for all taxes, stamp duties,

license fees, and other such levies imposed outside the Purchaser's Country.

17.2 For goods Manufactured within the Purchaser's Country, the Supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted Goods to the Purchaser.

17.3 If any tax exemptions, reductions, allowances or privileges may be available to the Supplier in the Purchaser's Country, the Purchaser shall use its best efforts to enable the Supplier to benefit from any such tax savings to the maximum allowable extent.

18. Performance Security

18.1 If required as specified in the SCC, the Supplier shall, within twenty-eight (28) days of the notification of contract award, provide a performance security for the performance of the Contract in the amount specified in the **SCC**.

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

18.3 As specified in the SCC, the Performance Security, if required, shall be denominated in the currency(ies) of the Contract, or in a freely convertible currency acceptable to the Purchaser; and shall be in one of the format stipulated by the Purchaser in the SCC, or in another format acceptable to the Purchaser.

18.4 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, unless specified otherwise in the **SCC**.

19. Copyright

19.1 The copyright in all drawings, documents, and other materials containing data and information furnished to the Purchaser by the Supplier herein shall remain vested in the Supplier, or, if they are furnished to the Purchaser directly or through the Supplier by any third party, including suppliers of materials, the copyright in such materials shall remain vested in such third party

20. Confidential Information

20.1 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. Notwithstanding the above, the Supplier may furnish to its Subcontractor such documents, data, and other

information it receives from the Purchaser to the extent required for the Subcontractor to perform its work under the Contract, in which event the Supplier shall obtain from such Subcontractor an undertaking of confidentiality similar to that imposed on the Supplier under GCC Clause 20.

20.2 The Purchaser shall not use such documents, data, and other information received from the Supplier for any purposes unrelated to the contract. Similarly, the Supplier shall not use such documents, data, and other information received from the Purchaser for any purpose other than the performance of the Contract.

20.3 The obligation of a party under GCC Sub-Clauses 20.1 and 20.2 above, however, shall not apply to information that:

- (a) the Purchaser or Supplier need to share with the Bank or other institutions participating in the financing of the Contract;
- (b) now or hereafter enters the public domain through no fault of that party;
- (c) can be proven to have been possessed by that party at the time of disclosure and which was not previously obtained, directly or indirectly, from the other party; or
- (d) otherwise lawfully becomes available to that party from a third party that has no obligation of confidentiality.

20.4 The above provisions of GCC Clause 20 shall not in any way modify any undertaking of confidentiality given by either of the parties hereto prior to the date of the Contract in respect of the Supply or any part thereof.

20.5 The provisions of GCC Clause 20 shall survive completion or termination, for whatever reason, of the Contract.

21. Subcontracting 21.1 The Supplier shall notify the Purchaser in writing of all subcontracts awarded under the Contract if not already specified in the Bid. Such notification, in the original Bid or later shall not relieve the Supplier from any of its obligations, duties, responsibilities, or liability under the Contract.

21.2 Subcontracts shall comply with the provisions of GCC Clauses 3 and 7.

22. Specifications and Standards

22.1 Technical Specifications and Drawings

- (a) The Goods and Related Services supplied under this Contract shall conform to the technical specifications and standards mentioned in Section VI, Schedule of Requirements and, when no applicable standard is mentioned, the standard shall be equivalent or superior to the official standards whose application is appropriate to the Goods' country of origin.
- (b) The Supplier shall be entitled to disclaim responsibility for any design, data, drawing, specification or other document, or any modification thereof provided or designed by or on behalf of the Purchaser, by giving a notice of such disclaimer to the Purchaser.
- (c) Wherever references are made in the Contract to codes and standards in accordance with which it shall be executed, the edition or the revised version of such codes and standards shall be those specified in the Schedule of Requirements. During Contract execution, any changes in any such codes and standards shall be applied only after approval by the Purchaser and shall be treated in accordance with GCC Clause 33.

23. Packing and Documents

- 23.1 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 goods' final destination and the absence of heavy handling facilities at all points in transit.
- 23.2 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 additional requirements, if any, specified in the SCC, and in any other instructions ordered by the Purchaser.

24. Insurance

- 24.1 Unless otherwise specified in the SCC, the Goods supplied under the Contract shall be fully insured—in a freely convertible currency from an eligible country—against loss or damage incidental to manufacture or acquisition, transportation, storage, and delivery, in accordance with the applicable Incoterms or in the manner specified in the SCC.

25. Transportation and Incidental Services

- 25.1 Unless otherwise specified in the **SCC**, responsibility for arranging transportation of the Goods shall be in accordance with the specified Incoterms.
- 25.2 The Supplier may be required to provide any or all of the following services, including additional services, if any, specified in SCC:
- (a) performance or supervision of on-site assembly and/or start-up of the supplied Goods;
 - (b) furnishing of tools required for assembly and/or maintenance of the supplied Goods;
 - (c) furnishing of a detailed operations and maintenance manual for each appropriate unit of the supplied Goods;
 - (d) performance or supervision or maintenance and/or repair of the supplied Goods, for a period of time agreed by the parties, provided that this service shall not relieve the Supplier of any warranty obligations under this Contract; and
 - (e) training of the Purchaser's personnel, at the Supplier's plant and/or on-site, in assembly, start-up, operation, maintenance, and/or repair of the supplied Goods.
- 25.3 Prices charged by the Supplier for incidental services, if not included in the Contract Price for the Goods, shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged to other parties by the Supplier for similar services

26. Inspections and Tests

- 26.1 The Supplier shall at its own expense and at no cost to the Purchaser carry out all such tests and/or inspections of the Goods and Related Services as are specified in the **SCC**.
- 26.2 The inspections and tests may be conducted on the premises of the Supplier or its Subcontractor, at point of delivery, and/or at the Goods' final destination, or in another place in the Purchaser's Country as specified in the **SCC**. Subject to GCC Sub-Clause 26.3, if conducted on the premises of the Supplier or its Subcontractor, all reasonable facilities and assistance, including access to drawings and production data, shall be furnished to the inspectors at no charge to the Purchaser.
- 26.3 The Purchaser or its designated representative shall be entitled to attend the tests and/or inspections referred to in GCC Sub-Clause 26.2, provided that the Purchaser bear all of its own costs and

expenses incurred in connection with such attendance including, but not limited to, all traveling and board and lodging expenses.

26.4 Whenever the Supplier is ready to carry out any such test and inspection, it shall give a reasonable advance notice, including the place and time, to the Purchaser. The Supplier shall obtain from any relevant third party or manufacturer any necessary permission or consent to enable the Purchaser or its designated representative to attend the test and/or inspection.

26.5 The Purchaser may require the Supplier to carry out any test and/or inspection not required by the Contract but deemed necessary to verify that the characteristics and performance of the Goods comply with the technical specifications codes and standards under the Contract, provided that the Supplier's reasonable costs and expenses incurred in the carrying out of such test and/or inspection shall be added to the Contract Price. Further, if such test and/or inspection impedes the progress of manufacturing and/or the Supplier's performance of its other obligations under the Contract, due allowance will be made in respect of the Delivery Dates and Completion Dates and the other obligations so affected.

26.6 The Supplier shall provide the Purchaser with a report of the results of any such test and/or inspection.

26.7 The Purchaser may reject any Goods or any part thereof that fail to pass any test and/or inspection or do not conform to the specifications. The Supplier shall either rectify or replace such rejected Goods or parts thereof or make alterations necessary to meet the specifications at no cost to the Purchaser, and shall repeat the test and/or inspection, at no cost to the Purchaser, upon giving a notice pursuant to GCC Sub-Clause 26.4.

26.8 The Supplier agrees that neither the execution of a test and/or inspection of the Goods or any part thereof, nor the attendance by the Purchaser or its representative, nor the issue of any report pursuant to GCC Sub-Clause 26.6, shall release the Supplier from any warranties or other obligations under the Contract.

27. Liquidated Damages

27.1 Except as provided under GCC Clause 32, if the Supplier fails to deliver any or all of the Goods by the Date(s) of delivery or perform the Related Services 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 the percentage specified in the 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 percentage specified in those **SCC**. Once the maximum is reached, the Purchaser may terminate the Contract pursuant to GCC Clause 35.

28. Warranty

28.1 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, unless provided otherwise in the Contract.

28.2 Subject to GCC Sub-Clause 22.1(b), 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 the country of final destination.

28.3 Unless otherwise specified in the **SCC**, the warranty shall remain valid for twelve (12) months after the Goods, or any portion thereof as the case may be, have been delivered to and accepted at the final destination indicated in the **SCC**, or for eighteen (18) months after the date of shipment from the port or place of loading in the country of origin, whichever period concludes earlier.

28.4 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.

28.5 Upon receipt of such notice, the Supplier shall, within the period specified in the **SCC**, expeditiously repair or replace the defective Goods or parts thereof, at no cost to the Purchaser.

28.6 If having been notified, the Supplier fails to remedy the defect within the period specified in the **SCC**, 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 the Contract.

29. Patent Indemnity

29.1 The Supplier shall, subject to the Purchaser's compliance with GCC Sub-Clause 29.2, 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:

- (a) the installation of the Goods by the Supplier or the use of the Goods in the country where the Site is located; and
- (b) the sale in any country of the products produced by the Goods.

Such indemnity shall not cover any use of the Goods or any part thereof other than for the purpose indicated by or to be reasonably inferred from the Contract, neither any infringement resulting from the use of the Goods or any part thereof, or any products produced thereby in association or combination with any other equipment, plant, or materials not supplied by the Supplier, pursuant to the Contract.

29.2 If any proceedings are brought or any claim is made against the Purchaser arising out of the matters referred to in GCC Sub-Clause 29.1, the Purchaser shall promptly give the Supplier a notice thereof, and the Supplier may 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.

29.3 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.

29.4 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.

29.5 The Purchaser shall indemnify and hold harmless the Supplier and its employees, officers, and Subcontractors 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 Supplier 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 arising out of or in connection with any design, data, drawing, specification, or other documents or materials provided or designed by or on behalf of the Purchaser.

- 30. Limitation of Liability**
- 30.1 Except in cases of criminal negligence or willful misconduct,
- (a) the Supplier shall not be liable to the Purchaser, whether in contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the Supplier to pay liquidated damages to the Purchaser and
 - (b) the aggregate liability of the Supplier to the Purchaser, whether under the Contract, in tort or otherwise, shall not exceed the total Contract Price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment, or to any obligation of the supplier to indemnify the Purchaser with respect to patent infringement
- 31. Change in Laws and Regulations**
- 31.1 Unless otherwise specified in the Contract, if after the date of 28 days prior to date of Bid submission, any law, regulation, ordinance, order or bylaw having the force of law is enacted, promulgated, abrogated, or changed in the place of the Purchaser's Country where the Site is located (which shall be deemed to include any change in interpretation 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. Notwithstanding the foregoing, such additional or reduced cost shall not be separately paid or credited if the same has already been accounted for in the price adjustment provisions where applicable, in accordance with GCC Clause 15.
- 32. Force Majeure**
- 32.1 The Supplier shall not be liable for forfeiture of its Performance Security, 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.
- 32.2 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, acts of the Purchaser in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes.

- 32.3 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.
- 33. Change Orders and Contract Amendments**
- 33.1 The Purchaser may at any time order the Supplier through notice in accordance GCC Clause 8, to make changes within the general scope of the Contract in any one or more of the following:
- (a) drawings, designs, or specifications, where Goods to be furnished under the Contract are to be specifically manufactured for the Purchaser;
 - (b) the method of shipment or packing;
 - (c) the place of delivery; and
 - (d) the Related Services to be provided by the Supplier.
- 33.2 If any such change causes an increase or decrease in the cost of, or the time required for, the Supplier's performance of any provisions under the Contract, an equitable adjustment shall be made in the Contract Price or in the Delivery/Completion Schedule, or both, and the Contract shall accordingly be amended. Any claims by the Supplier for adjustment under this Clause must be asserted within twenty-eight (28) days from the date of the Supplier's receipt of the Purchaser's change order.
- 33.3 Prices to be charged by the Supplier for any Related Services that might be needed but which were not included in the Contract shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged to other parties by the Supplier for similar services.
- 33.4 **Value Engineering:** The Supplier may prepare, at its own cost, a value engineering proposal at any time during the performance of the contract. The value engineering proposal shall, at a minimum, include the following:
- (a) the proposed change(s), and a description of the difference to the existing contract requirements;
 - (b) a full cost/benefit analysis of the proposed change(s) including a description and estimate of costs

(including life cycle costs) the Purchaser may incur in implementing the value engineering proposal; and

- (c) a description of any effect(s) of the change on performance/functionality.

The Purchaser may accept the value engineering proposal if the proposal demonstrates benefits that:

- (a) accelerates the delivery period; or
- (b) reduces the Contract Price or the life cycle costs to the Purchaser; or
- (c) improves the quality, efficiency or sustainability of the Goods; or
- (d) yields any other benefits to the Purchaser,

without compromising the necessary functions of the Facilities.

If the value engineering proposal is approved by the Purchaser and results in:

- (a) a reduction of the Contract Price; the amount to be paid to the Supplier shall be the percentage specified **in the PCC** of the reduction in the Contract Price; or
- (b) an increase in the Contract Price; but results in a reduction in life cycle costs due to any benefit described in (a) to (d) above, the amount to be paid to the Supplier shall be the full increase in the Contract Price.

33.5 Subject to the above, no variation in or modification of the terms of the Contract shall be made except by written amendment signed by the parties.

34. Extensions of Time

34.1 If at any time during performance of the Contract, the Supplier or its subcontractors should encounter conditions impeding timely delivery of the Goods or completion of Related Services pursuant to GCC Clause 13, 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.

34.2 Except in case of Force Majeure, as provided under GCC Clause 32, 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 GCC Clause 26, unless an extension of time is agreed upon, pursuant to GCC Sub-Clause 34.1.

35. Termination

35.1 Termination for Default

- (a) The Purchaser, without prejudice to any other remedy for breach of Contract, by written 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 GCC Clause 34;
 - (ii) if the Supplier fails to perform any other obligation under the Contract; or
 - (iii) if the Supplier, in the judgment of the Purchaser has engaged in Fraud and Corruption, as defined in paragraph 2.2 a of the Appendix to the GCC, in competing for or in executing the Contract.
- (b) In the event the Purchaser terminates the Contract in whole or in part, pursuant to GCC Clause 35.1(a), the Purchaser may procure, upon such terms and in such manner as it deems appropriate, Goods or Related Services similar to those undelivered or not performed, and the Supplier shall be liable to the Purchaser for any additional costs for such similar Goods or Related Services. However, the Supplier shall continue performance of the Contract to the extent not terminated.

35.2 Termination for Insolvency.

- (a) 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

35.3 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 twenty-eight (28) days after the Supplier's receipt of notice of termination shall be accepted by the Purchaser at the Contract terms and prices. For the remaining Goods, the Purchaser may elect:
 - (i) to have any portion completed and delivered at the Contract terms and prices; and/or
 - (ii) to cancel the remainder and pay to the Supplier an agreed amount for partially completed Goods and Related Services and for materials and parts previously procured by the Supplier.

36. Assignment

36.1 Neither the Purchaser nor the Supplier shall assign, in whole or in part, their obligations under this Contract, except with prior written consent of the other party.

**37. Export
Restriction**

37.1 Notwithstanding any obligation under the Contract to complete all export formalities, any export restrictions attributable to the Purchaser, to the country of the Purchaser, or to the use of the products/goods, systems or services to be supplied, which arise from trade regulations from a country supplying those products/goods, systems or services, and which substantially impede the Supplier from meeting its obligations under the Contract, shall release the Supplier from the obligation to provide deliveries or services, always provided, however, that the Supplier can demonstrate to the satisfaction of the Purchaser and of the Bank that it has completed all formalities in a timely manner, including applying for permits, authorizations and licenses necessary for the export of the products/goods, systems or services under the terms of the Contract. Termination of the Contract on this basis shall be for the Purchaser's convenience pursuant to Sub-Clause 35.3.

APPENDIX TO GENERAL CONDITIONS

Fraud and Corruption

(Text in this Appendix shall not be modified)

1. Purpose

1.1 The Bank's Anti-Corruption Guidelines and this annex apply with respect to procurement under Bank Investment Project Financing operations.

2. Requirements

2.1 The Bank requires that Borrowers (including beneficiaries of Bank financing); bidders (applicants/proposers), consultants, contractors and suppliers; any sub-contractors, sub-consultants, service providers or suppliers; any agents (whether declared or not); and any of their personnel, observe the highest standard of ethics during the procurement process, selection and contract execution of Bank-financed contracts, and refrain from Fraud and Corruption.

2.2 To this end, the Bank:

- a. Defines, for the purposes of this provision, the terms set forth below as follows:
 - i. "corrupt practice" is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;
 - ii. "fraudulent practice" is any act or omission, including misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain financial or other benefit or to avoid an obligation;
 - iii. "collusive practice" is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;
 - iv. "coercive practice" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;
 - v. "obstructive practice" is:
 - (a) deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive, or collusive practice; and/or threatening, harassing, or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or
 - (b) acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under paragraph 2.2 e. below.

- b. Rejects a proposal for award if the Bank determines that the firm or individual recommended for award, any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/ or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;
- c. In addition to the legal remedies set out in the relevant Legal Agreement, may take other appropriate actions, including declaring misprocurement, if the Bank determines at any time that representatives of the Borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices during the procurement process, selection and/or execution of the contract in question, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur, including by failing to inform the Bank in a timely manner at the time they knew of the practices;
- d. Pursuant to the Bank's Anti- Corruption Guidelines and in accordance with the Bank's prevailing sanctions policies and procedures, may sanction a firm or individual, either indefinitely or for a stated period of time, including by publicly declaring such firm or individual ineligible (i) to be awarded or otherwise benefit from a Bank-financed contract, financially or in any other manner;¹ (ii) to be a nominated² sub-contractor, consultant, manufacturer or supplier, or service provider of an otherwise eligible firm being awarded a Bank-financed contract; and (iii) to receive the proceeds of any loan made by the Bank or otherwise to participate further in the preparation or implementation of any Bank-financed project;
- e. Requires that a clause be included in bidding/request for proposals documents and in contracts financed by a Bank loan, requiring (i) bidders (applicants/proposers), consultants, contractors, and suppliers, and their sub-contractors, sub-consultants, service providers, suppliers, agents personnel, permit the Bank to inspect³ all accounts, records and other documents relating to the procurement process, selection and/or contract execution, and to have them audited by auditors appointed by the Bank.

¹ For the avoidance of doubt, a sanctioned party's ineligibility to be awarded a contract shall include, without limitation, (i) applying for pre-qualification, expressing interest in a consultancy, and bidding, either directly or as a nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider, in respect of such contract, and (ii) entering into an addendum or amendment introducing a material modification to any existing contract.

² A nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider (different names are used depending on the particular bidding document) is one which has been: (i) included by the bidder in its pre-qualification application or bid because it brings specific and critical experience and know-how that allow the bidder to meet the qualification requirements for the particular bid; or (ii) appointed by the Borrower.

³ Inspections in this context usually are investigative (i.e., forensic) in nature. They involve fact-finding activities undertaken by the Bank or persons appointed by the Bank to address specific matters related to investigations/audits, such as evaluating the veracity of an allegation of possible Fraud and Corruption, through the appropriate mechanisms. Such activity includes but is not limited to: accessing and examining a firm's or individual's financial records and information, and making copies thereof as relevant; accessing and examining any other documents, data and information (whether in hard copy or electronic format) deemed relevant for the investigation/audit, and making copies thereof as relevant; interviewing staff and other relevant individuals; performing physical inspections and site visits; and obtaining third party verification of information.

Section IX - Special Conditions of Contract

The following Special Conditions of Contract (SCC) shall supplement and / or amend the General Conditions of Contract (GCC). Whenever there is a conflict, the provisions herein shall prevail over those in the GCC.

[The Purchaser shall select insert the appropriate wording using the samples below or other acceptable wording, and delete the text in italics]

GCC 1.1(i)	The Purchaser's Country is: Islamic Republic of Afghanistan
GCC 1.1(j)	The Purchaser is: Supreme Audit Office (SAO)
GCC 1.1 (o)	The Project Site(s)/Final Destination(s) is/are: SAO , Darul Aman Char Qalai Wazir Abad next to Human Rights Central Office
GCC 4.2 (a)	The meaning of the trade terms shall be as prescribed by Incoterms.
GCC 4.2 (b)	The version edition of Incoterms shall be Incoterms 2010
GCC 5.1	The language shall be: English
GCC 8.1	For <u>notices</u> , the Purchaser's address shall be: Attention: Procurement Directorate Address: Darul Aman SAO Office, Supreme Audit Office Afghanistan City: Kabul Country: Afghanistan Telephone: 0202924046 Electronic mail address: hadi.ghaffari@SAO.gov.af
GCC 9.1	The governing law shall be the law of: Islamic Republic of Afghanistan
GCC 10.2	The rules of procedure for arbitration proceedings pursuant to GCC Clause 10.2 shall be as follows: <i>“Clause 10.2 (a) shall be retained in the case of a Contract with a foreign Supplier and clause 10.2 (b) shall be retained in the case of a Contract with a national of the Purchaser's Country.”</i> (a) Contract with foreign Supplier:

	<p>GCC 10.2 (a)—Any dispute, controversy or claim arising out of or relating to this Contract, or breach, termination or invalidity thereof, shall be settled by arbitration in accordance with the UNCITRAL Arbitration Rules as at present in force.</p> <p>(b) <i>Contracts with Supplier national of the Purchaser’s Country:</i></p> <p>In the case of a dispute between the Purchaser and a Supplier who is a national of the Purchaser’s Country, the dispute shall be referred to adjudication or arbitration in accordance with the laws of the Purchaser’s Country.</p>
<p>GCC 13.1</p>	<p>Details of Shipping and other Documents to be furnished by the Supplier are:</p> <p>Upon shipment, the Supplier shall notify the Purchaser and the insurance company in writing the full details of the shipment including Contract number, description of the Goods, quantity, date and place of shipment, mode of transportation, and estimated date of arrival at place of destination.</p> <p>The Supplier shall scan and send by e-mail and then send by courier the following documents to the Purchaser, with a copy to the insurance company</p> <p>(i) One original and two copies of the Supplier’s invoice, showing Purchaser as Supreme Audit Office (SAO), Islamic Republic of Afghanistan the Contract number, Grant number, Goods description, quantity, unit price, and total amount. Invoices must be signed in original, stamped, or sealed with the company stamp/seal;</p> <p>(ii) one original and two copies of the negotiable, clean, onboard through bill of lading marked “freight prepaid” and showing Purchaser as Supreme Audit Office (SAO, Islamic Republic of Afghanistan and Notify Party as stated in the Contract, with delivery through to final destination as per the Schedule of Requirements and two copies of non-negotiable bill of lading, road consignment note, truck waybill, or multimodal transport document, marked “freight prepaid” and showing delivery through to final destination as per the Schedule of Requirements;</p> <p>(iii) four copies of the packing list identifying contents of each package;</p> <p>(iv) copy of the Insurance Certificate, showing the Purchaser as the beneficiary;</p>

	<p>(v) one original and two copies of the manufacturer's or Supplier's Warranty Certificate for items supplied;</p> <p>(vi) one original of the Supplier's Certificate of Origin covering all items supplied;</p> <p>(vii) Original copy of the Certificate of Inspection furnished to Supplier by the nominated inspection agency and two copies (where inspection is required) and or Manufacturer's test and inspection certificate for each goods.</p> <p>(viii) Original copy of the certificate of weight issued by the port authority/licensed authority and two copies.</p> <p>Note: In the event that the documents presented by the Supplier are not in accordance with the Contract, then payment will be made against issue of the Acceptance Certificate.</p> <p>The above documents shall be received by the Purchaser before arrival of the Goods and, if not received, the Supplier will be responsible for any consequent expenses.</p>
GCC 15.1	The prices charged for the Goods supplied and the related Services performed shall not be adjustable.
GCC 16.1	<p>Sample provision</p> <p>GCC 16.1—The method and conditions of payment to be made to the Supplier under this Contract shall be as follows:</p> <p>Payment for Goods supplied from abroad:</p> <p>Payment of foreign currency portion shall be made in the currency of the bid in the following manner:</p> <p>(i) Advance Payment: Ten (10) percent of the Contract Price shall be paid within thirty (30) days of signing of the Contract against a simple receipt and a bank guarantee for the equivalent amount and in the form provided in the bidding document or another form acceptable to the Purchaser.</p> <p>(ii) On Delivery: Eighty (70) percent of the Contract Price shall be paid on receipt of the Goods and upon submission of the documents specified in GCC Clause 13.</p> <p>(iii) On Acceptance: The remaining ten (10) percent of the Contract Price shall be paid to the Supplier within thirty (30) days</p>

	<p>after the date of the acceptance certificate for the respective delivery issued by the Purchaser.</p> <p>(iv) Retention: the remaining ten (10) percent of the contract price shall be paid to the supplier after successful completion off the Warranty period.</p> <p>Payment of local currency portion shall be made in the currency of the bid within thirty (30) days of presentation of claim supported by a certificate from the Purchaser declaring that the Goods have been delivered and that all other contracted Services have been performed.</p> <p>Payment for Goods and Services supplied from within the Purchaser’s Country:</p> <p>Payment for Goods and Services supplied from within the Purchaser’s Country shall be made in the currency of the bid, as follows:</p> <p>(i) Advance Payment: Ten (10) percent of the Contract Price shall be paid within thirty (30) days of signing of the Contract against a simple receipt and a bank guarantee for the equivalent amount and in the form provided in the bidding document or another form acceptable to the Purchaser.</p> <p>(ii) On Delivery: Eighty (70) percent of the Contract Price shall be paid on receipt of the Goods and upon submission of the documents specified in GCC Clause 13.</p> <p>(v) On Acceptance: The remaining ten (10) percent of the Contract Price shall be paid to the Supplier within thirty (30) days after the date of the acceptance certificate for the respective delivery issued by the Purchaser.</p> <p>(vi) Tamenat: the remaining ten (10) percent of the contract price shall be paid to the supplier after successful completion off the Warranty period.</p>
GCC 16.5	<p>The payment-delay period after which the Purchaser shall pay interest to the supplier shall be 60 days.</p> <p>The interest rate that shall be applied is: Not applicable</p>
GCC 18.1	<p>A Performance Security <i>“shall” be required.</i></p> <p>10% of the total value of the contract with a validity of 28+Delivery period 150 days</p>

GCC 18.3	<p>If required, the Performance Security shall be in the form of Demand Guarantee</p> <p>If required, the Performance security shall be denominated in the currencies of payment of the Contract, in accordance with their portions of the Contract Price.</p>
GCC 18.4	Discharge of the Performance Security shall take place: as per sub clause GCC 18.4
GCC 23.2	The packing, marking and documentation within and outside the packages shall be: As per GCC 23.1 and No additional requirement is required.
GCC 24.1	The insurance coverage shall be as specified in the Incoterms covering all Risks up to delivery of the goods to the final destination.
GCC 25.1	Responsibility for transportation of the Goods shall be as specified in the Incoterms.
GCC 25.2	<p>Incidental services to be provided are:</p> <p>as per GCC Clause 25.2</p>
GCC 26.1	<p>The inspections and tests shall be:</p> <ol style="list-style-type: none"> 1. Visual inspection 2. Inspection for any physical damage 3. Inspection of good after installation and running. 4. Checking the serial numbers to make sure the same number appear on all the parts of the equipment/machine 5. Any other tests to ensure that the Goods supplied are as per Technical Specifications.
GCC 26.2	The Inspections and tests shall be conducted at: SAO, HQ
GCC 27.1	The liquidated damage shall be: <i>0.5%</i> of the contract price per week for the quantity of equipment delayed.
GCC 27.1	The maximum amount of liquidated damages shall be: <i>10%</i> of the contract price
GCC 28.3	<p>The period of validity of the Warranty shall be: 12 Months from date of acceptance of the Goods for all lots.</p> <p>For purposes of the Warranty, the place(s) of final destination(s) shall be:</p> <p>Chahar Qala-e-Chahardihi Rd, - Kabul Afghanistan</p>

GCC 28.5, GCC 28.6	The period for repair or replacement shall be: 30 days.
GCC 33.4	Not applicable

Section X - Contract Forms

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Notification of Intention to Award

[This Notification of Intention to Award shall be sent to each Bidder that submitted a Bid.]

[Send this Notification to the Bidder's Authorized Representative named in the Bidder Information Form]

For the attention of Bidder's Authorized Representative

Name: *[insert Authorized Representative's name]*

Address: *[insert Authorized Representative's Address]*

Telephone/Fax numbers: *[insert Authorized Representative's telephone/fax numbers]*

Email Address: *[insert Authorized Representative's email address]*

[IMPORTANT: insert the date that this Notification is transmitted to Bidders. The Notification must be sent to all Bidders simultaneously. This means on the same date and as close to the same time as possible.]

DATE OF TRANSMISSION: This Notification is sent by: *[email/fax]* on *[date]* (local time)

Notification of Intention to Award

Purchaser: *[insert the name of the Purchaser]*

Project: *[insert name of project]*

Contract title: *[insert the name of the contract]*

Country: *[insert country where RFB is issued]*

Loan No. /Credit No. / Grant No.: *[insert reference number for loan/credit/grant]*

RFB No: *[insert RFB reference number from Procurement Plan]*

This Notification of Intention to Award (Notification) notifies you of our decision to award the above contract. The transmission of this Notification begins the Standstill Period. During the Standstill Period you may:

- a) request a debriefing in relation to the evaluation of your Bid, and/or
- b) submit a Procurement-related Complaint in relation to the decision to award the contract.

1. The successful Bidder

Name:	<i>[insert name of successful Bidder]</i>
Address:	<i>[insert address of the successful Bidder]</i>
Contract price:	<i>[insert contract price of the successful Bid]</i>

2. Other Bidders *[INSTRUCTIONS: insert names of all Bidders that submitted a Bid. If the Bid's price was evaluated include the evaluated price as well as the Bid price as read out.]*

Name of Bidder	Bid price	Evaluated Bid price (if applicable)
[insert name]	[insert Bid price]	[insert evaluated price]
[insert name]	[insert Bid price]	[insert evaluated price]
[insert name]	[insert Bid price]	[insert evaluated price]
[insert name]	[insert Bid price]	[insert evaluated price]
[insert name]	[insert Bid price]	[insert evaluated price]

3. Reason/s why your Bid was unsuccessful

[INSTRUCTIONS: State the reason/s why this Bidder's Bid was unsuccessful. Do NOT include: (a) a point by point comparison with another Bidder's Bid or (b) information that is marked confidential by the Bidder in its Bid.]

4. How to request a debriefing

DEADLINE: The deadline to request a debriefing expires at midnight on [insert date] (local time).

You may request a debriefing in relation to the results of the evaluation of your Bid. If you decide to request a debriefing your written request must be made within three (3) Business Days of receipt of this Notification of Intention to Award.

Provide the contract name, reference number, name of the Bidder, contact details; and address the request for debriefing as follows:

Attention: [insert full name of person, if applicable]

Title/position: [insert title/position]

Agency: [insert name of Purchaser]

Email address: [insert email address]

Fax number: [insert fax number] *delete if not used*

If your request for a debriefing is received within the 3 Business Days deadline, we will provide the debriefing within five (5) Business Days of receipt of your request. If we are unable to provide the debriefing within this period, the Standstill Period shall be extended by five (5) Business Days after the date that the debriefing is provided. If this happens, we will notify you and confirm the date that the extended Standstill Period will end.

The debriefing may be in writing, by phone, video conference call or in person. We shall promptly advise you in writing how the debriefing will take place and confirm the date and time.

If the deadline to request a debriefing has expired, you may still request a debriefing. In this case, we will provide the debriefing as soon as practicable, and normally no later than fifteen (15) Business Days from the date of publication of the Contract Award Notice.

5. How to make a complaint

Period: Procurement-related Complaint challenging the decision to award shall be submitted by midnight, [insert date] (local time).

Provide the contract name, reference number, name of the Bidder, contact details; and address the Procurement-related Complaint as follows:

Attention: [insert full name of person, if applicable]

Title/position: [insert title/position]

Agency: [insert name of Purchaser]

Email address: [insert email address]

Fax number: [insert fax number] *delete if not used*

At this point in the procurement process, you may submit a Procurement-related Complaint challenging the decision to award the contract. You do not need to have requested, or received, a debriefing before making this complaint. Your complaint must be submitted within the Standstill Period and received by us before the Standstill Period ends.

Further information:

For more information see the [Procurement Regulations for IPF Borrowers \(Procurement Regulations\)\[https://policies.worldbank.org/sites/ppf3/PPFDocuments/Forms/DispPage.aspx?docid=4005\]](https://policies.worldbank.org/sites/ppf3/PPFDocuments/Forms/DispPage.aspx?docid=4005) (Annex III). You should read these provisions before preparing and submitting your complaint. In addition, the World Bank’s Guidance “[How to make a Procurement-related Complaint](http://www.worldbank.org/en/projects-operations/products-and-services/brief/procurement-new-framework#framework)” [<http://www.worldbank.org/en/projects-operations/products-and-services/brief/procurement-new-framework#framework>] provides a useful explanation of the process, as well as a sample letter of complaint.

In summary, there are four essential requirements:

1. You must be an ‘interested party’. In this case, that means a Bidder who submitted a Bid in this bidding process, and is the recipient of a Notification of Intention to Award.
2. The complaint can only challenge the decision to award the contract.
3. You must submit the complaint within the period stated above.

4. You must include, in your complaint, all of the information required by the Procurement Regulations (as described in Annex III).

6. Standstill Period

DEADLINE: The Standstill Period is due to end at midnight on [insert date] (local time).

The Standstill Period lasts ten (10) Business Days after the date of transmission of this Notification of Intention to Award.

The Standstill Period may be extended as stated in Section 4 above.

If you have any questions regarding this Notification please do not hesitate to contact us.

On behalf of the Purchaser:

Signature: _____

Name: _____

Title/position: _____

Telephone: _____

Email: _____

Beneficial Ownership Disclosure Form

INSTRUCTIONS TO BIDDERS: DELETE THIS BOX ONCE YOU HAVE COMPLETED THE FORM

This Beneficial Ownership Disclosure Form (“Form”) is to be completed by the successful Bidder¹. In case of joint venture, the Bidder must submit a separate Form for each member. The beneficial ownership information to be submitted in this Form shall be current as of the date of its submission.

For the purposes of this Form, a Beneficial Owner of a Bidder is any natural person who ultimately owns or controls the Bidder by meeting one or more of the following conditions:

- *directly or indirectly holding 25% or more of the shares*
- *directly or indirectly holding 25% or more of the voting rights*
- *directly or indirectly having the right to appoint a majority of the board of directors or equivalent governing body of the Bidder*

RFB No.: *[insert number of RFB process]*

Request for Bid No.: *[insert identification]*

To: *[insert complete name of Purchaser]*

In response to your request in the Letter of Acceptance dated *[insert date of letter of Acceptance]* to furnish additional information on beneficial ownership: *[select one option as applicable and delete the options that are not applicable]*

(i) we hereby provide the following beneficial ownership information.

Details of beneficial ownership

Identity of Beneficial Owner	Directly or indirectly holding 25% or more of the shares (Yes / No)	Directly or indirectly holding 25 % or more of the Voting Rights (Yes / No)	Directly or indirectly having the right to appoint a majority of the board of the directors or an equivalent governing body of the Bidder (Yes / No)
<i>[include full name (last, middle, first),</i>			

<i>nationality, country of residence]</i>			
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OR

(ii) *We declare that there is no Beneficial Owner meeting one or more of the following conditions:*

- directly or indirectly holding 25% or more of the shares
- directly or indirectly holding 25% or more of the voting rights
- directly or indirectly having the right to appoint a majority of the board of directors or equivalent governing body of the Bidder

OR

(iii) *We declare that we are unable to identify any Beneficial Owner meeting one or more of the following conditions. [If this option is selected, the Bidder shall provide explanation on why it is unable to identify any Beneficial Owner]*

- directly or indirectly holding 25% or more of the shares
- directly or indirectly holding 25% or more of the voting rights
- directly or indirectly having the right to appoint a majority of the board of directors or equivalent governing body of the Bidder]”

Name of the Bidder: **[insert complete name of the Bidder]*_____

Name of the person duly authorized to sign the Bid on behalf of the Bidder: ***[insert complete name of person duly authorized to sign the Bid]*_____

Title of the person signing the Bid: *[insert complete title of the person signing the Bid]*_____

Signature of the person named above: *[insert signature of person whose name and capacity are shown above]*_____

Date signed *[insert date of signing]* **day of** *[insert month], [insert year]*_____

* In the case of the Bid submitted by a Joint Venture specify the name of the Joint Venture as Bidder. In the event that the Bidder is a joint venture, each reference to “Bidder” in the Beneficial Ownership Disclosure Form (including this Introduction thereto) shall be read to refer to the joint venture member.

** Person signing the Bid shall have the power of attorney given by the Bidder. The power of attorney shall be attached with the Bid Schedules.

Letter of Acceptance

[use letterhead paper of the Purchaser]

[date]

To: *[name and address of the Supplier]*

Subject: **Notification of Award Contract No.**

This is to notify you that your Bid dated *[insert date]* for execution of the *[insert name of the contract and identification number, as given in the SCC]* for the Accepted Contract Amount of *[insert amount in numbers and words and name of currency]*, as corrected and modified in accordance with the Instructions to Bidders is hereby accepted by our Agency.

You are requested to furnish (i) the Performance Security within 28 days in accordance with the Conditions of Contract, using for that purpose one of the Performance Security Forms and (ii) the additional information on beneficial ownership in accordance with BDS ITB 45.1 within eight (8) Business days using the Beneficial Ownership Disclosure Form, included in Section X, - Contract Forms, of the Bidding Document.

Authorized Signature: _____
Name and Title of Signatory: _____
Name of Agency: _____

Attachment: Contract Agreement

Contract Agreement

[The successful Bidder shall fill in this form in accordance with the instructions indicated]

THIS AGREEMENT made

the *[insert: number]* day of *[insert: month]*, *[insert: year]*.

BETWEEN

- (1) *[insert complete name of Purchaser]*, a *[insert description of type of legal entity, for example, an agency of the Ministry of of the Government of {insert name of Country of Purchaser}, or corporation incorporated under the laws of {insert name of Country of Purchaser}]* and having its principal place of business at *[insert address of Purchaser]* (hereinafter called “the Purchaser”), of the one part, and
- (2) *[insert name of Supplier]*, a corporation incorporated under the laws of *[insert: country of Supplier]* and having its principal place of business at *[insert: address of Supplier]* (hereinafter called “the Supplier”), of the other part:

WHEREAS the Purchaser invited Bids for certain Goods and ancillary services, viz., *[insert brief description of Goods and Services]* and has accepted a Bid by the Supplier for the supply of those Goods and Services

The Purchaser and the Supplier agree as follows:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Contract documents referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement. This Agreement shall prevail over all other contract documents.
 - (a) the Letter of Acceptance
 - (b) the Letter of Bid
 - (c) the Addenda Nos. _____ (if any)
 - (d) Special Conditions of Contract
 - (e) General Conditions of Contract
 - (f) the Specification (including Schedule of Requirements and Technical Specifications)
 - (g) the completed Schedules (including Price Schedules)

- (h) any other document listed in GCC as forming part of the Contract
3. In consideration of the payments to be made by the Purchaser to the Supplier as specified in this Agreement, the Supplier hereby covenants with the Purchaser to provide the Goods and Services and to remedy defects therein in conformity in all respects with the provisions of the Contract.
 4. The Purchaser hereby covenants to pay the Supplier in consideration of the provision of the Goods and Services 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 Agreement to be executed in accordance with the laws of *[insert the name of the Contract governing law country]* on the day, month and year indicated above.

For and on behalf of the Purchaser

Signed: *[insert signature]*
in the capacity of *[insert title or other appropriate designation]*
In the presence of *[insert identification of official witness]*

For and on behalf of the Supplier

Signed: *[insert signature of authorized representative(s) of the Supplier]*
in the capacity of *[insert title or other appropriate designation]*
in the presence of *[insert identification of official witness]*

Performance Security

Option 1: (Bank Guarantee)

[The bank, as requested by the successful Bidder, shall fill in this form in accordance with the instructions indicated]

[Guarantor letterhead or SWIFT identifier code]

Beneficiary: *[insert name and Address of Purchaser]*

Date: *_ [Insert date of issue]*

PERFORMANCE GUARANTEE No.: *[Insert guarantee reference number]*

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that *_ [insert name of Supplier, which in the case of a joint venture shall be the name of the joint venture]* (hereinafter called "the Applicant") has entered into Contract No. *[insert reference number of the contract]* dated *[insert date]* with the Beneficiary, for the supply of *_ [insert name of contract and brief description of Goods and related Services]* (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, a performance guarantee is required.

At the request of the Applicant, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of *[insert amount in figures]* (_____) *[insert amount in words]*,¹ such sum being payable in the types and proportions of currencies in which the Contract Price is payable, upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Applicant is in breach of its obligation(s) under the Contract, without the Beneficiary needing to prove or to show grounds for your demand or the sum specified therein.

This guarantee shall expire, no later than the Day of, 2...², and any demand for payment under it must be received by us at this office indicated above on or before that date.

¹ *The Guarantor shall insert an amount representing the percentage of the Accepted Contract Amount specified in the Letter of Acceptance, and denominated either in the currency (ies) of the Contract or a freely convertible currency acceptable to the Beneficiary.*

² *Insert the date twenty-eight days after the expected completion date as described in GC Clause 18.4. The Purchaser should note that in the event of an extension of this date for completion of the Contract, the Purchaser would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the Purchaser might consider adding the following text to the form, at the end of the penultimate*

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758, except that the supporting statement under Article 15(a) is hereby excluded.

[signature(s)]

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

paragraph: “The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months] [one year], in response to the Beneficiary’s written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee.”

Option 2: Performance Bond

By this Bond [*insert name of Principal*] as Principal (hereinafter called “the Supplier”) and [*insert name of Surety*] as Surety (hereinafter called “the Surety”), are held and firmly bound unto [*insert name of Purchaser*] as Obligee (hereinafter called “the Supplier”) in the amount of [*insert amount in words and figures*], for the payment of which sum well and truly to be made in the types and proportions of currencies in which the Contract Price is payable, the Supplier and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS the Supplier has entered into a written Agreement with the Purchaser dated the _____ day of _____, 20 ____, for [*name of contract and brief description of Goods and related Services*] in accordance with the documents, plans, specifications, and amendments thereto, which to the extent herein provided for, are by reference made part hereof and are hereinafter referred to as the Contract.

NOW, THEREFORE, the Condition of this Obligation is such that, if the Supplier shall promptly and faithfully perform the said Contract (including any amendments thereto), then this obligation shall be null and void; otherwise, it shall remain in full force and effect. Whenever the Supplier shall be, and declared by the Purchaser to be, in default under the Contract, the Purchaser having performed the Purchaser’s obligations thereunder, the Surety may promptly remedy the default, or shall promptly:

- (1) complete the Contract in accordance with its terms and conditions; or
- (2) obtain a Bid or Bids from qualified Bidders for submission to the Purchaser for completing the Contract in accordance with its terms and conditions, and upon determination by the Purchaser and the Surety of the lowest responsive Bidder, arrange for a Contract between such Bidder and Purchaser and make available as work progresses (even though there should be a default or a succession of defaults under the Contract or Contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the Balance of the Contract Price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term “Balance of the Contract Price,” as used in this paragraph, shall mean the total amount payable by Purchaser to Supplier under the Contract, less the amount properly paid by Purchaser to the Supplier; or
- (3) pay the Purchaser the amount required by Purchaser to complete the Contract in accordance with its terms and conditions up to a total not exceeding the amount of this Bond.

The Surety shall not be liable for a greater sum than the specified penalty of this Bond.

Any suit under this Bond must be instituted before the expiration of one year from the date of the issuing of the Taking-Over Certificate.

No right of action shall accrue on this Bond to or for the use of any person or corporation other than the Purchaser named herein or the heirs, executors, administrators, successors, and assigns of the Purchaser.

In testimony whereof, the Supplier has hereunto set his hand and affixed his seal, and the Surety has caused these presents to be sealed with his corporate seal duly attested by the signature of his legal representative, this _____ day of _____ 20
_____.

SIGNED ON _____ on behalf of _____

By _____ in the capacity of _____

In the presence of _____

SIGNED ON _____ on behalf of _____

By _____ in the capacity of _____

In the presence of _____

Advance Payment Security

Demand Guarantee

[Guarantor letterhead or SWIFT identifier code]

Beneficiary: *[Insert name and Address of Purchaser]*

Date: *[Insert date of issue]*

ADVANCE PAYMENT GUARANTEE No.: *[Insert guarantee reference number]*

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that *[insert name of Supplier, which in the case of a joint venture shall be the name of the joint venture]* (hereinafter called "the Applicant") has entered into Contract No. *[insert reference number of the contract]* dated *[insert date]* with the Beneficiary, for the execution of *[insert name of contract and brief description of Goods and related Services]* (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, an advance payment in the sum *[insert amount in figures]* () *[insert amount in words]* is to be made against an advance payment guarantee.

At the request of the Applicant, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of *[insert amount in figures]* (____) *[insert amount in words]*¹ upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating either that the Applicant:

- (a) has used the advance payment for purposes other than toward delivery of Goods;
or
- (b) has failed to repay the advance payment in accordance with the Contract conditions, specifying the amount which the Applicant has failed to repay.

¹ *The Guarantor shall insert an amount representing the amount of the advance payment and denominated either in the currency(ies) of the advance payment as specified in the Contract, or in a freely convertible currency acceptable to the Purchaser.*

A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Beneficiary's bank stating that the advance payment referred to above has been credited to the Applicant on its account number *[insert number]* at *[insert name and address of Applicant's bank]*.

The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Applicant as specified in copies of interim statements or payment certificates which shall be presented to us. This guarantee shall expire, at the latest, upon our receipt of a copy of the interim payment certificate indicating that ninety (90) percent of the Accepted Contract Amount, has been certified for payment, or on the *[insert day]* day of *[insert month]*, 2 *[insert year]*, whichever is earlier. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No.758, except that the supporting statement under Article 15(a) is hereby excluded.

[signature(s)]

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

