

# **African Union**

## **Standard Bidding Documents**

### **REQUEST FOR PROPOSALS**

#### **DESIGN, SUPPLY AND INSTALLATION OF HIGH DENSITY WIRELESS LAN (WIFI) FOR AFRICAN UNION CONFERENCE AREAS**

**Procurement Number: AUC/MIS/G/77**

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## Section 1. Letter of Invitation

1. The African Union Commission has received funds from its Member States toward and intends to apply a portion of this funding to eligible payments under this Contract, reference number AUC/MIS/G/77

2. The African Union Commission now invites Technical and financial proposals to provide the following consulting services: **Design, Supply and Installation of High Density Wireless LAN (WIFI) for African Union Conference Areas.**

More details on the services are provided in the attached Terms of Reference.

3. A firm will be selected under the Quality and Cost Based Selection method and procedures described in this RFP.

5. The RFP includes the following documents:

Section 1 - Letter of Invitation

Section 2 - Information to Consultants

Section 3 –Data sheet

Section 4 - Technical Proposal - Standard Forms

Section 5 - Financial Proposal - Standard Forms

Section 6 - Terms of Reference

**Bid Validity:** Proposals should be valid for at 90 Calendar days from the bid closing date.

**Bid Opening:** Technical Proposals only will be opened immediately after the bid closing hours, at 15:00 hours in the presence of bidders or bidders' representatives who choose to attend, at the address below. Late bids will be rejected and returned unopened to bidders.

**Site visit:** Shall be arranged on appointment. Scheduled dates are **Tuesday 14<sup>th</sup> March 2017 and Tuesday 21<sup>st</sup> March 2017 at 1500 hours.**

**Bid Submission modalities and submission deadline:** This is a two envelope bidding. Bidders should ensure that the Technical and Financial proposals are enclosed in **TWO separate envelopes** sealed and both should be enclosed in one

Outer envelope clearly indicating the title and Procurement number. **Proposals must be submitted no later than Friday 7<sup>th</sup> April 2017 at 15:00hours.**

**Address for Bid submission:**

The Chairperson of the Tender Board  
African Union Commission, Roosevelt Street,  
Building C, 3rd Floor, P.O. Box 3243, Addis Ababa, Ethiopia  
Tel+251 115517700; Email; [tender@africa-union.org](mailto:tender@africa-union.org)

**Clarification Requests:** Clarification requests should be addressed to [tender@africa-union.org](mailto:tender@africa-union.org), Tel+251115517700, Ext 4321

Yours Sincerely

**Carine Toure Yemitia (Mrs)**  
**Head of Procurement, Travel and Stores Division**

## **Section 2. Information to Consultants**

### **1. Introduction**

- 1.1 The Client named in the Data Sheet will select a firm from those listed in the Letter of Invitation, in accordance with the method of selection specified in the Data Sheet.
- 1.2 The consultants are invited to submit a Technical Proposal and a financial proposal, or a Technical Proposal only, as specified in the Data Sheet for consulting services required for the assignment named in the Data Sheet. The proposal will be the basis for contract negotiations and ultimately for a signed contract with the selected firm.
- 1.3 The assignment shall be implemented in accordance with any phasing indicated in the Data Sheet. When the assignment includes several phases, the performance of the consultant under each phase must be to the Client's satisfaction before work begins on the next phase.
- 1.4 The consultants must familiarise themselves with local conditions and take them into account in preparing their proposals. To obtain firsthand information on the assignment and on the local conditions, consultants are encouraged to visit the Client before submitting a proposal and to attend a pre-proposal conference if one is specified in the Data Sheet. Attending any specified pre-proposal conference is optional. The consultants' representative should contact the officials named in the Data Sheet to arrange for their visit or to obtain additional information on any pre-proposal conference. Consultants should ensure that these officials are advised of the visit in adequate time to allow them to make appropriate arrangements.
- 1.5 The Client will provide the inputs specified in the Data Sheet, assist the firm in obtaining licenses and permits needed to carry out the services, and make available relevant project data and reports.
- 1.6 Note that: (i) the costs of preparing the proposal and of negotiating the contract, including a visit to the Client, are not reimbursable as a direct cost of the assignment; and (ii) the Client is not bound to accept any of the proposals submitted.
- 1.7 African Union policy requires consultants to provide professional, objective, and impartial advice, and at all times hold the Client's interests paramount, without any consideration for future work, and strictly avoid conflicts with other assignments or their own corporate interests. Consultants shall not be hired for any assignment that would be in conflict with their prior or current obligations to other clients, or that may

place them in a position of not being able to carry out the assignment in the best interests of the Client.

1.7.1 Without limitation on the generality of this rule, consultants shall not be hired under the circumstances set forth below:

(a) Conflict between consulting activities and procurement of goods, works or services: A firm that has been engaged to provide goods, works, or services for a project, and each of its affiliates, shall be disqualified from providing consulting services related to those goods, works or services. Conversely, a firm hired to provide consulting services for the preparation or implementation of a project, and each of its affiliates, shall be disqualified from subsequently providing goods, works or services resulting from or directly related to the firm's consulting services for such preparation or implementation (other than a continuation of the firms earlier consulting services for the same project).

(b) Conflict among consulting assignments: Neither consultants (including their personnel and sub-consultants) nor any of their affiliates shall be hired for any assignment that, by its nature, may be in conflict with another assignment of the consultants.

(c) Relationship with AUC staff: Consultants (including their personnel and sub-consultants) that have a business or family relationship with a member of AUC staff (or of the Client staff, or of a beneficiary of the assignment) who are directly or indirectly involved in any part of: (i) the preparation of the TOR of the contract, (ii) the selection process for such contract, or (iii) supervision of such contract may not be awarded a contract.

1.7.2 As indicated in paragraph 1.7.1 (a) above, consultants may be hired for downstream work, when continuity is essential, in which case this possibility shall be indicated in the Data Sheet and the factors used for the selection of the consultant should take the likelihood of continuation into account. It will be the exclusive decision of the Client whether or not to have the downstream assignment carried out, and if it is carried out, which consultant will be hired for the purpose.

1.7.3 In the event of 1.7.2. and in order to ensure fairness and transparency in the selection process, it is required that consultants or their affiliates competing for a specific assignment do not derive a competitive advantage from having provided consulting services related to the assignment in question. To that end, all information that would in that respect give a consultant a competitive advantage shall be made available to all the short-listed consultants together with the request for proposals.

1.8 The African Union requires that Officers of the AU, as well as Bidders/ Suppliers/ Contractors/ Consultants, observe the highest standard of ethics during the procurement and execution of such contracts.<sup>1</sup> In pursuance of this policy the AU:

(a) defines, for the purposes of this provision, the terms set forth below as follows:

(i) “corrupt practice”<sup>2</sup> 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”<sup>3</sup> is any act or omission including a misrepresentation that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;

(iii) “collusive practice”<sup>4</sup> 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”<sup>5</sup> is impairing or harming or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence

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<sup>1</sup> *In this context, any action taken by a bidder, supplier, contractor, sub-contractor or consultant to influence the procurement process or contract execution for undue advantage is improper.*

<sup>2</sup> *“another party” refers to an officer of the AU acting in relation to the procurement process or contract execution. In this context, “officer of the AU” includes staff and employees of other organisations taking or reviewing procurement decisions.*

<sup>3</sup> *a “party” refers to any officer of the AU; the terms “benefit” and “obligation” relate to the procurement process or contract execution; and the “act or omission” is intended to influence the procurement process or contract execution.*

<sup>4</sup> *“parties” refers to any participants in the procurement process (including officers of the AU) attempting to establish bid prices at artificial, non competitive levels.*

<sup>5</sup> *a “party” refers to any participant in the procurement process or contract execution.*

improperly the actions of a party;

(v) “obstructive practice” is deliberately destroying, falsifying, altering or concealing of evidence material to any investigation or making false statements to investigators in order to materially impede any 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;

(b) will reject a recommendation for award of contract if it determines that the bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive or obstructive practices in competing for the contract in question;

(c) will declare a firm ineligible, either indefinitely or for a stated period of time, to be awarded an African Union financed contract if it at any time determines that the firm has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive or obstructive practices in competing for, or in executing, an African Union financed contract.

1.9 Consultants shall not be under a declaration of ineligibility for corrupt, fraudulent, collusive, coercive or obstructive practices issued by the AUC in accordance with the above sub-paragraph 1.8.

1.10 Consultants shall furnish information as described in the Financial Proposal submission form (Section 4A) on commissions and gratuities, if any, paid or to be paid to agents relating to this proposal, and to execute the work if the firm is awarded the contract.

1.11 Consultants shall be aware of the provisions on fraud and corruption stated in the Standard Contract under the clauses indicated in the Data Sheet.

**2. Clarification and Amendment of RFP Documents**

2.1 Consultants may request a clarification of any of the RFP documents up to the number of days indicated in the Data Sheet before the proposal submission date. Any request for clarification must be sent in writing by mail, facsimile, or electronic mail to the Client’s address indicated in the Data Sheet. The Client will respond by facsimile, courier or electronic mail to such requests and will send written copies of the response (including an explanation of the query but without



identifying the source of inquiry) to all invited consultants who intend to submit proposals.

- 2.2 At any time before the submission of proposals, the Client may, for any reason, whether at its own initiative or in response to a clarification requested by an invited firm, amend the RFP. Any amendment shall be issued in writing through addenda. Addenda shall be sent by mail, facsimile, or electronic mail to all invited consultants and will be binding on them. The Client may at its discretion extend the deadline for the submission of proposals.

**3. Preparation of Proposal**

- 3.1 Consultants are requested to submit a proposal (paragraph 1.2) written in the language(s) specified in the Data Sheet.

**Technical Proposal**

- 3.2 In preparing the Technical Proposal, consultants are expected to examine the documents constituting this RFP in detail. Material deficiencies in providing the information requested may result in rejection of a proposal.

- 3.3 While preparing the Technical Proposal, consultants must give particular attention to the following:

- (i) If a consultant considers that it does not have all the expertise for the assignment, it may obtain a full range of expertise by associating with individual consultant(s) and/or other consultants or entities in a joint venture or sub-consultancy, as appropriate. Consultants may associate with the other consultants invited for this assignment only with approval of the Client as indicated in the Data Sheet. Consultants must obtain the approval of the Client to enter into a joint venture with consultants not invited for this assignment. The consultants are encouraged to seek the participation of local consultants by entering into a joint venture with, or subcontracting part of the assignment to consultants who are Nationals of African Union Member States.
- (ii) For assignments on a staff-time basis, the estimated number of professional staff-months is given in the Data Sheet. The proposal shall, however, be based on the number of professional staff-months estimated by the firm. For fixed-budget-based assignments, the available budget is given in the Data Sheet, and the Financial Proposal shall not exceed this budget.
- (iii) It is desirable that the majority of the key professional staff proposed be permanent employees of the firm or have an extended and stable working relationship with it.
- (iv) Proposed professional staff must, at a minimum, have the

experience indicated in the Data Sheet, preferably working under conditions similar to those prevailing in the Country specified for Performance of the Services.

- (v) Alternative professional staff shall not be proposed, and only one curriculum vitae (CV) may be submitted for each position.
- (vi) Reports to be issued by the consultants as part of this assignment must be in the language(s) specified in the Data Sheet.

3.4 The Technical Proposal shall provide the following information using the Standard Forms attached in Section 4:

- (i) A brief description of the firm's organisation and an outline of recent experience on assignments (Section 4B) of a similar nature. For each assignment, the outline should indicate, inter-alia, the profiles of the staff proposed, duration of the assignment, contract amount, and the firm's involvement.
- (ii) Any comments or suggestions on the Terms of Reference and on the data, a list of services, and facilities to be provided by the Client (Section 4C).
- (iii) A description of the methodology and work plan for performing the assignment (Section 4D).
- (iv) The list of the proposed staff team by specialty, the tasks that would be assigned to each staff team member, and their timing (Section 4E).
- (v) CVs recently signed by the proposed professional staff and the authorized representative submitting the proposal (Section 4F). Key information should include number of years working for the firm/entity and degree of responsibility held in various assignments during the last ten (10) years.
- (vi) Estimates of the total staff input (professional and support staff; staff time) needed to carry out the assignment, supported by bar-chart diagrams showing the time proposed for each professional staff team member (Sections 4E and 4G).
- (vii) A detailed description of the proposed methodology, staffing, and monitoring of training, if the Data Sheet specifies training as a major component of the assignment.

- (viii) Any additional information requested in the Data Sheet.
- 3.5 The Technical Proposal shall not include any financial information.
- Financial Proposal**
- 3.6 In preparing the Financial Proposal, consultants are expected to take into account the requirements and conditions outlined in the RFP documents. The Financial Proposal should follow the Standard Forms in Section 5. These list all costs associated with the assignment, including (a) remuneration for staff, (foreign and local, in the field and at headquarters); and (b) reimbursable expenses such as subsistence (per diem, housing), transportation (international and local, for mobilisation and demobilisation), services and equipment (vehicles, office equipment, furniture, and supplies), office rent, insurance, printing of documents, surveys, and training, if it is a major component of the assignment. Where appropriate, these costs should be broken down by activity, and, if appropriate, into foreign and local expenditures.
- 3.7 The Financial Proposal shall include all the costs the consultant incurs to provide the services (including travel expenses, translation, printing and the taxes the consultant pays for its business requirements by the law of the domicile country of the consultant), but shall exclude all local taxes levied within African Union Member States on the invoice issued by the consultant (such as local sales tax, services tax or withholding tax).
- 3.8 Consultants may express the price of their services in any freely convertible currency. The consultants may not use more than three foreign currencies. The Client may require consultants to state the portion of their price representing local costs in the Currency of the Country specified for performance of the Services if so indicated in the Data Sheet.
- 3.9 Commissions and gratuities, if any, paid or to be paid by consultants and related to the assignment will be listed in the Financial Proposal submission form (Section 5A).
- 3.10 The Data Sheet indicates how long the proposals must remain valid after the submission date. During this period, the consultant is expected to keep available the professional staff proposed for the assignment. The Client will make its best effort to complete negotiations within this period. If the Client wishes to extend the validity period of the proposals, the consultants who do not agree have the right not to extend the validity of their proposals.
- 4. Submission, Receipt, and**
- 4.1 The original proposal (Technical Proposal and, if required, Financial Proposal; see paragraph 1.2) shall be prepared in

**Opening of Proposals**

indelible ink. It shall contain no interlineations or overwriting, except as necessary to correct errors made by the firm itself. Any such corrections must be initialed by the persons or person signing the proposal.

- 4.2 An authorised representative of the firm initials all pages of the proposal. The representative's authorisation is confirmed by a written power of attorney accompanying the proposal.
- 4.3 For each proposal, the consultants shall prepare the number of copies indicated in the Data Sheet. Each Technical Proposal and Financial Proposal shall be marked "Original" or "Copy" as appropriate. If there are any discrepancies between the original and the copies of the proposal, the original will govern.
- 4.4 The original and all copies of the Technical Proposal shall be placed in a sealed envelope clearly marked "Technical Proposal," and the original and all copies of the Financial Proposal in a sealed envelope clearly marked "Financial Proposal" and warning: "Do Not Open with the Technical Proposal." Both envelopes shall be placed into an outer envelope and sealed. This outer envelope shall bear the submission address and other information indicated in the Data Sheet and be clearly marked, "Do Not Open, Except in Presence of the Tender Opening Committee."
- 4.5 The completed Technical and Financial Proposals must be delivered at the submission address on or before the time and date stated in the Data Sheet. Any proposal received after the closing time for submission of proposals shall be returned unopened.
- 4.6 After the deadline for submission of proposals, the Technical Proposal shall be opened immediately by the Bid Opening Committee. The Financial Proposal shall remain sealed and retained securely until all submitted proposals are opened publicly.
- 4.7 The Firm may withdraw its Proposal after the Proposal's submission, provided that the written notice of the withdrawal is received by the Client prior to the deadline prescribed for submission of Proposals. The Firms' withdrawal notice shall be prepared, sealed, marked, and dispatched in accordance with the provisions of clause Deadline for Submission of Proposals. The withdrawal notice may also be sent by telex or fax but followed by a signed confirmation copy. No Proposal may be modified subsequent to the deadline for submission of proposals. No Proposal may be withdrawn in the Interval between the deadline for submission of proposals and the expiration of the period of proposal validity specified by the firm on the Proposal

Submission Form.

## **5. Proposal Evaluation**

- General**
- 5.1 From the time the bids are opened to the time the contract is awarded, if any consultant wishes to contact the Client on any matter related to its proposal, it should do so in writing at the address indicated in the Data Sheet. Any effort by the firm to influence the Client in proposal evaluation, proposal comparison or contract award decisions may result in the rejection of the consultant's proposal.
- 5.2 Evaluators of Technical Proposals shall have no access to the Financial Proposals until the technical evaluation is completed.
- Evaluation of Technical Proposals**
- 5.3 The evaluation committee appointed by the Client, as a whole, and each of its members individually, will evaluate the proposals on the basis of their responsiveness to the Terms of Reference, applying the evaluation criteria, sub-criteria (typically not more than three per criteria), and point system specified in the Data Sheet. Each responsive proposal will be given a technical score (St). A proposal shall be rejected if it does not respond to important aspects of the Terms of Reference or if it fails to achieve the minimum technical score indicated in the Data Sheet.
- 5.4 In the case of Quality-Based Selection, Selection Based on Consultant's Qualifications, and Single-Source Selection, the highest ranked firm, or the firm selected on a single-source basis, is invited to negotiate a contract on the basis of the Technical Proposal and the Financial Proposal submitted in accordance with the instructions given in paragraph 1.2 and the Data Sheet.
- Public Opening and Evaluation of Financial Proposals: Ranking (QCBS, Fixed-Budget, and Least-Cost Selection Methods Only)**
- 5.5 After the evaluation of technical quality is completed, the Client shall notify those consultants whose proposals did not meet the minimum qualifying score or were considered non-responsive to the RFP and Terms of Reference, indicating that their Financial Proposals will be returned unopened after completing the selection process. The Client shall simultaneously notify the consultants that have secured the minimum qualifying score, indicating the date and time set for opening the Financial Proposals. The opening date shall not be sooner than two weeks after the notification date. The notification may be sent by registered letter, facsimile, or electronic mail.
- 5.6 The Financial Proposals shall be opened publicly in the presence of the consultants' representatives who choose to attend. The name of the consultant, the technical scores, and the proposed prices shall be read aloud and recorded as the Financial Proposals are opened. The Client shall prepare minutes of the

public opening.

5.7 The evaluation committee will determine whether the Financial Proposals are complete (i.e., whether they have costed all items of the corresponding Technical Proposals; if not, the Client will cost them and add their cost to the initial price), correct any computational errors, and convert prices in various currencies to the single currency specified in the Data Sheet. The official selling rates used, provided by the source indicated in the Data Sheet, will be those in effect on the date indicated in the Data Sheet. The evaluation shall exclude those taxes, duties, fees, levies, and other charges imposed that are subject to the African Union exemption on the payment of taxes and duties, and estimated as per paragraph 3.7.

5.8 In case of QCBS, the lowest priced Financial Proposal ( $F_m$ ) will be given a financial score ( $S_f$ ) of 100 points. The financial scores ( $S_f$ ) of the other Financial Proposals will be computed as indicated in the Data Sheet. Proposals will be ranked according to their combined technical ( $S_t$ ) and financial ( $S_f$ ) scores using the weights ( $T$  = the weighting for the Technical Proposal;  $P$  = the weighting for the Financial Proposal as indicated in the Data Sheet.  $T + P = 1$ ); The firm achieving the highest combined technical and financial score using the formula:

$$S = S_t \times T\% + S_f \times P\%$$

will be invited for negotiations.

5.9. In the case of Fixed-Budget Selection, the Client will select the firm that submitted the highest ranked Technical Proposal within the indicated budget price. Proposals that exceed the indicated budget will be rejected. In the case of the Least-Cost Selection, the Client will select the lowest evaluated cost proposal among those that passed the minimum technical score. The selected firm will be invited for negotiations.

## 6. Negotiations

6.1 Negotiations will be held at the address indicated in the Data Sheet. The aim is to reach agreement on all points and sign a contract.

6.2 Negotiations will include a discussion of the Technical Proposal, the proposed methodology (work-plan), staffing, and any suggestions made by the firm to improve the Terms of Reference. The Client and firm will then agree final Terms of Reference, staffing, and bar charts indicating activities, staff, periods in the field and in the home office, staff-months, logistics, and reporting. The agreed work plan and final Terms of Reference will then be incorporated in the “Description of Services” and form part of the contract. Special attention will be paid to getting the most the firm can offer within the available budget and to clearly defining the inputs required from the Client

to ensure satisfactory implementation of the assignment.

- 6.3 Financial negotiations will reflect agreed technical modifications in the cost of the services, and will include a clarification of the firm's tax liability (if any) in the Country specified for performance of the Services, and the manner in which it will be reflected in the contract. The financial negotiations will not normally involve either the remuneration rates for staff (no breakdown of fees), or other proposed unit rates under QCBS, Fixed-Budget Selection, or the Least-Cost Selection methods. For other methods of selection, an Appendix will be provided for the firm to explain the required information on remuneration rates.
- 6.4 Having selected the firm on the basis including an evaluation of proposed key professional staff, the Client expects to negotiate a contract on the basis of the experts named in the proposal. Before contract negotiations, the Client will require assurances that the proposed experts will be actually available. The Client will not consider substitutions during contract negotiations unless both parties agree that undue delay in the selection process makes such substitution unavoidable or that such changes are critical to meet the objectives of the assignment. If this is not the case and if it is established that key staff were offered in the proposal without confirming their availability, the firm may be disqualified.
- 6.5 The negotiations will conclude with a review of the draft form of the contract. On completion of negotiations, the Client and the firm will initial the agreed contract. If negotiations fail, the Client will invite the firm whose proposal received the second highest score to negotiate a Contract.

**7. Award of Contract**

- 7.1 The contract will be awarded following negotiations. After negotiations are completed, the Client will promptly notify other consultants on the shortlist that they were unsuccessful and return the unopened Financial Proposals of those consultants who did not pass the technical evaluation (paragraph 5.3).
- 7.2 The firm is expected to commence the assignment on the date and at the location specified in the Data Sheet.

**8. Confidentiality**

- 8.1 Information relating to the evaluation of proposals and recommendations concerning awards shall not be disclosed to the consultants who submitted the proposals or to other persons not officially concerned with the process, until the winning firm has been notified that it has been awarded the contract.

## Section 3 - Data Sheet

### ITC Clause Reference

- ITC Clause 1.1 The name of the Client is: African Union Commission
- The method of selection is: Quality and Cost Based Selection Method
- ITC Clause 1.2 Technical and Financial Proposals are requested
- The name, and Procurement Number of the assignment are: **Design, Supply and Installation of High Density Wireless LAN (WIFI) for African Union Conference Areas: AUC/MIS/G/77**
- ITC Clause 1.5 The Client will provide the following inputs: Working space, paper work with detailed drawings and any other information required for completion of the assignment.
- ITC Clause 1.11 The clauses on fraud and corruption in the Contract are: Clause 2.6.1 of the standard contract as follows:
- For the purpose of this clause:
- “corrupt practice”<sup>6</sup> is the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;
- “fraudulent practice”<sup>7</sup> is any act or omission including a misrepresentation that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;
- “collusive practice”<sup>8</sup> is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;
- “coercive practice”<sup>9</sup> 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;

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<sup>6</sup> “another party” refers to an officer of the AU acting in relation to the procurement process or contract execution. In this context, “officer of the AU” includes staff and employees of other organisations taking or reviewing procurement decisions.

<sup>7</sup> a “party” refers to any officer of the AU; the terms “benefit” and “obligation” relate to the procurement process or contract execution; and the “act or omission” is intended to influence the procurement process or contract execution.

<sup>8</sup> “parties” refers to any participants in the procurement process (including officers of the AU) attempting to establish bid prices at artificial, non competitive levels.

<sup>9</sup> a “party” refers to any participant in the procurement process or contract execution.



“obstructive practice” is deliberately destroying, falsifying, altering or concealing of evidence material to any investigation or making false statements to investigators in order to materially impede any 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;

ITC Clause 2.1 Clarifications may be requested up to 5 working days before the submission date.

The address for requesting clarifications is:  
Email: [tender@africa-union.org](mailto:tender@africa-union.org) or call

ITC Clause 3.1 Proposals should be submitted in the English/French language or both.

ITC Clause 3.3(ii) The estimated number of professional staff-months required for the assignment is: refer to TOR under appendix 2

ITC Clause 3.3(iv) The minimum required experience of proposed professional staff is:  
Refer to TOR, appendix 2

ITC Clause 3.3(vi) Reports that are required under the assignment shall be submitted in the English/French or both languages.

ITC Clause 3.4(viii) Additional information required in the Technical Proposal is: None

ITC Clause 3.10 Proposals must remain valid for 90 days after the submission date.

ITC Clause 4.3 Consultants must submit ONE (1) original and TWO (2) copies of each proposal.

ITC Clause 4.4 The address for submission of proposals is:  
Head Procurement, Travel & Stores Division  
African Union Commission  
Roosevelt Street  
P.O Box 3243, Addis Ababa  
Ethiopia

Telephone: Tel: +251 (0) 11 551 7700 – Ext 4321

ITC Clause 4.5 Proposals must be submitted no later than 15:00hours on Friday 7<sup>th</sup> April 2017

ITC Clause 5.1 The address for communications to the Client is: [tender@africa-union.org](mailto:tender@africa-union.org)

ITC Clause 5.3 The number of points to be given under each of the technical evaluation criteria are:

	<u>Points</u>
(i) Specific experience of the consultants related to the assignment (Similar projects in the past)	10
(ii) Adequacy of the proposed work plan, technical approach and Methodology in responding to the Terms of Reference	40
Workplan.....10	
Technical approach.....20	
Methodology.....10	
(iii) Qualifications and competence of the key staff for the Assignment	20
(iv) Suitability of the transfer of knowledge program (training)	10
(vi) Quality of proposed equipment and conformance to specifications (Shd not be below the minimum stated in the bid document)	20

**Total Points: 100 points**

The minimum technical score required to pass is **70** points.

ITC Clause 5.7 The single currency for price conversions is: USD

The source of official selling rates is: UN Exchange rate

The date of exchange rates is: **7<sup>th</sup> April 2017**

ITC Clause 5.8 The formula for determining the financial scores is:  $Sf = 100 \times Fm/F$   
Where Sf is the financial score, Fm is the lowest price and F the price of the proposal under consideration.

The weights given to the technical and Financial Proposals are:

Technical = 70%

Financial = 30%

ITC Clause 6.1 Negotiations will be held at : African Union Commission

ITC Clause 7.2 The assignment is expected to commence on 30<sup>th</sup> April at the African Union Commission Headquarters in Addis Ababa

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## **Section 4. Technical Proposal - Standard Forms**

- 4A. Technical Proposal submission form.
- 4B. Firm's references.
- 4C. Comments and suggestions of consultants on the Terms of Reference and on data, services, and facilities to be provided by the Client.
- 4D. Description of the methodology and work plan for performing the assignment.
- 4E. Team composition and task assignments.
- 4F. Format of curriculum vitae (CV) for proposed professional staff.
- 4G. Time schedule for professional personnel.
- 4H. Activity (work) schedule.

#### 4A. TECHNICAL PROPOSAL SUBMISSION FORM

{*Location, Date*}

To: {*Name and address of Client*}

Sir / Madam:

We, the undersigned, offer to provide the consulting services for {*Title of consulting services and Procurement Number*} in accordance with your Request for Proposals dated {*Date*} and our Proposal. We are hereby submitting our Proposal, which includes this Technical Proposal, and a Financial<sup>10</sup> Proposal sealed under a separate envelope.

We declare that we have no conflict of interest as defined by Section 1.7 of the Information to Consultants in relationship to performance of this assignment.

If negotiations are held during the period of validity of the Proposal, i.e., before {*Date*} we undertake to negotiate on the basis of the proposed staff. Our Proposal is binding upon us and subject to the modifications resulting from Contract negotiations.

We understand you are not bound to accept any Proposal you receive.

We remain,

Yours sincerely,

Authorised Signature:  
Name and Title of Signatory:  
Name of Firm:  
Address:

---

<sup>10</sup> In Quality-Based Selection, the proposal may include only a Technical Proposal. If this is the case, delete “and a Financial Proposal sealed under a separate envelope.”

**4B. FIRM'S REFERENCES**

**Relevant Services Carried Out in the Last Five Years  
That Best Illustrate Qualifications**

Using the format below, provide information on each assignment for which your firm/entity, either individually as a corporate entity or as one of the major companies within an association, was legally contracted.

Assignment Name:		Country:
Location within Country:		Professional Staff Provided by Your Firm/Entity(profiles):
Name of Client:		No. of Staff:
Address:		No. of Staff-Months; Duration of Assignment:
Start Date (Month/Year):	Completion Date (Month/Year):	Approx. Value of Services (in Current US\$):
Name of Associated Consultants, If Any:		No. of Months of Professional Staff Provided by associated Consultants:
Name of Senior Staff (Project Director/Coordinator, Team Leader) Involved and Functions Performed:		
Narrative Description of Project:		
Description of Actual Services Provided by Your Staff:		

Firm's Name: \_\_\_\_\_

**4C. COMMENTS AND SUGGESTIONS OF CONSULTANTS ON THE TERMS OF REFERENCE AND ON DATA, SERVICES, AND FACILITIES TO BE PROVIDED BY THE CLIENT**

---

On the Terms of Reference:

- 1.
- 2.
- 3.
- 4.
- 5.

On the data, services, and facilities to be provided by the Client:

- 1.
- 2.
- 3.
- 4.
- 5.

**4D. DESCRIPTION OF THE METHODOLOGY AND WORK PLAN FOR  
PERFORMING THE ASSIGNMENT**

---

**4E. TEAM COMPOSITION AND TASK ASSIGNMENTS**

<b>1. Technical/Managerial Staff</b>		
Name	Position	Task

<b>2. Support Staff</b>		
Name	Position	Task



**4F. FORMAT OF CURRICULUM VITAE (CV) FOR PROPOSED PROFESSIONAL STAFF**

Proposed Position: \_\_\_\_\_

Name of Firm: \_\_\_\_\_

Name of Staff: \_\_\_\_\_

Profession: \_\_\_\_\_

Date of Birth: \_\_\_\_\_

Years with Firm/Entity: \_\_\_\_\_ Nationality: \_\_\_\_\_

Membership in Professional Societies: \_\_\_\_\_

\_\_\_\_\_

Detailed Tasks Assigned: \_\_\_\_\_

\_\_\_\_\_

**Key Qualifications:**

*{Give an outline of staff member's experience and training most pertinent to tasks on assignment. Describe degree of responsibility held by staff member on relevant previous assignments and give dates and locations. Use about half a page. }*

\_\_\_\_\_

**Education:**

*{Summarize college/university and other specialized education of staff member, giving names of schools, dates attended, and degrees obtained. Use about one quarter of a page. }*

\_\_\_\_\_

**Languages:**

*{For each language indicate proficiency: excellent, good, fair, or poor in speaking, reading, and writing. }*

\_\_\_\_\_

**Employment Record:**

*{Starting with present position, list in reverse order every employment held. List all positions held by staff member since graduation, giving dates, names of employing organizations, titles of positions held, and locations of assignments. For experience in last ten years, also give types of activities performed and client references, where appropriate. Use about two pages. }*

---

**Certification:**

I, the undersigned, certify that to the best of my knowledge and belief, these data correctly describe me, my qualifications, and my experience.

\_\_\_\_\_  
*{Signature of staff member and authorized representative of the firm}* Date: \_\_\_\_\_  
Day/Month/Year

Full name of staff member: \_\_\_\_\_

Full name of authorised representative: \_\_\_\_\_

**4G. TIME SCHEDULE FOR PROFESSIONAL PERSONNEL**

Name	Position	Reports Due/Activities	Months (in the Form of a Bar Chart)												Number of Months		
			1	2	3	4	5	6	7	8	9	10	11	12			
																Subtotal (1)	
																	Subtotal (2)
																	Subtotal (3)
																	Subtotal (4)

Full-time: {key} Part-time: {key}

Reports Due: {key}

Activities Duration: {key}

Signature: \_\_\_\_\_

{ Authorised representative }

Full Name: \_\_\_\_\_

Title: \_\_\_\_\_

Address: \_\_\_\_\_

**4H. ACTIVITY (WORK) SCHEDULE**

	<i>[1st, 2nd, etc. are months from the start of assignment.]</i>												
	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	
Activity (Work)													

## **Section 5. Financial Proposal - Standard Forms**

- 5A. Financial Proposal submission form.
- 5B. Summary of costs.
- 5C. Breakdown of price per activity.
- 5D. Breakdown of remuneration per activity.
- 5E. Reimbursables per activity.
- 5F. Miscellaneous expenses.

## 5A. FINANCIAL PROPOSAL SUBMISSION FORM

{Date}

To: {Name and address of Client}

Sir / Madam:

We, the undersigned, offer to provide the consulting services for {Title of consulting services and Procurement Number} in accordance with your Request for Proposals dated {Date} and our Proposal (Technical and Financial Proposals). Our attached Financial Proposal is for the sum of {Amount in words and figures}. This amount is exclusive of the local taxes which shall be identified during negotiations and shall be added to the above amount.

Our Financial Proposal shall be binding upon us subject to the modifications resulting from Contract negotiations, up to expiration of the validity period of the Proposal, i.e., {Date}.

Commissions and gratuities, if any, paid or to be paid by us to agents relating to this Proposal and Contract execution, if we are awarded the Contract, are listed below:

Name and Address of Agents	Amount and Currency	Purpose of Commission or Gratuity
_____	_____	_____
_____	_____	_____
_____	_____	_____

We understand you are not bound to accept any Proposal you receive.

Yours sincerely,

Authorised Signature:  
Name and Title of Signatory:  
Name of Firm:  
Address:

**5B. SUMMARY OF COSTS**

Cost Elements	Currency(ies) <sup>11</sup>	Amount(s)
Total Amount of Financial Proposal		<hr/>

---

<sup>11</sup> Maximum of three currencies in addition to the Currency of the Country specified for performance of the Services.

**5C. BREAKDOWN OF PRICE PER ACTIVITY**

Activity No.: \_\_\_\_\_

Description: \_\_\_\_\_

Price Component	Currency(ies)	Amount(s)
Remuneration		
Equipment		
Reimbursables (If applicable)		
Miscellaneous Expenses		
Subtotal		_____



**5D. BREAKDOWN OF REMUNERATION PER ACTIVITY**

Activity No. \_\_\_\_\_

Activity Name: \_\_\_\_\_

Names	Position	Input <sup>12</sup>	Remuneration Currency(ies) Rate	Amount
Regular staff				
Local staff				
Consultants				
Grand Total				_____

---

<sup>12</sup> Staff months, days, or hours as appropriate.

**5E. REIMBURSABLES PER ACTIVITY**

Activity No: \_\_\_\_\_

Name of Activity: \_\_\_\_\_

Item No.	Description	Unit	Quantity	Currency	Unit Price	Total Amount
1.	International flights	Trip				
2.	Miscellaneous travel expenses	Trip				
3.	Subsistence allowance	Day				
4.	Local transportation costs <sup>13</sup>					
5.	Office rent/accommodation/ clerical assistance					
	Grand Total					_____

---

<sup>13</sup> Local transportation costs are not included if local transportation is being made available by the Client. Similarly, in the project site, office rent/accommodations/clerical assistance costs are not to be included if being made available by the Client.

**5F. MISCELLANEOUS EXPENSES**

Activity No. \_\_\_\_\_

Activity Name: \_\_\_\_\_

Item No.	Description	Unit	Quantity	Currency	Unit Price	Total Amount
1.	Communication costs between _____ and _____					
2.	Drafting, reproduction of reports					
3.	Equipment: vehicles, computers, photocopiers, etc.					
4.	Software					
5.	Other (specify)					
	Grand Total					_____

## **Section 6. Terms of Reference**

### **Term of Reference for the Design, supply and installation of High Density Wireless LAN (WIFI) for African Union Conference Areas**

#### **1. Introduction**

The African Union (AU) was established as a unique Pan African continental body, charged with spearheading Africa's rapid integration and sustainable development by promoting unity, solidarity, cohesion and cooperation among the peoples of Africa and African States as well as developing a New Partnership worldwide. Its Headquarters is located in Addis Ababa, capital city of Ethiopia.

The African Union Commission (AUC) is the secretariat of the AU and is the key organ playing a central role in the day-to-day management of the AU. The AU is funded from assessed contribution from the 54 Member states and funds from Institutional Partners for specific projects in line with its Strategic Plan and agreed priorities with the partners.

#### **2. Background and rationale**

In an effort to achieve paperless green meetings and summits, the African Union has introduced the use of smart conference devices into its conference halls. These devices will be the only means of meeting documents delivery. During meetings and summits newly introduced smart conference devices need to connect and access meeting/summit documents from content delivery and conference documents management portal timely and reliably.

The main purpose of this project is to build high speed WLAN solution for the African Union Conference Facilities as follows:

1. Mandela Plenary Hall - Serves more than 5,000 devices at a time
2. Multi-purpose hall - Serves more than 1,000 devices,
3. Medium Conference Hall - Serves more than 800 devices,
4. Media center – Serves more than 100 devices
5. Old conference center plenary hall – more than 1000 devices

The envisaged solution is supposed to be:

- Simple to manage,
- Scalable to accommodate growth,
- Highly Available (A redundant and fault tolerant),

- Compatible and easy to integrate with the existing network environment,
- Able to provide high performance, and
- Secure

### **3. Scope of Work**

Bidders are expected to perform the following major activities during the engagement:

- I. Survey of the location to identify placement using appropriate tool.
- II. Provide design and logical topology of WLAN Solution.
- III. Supply of Access Points and Controllers.
- IV. Provision of Planning (Software and accessories) Tool. (Shall be quoted separately)
- V. Installation and configuration of WLAN
- VI. Testing of the Wireless Solution
- VII. Tuning of the Wireless LAN
- VIII. Training and documentation
- IX. Support and Maintenance Proposal (shall be quoted separately).

#### **3.1. SITE SURVEY**

Bidders must perform a walk-through of all the locations using RF Coverage Survey or similar tool to generate coverage maps and placement plan.

#### **3.2. DESIGN**

Bidders must explain how their written response will meet or exceed these Key Points of the design:

- Understand the purpose of required WLAN
- 802.11ac, 802.11g or 802.11n very high density WLAN coverage
- Performance, speed and availability aspects of the WLAN
- Security model required for the WLAN
- SSID naming schemes and Security mechanisms to be applied to each level of access
- Define Virtual LAN (VLAN) and access list requirements
- AAA server details and EAP Type Authentication, user and/or machine
- Integration with existing Radius and Active Directory for users authentication
- Third party certificates for authentication web pages
- Identify IP addresses to be assigned to WLAN components
- Define naming conventions to be assigned to WLAN components
- Review current cable structure and provide a plan for cabling of the access Points.
- Inter-relation with the existing WLAN
- Solution build, Low level and high level design document.

### **3.3. INSTALLATION AND CONFIGURATIONS**

Bidders must explain how their written response will meet or exceed the following key points of the solution:

1. Installation and configurations of the WLAN controller
2. Installation and configuration of Access points
3. Installation of any cabling and physical installation services, including patch cables and patch panels in the wiring cabinets.
4. Provide detail prices for each itemized list containing quantity, part number, product description, and unit price, total cost, installation and configuration services separately.

### **3.4. WIRELESS INSTALLATION TESTING**

Bidders must develop wireless acceptance test plan validating key design parameters and requirements of the solution. Testing key points shall include but not limited to:

- Authentication on each SSID
- Access control for each SSID
- Devices Mobility/device roaming
- Data, Audio and Video streaming capability (prioritization of stream)
- Signal quality and Noise ratio
- Coverage throughout each location
- Downlink Measurement: AP to Client Signal
- Uplink Measurement: Client to AP Signal
- Rogue clients' detection
- Traffic analysis and integration with existing web proxy cache
- Downlink Throughput: AP to Client Throughput
- Uplink Throughput: Client to AP Throughput.

### **3.5. TRAINING AND DOCUMENTATIONS**

- Bidders must provide a formal training plan in written response to this RFP. This training plan will ensure training for a maximum ten AUC employees with a skill set of field maintenance that include installation, configuration, diagnose and replace all equipment engaged for the proposed solution. If training requires AUC Staff to travel outside Addis Ababa, all accommodation shall be incorporated.
- Bidders must specify total number of hours required for the training.
- Documentations that need to be provided before and after completion of project shall include Electronic and print documentation of:

- a) Wireless Solution Proposal.
  - b) Project implementation plan.
  - c) Solution Build or Low Level Design.
  - d) Diagrams depicting the location of access points.
  - e) Showing all locations of all cable pulls from cabling cabinets with patch locations.
  - f) All manuals, cut sheets and support documents for all hardware used in this installation shall be provided in electronic format.
  - g) Support and Maintenance Proposal
- Electronic documentation shall be provided in Microsoft Word and/or PDF format. Electronic inventory (Microsoft Excel) of all delivered WLAN components, including location, serial number, make and model number, prior to final installation completion.

### **3.5. OPTIMIZATION AND TUNING OF THE WIRELESS SOLUTION**

- Bidders must develop solution optimization and tuning plan to guarantee signal coverage and strength, limit interference and noise, and guarantee required performance and speed. Testing/Tuning may include the following:
  - Adjustment of firewall settings
  - Tuning/Adjusting Wireless LAN Controller settings
  - Adjustment of DHCP/DNS scopes and/or settings
  - Recommendation for addition, move, or subtraction of Access Points
  - Recommendation for antenna down tilt/angle adjustments.
- Bidders must provide description in written response of personnel and their qualifications to perform testing and tuning
- Bidders shall simulate and fine tune high traffic/very high device concentration scenarios for the installation inside the conference halls.

### **3.6. MAINTENANCE AND SUPPORT PLAN**

- Bidders are expected to provide a written support and maintenance proposal.
- The support and maintenance proposal must show all maintenance and support costs associated with the wireless system including equipment, software, cabling etc... This proposal must include a vendor/manufacturer warranty, maintenance and support for a minimum of three years from the installation and activation completion date of all wireless equipment, cabling and network connections (show cost for each portion of the wireless system). Terms of each of the three years warranty, maintenance and support program must be appended in the written proposal.

- In the maintenance and support program bidders must show devices or equipment which will become manufacturer obsolete, end of life, end of sale, or is substituted by the manufacturer during the three years maintenance period.
- If bidder is unable to provide warranty, maintenance, support, and/or replace any equipment procured under this contract for the three years period defined above, bidder must provide African Union Commission with a new replacement make/model supported for the three year term.
- The African Union Commission requires Wireless hardware and software maintenance with a next business day for key components (controllers and central management software) and maximum of 20 business days for access points.

#### 4. Project Timeline

Winning bidder must complete the implementation of their proposed solution **in 60 days**. This is to enable the commission to conduct the forthcoming summit at African Union headquarter, in July 2017.

#### 5. Specific Solution Requirements

The Wireless LAN Solution proposal must meet or exceed the following requests and requirements,

- Provide a brief overview of the solutions architecture and components
- Recommended minimum RSSI of -60 dBm on the 2.4 GHZ band.
- Recommended minimum RSSI of -35 dBm on the 5 GHZ band.
- All access points included in the solution must be POE capable and specify power requirements for proposed models of access points
- 802.11b/g/n/ac radios and specify antenna arrangement, number of spatial streams, and maximum bandwidth capabilities
- Capabilities for customized event notification to proactively detect when there is AP or controller failures.
- Capabilities for system diagnostics, debugging, troubleshooting, etc.
- Customizable dashboard which provides comprehensive at-a-glance network snapshot and allows drill down to troubleshoot wireless problems
- Performance monitoring and reporting capabilities.
- Load-balancing traffic across all available radios
- Redundancy capabilities and solution must address controller failover
- Must include latest 802.11AC Technology with wave 2 compatibility



- Captive portal with rate limiting: ability to have different tiers of service (e.g. free, free for limited time/ fee based, normal speed, higher speed, guaranteed connection/higher speed, reserved for office, concessions; hourly, daily, weekend, event duration etc.). The ability to have splash pages and communication/marketing pages that can be African Union Commission branded. And the capability to delegate the captive portal web page to an external Web Server.
- Compatibility with Radius and Active Directory for clients' authentication
- Rogue clients' detection
- Integration with Tacacs+ to provision easy guest sign up and access for Clients
- Centralized controller architecture with web based GUI for end-to-end centralized management and configuration.
- A minimum capability of 512 clients per Access Point is expected.
- Seamless roaming/mobility capability from building to building.
- L2 and L3 roaming capabilities of the solution.
- Distributed forwarding architecture capabilities to maximize throughput
- What is the total available throughput? Per radio interface, per access point and per controller. What is the maximum number of simultaneously connected clients with each client consuming greater than or equal to 1 Mbp. A minimum of 5Mbps per connected device is required
- Dynamic PSK and Dynamic VLAN Assignment
- Support advanced access control lists.
- Wireless client isolation and rogue detection capabilities
- WPA/WPA2 (802.11i), AES, EAP (Including But Not Limited to LEAP, PEAP) 802.1x Authentication Support with Encryption
- Describe how the solution supports Voice over IP capabilities and voice roaming.
- Describe how streaming video is handled.
- QoS queuing and prioritization capabilities.
- Capabilities for Static and dynamic channel assignment.
- Shall include Access Points with integrated antennas for an aesthetic design for use indoors.
- Describe the scalability of the proposed solution.
- The proposed solution must have a management portal that can show heat map diagram in real-time.

## **6. Evaluation factors**

The African Union Commission will use the following factors to select winning bids to deliver the solution (see Appendix 2 for Key experts and evaluation criteria):

- AUC shall evaluate each written proposal based on the bidder’s ability to provide services as outlined in this document and in any other documents attached to the RFP including in the Instructions to Bidders.
- Experience in the area of providing similar Wi-Fi service to large venues which are equal to, or exceed the size of the African Union New Conference Center.
- Reference information from previous similar wireless contracts.
- Proposal thoroughness, Project Delivery Methodology and Schedule
- Proposed brand reputation on very high density wireless solution
- Thoroughness of proposed support, maintenance and warranty plan
- Quality of proposed training and knowledge transfer methodology.
- Adequacy of the coverage design plan based on the requirement of AUC.
- Qualification and Skills of Subject Matter Experts proposed for this project.

### Breakdown of evaluation criteria

The number of points to be given under each of the technical evaluation criteria are:

	<u>Points</u>
(i) Specific experience of the consultants related to the assignment (Similar projects in the past)	10
(ii) Adequacy of the proposed work plan, technical approach and Methodology in responding to the Terms of Reference	40
Work plan.....10	
Technical approach.....20	
Methodology.....10	
(iii) Qualifications and competence of the key staff for the Assignment	20
(iv) Suitability of the transfer of knowledge program (training)	10
(vii) Quality of proposed equipment and conformance to specifications (Shd not be below the minimum stated in the bid document)	20

**Total Points:                    100 points**

The minimum technical score required to pass the technical evaluation is **70** points.

## **7. Firm's Qualification**

Bidders must provide the following,

- Information on company experience in the implementation of Very High Density Wi-Fi Solution Architectures.
- The firm's ability to support the schedule and delivery requirements.
- The firm's customer support program for resolution of warranty items.
- Provide information on three (3) recent projects of similar facilities that have utilized the proposed equipment within the last three (3) years. Provide size of facility, date of project, name, email address and phone for African Union Commission to contact as needed for reference.
- All bidders must state the location that the proposed products are manufactured, assembled or produced.
- The manufacturer must have an established reputation in line with the equipment proposed.

## Appendix I: Technical Specifications

### 1. CONTROLLERS

The proposed Wireless LAN Controller hardware must have the below listed features and capabilities:

<b>Physical Characteristics</b>	
<b>Power</b>	AC hot-swappable, redundant power supplies
	AC Input requirements 50/60 Hz 220V
<b>Physical Size</b>	Rack Mountable, Not More than 2 Rack Units
<b>Ethernet Ports</b>	Two 10/100/1000 Mbps RJ45 ports
<b>Capacity</b>	
Managed Aps	up to 1000
WLANS (BSSIDS)	2048
Concurrent Stations	Able to accommodate >10000
<b>Applications</b>	
<b>Guest Access</b>	Must support guest access
<b>Captive Portal</b>	Must support captive portal
<b>Mesh</b>	Must support mesh
<b>Voice</b>	802.11e/WMM
	Tunneling to AP
<b>Network Architecture</b>	
<b>IP</b>	IPv4, IPv6, dual-stack
<b>VLANs</b>	802.1Q (1 per BSSID or dynamic, per user based on RADIUS)
	port-based
<b>Redundancy</b>	1+1 with auto-synchronization
	Must be supported
<b>DHCP Server</b>	Must provide DHCP capabilities
<b>Management</b>	
<b>Configuration</b>	Web User Interface, CLI, SNMP v1, v2, v3
<b>AAA</b>	RADIUS and TACACs Supported
<b>AP Provisioning</b>	L2 or L3 auto-discovery
	Auto-software upgrade
	Automatic channel and power optimization
<b>Client Provisioning</b>	Zero-IT
	Auto Proxy Configuration
<b>Wireless Packet Capture</b>	Must support

<b>Security</b>	
<b>Standards</b>	WPA, WPA2, 802.11i
<b>Encryption</b>	WEP, TKIP, AES
	Dynamic Pre-shared Key
<b>Authentication</b>	802.1x, MAC Address
<b>User Database</b>	Internal database up to 20000 users
	External: RADIUS, LDAP, Active Directory
<b>Access Control</b>	L2 (MAC address-based)
	L3/4 (IP and Protocol based)
	L2 Client Isolation
	Management Interfaces access control
	Time-based WLANs
<b>Wireless Intrusion Detection (WIDS)</b>	Rogue AP detection
	DoS attack prevention
	Evil-twin/AP spoofing detection
	Ad hoc detection
	Password guessing protection
<b>Multimedia and Quality of Service</b>	
<b>802.11e/WMM</b>	Supported
<b>Software Queues</b>	per traffic type (4), per client
<b>Traffic Classification</b>	Automatic , heuristics and TOS based or VLAN-Defined
<b>Rate Limiting</b>	Must support and provide Rate Limiting
<b>WLAN Prioritization</b>	Must support WLAN Prioritization
<b>Client Balancing</b>	Automatic
<b>Supported Wireless Standards</b>	
<b>IEEE</b>	802.11a, 802.11b, 802.11g, 802.11n, 802.11ac, 802.11r, 802.11k, 802.11v, 802.11d, WMM/802.11e, 802.11u

## 2. ACCESS POINTS

The proposed Wireless Access Point hardware must have the below listed features and capabilities,

<b>Physical Characteristics</b>	
<b>Power</b>	DC Input: 12 VDC 2A
	PoE: 802.3af/at
	802.3af mode feature:
	Limits 2.4GHz to 2X4 (2-Chain transmit at 22dBm Aggregate Power, 4-chain receive)
	Turns off USB port
	Turns off Ethernet 1 port
<b>Physical Size</b>	Shall not exceed a size of 22 cm (L), 22 cm (W), 6 cm (H) and must be aesthetically good.
<b>Weight</b>	Shall not exceed a weight of 1.1Kg /2.3 lbs
<b>RF</b>	Adaptive antenna array: 4,000+ unique antenna patterns, polarization diversity
	Maximum Transmit Power 28dBm on 2.4 GHz; 28 dBm on 5 GHZ
	Physical antenna gain: 3 dBi (2.4 and 5GHz)
	Tx gain: up to 6 dB
	Rx gain: up to 3-5 dB
	Interference mitigation: up to 15 dB
	Minimum Rx Sensitivity : -104 dBm
<b>Ethernet Ports</b>	2 ports, auto MDX, auto-sensing 10/100/1000 Mbps, RJ-45
	Power Over Ethernet (802.3af/at)with cat 5//5e/6 cable
	Link Aggregation (LACP)
<b>Performance and Capacity</b>	
<b>Phy Data Rates</b>	Up to 800 Mbps (2.4GHz)
	Up to 1733 Mbps (5GHz)
<b>Concurrent Stations</b>	Up to 512
<b>Network Architecture</b>	
<b>IP</b>	IPv4, IPv6, dual-stack
<b>VLANs</b>	802.1Q (1 per BSSID or dynamic, per user based on RADIUS)
	port-based
<b>Tunneling</b>	L2TP, PPPoE
<b>Multimedia and Quality of Service</b>	
<b>802.11e/WMM</b>	Supported

<b>Software Queues</b>	Per WLAN Priority (2), Per traffic type(4), per client
<b>Traffic Classification</b>	Automatic, heuristics and TOS Based or VLAN-defined
<b>Rate Limiting</b>	Dynamic per-user or Per-WLAN
<b>Management</b>	
<b>Deployment Options</b>	Standalone (individually managed)
	Centrally Managed
<b>WI-FI</b>	
<b>Standards</b>	IEEE 802.11 a/b/g/n/ac
<b>Supported Data Rates</b>	802.11ac: 29.3Mbps - 1733 Mbps (80MHz)
	802.11n: 6.5 Mbps -216.7 Mbps (20MHz) 13.5 Mbps - 800 Mbps (40MHz)
	802.11a: 54, 48, 36, 24, 18, 12,9 and 6 Mbps
	802.11b: 11, 5.5, 2 and 1 Mbps
	802.11g: 54, 48, 36, 4, 28, 12, 9 and 6 Mbps
<b>Radio Chains/ Streams</b>	4X4:4
<b>MIMO</b>	SU-MIMO - Up to 4 streams
	MU-MIMO - Up to 3 Streams
<b>Channelization</b>	20 MHz, 40 Mhz, 80 Mhz, 160Mhz
<b>Frequency Band</b>	IEEE 802.11ac: 5.15 – 5.85 GHz
	IEEE 802.11a/n: 5.15 – 5.85 GHz
	IEEE 802.11b: 2.4 – 2.484 GHz
<b>BSSIDs</b>	up to 16 (2.4 GHz)
	up to 16 (5 GHz)
<b>Power Save</b>	Supported
<b>Certifications</b>	WEEE/RoHS Compliance
	EN 60601-1-2 Medica
	Wi-Fi Alliance Certified
	UL 2043 plenum rated

**APPENDIX 2: KEY EXPERTS REQUIRED FOR THE PROJECT**

	<b>PERSONNEL REQUIRED ON THE PROJECT</b>	<b>NO</b>	<b>MAN-MONTH INPUT</b>
<b>KEY EXPERT 1:</b>	<b>PROJECT MANAGER</b>	<b>1 FOR THE PROJECT</b>	<b>2 MAN-MONTH</b>  <b>1 MAN MONTH AT HOME AND 1 MAN MONTH ONSITE</b>
<b>Qualification and Skills</b>	<ul style="list-style-type: none"> <li>• Excellent verbal and written communication skills.</li> <li>• Strong decision-making and team building skills.</li> <li>• Excellent problem solving and analytical skills.</li> <li>• Strong project management skills.</li> <li>• Outstanding leadership and customer facing skills.</li> <li>• Excellent client management skills and the ability to work with customers to develop and manage an implementation plan.</li> <li>• Ability to navigate internal and external organizational obstacles.</li> <li>• Expertise in presentation and client interaction.</li> <li>• Excellent ability to manage time and meet deadlines.</li> <li>• Ability to interface effectively with all levels of management.</li> </ul>		
<b>Responsibility</b>	<ul style="list-style-type: none"> <li>• Single point of contact for billing issues, personnel matters, contract management, and project status</li> <li>• Facilitate formal project documents/objectives hand over</li> <li>• Facilitate project governance activities and leading the Project Steering Committee</li> <li>• Facilitate project governance activities and leading the Project Steering Committee, providing advice and guidance on:               <ul style="list-style-type: none"> <li>○ Project direction and scope</li> <li>○ Stakeholder communication issue resolution and escalation</li> </ul> </li> <li>• Responsible for resource allocation, risk</li> </ul>		



	<p>management, activity priorities, and communication to executive management.</p> <ul style="list-style-type: none"> <li>• Gather and assemble all project status reports, and project performance reports.</li> <li>• Coordinates the activities of the team to deliver documents/objectives according to the project schedule.</li> </ul>		
<b>KEY EXPERT 2:</b>	<b>NETWORK ENGINEER</b>	<b>2 FOR ALL SERVICES IDENTIFIED</b>	<b>2 MAN-MONTH (2 MONTHS ONSITE)</b>
<b>Qualification and Skills</b>	<ul style="list-style-type: none"> <li>• Ability to understand business requirements and convert them into solution designs</li> <li>• Knowledge of network architecture, service-based architecture, enterprise application architecture as well as experience managing expectations when balancing alternatives against business and financial constraints</li> <li>• Must demonstrate good judgment and pragmatic approach to delivering a solution that optimizes architecture activities across organization needs, business constraints and technological realities</li> <li>• Certification in various network technologies</li> <li>• Relevant experience in professional services and customer support operations</li> <li>• Proven Solutions consulting experience in large enterprises</li> </ul>		
<b>Responsibility</b>	<ul style="list-style-type: none"> <li>• Verifies whether complex network recommended practices are followed for the deployment of the requested services.</li> <li>• Leads the envisioning session and Solution Alignment Workshop</li> <li>• Assists with selected service deployment, installation and configuration</li> <li>• Assists with Network Testing</li> <li>• Supports User Acceptance Testing</li> </ul>		

<b>KEY EXPERT 3:</b>	<b>WLAN SPECIALIST</b>	<b>3 FOR ALL SERVICES IDENTIFIED</b>	<b>2 MAN-MONTH (2 MONTHS ONSITE)</b>
<b>Qualification and Skills</b>	<ul style="list-style-type: none"> <li>• Ability to understand business requirements and convert them into solution designs</li> <li>• Knowledge of network architecture, service-based architecture,</li> <li>• Good skills and experiences in Wireless Hi-Density deployment.</li> <li>• Good skills in Wireless controller management</li> <li>• Certifications in network and WLAN various technologies</li> <li>• Must demonstrate good judgment and pragmatic approach to delivering a solution that optimizes architecture activities across organization needs, business constraints and technological realities</li> <li>• Relevant experience in professional services and customer support operations</li> <li>• Proven Solutions consulting experience in large enterprises</li> </ul>		
<b>Responsibility</b>	<ul style="list-style-type: none"> <li>• Verifies whether complex network recommended practices are followed for the deployment of the requested services.</li> <li>• Supervise the deployment of Wireless controller and access points</li> <li>• Assists with Network Testing</li> <li>• Supports User Acceptance Testing</li> </ul>		
<b>KEY EXPERT 4:</b>	<b>SERVICES INTEGRATION ENGINEER</b>	<b>4 FOR ALL SERVICES IDENTIFIED</b>	<b>2 MAN-MONTH (2 MONTHS ONSITE)</b>
<b>Qualification and Skills</b>	<ul style="list-style-type: none"> <li>• IT engineer</li> <li>• Knowledge of network architecture and service-based architecture,</li> <li>• Knowledge of system architecture</li> <li>• Good skills and experiences in Wireless Hi-Density deployment.</li> <li>• Good skills in integration of services in large and various environment</li> </ul>		

	<ul style="list-style-type: none"><li>• Good skills in Radius / Active Directory</li><li>• Certifications in various IT area</li></ul>		
<b>Responsibility</b>	<ul style="list-style-type: none"><li>• Verifies the good integration of the Wi-Fi High density with the existing environment.</li><li>• Test the network and all constraints</li><li>• Check if all expectations have been successfully implemented</li></ul>		

## **Section 7. Standard Form of Contract**