



嗇色園主辦可銘學校

Ho Ming Primary School (Sponsored by Sik Sik Yuen)

校址：新界元朗天水圍天柏路二號
電話：2445 0101
網址：www.homing.edu.hk

2 Tin Pak Road, Tin Shui Wai, Yuen Long, N.T.
傳真：2445 9247
電郵：info@homing.edu.hk



學校檔號：HOMINGWIFI/2024-27/01

敬啟者：

招標

邀請承投提供「學校 Wi-Fi 設定與訂閱服務 (36 個月)」

(投標商不可在招標書封面上顯示該公司/機構的名稱)

現誠邀 貴公司/機構就本校承辦「學校 Wi-Fi 設定與訂閱服務 (36 個月)」提交投標建議書。請參考隨附的書面報價附件。倘 貴公司/機構不擬接受部份服務項目，請於投標附表上清楚註明。

投標書必須填妥一式兩份，並放置信封內封密。信封面應清楚註明：
承投提供「學校 Wi-Fi 設定與訂閱服務 (36個月)」

投標書應寄往 **新界天水圍天柏路2號 嗇色園主辦可銘學校** 收啟，並須於2024年7月18日(星期四)中午十二時或以前 送達上述地址。逾期送達之標書概不受理。 貴公司/機構之標書有效期由截止日期起計90天內仍屬有效，如在有效期內仍未接獲通知，是次投標則作落選論。茲請注意：貴公司/機構必須填妥投標表格，否則標書概不受理。

倘 貴公司/機構不能或不擬投標，亦煩請盡快把本函及不擬承投表格寄回上述地址，並列明不擬投標的原因。學校招標承投所需服務時，會以「整批」形式考慮接受供應商的投標。

在學校的招標過程中，競投人、其僱員及代理人不得向學校僱員、校董會/法團校董會成員，或負責考慮與本合約相關事宜的有關委員會的任何家長或學生代表提供利益(香港法例第201章《防止賄賂條例》所界定的「利益」)。競投人、其僱員及代理人向有關人士提供任何利益，根據《防止賄賂條例》可構成罪行，並可導致合約無效。學校亦可取消批出的合約，而競投人須為學校所蒙受的任何損失或損害負上法律責任。

如有查詢，請致電本校 2445 0101 與劉月嬌主任聯絡。

嗇色園主辦可銘學校
校長 譚鳳婷 謹啟

二零二四年六月二十六日



承投提供「學校Wi-Fi設定與訂閱服務（36個月）」
投標表格

學校名稱及地址：嗇色園主辦可銘學校 新界元朗天水圍天柏路2號

學校檔號：HOMINGWIFI/2024-27/01

截止投標日期：二零二四年七月十八日（星期四）中午十二時正

第I部分

下方簽署人願意按照正式訂單上訂明的日期及所列的價格，包括勞工、材料及其他所有費用，以及校方所提出的細則，提供投標附表上所列項目的服務。下方簽署人知悉，所有未經特別註明的項目，均須按照該細則的規定提供服務；投標書由上述截止日期起計90天內仍屬有效；校方不一定採納索價最低的投標書或任何一份投標書，並有權在投標書的有效期內，採納某份投標書的全部或部分內容。下方簽署人亦保證其公司的商業登記及僱員補償保險均屬有效，而其公司所提供的服務不會損壞學校的校舍或導致學校運作上出現困難。

第II部分

再行確定書面報價單/投標書的有效期

有關本投標書表格的第I部分，現再確定本公司的投標書有效期由2024年7月18日起計為期90天。

下方簽署人亦同意，投標書的有效期一經再行確定，其公司就該事項註明於投標表格內的預印條文，即不再適用。

第III部分
維護國家安全

下方簽署人確認即使報價／招標文件中有任何相反的規定，學校保留以其公司曾經、正在或有理由相信其公司曾經或正在作出可能構成或導致發生危害國家安全罪行的行為或活動為由，取消其公司資格的權利，又或為維護國家安全，或為保障香港的公眾利益、公共道德、公共秩序或公共安全，而有必要剔除其公司。

下方簽署人確認若出現下列任何一種情況，學校可以立即終止合約：

- (i) 其公司曾經或正在作出可能構成或導致發生危害國家安全罪行或不利於國家安全的行為或活動；
- (ii) 繼續僱用其公司或繼續履行合約不利於國家安全；或
- (iii) 學校合理地認為上述任何一種情況即將出現。

日期： _____

姓名(請以正楷填寫)： _____

簽署人： _____

職銜： _____

上方簽署人已獲授權，代表：—

_____ 公司簽署書面報價單／投標書，該公司在
香港註冊的辦事處地址為 _____

電話號碼： _____

傳真號碼： _____

公司/機構印鑑

承投提供「學校 Wi-Fi 設定與訂閱服務 (36 個月)」
投標表格附件

PART 1: Background, Objective and the Whole Design

a) Background & Objective

1) The School will **enhance / top up** the IT infrastructure so as to set up the necessary Wi-Fi environment in the school premises (full Wi-Fi coverage in required classrooms and special rooms, see **appendix** for details) for supporting e-learning in class.

b) The Whole Design

- 1) A contractor will be hired to design, build, operate and maintain the whole Wi-Fi infrastructure; and to pay for the service by **subscription** thereafter, through a subscription model, for a period of **36 months**.
- 2) The setup need to make good use of school **existing** Wi-Fi trunk, conduits and cabling owned by school so as to lower the cost and be more environmental friendly.

PART 2 : Standard Provision

Specifications of Standard Provision of School Wi-Fi Setup & Subscription Services (36 months)

a) Basic / Minimum Specification

Item	General Description (For details, please refer to Annex 1)	Applicable (Yes / No)	If not, please provide detail																																				
1	Wi-Fi services starts ☆ 01 September, 2024																																						
2	Wi-Fi subscription period ☆ 36 months, starting from 01 September, 2024																																						
3	<p>Wi-Fi Standard and Coverage ☆ use IEEE 802.11 ac network or above in classrooms and special rooms at school</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;"></th> <th style="width: 25%; text-align: center;">24 Standard Classrooms</th> <th style="width: 25%; text-align: center;">4 Non- standard Classrooms</th> <th style="width: 40%; text-align: center;">14 Special Rooms (For details, please refer to Annex 2)</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">☆7/F :</td> <td>701-704</td> <td>711, 712</td> <td>715(add on location)</td> </tr> <tr> <td style="text-align: center;">☆6/F :</td> <td>601-604</td> <td></td> <td>611, 612, 615</td> </tr> <tr> <td style="text-align: center;">☆5/F :</td> <td>501-504</td> <td></td> <td>511(Sever Rm)512(Computer Rm) , 515</td> </tr> <tr> <td style="text-align: center;">☆4/F :</td> <td>----</td> <td></td> <td>401-404(Staff Rm), 412, 415</td> </tr> <tr> <td style="text-align: center;">☆3/F :</td> <td>301-304</td> <td></td> <td>311,312(Language Rm), 315</td> </tr> <tr> <td style="text-align: center;">☆2/F :</td> <td>201-204</td> <td></td> <td>211(Library)</td> </tr> <tr> <td style="text-align: center;">☆1/F :</td> <td>101-104</td> <td></td> <td>127(Hall),115 ,119-120(Office)</td> </tr> <tr> <td style="text-align: center;">☆G/F :</td> <td></td> <td></td> <td>G04, G13(Covered playground),</td> </tr> </tbody> </table>		24 Standard Classrooms	4 Non- standard Classrooms	14 Special Rooms (For details, please refer to Annex 2)	☆7/F :	701-704	711, 712	715(add on location)	☆6/F :	601-604		611, 612, 615	☆5/F :	501-504		511(Sever Rm)512(Computer Rm) , 515	☆4/F :	----		401-404(Staff Rm), 412, 415	☆3/F :	301-304		311,312(Language Rm), 315	☆2/F :	201-204		211(Library)	☆1/F :	101-104		127(Hall),115 ,119-120(Office)	☆G/F :			G04, G13(Covered playground),		
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☆G/F :			G04, G13(Covered playground),																																				
4	Number of Concurrent Connection per classroom ☆ commensurate with maximum 40 devices in a classroom with at least 2.5 Mbps upload / download bandwidth per connection. The contractor shall provide a PoC to prove that the required bandwidth can be supported for 40 devices at the same time before tender award																																						
5	Number of classrooms using Wi-Fi concurrently ☆ 26 classrooms																																						

Item	General Description (For details, please refer to Annex 1)	Applicable (Yes / No)	If not, please provide detail
6	<p><i>Number of Concurrent Connection per Special Rooms</i></p> <ul style="list-style-type: none"> ☆ 7/F : 715(30 connections) ☆ 6/F : 611 (80 connections) ☆ 6/F : 612 (40 connections) ☆ 6/F : 615 (40 connections) ☆ 5/F : 511_Sever Rm (40 connections) ☆ 5/F : 512_Computer Rm (80 connections) ☆ 5/F : 515 (30 connections) ☆ 4/F : Staff Room (80 connections) ☆ 4/F : 412 (40 connections) ☆ 4/F : 415 (30 connections) ☆ 3/F : 312 (40 connections) ☆ 3/F : 311 (40 connections) ☆ 3/F : 315 (30 connections) ☆ 2/F : 211_Library (40 connections) ☆ 1/F : 127_Hall (160 connections) ☆ 1/F : 115 (40 connections) ☆ 1/F : 119-120_Office (40 connections) ☆ G/F : G04_Activity room (80 connections) ☆ G/F : G13_Covered playground (120 connections) 		
7	<p><i>SSID & Authentication Method</i></p> <ul style="list-style-type: none"> ☆ Support Multiple SSID co-exist through an AP ☆ Different SSID can have different authentication method ☆ Authentication method : Support MAC address filter (School can have the ability to add / edit / remove MAC address permit / deny to Wi-Fi connection) ☆ Authentication method : use 802.1x standard based authentication and Hong Kong Education City single sign-on services 		
8	<p><i>Session Control</i></p> <ul style="list-style-type: none"> ☆ Hong Kong Education City authentication service can support one device or multiple devices to connect based on user group (student, teachers) 		
9	<p><i>Internet Content Filtering Service</i></p> <ul style="list-style-type: none"> ☆ based on filtering profile commonly adopted by most schools and managed by vendors 		
10	<p><i>Relationship with Existing Network Infrastructure and Facilities</i></p> <ul style="list-style-type: none"> ☆ not rely on any existing network facilities and cabling of the School, nor interfere with the existing Wi-Fi network of the School. The Wi-Fi network shall be physically separated from the school network ☆ if school existing trunks / conduits do not have enough space, new trunks / conduits are required to install for the connection ☆ if school existing floor cabinets (racks) do not have enough space, new racks are required to install for the network connecting devices and related equipments ☆ All new trunks, conduits and cabinets are required to compromise with school before actual installation / mounting 		

Item	General Description (For details, please refer to Annex 1)	Applicable (Yes / No)	If not, please provide detail
11	<p>Broadband Network</p> <ul style="list-style-type: none"> ☆ use separate broadband for the Wi-Fi service ☆ provide at least 1Gbps Internet connection at school for the Wi-Fi service <p><i>if counter-propose other Internet connection method instead of providing independent Broadband, please specify clearly</i></p>		
12	<p>Managed Service</p> <ul style="list-style-type: none"> ☆ operate the Wi-Fi network and the dedicated broadband line, using managed service model, by a self-owned network operation centre with international quality management, IT service management and information security certification grant, provide end-to-end service with single point of contact including configuration, provisioning of service, proactive monitoring, maintenance and regular reporting 		
13	<p>Service Level Agreement</p> <ul style="list-style-type: none"> ☆ ensure at least 99.7% availability of the Wi-Fi services ☆ support four-hour response time and four-hour service recovery with active monitoring, helpdesk support ☆ support hours from Mon to Sat 7:00 am to 6:00 pm ☆ provide monthly monitoring reports for the School 		
14	<p>Contract End Arrangement</p> <ul style="list-style-type: none"> ☆ All provisions of trunks, conduits, cables, LAN ports and power points shall be considered as fixture of the School and shall become the property of the School, the Contractor shall remove or keep those provisions according to the instruction of the School ☆ Contractor can remove the network equipment such as switch, routers, and access points 		

Part 3 : Pricing Scheme

Pricing Scheme A

School is looking for a financial scheme for

Part	Pricing (HKD) for School Wi-Fi Setup & Subscription Services (36 months)	Remark (like any deviation of your provided system from school specification expectation)
<p>Part 4 : Standard Provision For 26 Classrooms (For detailed locations, please refer to Annex 2a)</p>		
<p>Part4 : Standard Provision For Special Rooms Without 715 (For detailed locations, please refer to Annex 2a)</p>		
<p>Total Pricing (HKD) for 26 Classrooms & Special Rooms Without 715</p>		

Pricing Scheme B

School is looking for a financial scheme for

Part	Pricing (HKD) for School Wi-Fi Setup & Subscription Services (36 months)	Remark (like any deviation of your provided system from school specification expectation)
Part 4 : Standard Provision For 26 Classrooms (For detailed locations, please refer to Annex 2b)		
Part4 : Standard Provision For Special Rooms With 715 (For detailed locations, please refer to Annex 2a)		
Total Pricing (HKD) for 26 Classrooms & Special Rooms With 715		

- The Service Provider is required to provide a breakdown on the service charges for each of the service items above. Failure in complying with this requirement may render the tender disqualification.
- Set up cost will not be considered as a part of the cost in subscription mode

Part 4 : Information to be provided by Service Provider

The Service Provider is required to submit the following information and document

- A Statement of Compliance to provide response that the quotation complies with all requirements stated in this Specification.
- No upfront cost or one off cost schools shall be paid throughout the entire subscription period.
- Proposed AP location mark on the Floor plan.
- Proposed Network infrastructure show on the Network Diagram.
- Implementation Plan.
- WiFi Access Point certificates issued by OFCA.
- Product information including technical and descriptive literature and catalogues. Information provided by the manufacturer shall be able to substantiate that the products offered meet the mandatory Technical Specification.
- Quantity and Model of the following equipment and devices by filling in the table below :

Equipment and devices	Quantity	Model
WiFi Controllers		
Access Points		

Router/Firewall		
Core Switch		
Access PoE Switches		
LAN Cables		
Others (please specify)		

Part 5 : Information to be provided by Service Provider (continue)

- Days required for build up of WiFi network by filling in the table below ::

<p>Days required for build up of WiFi network:</p> <p>The Contractor shall complete all the build up of WiFi network and provide school WiFi service within _____ days upon order confirmation including the testing & commissioning process.</p> <p>Remarks for set up/installation (if any) :</p> <hr/> <hr/> <hr/> <hr/>
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- Details of following of all the sub-contract service involved in the proposal for the project implementation, service operation and maintenance, by filling in the table below :

Name of Sub-Contractor	Sub-contract service	Roles and responsibility

- Please supply a list of schools for reference that the Contractor is providing School Wi-Fi Setup & Subscription Services to.

Part 6 : related information provided by the School

A floor plan to be provided by the School

- Annex 1: Technical Detail of Equipment & detail of Services
- Annex 2a: Floor Plan of the School (without 715)
- Annex 2b: Floor Plan of the School (with 715)
- Annex 3: Simplified School Network diagram

Site Visit(s)

- Two identical site visits will be arranged on 5th July 2024 at two different sessions. Interested parties are welcome for the site visit.

Date: 5th July 2024 (Friday)
Time: 9:00a.m.-11:00a.m. OR 2:00p.m.-4:00p.m.
Venue: 2, Tin Pak Road, Tin Shui Wai, N.T. (Ho Ming Primary School sponsored by Sik Sik Yuen)

- Q&A raised at the site visits will not be posted out for others reference

Enquiry

- For enquiry, please contact IT Panel person, **Miss Lau Yuet Kiu** of Ho Ming Primary School by phone /email.
- Telephone No.: **2445 0101**
- Email: **lauyk@ssy.homing.edu.hk.**

Selection criteria

School is looking for a contractor based on the following criteria

- Proposed pricing fit with school budget
- Solution suitability to school
- Equipment and services level that can offer
- Case reference

- Other useful information

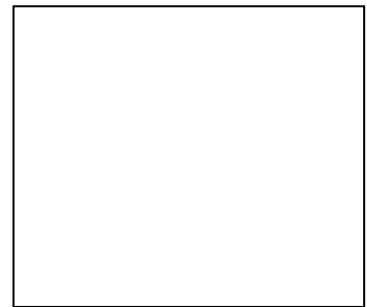
Terms of Payment

- The subscription will be paid in arrears of each month during the subscription period.

Authorization and Signature

Name of Tenderer: _____

Signature of Person Authorized to Sign Tender: _____



Date: _____

Company Chop

Technical Detail of Equipment & detail of Services

1. Wi-Fi Network

- 1.1. The Wireless LAN (WLAN) System of the Wi-Fi network shall support simultaneous dual-operation-mode that is FAT Access Point (AP) and Thin Access Point are both supported together with WLAN Controller. WLAN Controller shall be capable of fully centralized provisioning, configuration and monitoring all APs functionalities; a backup of the WLAN Controller shall be available.
- 1.2. Resilience service platform should be designed with redundant WLAN controller, servers, core switches, web gateways shall be provided for redundancy purpose and the failover from the primary platform equipment to secondary platform equipment can be achieved without any manual interruption.
- 1.3. The thin client WLAN Access Point (AP) shall be a high performance wireless network access device, which shall be connected with the Power over Ethernet (PoE) Access Switches via Structured Cabling System. Appropriate type of connection cables between WLAN APs and the antenna shall be provided
- 1.4. The WLAN APs shall be compatible with IEEE 802.11a/b/g/n/ac standard or above, support dual band of 2.4GHz and 5GHz
- 1.5. The Contractor shall design the WLAN System to provide the coverage for the required wireless coverage place. The received signal strength measurement from the Wi-Fi Service at the Wi-Fi client device (such as tablet PC or notebook computer) is no worse than -68 dBm. The Contractor shall provide certificate or test report to illustrate that the Wi-Fi client device for testing satisfies the power emission requirement.
- 1.6. The WLAN AP shall support DHCP, PoE, VLANs, WPA2, IEEE 802.1x and certificate authentication.
- 1.7. The WLAN System shall support automatic channel selection, protocol filtering, multicast/broadcast storm filtering and load balancing.
- 1.8. The WLAN system shall allow single or multiple devices per user account to be authenticated using 802.1x and Hong Kong Education City single sign-on service.
- 1.9. Each WLAN AP shall be able to support at least concurrent 40 users connecting to the network simultaneously. In no circumstance shall the speed of data transmission symmetrically fall below the data rate requirement at any place or any corner or any highly congested area within the areas being covered. In case the transmission speed is below the said data rates, the Contractor shall be responsible for all remedial measures to rectify or configure fine-tuning of antenna or even increase the quantity of the WLAN AP at Contractor's own costs in order to meet the data rate requirement as mentioned in the Specification. A complete set of catalogues with brand and model shall be submitted and highlighted for reference. The catalogues shall show all the features and technical specifications of the products and systems.
- 1.10. The system shall provide bandwidth control per connection.
- 1.11. The WLAN shall allow different authentications by using Service Set Identifiers (SSIDs).
- 1.12. The SSIDs shall be able to be set hidden from searching by Wi-Fi devices. The devices have to manually set SSID to make connection.
- 1.13. Individual APs shall be allowed to be assigned by more than one SSIDs.
- 1.14. The SSIDs shall be isolated by VLANs, so different users under different SSIDs could be bind to corresponding firewall secure policy control and integration purpose. Ho Ming Primary School- Tender invitation for School Wi-Fi Setup & Subscription Services (36 months) Page 13 / 19
- 1.15. Antennas of APs shall support 802.11ac Beamforming standard by capable of detecting user locations in real time for direction switching while devices in motion.
- 1.16. The DHCP server shall support at least 30 queries/sec.
- 1.17. The WLAN system shall suspend the session of the user once the session control is expired and the suspension time shall be configured by the school.
- 1.18. The Contractor shall in provision of the service comply with non-interference requirements of and shall not Cause interference prohibited under the Telecommunication Ordinance (Cap 106) or any other laws or regulation of Hong Kong.
- 1.19. The WLAN System shall provide termination of idle sessions and control of the duration features.

- 1.20. The WLAN System shall support client roaming across Access Points.
- 1.21. The WLAN system shall cover all areas specified under this tender.
- 1.22. The quotation shall include the cost to provide sufficient quantity and its cabling work required, including but not limited to supply and install the Fibre optics, Cat 6 cable, Conduit, cable patch panel, cable faceplate, Cable patch cord.
- 1.23. The Contractor shall provide complete set of WLAN Systems which consist of Wireless Access Point, Connection Cable, Authentication System, Wireless LAN Controller, PoE Switch, horizontal UTP Cat 6 cable/OM3 Fiber, patch cable UTP Cat 6 / OM3 Fiber Optics, any required license and all associated accessories.
- 1.24. All access points (AP) shall be certified by OFCA and copy of certificates issued by OFCA shall be attached to the proposals.
- 1.25. The Contractor shall ensure that there is no interference between WLAN Access Points due to limited non-overlapping channels assignment when the WLAN AP is installed. The Contractor shall be responsible at his own costs for providing solution to eliminate the interferences including but not limited to reassignment of the non-overlapping channels, adding extra APs with lower transmission power and/or replacement of the WLAN AP.
- 1.26. The WLAN System shall support Web GUI management.
- 1.27. FTP service shall not be allowed in the Wi-Fi network (to avoid exchanging credential and files in plain text without any encryption).
- 1.28. The WLAN System shall support IPV6 addressing method.
- 1.29. The WLAN system deployed shall be non-Asian brand, but not limited to well-known brand in the market.
- 1.30. The contractor shall be authorized by the WLAN vendor to bid for this project to avoid any faked or low quality products are deployed. A vendor certificate shall be provided during the tender submission.
- 1.31. The contractor shall have at least 5 x certified engineers on the proposed WLAN brand for at least 6 months.
- 1.32. Those certified engineers shall be permanent staff of the contractors for at least 6 months in order to ensure the service quality on deployment and after-sales services can be maintained. The Contractor shall submit those supporting documents during tender submission.
- 1.33. The cabling deployed in the Wi-Fi network shall be non-Asian brand, but not limited to well-known brand (e.g. Systimax, AMP, Krone, Brandrex, 3M & etc...).
- 1.34. The contractor shall be authorized by the cabling vendor to bid for this project to avoid any faked or low quality products are deployed. A vendor certificate shall be provided during the tender submission.

2. Core Switch

- 2.1. The Core Switch would be responsible for connecting all PoE access switches in typical floors for WLAN AP while the Core switch shall be a non PoE switch (i.e. The Access Point shall not connect to the core switch directly).
- 2.2. The Core Switch shall be capable of providing the required bandwidth, QoS, and policy-based routing to carry all sorts of information including video, voice, data, image, etc.
- 2.3. The Core switch shall not be the same equipment as the Broadband Router or Firewall. A separate core switch must be provided.
- 2.4. Each Core Switch shall provide a Gigabit Ethernet connection to each PoE Access Switch in typical floors.
- 2.5. The Core Switch shall support Layer 2 and Layer 3 switching and capable of providing the wired speed performance.
- 2.6. The Core Switch shall support basic IP unicast routing protocols, Static route, Routing Information Protocol (RIPv1,RIPv2), inter VLAN routing.
- 2.7. The Core Switch shall support Internet Group Management Protocol (IGMP) snooping and multicast and unicast storm control, Spanning-Tree Protocol.
- 2.8. The Core Switch shall support WebGUI Management, Access Control Lists (ACLs), DHCP Interface and SNMP.
- 2.9. The Core Switch shall support VLANs including support for IEEE 802.1Q and IEEE 802.1p.

3. PoE Access Switch

- 3.1. The Access Switches shall be deployed to provide high performance interconnectivity between the Core Switches and the WLAN APs on typical floor.
- 3.2. The Access Switch shall consist of 8/12/24/48 x 10/100/1000Base-T Ethernet ports, with minimum of 1 x 1000Base-T / 1000Base-SX SFP Gigabit Ethernet uplink ports connected with the Core Switch.
- 3.3. The Access Switch shall be used for connecting the WLAN APs. The Contractor shall determine the Maximum power loading of the devices to be connected with the PoE Access Switches. The Contractor shall provide additional PoE Access Switch(es) if the total power loading summed up from the PoE devices exceeds the maximum power loading capacity of the PoE Access Switch.
- 3.4. The Access Switches shall support VLAN configuration.
- 3.5. The Access Switches shall be at wired speed.
- 3.6. The Access Switches shall be provided sufficient port density to meet all the required links.
- 3.7. The Access Switches shall support PoE and shall conform to IEEE 802.af / IEEE 802.3af standard, which delivers power over single copper UTP cable for WLAN AP.
- 3.8. The Access Switches shall support Internet Group Management Protocol (IGMP) snooping and multicast and unicast

storm control, IEEE 802.1D Spanning-Tree Protocol.

- 3.9. The Access Switches shall support Virtual local area network (VLANs) including support for IEEE 802.1Q and IEEE 802.1p.
- 3.10. The Access Switches shall support WebGUI Management, Access Control Lists (ACLs), DHCP Relay and SNMP.

4. Firewall

- 4.1. The performance of the Firewall shall not be degraded with 100% Internet bandwidth utilization.
- 4.2. Network Address Translation (NAT) is required.
- 4.3. Access Control Policy is required.
- 4.4. The configuration settings of the appliance shall be allowed to export to files for backup and restore for rapid recovery and shall control all incoming and outgoing Internet traffic, serving as the sole entry and exit point between the Internet and the WLANs in all locations.
- 4.5. The configuration settings of the appliance shall support blocking specific network ports, including ports of Transmission Control Protocol (TCP) and User Datagram Protocol (UDP). Blocking denial of service (DoS) attacks and malformed packet attacks shall also be configured.
- 4.6. The firewall policy should be applied to control network traffic such that public users should be prohibited to access the internal network segments of the School.
- 4.7. The router policy should be applied to shape the guest user VLAN traffic to designated bandwidth requested by School to preserve the e-learning in class which is the primary purpose of School Wi-Fi.

5. Service Requirements

- 5.1. The Contractor shall be responsible for the total project management and shall assign a person to act as the single contact point to the School regarding all related activities of the contract. This single contact point cannot be transferred to a sub-contractor unless explicitly agreed by the School. Contractor should formally inform the School in writing if there is a change of contact point.
- 5.2. The project manager of this project shall be the permanent staff of the contractor for at least 6 months. The contractor shall prove that the project manager is the permanent staff by providing supporting documents during tender submission.
- 5.3. The project manager shall attend the project meeting before completion of the project.
- 5.4. The Contractor shall provide rack/cabinet or use existing school rack if there is available rack space. All switches/firewall shall be properly installed into wall mounted cabinet or rack.
- 5.5. Cables shall be labeled with connected port and its device id.
- 5.6. All the equipment shall be labeled with an identifiable id.
- 5.7. The placement of cables, cabinets, racks and appliances shall be shown on the network diagram.
- 5.8. Switches and/or other appliances shall be properly installed into cabinet/rack with appropriate ventilation.
- 5.9. 13A power cord(s) shall be bundled with appliance(s).
- 5.10. Cable shall be properly set up onto appropriate cable management guide.
- 5.11. Contractor should make sure that the actual environment is suitable for the installation and operation of equipment with School agreement in advance, and make necessary suggestions, if any.

6. Service Level Requirements

- 6.1. The Contractor shall provide incident/problem report to the School within 5 working days after each incident and the resolution taken.
- 6.2. The Contractor shall derive mechanism, including forms and reference tables for measuring and recording the Service Level Measures, to ease the administration and monitoring by the School.
- 6.3. Advance notice by at least 2 weeks shall be given to the School prior to all scheduled maintenance. At most 4 scheduled maintenances per year are excluded from the calculation of Service Levels. No more than 1 hour service interruption or an agreed time slot is accepted for each scheduled maintenance.
- 6.4. Service Level, expressed in percentage, is the ratio of actual available time to the scheduled available time for the Wi-Fi network of the School and is calculated according to the following formula:
 - ◆ Service Availability Level = (Schedule Uptime within the month – Unscheduled Downtime within the month) / Scheduled Uptime within the month, where
 - ◇ Scheduled Uptime: The duration, in unit of minutes, for the Wi-Fi network of the School is scheduled to be available for the month. The duration will exclude the scheduled downtime, which is defined as duration agreed between the School and the Contractor during which the service may be deliberately made unavailable to users
 - ◇ Unscheduled Downtime: The amount of time, in unit of minutes, that the service are unavailable due to equipment failure or other reasons under the responsibility of the Contractor.

7. Service Level Rebates

- 7.1. The Service Rebates to the School operate as liquidated damages for the performance fallen short of the target service levels over a period of one month. The service measures stipulated in 4.6 will be used to determine the service Rebates in Service Availability (S1) and Service Resumption Time (S2).
- 7.2. The application of the Service Level Rebates adjustment to the monthly charge will commence with effective from the acceptance of the reliability test.
- 7.3. For each month, the Service Rebates for different service measures (S1, S2) will be calculated as below if the Contractor cannot meet the target Service Levels for the Wi-Fi network of the School under the availability agreed:

$$\text{Failure Hour} \times [(\text{Yearly Subscription Fee}) / (365 \times 24)] \times 2$$

where Failure Hour: The unscheduled downtime or the time to resume the network due to the failure of hardware or software which is provided by the Contractor. Failure Hour is calculated in the increment of 0.5 Hour.

- 7.4. The Service Rebates of the Wi-Fi network of the School, if any, will be paid by crediting the invoice of the following month.

8. Helpdesk Service

- 8.1. The Helpdesk Service shall maintain dedicated hotline, including phone, email and fax, for enquiries and complaints.
- 8.2. The Helpdesk Service shall answer enquiries and complaints originated from the School concerning the Service.
- 8.3. The Helpdesk Service shall operate from Mon to Sat 7:00 am to 6:00 pm.
- 8.4. The Helpdesk Service shall maintain call logs on enquiries and complaints. The information shall be included but Not be limited to date, time, description of issues, contact information, and follow-up actions. The Contractor Shall observe and comply with Personal Data (Privacy) Ordinance in handling all information relating to these enquiries and complaints.
- 8.5. The Contractor shall provide the following information concerning the Helpdesk service related to the implementation of the Service:
 - ◆ Detailed information of the helpdesk office, such as address, phone number, fax number; and
 - ◆ Facilities, computer systems and equipment provided in the helpdesk office, such as private branch exchange (PBX), keyline telephone system (KTS), interactive voice response system (IVRS) and voice recording system.
- 8.6. The Contractor shall provide helpdesk staff with the necessary tools, including but not limited to hardware and software, related training for supporting the Service.
- 8.7. The Contractor shall not make use of the Helpdesk Service to transmit any message or conduct any activity to the School, which is not connected with the provision of the Service. The School shall have the full discretion to determine whether any such message or activity is in breach of this provision. The Contractor shall forthwith stop transmitting such message or conducting such activity and refrain from doing it further once the School has notified the Contractor in writing or verbally of its determination.

9. User Acceptance Test

- 9.1. The Contractor shall conduct tests with the School before the service is officially accepted and subscription started. Tests shall include User Acceptance Test for reliability and performance of the hardware and software, and also the monitoring, operation support and all other aspects related to the Service Level Agreement of the Service. At least 14 school working days of trial period is expected for service monitoring after testing.
- 9.2. The contractor will be required to perform test making reference to the User Acceptance Test and System Test documents at www.edb.gov.hk/ited/Wi-Fi900. They include the types of testing to be performed, the requirements to be tested, the testing environment, testing tools and pass/fail criteria as reference to the Contractor.
- 9.3. The Contractor shall upon request by the School arrange briefings to the School and/or Responsible Parties of the School, with briefing materials, prior to the User Acceptance Test when required.
- 9.4. The Contractor shall provide detailed acceptance test plan and a step by step testing procedure with expected Results against the requirements set out in this specification.
- 9.5. The Contractor shall provide, configure and set up the proper software and hardware for the School to carry out the User Acceptance Test.
- 9.6. The Contractor shall be required to carry out tests to demonstrate that the equipment and system meet the specification and other contractual requirements. The Contractor shall also be responsible for the timely preparation and compilation of all test schedules, test procedures and test reports.
- 9.7. The Contractor shall follow the agreed standards as laid down in this specification for the testing methods and procedures.
- 9.8. The Contractor shall submit a schedule of site performance and commissioning tests at least 3 working days prior to the commencement of the scheduled commissioning date.
- 9.9. Special tools, test equipment, test objects and simulators required for the demonstration of either bench or commissioning tests shall be made available by the Contractor at no extra charge to the School.
- 9.10. All test equipment used by the Contractor shall be properly and periodically calibrated. Measuring standards used in

calibration shall be traceable to international or national measurement standards, or to an industry recognized manufacturer's reference, subject to approval of the School.

- 9.11. Calibration procedures and results shall be documented and signed by certifying body where applicable. The Contractor may be requested to show evidence of calibration of test equipment by submission of copies of these calibration records prior to conduction of any tests.
- 9.12. The Contractor shall submit the User Acceptance Test report within 3 working days. The acceptance of the installation will only be granted after receiving a satisfactorily UAT report from the Contractor.
- 9.13. All equipment to be installed may be subject to inspection and bench testing. The Contractor shall meet the cost of deliveries for bench test. Notwithstanding, the Contractor shall have carried out the tests in accordance with the requirements and procedures stipulated in this specification and submitted the associated test reports for inspection.

10. Termination of Service

- 10.1. The School reserves the right to terminate all or part of the Service at any time with written notice of 10 working days in advance if:
 - ◆ The Contractor fails to meet the target service levels under Service Level Requirements for two consecutive months, or three months in total within the committed subscription period;
 - ◆ The School suspects that unauthorized activity has occurred or is occurring in relation to the Service;
 - ◆ The provision of the Service will cause the School to be in breach of any applicable law;
- 10.2. The Contractor shall provide to the School and implement the Exit Plan in accordance with:
 - ◆ The Contractor shall provide to the School an Exit Plan with feasible arrangements before the committed subscription contract date;
 - ◆ If the School considers the Exit Plan as not satisfactory, it will notify the Contractor with comments. The Contractor shall revise the Exit Plan by taking into consideration of the School's comments and provide to the School with five (5) working days after the date of receiving the School's comments. If the Exit Plan has been considered as not satisfactory for three or more times, the School shall have the right to terminate this Contract by giving 10 days' notice in writing;
 - ◆ Detailed exit procedures, disengagement timetable and actions to be taken by both the Contractor and the School for smooth termination of all or any part of the Service;
 - ◆ The Exit Plan shall aim at enabling the School or its authorized parties to perform in substitution for the Contractor and to eliminate or minimize any disruption or deterioration of the Service. The Exit Plan shall contain, but not limited to the following information:
 - ◇ Detailed exit procedures, disengagement timetable and actions to be taken by both the Contractor and the School for smooth termination of all or any part of the Service;
 - ◇ Any information that is necessary for the School or a new service provider to continue the provision of the Service;
 - ◇ Details of the Contractor's personnel and other resources that will assist the School or the School's authorized parties during the handover;
 - ◇ All provisions of facilities such as trunks, conduits, cables, LAN ports and power points, shall be considered as fixture of the School venues and shall become the property of the School. The Contractor shall remove or keep those provisions according to the instruction of the School. Contractor can remove the network equipment such as switch, routers, and access points.
 - ◆ The Contractor shall be responsible for the implementation and execution of the Exit Plan and shall ensure that the exit plan is carried out in a timely and orderly manner.

11. Wi-Fi Project Reference

- 11.1. The Contractor shall list out 3 Wi-Fi 100 reference cases with compliment letters.
- 11.2. The compliment letters shall be provided during the tender submission
- 11.3. To prove that the Contractor has the capability on Wi-Fi system design and maintenance, The Contractor shall list out 20 reference cases in non-subscription model which uses the same wireless solution vendor as the proposed brand in last 3 years while the cases in a single year shall not be less than 5.
- 11.4. The project references shall be provided during tender submission.

12. Sub-Contracts

- 12.1. The Tenderer shall be the prime Contractor for all the services specified in Part X and Part Y of this contract. The Tenderer shall be the single point of contact for all contractual matters.
- 12.2. The Tenderer shall be liable for the performance or breach of any provisions of the contract by Sub-Contractors.
- 12.3. The Tenderer shall provide details of the sub-contract service for the Wi-Fi operation and maintenance of the Sub-Contractors in the format listed in Part 6. The hierarchy of the sub-contracting shall also be clearly stated below. If there are no Sub-Contractors, please enter nil.

- 12.4. No Sub-Contractor(s) specified in Part 6 shall be replaced unless prior written consent has been given by the School.
- 12.5. The Tenderer shall ensure that the quality of the service rendered by the Tenderer shall not be affected due to any change of Sub-Contractors;
- 12.6. The Tenderer shall not be relieved from any of its obligations hereunder by entering into any sub-contract for the performance of any part of this contract. If request by the School, the Tenderer shall describe which part of the service shall be performed by the Sub-Contractor(s) in the sub-contract(s) between the tenderer and its Sub-Contractor(s).

13. Schedule of Work

The Contractor shall provide the service according to the following schedule.

Phase	Items		Starting Date	Subscription Period	Service fee
I	Build up of Wi-Fi network		N.A.	N.A.	0
II	Subscription of service		01 September, 2024	36 months	Quoted price

14. Deliverables

14.1. The Contractor is required to provide the following deliverables for the WiFi network design:

- ◆ Master Activity Plan
- ◆ Network Configuration Report and Network Diagram
- ◆ Network Test Plan and Network Test Result Report
- ◆ Operation Manual for End User
- ◆ User Acceptance Test Plan
- ◆ Exit Plan

14.2. The Contractor is required to provide the monthly monitoring report with the following items:

- ◆ Network Health Report
- ◆ Network Usage Report
- ◆ Reporting of security incidents
- ◆ Reporting on trend and statistics of incident and their analysis
- ◆ Reporting of the failure rate for all equipment with detailed fault analysis
- ◆ Problem log and incident log for critical failure of the network
- ◆ Statistical report on the type and no. of calls
- ◆ Summary of the outstanding enquiry for the month-to-date

2023-2024 年度 課室分佈表

Annex 2a

WIFI建設的分佈(1-9-2024至31-8-2027)

七樓	712 室	711 室	711A 室	709 室	708 室	707 室	706 室	705 室	704 室	703 室	702 室	701 室	715 室						
	WIFI AP	WIFI AP	音樂貯存室	傷殘人士洗手間	男廁	女廁	HUB 房	電掣房	WIFI AP	WIFI AP	WIFI AP	WIFI AP							
六樓	614 室	613 室	612 室	611 室	611A 室	609 室	608 室	607 室	606 室	605 室	604 室	603 室	602 室	601 室	615 室				
	學生輔導社工室	輔導員接見室	學生輔導中心	WIFI 2 AP (80 connection)	常識預備室	傷殘人士洗手間	男廁	女廁	HUB 房	電掣房	WIFI AP	WIFI AP	WIFI AP	WIFI AP	WIFI AP				
五樓	512 室	511 室	509 室	508 室	507 室	506 室	505 室	504 室	503 室	502 室	501 室	515 室							
	電腦教學室	伺服器室	傷殘人士洗手間	男廁	女廁	HUB 房	電掣房	WIFI AP	WIFI AP	WIFI AP	WIFI AP	WIFI AP							
四樓	414 室	412 室	411 411B	409 室	408 室	407 室	406 室	405 室	404 室	403 室	402 室	401 室	415 室						
	空中花園	多元活動中心	教學資源室	傷殘人士洗手間	男廁	女廁	HUB 房	電掣房	教職員室				WIFI AP						
三樓	312 室	311 室	311A 室	309 室	308 室	307 室	306 室	305 室	304 室	303 室	302 室	301 室	315 室						
	WIFI AP	WIFI AP	視藝貯存室	傷殘人士洗手間	男廁	女廁	HUB 房	電掣房	WIFI AP	WIFI AP	WIFI AP	WIFI AP	WIFI AP						
二樓	211 室	211A 室	209 室	208 室	207 室	206 室	205 室	204 室	203 室	202 室	201 室	215 室							
	圖書館	圖書貯存室	傷殘人士洗手間	男廁	女廁	HUB 房	電掣房	WIFI AP	WIFI AP	WIFI AP	WIFI AP	儲物室							
一樓	127 室	120 室	119 室	118 室	117 室	115-116 室	114 室	113 室	112 室	111 室	109 室	108 室	107 室	106 室	105 室	104 室	103 室	102 室	101 室
	禮堂	校長室	校務處	醫療室	油印房	會客室	貯物室	茶水間	男職員洗手間	女職員洗手間	傷殘人士洗手間	男廁	女廁	HUB 房	電掣房	WIFI AP	WIFI AP	WIFI AP	WIFI AP
地下	G13 室	G13 室	G12 室	G11 室	G05 室	G04B 室	G04A 室	G03 室	G02 室	G01 室									
	籃球場	雨天操場	文化廣場	職工休息室	水泵房	TBE 房	士多房	體適能訓練中心	學生活動室	傷殘人士洗手間	男廁	女廁	更亭						

WIFI : 表示課室 (24+2個課室, 26 AP)

WIFI : 表示特別室 (共18個地點, 27 AP)

2023-2024 年度 課室分佈表

Annex 2b

WIFI建設的分佈(1-9-2024至31-8-2027)

七樓	712 室	711 室	711A 室	709 室	708 室	707 室	706 室	705 室	704 室	703 室	702 室	701 室	715 室						
	WIFI AP	WIFI AP	音樂貯存室	傷殘人士洗手間	男廁	女廁	HUB房	電掣房	WIFI AP	WIFI AP	WIFI AP	WIFI AP	+WIFI AP						
六樓	614 室	613 室	612 室	611 室	611A 室	609 室	608 室	607 室	606 室	605 室	604 室	603 室	602 室	601 室	615 室				
	學生輔導社工室	輔導員接見室	學生輔導中心	WIFI 2 AP (80 connection)	常識預備室	傷殘人士洗手間	男廁	女廁	HUB房	電掣房	WIFI AP	WIFI AP	WIFI AP	WIFI AP	WIFI AP				
五樓	512 室	511 室	509 室	508 室	507 室	506 室	505 室	504 室	503 室	502 室	501 室	515 室							
	電腦教學室	伺服器室	傷殘人士洗手間	男廁	女廁	HUB房	電掣房	WIFI AP	WIFI AP	WIFI AP	WIFI AP	WIFI AP							
四樓	414 室	412 室	411 室	409 室	408 室	407 室	406 室	405 室	404 室	403 室	402 室	401 室	415 室						
	空中花園	多元活動中心	教學資源室	傷殘人士洗手間	男廁	女廁	HUB房	電掣房	教職員室				WIFI AP						
三樓	312 室	311 室	311A 室	309 室	308 室	307 室	306 室	305 室	304 室	303 室	302 室	301 室	315 室						
	WIFI AP	WIFI AP	視藝貯存室	傷殘人士洗手間	男廁	女廁	HUB房	電掣房	WIFI AP	WIFI AP	WIFI AP	WIFI AP	WIFI AP						
二樓	211 室	211A 室	209 室	208 室	207 室	206 室	205 室	204 室	203 室	202 室	201 室	215 室							
	圖書館	圖書貯存室	傷殘人士洗手間	男廁	女廁	HUB房	電掣房	WIFI AP	WIFI AP	WIFI AP	WIFI AP	儲物室							
一樓	127 室	120 室	119 室	118 室	117 室	115-116 室	114 室	113 室	112 室	111 室	109 室	108 室	107 室	106 室	105 室	104 室	103 室	102 室	101 室
	禮堂	校長室	校務處	醫療室	油印房	會客室	貯物室	茶水間	男職員洗手間	女職員洗手間	傷殘人士洗手間	男廁	女廁	HUB房	電掣房	WIFI AP	WIFI AP	WIFI AP	WIFI AP
地下	G13 室	G13 室	G12 室	G11 室	G05 室	G04B 室	G04A 室	G03 室	G02 室	G01 室									
	籃球場	兩天操場	文化廣場	職工休息室	水泵房	TBE房	士多房	體適能訓練中心	學生活動室	傷殘人士洗手間	男廁	女廁	更亭						

WIFI : 表示課室 (24+3個課室, 27 AP) 715室加一個AP

WIFI : 表示特別室 (共18個地點, 27 AP)