



شركة الحوسبة الصحية

Electronic Health Solutions

REQUEST FOR PROPOSAL

**Wireless Solution
For**

**Prince Rashid Military Hospital RMS
RFP Reference Number: RFP-EHS-PROC-24-2022**

Page 1 of 27



QF-PRO-01-04

Table of Contents

TABLE OF CONTENTS	2
CONFIDENTIALITY STATEMENT	4
COMPANY ABSTRACT	5
1. CONTACT INFORMATION	6
2. GENERAL CONDITIONS	7
3. BIDDER QUALIFICATIONS	8
4. RFP GUIDELINES	9
5. RFP TERMS & CONDITIONS	10
6. FINANCIAL COMPLIANCE SHEET	12
7. INTRODUCTION.....	13
8. SUBMITTALS	13
9. SOLUTION TECHNICAL REQUIREMENTS	14
10. STATEMENT OF WORK.....	16
11. TECHNICAL TERMS AND CONDITIONS	17
12. WARRANTY AND SUPPORT	17
13. PRODUCT ORIGIN.....	17
14. BILL OF MATERIALS	17
15. SERVICE LEVEL AGREEMENT	18
16. TECHNICAL COMPLIANCE SHEET	20

Transmittal Letter

Date: 12-June-2022

Dear Sir / Madam,

Electronic Health Solutions “EHS” is in the process of tendering “**RFP-EHS-PROC-24-2022**” for **Supply, Installation, Configuration, Testing and Implementation of Wireless Solution At Prince Rashid Military Hospital-RMS.**

Interested companies are encouraged to submit their technical and financial proposals as per the details provided in this RFP. EHS appreciates your timely and accurate response, meanwhile, shall you have any questions please do not hesitate to contact us.

Procurement Department

Tel: +962 6 580 0461 | Ext. 3050, 3071, & 3067

Email: procurement@ehs.com.jo

Yours sincerely,

Electronic Health Solution

Confidentiality Statement

This Request for Proposal (RFP) contains information proprietary to Electronic Health Solutions, hereafter referred to as "EHS". Each recipient is entrusted to maintain its confidentiality. The information contained in this RFP is provided for the sole purpose of permitting the Bidder to respond to the RFP. This information may not be reproduced in whole or in part without the expressed written permission of EHS.

The recipient shall hereby agree to keep all the information in this RFP confidential and shall not, without prior written permission of EHS, disclose this information to any person other than the employees, agents, subcontractors, and advisors who are required in the course of their duties to execute proposal preparation activities. The recipient shall undertake the responsibility that all such persons are informed of the confidential nature of the information.

No recipient of this RFP shall, without the prior consent of EHS, make any public statements to any third parties in relation to this RFP or the subsequent short-listing of any prospective implementer or the subsequent awarding of any order. Unauthorized release of information or public statements will result in immediate disqualification.

Information provided by each Bidder will be held in confidence and will be used for the sole purpose of evaluating a potential business relationship with the respective Bidder's company. There will be no obligation to maintain the confidentiality of any information that was known to EHS, prior to the receipt of a proposal from the Bidder, or due to becoming publicly known through no fault of EHS, or if received without obligation of confidentiality from a third party owing no obligation of confidentiality to the Bidders.

Company Abstract

Company Profile

Electronic Health Solutions (EHS) was founded in 2009 as a non-profit company. EHS is owned by the main stakeholders in health and technology sectors in the Kingdom including Ministry of Health (MoH), Ministry of Information and Communication Technology (MoICT), Royal Medical Services (RMS), King Hussein Cancer Center, King Hussein Institute for Cancer and Biotechnology, Royal Health Awareness Society and Private Hospitals Association.

Hakeem is Jordan's National Electronic Health Records (EHR) initiative by which the healthcare sector will be computerized. The program was inceptioned in October 2009.

The company's mandate is to implement Hakeem in public hospitals, Royal Medical Services sites, Universities Hospitals and King Hussein Cancer Center, in addition to healthcare centers including comprehensive clinics and primary clinics.

Vision, Mission, Goals, and Objectives

Vision

Transform and sustain a continuously improving healthcare system in Jordan by leveraging information technology.

Mission

Provide a secure and accessible platform that enables the storing and sharing of electronic patient health records at all healthcare facilities enrolled in Hakeem.

Objectives

EHS main objectives are the following:

- 1- Improve Healthcare
- 2- Reduce the Cost of healthcare services.
- 3- Provide Data for Research and Decision Making

Benefits

- ⌚ Raising healthcare quality and outcomes by enhancing the accuracy of diagnoses, medication administration, and patient information management;
- ⌚ Boosting health facilities' efficiency and workflow by saving time and reducing errors in information retrieval;
- ⌚ Supporting research, scientific studies and, decision-making by supplying the necessary patient data, history and statistics;
- ⌚ Reducing operating costs by optimizing resource utilization and, preventing lab test repetition.

1. Contact Information

Any questions regarding this RFP shall be directed to the following email address in writing:

Name:	Procurement Department
Company:	Electronic Health Solutions
Address:	King Hussein Business Park, King Abdullah the second street. 4408 Amman 11952
Telephone / Fax:	Telephone +962 (6) 5800461 EXT3050, 3071 Fax +962 (6) 5800466
Email:	Procurement@ehs.com.jo

The bidder should receive a response from the procurement department, if not please call the following number +962 79 668 1595 Or Tel: +962 6 5800461 | Ext: 3050, 3071.

For Review Only Not For Bidding

2. General Conditions

Upon participation, the bidder agrees to the following:

1. All costs incurred by Bidder in the preparation of this proposal shall be borne by the Bidder.
2. "EHS" will assume that all statements in writing, made by persons submitting Proposals are true, accurate, complete and, not misleading.
3. "EHS" reserves the right to cancel, at any time, this RFP partially or in its entirety. No legal liability on the part of "EHS" for payment of any kind shall arise and in no event will a cause of action lie with any bidder for the recovery of any cost incurred in connection with preparing or submitting a proposal, in response hereto all efforts initiated or undertaken by the bidder shall be done considering and accepting this fact.
4. Bidder's proposals shall be based on full compliance with the terms, conditions and, requirements of this RFP and its future clarifications and/or amendments.
5. "EHS" shall not be under any obligation to return or save either the original or any copies of any Bidder's Proposals (technical and/or financial), and all documents submitted to "EHS", whether originals or copies, shall be kept or disposed of by "EHS".
6. This Request for Proposal doesn't constitute an offer. "EHS" shall not be under obligation to enter into any agreement with any Bidder in connection with this RFP and responses received.
7. The Bidder's proposals (technical and financial) shall comply with the laws and regulations of the Hashemite Kingdom of Jordan.
8. The Bidder's proposals (technical and financial) shall be compatible with international standards and best practices.
9. As a part of the RFP response, the Bidder is requested to fill out the compliance sheet included in this RFP.
10. The bidder must include in his technical proposal a detailed Bill of Quantity "BOQ" for all proposed and priced items and services. Accordingly, this should be reflected and included in the financial offer with itemized quoted prices for all proposed items.
11. The bidder must commit to providing EHS with the same prices and terms for a period of (1) year starting from the Awarding Letter date for the purpose of Variation Orders
12. The quantities requested in this RFP are subject to increase, decrease or, cancellation as per the actual requirements in the awarding date. In case the quantities decrease, the vendor is responsible to install the available materials from the EHS warehouse.
13. The prices must include all customs, clearance, shipping, and other fees applicable to deliver the materials to EHS's warehouse.

3. Bidder Qualifications

1. Bidder should be a Company registered under the Jordanian Ministry of Industry and Trade for more than three years or represented by a company abiding by the aforementioned condition; otherwise, any international or regional bidder must present the formal documents which prove the financial capacity of the company in addition to its commercial registration documents at the country of origin
2. Bidder should have at least three references of similar projects preferably in the health care sector and to be accepted by EHS.
3. The Bidder shall have at least 2 live installations with support as of the date of submission of this bid.
4. The Bidder shall have specialized and certified engineers with relevant technical certification for at least two engineers.
5. The bidder must submit Up-To-Date official documents of registration issued from the Companies Control Department at the Jordanian Ministry of Industry and Trade.
6. The bidder shall be an authorized Top Level Partner of the mother company he represents in this bid. An up-to-date valid official letter/certificate from the mother company shall be submitted by the bidder as part of the bidder's qualification documents, to prove the level of partnership for the bidder.
7. The bidder must have at least (2) two engineers certified by the mother company for the implementation and technical support of the proposed solution.
8. All proposed and supplied equipment\olutions\items\services must be original, brand new (not refurbished) and, licensed by the manufacture (mother company) to be supplied and installed for this project at EHS.
9. All proposed and supplied equipment / solution / items / appliances / hardware must be newly manufactured with manufacture valid warranty and support duration for not less than (7) years from the date of delivery. This implies that supplied products must not be obsolete, phased out of production, out of sales, and support.
10. All proposed and supplied equipment\olutions\items\services must be original, brand new (not refurbished) and, licensed by the manufacture (mother company) to be supplied and installed for this project at EHS.

11. تلتزم الشركة المحال عليها بتحديد نسبة الصيانة و الدعم الفني في العرض المالي للأجهزة المحال عليها للسنوات التي تلي فترة

الصيانة المجانية شاملة قطع الغيار و الأيدي العاملة علماً بأن هذا البند سيكون جزء من التقييم المالي للعرض المقدم

The winning bidder is obliged to determine the percentage of maintenance and technical support including spare parts and manpower for the years following the free maintenance duration. This has to be specified clearly in the financial offer for the supplied devices\olutions as per this RFP and will be part of the financial evaluation of the bid.

4. RFP Guidelines

a. RFP Issuance & Submission

Event	Date
1. RFP distribution to vendors	12-June-2022
2. Questionnaire Session	N/A
3. Proposal due date Closure Date	23-June-2022

b. Queries and Responses

All inquiries during the questions and answers session (Bidder Conference) if conducted must be documented., Verbal clarifications, inquiries or communication are not permitted, and only written communication is accepted.

c. RFP Acknowledgement

1. Award of the contract resulting from this RFP will be based upon the most responsive vendor whose offer will be the most advantageous to "EHS" in terms of cost, functionality, and other factors as specified elsewhere in this RFP.
2. Vendor has a period of (5) days to acknowledge and accept the awarding letter with its terms and conditions. Delay of acceptance will yield into consideration of rejection.
3. EHS" reserves the right to:
 - a) Accept other than the lowest-priced offer.
 - b) Award a contract on the basis of initial offers received, without discussions or requests for best and final offers.
 - c) Award the RFP contract on a partial basis (i.e. not all requirements requested from a single vendor.)
 - d) Not declare the name of the winning bidder, and awarding details.

d. Proposal Format Requirements

1. The financial and technical proposals must be submitted separately. Each proposal must be sent in a separate (PDF) electronic file (PDF).
2. The proposals must be sent to the Procurement Department email namely; (Procurement@ehs.com.jo). A password divided into (3) portions and not to be less than (9) nine digits must be set on the financial offer.
3. The passwords must be sent through a text message (SMS) to relevant mobile numbers which will be cellular mobile numbers that will be provided to the bidders at a later stage.
4. Pricing must be per site with a breakdown itemized pricing for each item, component, product and services included in the submitted Financial Proposal.

5. The Financial Proposal must specify clearly the compliance with the (5) five years' warranty duration required in the Technical Specification section.

5. RFP Terms & Conditions

a. Evaluation Criteria

1. "EHS" will evaluate each response. Responses will be evaluated on many criteria deemed to be in EHS's best interest, including but not limited to, technical offering, price, warranty, delivery duration, Bidder certification, accreditation, schedule, bidder's capabilities, compliance with bonding, and any other factors that "EHS" determine. The order of these factors does not denote relative importance.
2. "EHS" reserves the right to consider other relevant factors as it deems appropriate in order to obtain the best value.
3. This RFP does not commit "EHS" to select any firm, enter into any agreement, pay any costs incurred in preparing a response or procure or contract for any services or supplies. "EHS" reserves the right to request additional information from the bidders whose response meets "EHS" needs and business objectives without requesting such information from all respondents.

b. Rejection of Proposals

"EHS" reserves the right to reject any or all offers and discontinue this RFP process without obligation or liability to any potential Vendor.

c. Proposal Costs and Expenses

No legal liability on the part of "EHS" for payment of any kind shall arise and in no event will a cause of action lie with any bidder for the recovery of any cost incurred in connection with preparing or submitting a proposal. In response hereto all efforts initiated or undertaken by the bidder shall be done considering and accepting this fact.

d. Bid, Performance, Advance payment, and Warranty Bonds

1. Unconditional Bid Bond valid for (3) three months with an amount of (JoD 1,650.00) One Thousand Six Hundred Fifty Jordanian Dinar to be renewed automatically must be submitted by every participating bidder.
2. Advance payment LG, is to be submitted against any required advanced payment.
3. Unconditional Performance Bond for (10%) of the total amount of the awarded value shall be submitted by the winning bidder and within (5) working days from the date of the award. The Performance bond must remain valid for the total duration of the the implementation of the project and until the delivered solution is finally received and accepted by EHS. This Performance Bond will be replaced by the Maintenance LG after items delivered installed and finally accepted duly. The Maintenance Bond will remain valid until the end of the warranty duration. In case the winning bidder fails to submit the

performance bond, EHS reserves the right to cancel the contract and liquidate the bid bond without reverting to the bidder.

e. Penalties

In the event, the bidder fails to deliver according to the agreed time (for either the initial agreed delivery date or any of the subsequent delivery dates). The Bidder must pay EHS a delay penalty of (1%) of the total contract amount for each calendar week of delay. The maximum penalty for delays shall not exceed (10%) of the total contract value. The payment or deduction of such penalty shall not relieve the winning bidder from its obligations to complete the services or from any other obligations and liabilities under this bid.

f. Payment Terms

1- Payment terms:

- 20% Advance Payment against "Advance Payment LG"
- 20% upon items delivery
- 20% upon installation or implementation
- 40% on final EHS acceptance.

In case the winning bidder fails to comply with the "Advance Payment LG" term set for the first payment, hence, the winning bidders will be entitled to receive (40%) of the total contract value after the fulfillment of the delivery and initial receiving conditions "إستلام توريد" set forth in this RFP.

2- Payment currency shall be in Jordanian Dinar (USD and Euro exchange rate will be calculated at the currencies exchange rate issued by Central Bank of Jordan at the payment date).

g. Terms of Delivery

Delivery, Installation and, Implementation within (8-12) Weeks from the date of the purchase order at the EHS HQ offices or any of "Hakeem" Project sites. Final acceptance is required by EHS, and penalties for delays will be imposed as per the condition specified in clause (5.e) of this RFP.

h. Offer Expiry Date

The validity of the Proposal shall be no less than (90) days unless clearly mentioned differently.

The prices must remain fixed and valid for (90) days from the date of the invitation for bid closing date and shall be clearly stated in the technical and commercial bids.

6. Financial Compliance Sheet

#	Description	Comply (Yes/No)	Reference in the proposal
1	The bidder shall comply with all points included in the general conditions section		
2	The bidder shall comply with all points included in the bidder qualifications section		
3	The bidder shall comply with all points included in the RFP guideline section		
4	The bidder shall comply with all points included in the RFP terms and conditions section		

7. Introduction

1.1 Objectives

EHS invites technically complete and commercially competitive bids from reputed bidders for Supply, Installation, Configuration, Testing and Implementation of Network Infrastructure Solution in the following sites:

#	site	Location
1	Prince Rashed Military Hospital	Irbid

1.2 Business requirements

From a business perspective, the new architecture must address the following key points:

1. Install network infrastructure solution as per EHS needs
2. Provide continues support for Hakeem systems.

8. Submittals

The bidders' proposal shall include the following:

1. Compliance sheets (for both technical and financial).
2. Data sheets for all items.
3. Accept Procedure Test (ATP) document.
4. Project Implementation plan.
5. Service level agreement (SLA)
6. Project team details.
7. Detailed BOQ (Item, QTY and Duration)

9. Solution Technical Requirements

1.3 Wireless Network

The provided access point's quantities are estimated based on the initial site survey. The winning bidder shall provide the final number of access points in each site by physical site survey using certified wireless survey tools.

1.4 Wireless System Specification

⌚ General

- o Wireless provider should be Leader or Visionary in latest Gartner report for Enterprise Wired and Wireless LAN Infrastructure.
- o Only on-prem solutions are accepted.

⌚ Wireless Access Points

- o Access point Shall support Wi-Fi 6 (802.11ax) including:
 - 1024-QAM Modulation.
 - OFDMA.
 - TWT "Target Wake Time".
- o Access Point Shall have at least two Radios:
 - 2.4 GHz with 2x2 MIMO.
 - 5.0 GHz with 2x2 MIMO.
- o Ceiling mount kit shall be included.
- o Shall Support at least 250 associated clients per Radio.
- o Min 1x 100/1000Base-T Ethernet Interface.
- o Shall Support LLDP-MED.
- o Shall Support 15 SSID/WLAN per Radio.
- o Shall Support WPA3, 802.1x.

⌚ Wireless LAN Controllers

- o Shall support redundancy (Redundant WLC).
- o Shall support up to 256 Access Points.
- o Minimum two 1GE interfaces.

- o Shall Supports link aggregation (LACP).
- o Shall Supports all offered access points.
- o Fully managed through CLI (SSHv2) and Web GUI.
- o Shall support centralized firmware upgrade for access points.

For Review Only Not For Bidding

10. Statement of work

The scope of this document covers the installation of the Network Wireless solution of the equipment's for the EHS sites mentioned earlier; the scope of work shall include the following:

1. The following requirements shall be met before the work commences:
 - a) Secure work area.
 - b) Adequate manpower shall be available.
2. Perform any preparatory site visits and any related activities to insure the best deployment.
3. Conduct technical workshops with EHS technical team to develop the solution architecture, HLD and LLD. All the project's documentation must be approved by EHS.
4. Develop Project implementation plan and project schedule. The winning bidder shall assign a qualified technical project manager to manage the project and to ensure the controls and successful delivery.
5. Install, configure, test and document all offered BOQ according to EHS needs.
6. Install new, modern access points at each location to provide 100% coverage inside
7. The bidder is responsible for integrating the proposed devices with any existing network devices.
8. The bidder is responsible for configuring the switches and network devices ports based on EHS requirements.
9. Must follow EHS instructions in labelling all access points.
10. Any extra materials or/and services required/requested by ESH to complete the project.
11. Hand on training for EHS dedicated IT staff in the site.
12. Fully test the wireless network after installation to ensure proper coverage/signal Strength at each location and provide details of test results to EHS network team.
13. The bidder shall provide SLA within the contract to resolve the hardware and software issues that may arise during the contract period.
14. The proposal shall include the delivery for all the solution equipment to EHS Warehouse and to the sites based on EHS requirements, including moving the materials to and within the sites.
15. Perform Acceptance Test Procedure (onsite) and any corrective action to collect EHS acceptance.
16. Perform preventive maintenance for the delivered solution based on two yearly visits during the warranty and support period.
17. Prior to vacating site, the following practices shall be observed:
 - a) Dispose of all debris including scrap, drawstring, tapes etc.
 - b) Remove all empty boxes
 - c) Remove any surplus materials and return to stores
 - d) Clean the Work Area including personal waste
 - e) Store tools and equipment properly in an agreed location.

11. Technical Terms and Conditions

1. The bidder shall have at least two certified engineers according to the manufacturer's recommendations on the proposed solution.
2. The bidder shall be classified as Gold (or equivalent); the bidder shall provide the required manufacturer's certificates or letters for his qualifications.

12. Warranty and Support

1. The bidder shall offer minimum of (3) years' onsite manufacture warranty.
2. The bidder shall offer minimum of (3) years' maintenance and support service; Maintenance and support service shall cover all supplied components.
3. During the warranty period, the contractor shall provide all required spare parts free of charge.
4. The bidder shall provide the support approach in the form of signed and stamped SLA, including the escalation matrix, incident management system, support contacts and response time.
5. Perform preventive maintenance for the delivered solution based on two yearly visits during the warranty and support period.

13. Product origin

1. The mother company shall be from USA, Europe, or Japan

14. Bill of Materials

#	Site Name	Location	Building Name	Wireless access points	Wireless Lan Controller with HA, support 256 AP license
1	Prince Rashid Hospital	Irbid	Main building	190	2

15. Service Level Agreement

During the warranty period, the contractor shall meet the below SLA parameters:

1. Severity Levels

Insuring and maintaining full, safe and enhanced performance for all devices and any related items, along with all required support and prevention procedures with the following targets:

a) Severity level 1

Response time: Within 30 minutes

Arrival on site: Within 90 Minutes (for Amman sites)

Arrival on site: Within 3 Hours (for North and South sites)

b) Severity level 2

Response time: Within 1 Hour

Arrival on site: Within 3 Hours (for Amman sites)

Arrival on site: Within 6 Hours (for North and South sites)

c) Severity level 3

Response time: Within 8 Hours

Arrival on site: Within 8 Hours

Resolution time: Guaranteed network recovery & repair within 24 Hours.

d) Severity level 4

Response time: Within 12 Hours

Arrival on site: Within 12 Hours

Resolution time: Guaranteed network recovery & repair within 48 Hours.

⌚ Severity level will be determined by EHS upon opening each individual support case.

⌚ Throughout the execution of the SLA, vendors should not rely on system redundancy as a permanent resolution.

Definitions:

⌚ **Severity Level 1:** Site is down or there is a critical impact to End User's business operation.

⌚ **Severity Level 2:** Operation is severely degraded or significant aspects of End User's business operation are negatively impacted by unacceptable Environment performance.

⌚ **Severity Level 3:** Operational performance of the Environment is impaired, although most business operations remain functional.

⌚ **Severity Level 4:** Product Enhancement request or information is required on product capabilities, installation, or configuration. There is little or no impact to End User's business operation.

⌚ **Response time:** the time it takes to send back an acknowledgement of an issue and commence the process of developing a resolution.

⌚ **Resolution time:** the needed time to solve an open case.

2. Terms and Penalties

Additional hours exceeding the allowable downtime will be subject to penalty. The minimum accepted system availability is 99.9% yearly uptime. Under all circumstances, the "resolution time" must not exceed 24 hours for severity level 3 and 48 hours for

severity level 4. In addition, the “response time” and the “arrival on site time” must be met with each Severity Level.

The vendor will be subject to penalty if he does not meet the “response time”, “arrival on site” and “resolution time”. The following table shows all the penalties under this SLA contract.

Penalty condition	Penalty amount per hour JoD			
	Severity 1	Severity 2	Severity 3	Severity 4
Failed to achieve 99.9% availability target	400	300	0	0
Failed to achieve "response time"	400	300	100	50
Failed to achieve "arrival on site time"	400	300	100	50
Failed to achieve "resolution time"	0	0	100	50

Vendor response will be measured and monitored using EHS’s Service Management tool.

1. The vendor should submit a preventive maintenance program every three months.
2. The Vendor must provide the support methodology and escalation matrix including contact details.
3. The Vendor should provide manufacturer support for all components.
4. The Vendor is responsible for maintaining spare parts to meet the “availability” and “resolution time” targets at no additional cost.
5. The Vendor will provide workshops and/or on-site training if necessary or if requested by EHS.
6. The Vendor will support, configure and resolve problems whenever needed and/or if requested by EHS.
7. The Vendor will commit to providing quality assurance for any major configuration changes whenever requested by EHS. Any change must be done within the EHS change management process.
8. The Vendor is responsible for the review of the system configuration and setup at the beginning of the SLA support contract, develop all the required corrective plans, update the design document and all the documentation required in order to insure the alignment of the best practices.
9. The Vendor is responsible for the following support service compliance points:
 - a. Firmware updates, patches, and new releases
 - b. In addition, the winning bidder shall provide all related support and required preventive maintenance consultation.

16. Technical Compliance sheet

- ⌚ The bidder shall confirm all points in the below compliance sheet and mention the reference for each point in the proposal

#	Description	Comply (Yes, No)	Reference point in the proposal
1	The bidder proposal shall include all the submittals mentioned in the submittal section		
2	The delivered items must match the proposed technical specifications that mentioned in the solution technical specifications section.		
3	The bidder shall propose the quantities based on the BoQ table as mentioned in Bill of quantities section, or the updated BoQ that will be provided after the site visit.		
4	The bidder shall be agree for all points mentioned in the scope of work section.		
5	The bidder shall be committed for all technical term and conditions that mentioned in technical term and condition section.		
6	The bidder must be committed for all warranty and support point that mentioned in warranty and support section.		
7	During the support and warranty period, the bidder shall committed and meet all parameters mentioned in service level agreement section		
8	The mother company shall be from USA, Europe or Japan.		
9	The bidder shall classified as a tier 1 for all items except the items that mentioned in the RFP by name/brand, the bidder shall provide the required manufacturer's certificates or letters for his qualifications.		
10	The bidder shall provide a detailed BoQ including part numbers.		
11	The Bidder is responsible for Patching for the copper, fiber and power cables inside the cabinets.		
	Access switches		
12	POE+ Switches 24 ports		
	Provides min. 24 10/100/1000 Base-TX POE+ auto-sensing & auto-negotiating ports.		

	Minimum 2 SFP/SFP+ ports		
	Provide stacking (virtual switch) feature to increase the performance and HA.		
	POE+ budget shall be 350 W		
	Minimum Switching Capacity : 88 Gbps		
	Minimum forwarding rate (64-byte): 90 Mpps		
	802.1Q VLAN Tagging.		
	Voice VLAN.		
	IEEE 802.1d Spanning Tree Protocol.		
	IEEE 802.1w Rapid Spanning Tree Protocol.		
	Support IEEE 802.1s Multiple Spanning Tree Protocol.		
	IEEE 802.1p Class of Service		
	IEEE 802.3ad.		
	Basic layer 3 routing (static routing)		
	SNMP v2c, and v3		
	SSH, and Telnet.		
	Port security.		
	802.1x authentication		
	Rack Mountable		
	AC Power Supply, Fused UK power cord.		
	POE+ Switches 48 ports		
	Provides min. 48 10/100/1000 Base-TX POE+ auto-sensing & auto-negotiating ports.		
	Minimum 2 SFP/SFP+ ports		
	Provide stacking (virtual switch) feature to increase the performance and HA.		
	POE+ budget shall be 700 W		
	Minimum Switching Capacity : 136 Gbps		
13	Minimum forwarding rate (64-byte): 100 Mpps		
	802.1Q VLAN Tagging.		
	Voice VLAN.		
	IEEE 802.1d Spanning Tree Protocol.		
	IEEE 802.1w Rapid Spanning Tree Protocol.		
	Support IEEE 802.1s Multiple Spanning Tree Protocol.		
	IEEE 802.1p Class of Service		
	IEEE 802.3ad.		

	Basic layer 3 routing (static routing)		
	SNMP v2c, and v3		
	SSH, and Telnet.		
	Port security.		
	802.1x authentication		
	Rack Mountable.		
	AC Power Supply, Fused UK power cord.		
	Core switches		
	Provide minimum 16 Port SFP/SFP+.		
	Provide minimum 8x1000base-T Ethernet ports.		
	The copper interfaces could be fixed or SFP.		
	Provide stacking (virtual switch) feature to increase the performance and HA. The stacking cables shall be 5 meters long.		
	Minimum Switching Capacity : 400 Gbps		
	Minimum Forwarding Rate (64-byte): 200 Mpps		
	Layer 3 IP routing (static and Inter VLAN routing)		
14	Support 802.1Q VLAN Tagging.		
	Support IEEE 802.1d Spanning Tree Protocol.		
	Support IEEE 802.1w Rapid Spanning Tree Protocol.		
	Support IEEE 802.1s Multiple Spanning Tree Protocol.		
	Support IEEE 802.1p Class of Service		
	Support IEEE 802.1x		
	Support IEEE 802.3ad		
	Support SNMP v2c, and v3		
	Support SSH and Telnet access management.		
	Rack Mountable		
	Dual AC Power Supplies, UK fused power cords.		
	Aggregation switches		
	Provides minimum 12 SFP+ ports.		
15	Provides minimum 12x1000 Base-TX Ethernet ports.		
	Provide stacking (virtual switch) feature to increase the performance and HA		

	Minimum Switching Capacity : 200 Gbps		
	Minimum Forwarding Rate: 100Mpps		
	Support 802.1Q VLAN Tagging.		
	Support IEEE 802.1d Spanning Tree Protocol.		
	Support IEEE 802.1w Rapid Spanning Tree Protocol.		
	Support IEEE 802.1s Multiple Spanning Tree Protocol.		
	Support IEEE 802.1p Class of Service		
	Support IEEE 802.1x		
	Support IEEE 802.3ad		
	Support SNMP v2c and v3		
	Support SSH and Telnet access management.		
	Rack Mountable		
	Dual AC Power Supplies, UK standard power cord.		
	NBN WAN switch		
	The switches shall comply with NBN minimum requirements (Cisco 3560/2960)		
	Provides 8 10/100/1000 Base-TX auto-sensing & auto-negotiating ports.		
	Shall be able to accommodate 1Gig fiber uplink ports by adding SFP's on the switch.		
	Features		
	Support Static Routing.		
	Support Link-aggregation control protocol (LACP).		
16	Support 802.1Q VLAN Tagging		
	Support IEEE 802.1d Spanning Tree Protocol		
	Support IEEE 802.1w Rapid Spanning Tree Protocol		
	Support 802.1s Multiple Spanning Tree Protocol		
	Support 802.1p Class of Service		
	Support SNMP v2c, and v3		
	Support SSH and telnet access management.		
	Minimum Switching Capacity: 10 Gbps		

	Minimum Forwarding Rate (64-byte): 12 Mpps		
	Rack Mountable (must include the rack mount kit)		
	UK fused power cord.		
	WAN switch		
	Provides 8 10/100/1000 Base-TX auto-sensing & auto-negotiating ports.		
	Shall be able to accommodate 1Gig fiber uplink ports by adding SFP's on the switch.		
	Support Static Routing.		
	Support Link-aggregation control protocol (LACP).		
	Support 802.1Q VLAN Tagging		
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	Support 802.1s Multiple Spanning Tree Protocol		
	Support 802.1p Class of Service		
	Support SNMP v2c, and v3		
	Support SSH and telnet access management.		
	Minimum Switching Capacity: 10 Gbps		
	Minimum Forwarding Rate (64-byte): 12 Mpps		
	Rack Mountable (must include the rack mount kit)		
	UK fused power cord.		
18	All Switches should have the same operating System (Except the NBN WAN switches)		
	Network Perimeter Security (Appliance)		
	Minimum 6 100/1000 Base-T ports		
	Shall combine firewalling and routing function.		
19	Threat Protection Throughput 1 Gbps, or Application Firewall throughput 1.5 Gbps		
	High availability feature is mandatory.		
	Support the SD-WAN technology.		
	Support link aggregation protocols (LACP/LAG)		
	Static, BGP, and OSPF routing.		

	AES/3DES VPN encryption.		
	Route and policy based routing.		
	Form factor 1 U rack mountable.		
	Internal dual AC power supply.		
	Quality of Service: traffic classification, prioritization and queuing.		
	Voice Gateways		
20	EHS has Cisco Call Manager Solution at EHS Data Center contains unified Cisco Call Managers and unified contact center express.		
	The bidder shall propose the Cisco Voice ATA GW to connect sites using traditional PBX that exists in sites by connecting PBX external lines to ATA Voice Gateway.		
	The bidder shall provide the required licenses equals to the number of the ports on the voice gateways at Cisco call manager system (essential license).		
	Wireless Network		
21	EHS has its own Aruba wireless solution, two master Aruba wireless LAN controllers are existing in EHS data center and used to manage all local WLC's and access points		
	The provided access point's quantities are estimated based on the initial site survey. The winning bidder shall provide the final number of access points in each site by physical site survey using certified wireless survey tools.		
	Wireless Access Points		
22	The access point shall be managed by Aruba WLC.		
	The proposed Access points shall operate on the same controller that operates AP-103 access points. The controllers' OS version is 8.6.0.0.		
	Indoor Dual Radio 802.11ac Access Point with Multi-User MIMO		
	Auto-sensing 100/1000 Base-T on the Ethernet network port.		

	Support 5GHz 802.11ac 3x3 MIMO (1,300 Mbps max rate) and 2.4GHz 802.11n 2x2 MIMO (300 Mbps max rate) radios.		
	Support multiple SSID		
	Support wireless security standards (WPA, WPA2, and AES encryption)		
	Support Web Authentication for users.		
	Support IEEE802.1x		
	Support 802.3af (PoE)		
	Support SNMP Support SNMP v2c, and v3		
	Wireless LAN Controllers		
23	The WLC shall be controlled by the master Aruba WLC that existing in EHS data center.		
	Shall support Redundancy (Redundant WLC)		
	Minimum two GE interfaces		
	link aggregation (LACP)		
	shall be capable to support IEEE 802.11ac standard APs		
	Shall Support centralized management solution.		
	Can be managed by SSH, Telnet and Web GUI		
	PEF license should be included equivalent to the number of Access Points		



شركة الحوسبة الصحية

Electronic Health Solutions

For Review Only Not For Bidding