

學小屬附學中恩協

號一道園農龍九

三六二一一一七二：話電

八五九一四一七二：真傳文圖



HEEP YUNN PRIMARY SCHOOL

1 FARM ROAD, KOWLOON.

TEL: 2711 1263

FAX: 2714 1958

學校檔號：SER20261013/

執事先生：

承投「學校伺服器建置與系統整合服務」

現誠邀 貴公司承投提供「學校伺服器建置與系統整合服務」，並就附頁所列的服務要求，提出詳細投標書。倘 貴公司不擬接納部份服務條件，請於投標附表上清楚註明。

投標表格必須具一式兩份，並放置信封內封密。信封面應清楚註明：**承投「學校伺服器建置與系統整合服務」招標書**。

投標書應寄往或親身交回：九龍城農圃道1號協恩中學附屬小學，並須於二零二六年十一月十三日中午十二時前送達上述地址。逾期的投標，概不受理。貴公司的投標書有效期為90天，由上述截標日期起計。如在該90天內仍未接獲訂單，則是次投標可視作落選論。另外亦請注意，貴公司必須填妥投標表格第二部分，否則標書概不受理。

倘 貴公司未能或不擬投標，亦請盡快把投標表格寄回上述地址，並列明不擬投標的原因。

招標承投所需服務時，會以「整批」形式接受承標商的投標。

協恩中學附屬小學



陳素兒

陳素兒校長謹啟

二零二六年十月十三日

附件一、投標表格

附件二、投標附表

附件三、投標服務細則

附件四、公司簡介範本

**承投「學校伺服器建置與系統整合服務」
投標表格**

學校名稱：協恩中學附屬小學

學校地址：九龍城農圃道一號

學校檔案：SER20261013/

截標日期/時間：2026 年 11 月 13 日(星期五)中午十二時正

第一部份

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；投標書由上述截標日期起計 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份內容。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。

第二部份

再行確定投標書的有效期

有關本投標的第一部分，現再確定本公司的投標書有效期由二零二六年十一月十三日起計為 90 天內有效。

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。

第三部份

維護國家安全

下方簽署人確認即使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： 年 月 日

姓名(請以正楷填寫)：_____ 簽署人：_____

職銜：_____ (請註明職位，例如董事、經理、秘書等)

上方簽署人已獲授權，代表：_____ 公司簽署投標書，該公司

在香港註冊的辦事處地址為 _____

電話號碼：_____ 傳真號碼：_____

附件二

協恩中學附屬小學
承投「學校伺服器建置與系統整合服務」
投標附表
(請填寫及呈交一式兩份)

報價單總額預算 HK\$ 299, 900，若超過此數目將不作考慮

供應商於服務計劃書中須詳列以下項目：

(1) 項目 編號	(2) 服務說明	(3) 數量/ 規格	(4) 單價 (HKD)	(5) 總價 (HKD)
(1)	Rack Server (1U or 2U Rackmount chassis)	1 set		
1.1	CPU: Min. 1 x Intel Xeon / AMD EPYC enterprise-grade processor, min. 16 Cores, current mainstream generation or above.	1		
1.2	RAM: 2 x 64GB DDR5 5600MT/s (or above) ECC Registered RDIMM (2Rx4), must be original factory-certified and branded by the server manufacturer.	2		
1.3	OS Disk: 2 x 480GB (or above) Enterprise-grade SATA/NVMe SSD, must be configured in Hardware RAID 1 for OS installation.	2		
1.4	Data Storage & Chassis (Tenderer is highly requested to price BOTH options below. Option A is Preferred; Option B is accepted as an Alternative):	Dual-Option		
	[OPTION A] All-Flash SSD Route (Preferred) - Drives: 5 x 3.84TB Server Manufacturer Original Certified Enterprise SATA SSD (with Power Loss Protection - PLP, ≥ 0.8 DWPD), configured in Hardware RAID 5. - Chassis: 1U/2U rackmount chassis with at least 8 x 2.5" SFF hot-swappable drive bays.	5		
	[OPTION B] Traditional SAS HDD Route (Alternative) - Drives: 8 x 2.4TB 10K SAS 12Gb Hot Swap 512e HDD v2, configured in Hardware RAID 6. - Chassis: 2U rackmount chassis with at least 16 x 2.5" SFF hot-swappable drive bays.	8		
1.5	NIC: 1 x Onboard or PCIe 4-Port 1GbE RJ45 Base-T (or above) network adapter, supporting Link Aggregation/NIC Teaming.	1		
1.6	NIC2: 1 x Onboard or PCIe 2-Port 10GbE SFP+ (or higher) high-speed optical adapter, dedicated for the the newly proposed Network Switch and NAS backup infrastructure.	1		

(1) 項目 編號	(2) 服務說明	(3) 數量/ 規格	(4) 單價 (HKD)	(5) 總價 (HKD)
1.7	Power Supply: 2 x 800W (or above) Platinum high-efficiency hot-swappable dual redundant power supplies (1+1 Redundant configuration).	2		
(2)	Microsoft Software & Client Access Licensing (Academic Volume)	1 lot		
2.1	Operating System License: 16-Core Windows Server 2025 Standard Academic License (to license 1 physical host and up to 2 production guest VMs).	1		
2.2	Client Access License: Windows Server 2025 Device CAL (Device Client Access License) - Academic Version (Supplier is responsible for successful injection and activation within the AD environment).	180		
(3)	NAS (1U or 2U Rackmount)	1		
3.1	Hardware: min. 4-Core x86 CPU, 16GB ECC RAM, and 1 x Dual-port 10GbE SFP+ interface including official rack-mounting rail kits.	1set		
3.2	Backup Software: Must include a native, license-free, and centralized enterprise backup platform. The software must support automated, agentless backup for Microsoft Hyper-V virtual machines, combined with global block-level deduplication and instant VM restoration capabilities within the NAS environment.	1		
3.3	Storage Drives: Fully equipped with Tier-1 7200rpm CMR Enterprise SATA HDDs to deliver a MINIMUM of 48TB raw capacity before Hardware RAID, or a minimum of 40TB net usable capacity inside the NAS operating system storage pool.	1 lot		
3.4	Drive Compatibility: All installed storage drives must be certified Enterprise-grade HDDs with official manufacturer compatibility. The NAS operating system must fully recognize the drives without triggering any system warnings.			
3.5	Compatibility: Must natively support Network UPS Server functionality.			
(4)	UPS (2U Rackmount)	2		
4.1	Power & Form Factor: Min. 1500VA / 900W Pure Sine Wave 2U Rackmount UPS, including official rack-mounting rail kits and a front panel graphical LCD.			

(1) 項目 編號	(2) 服務說明	(3) 數量/ 規格	(4) 單價 (HKD)	(5) 總價 (HKD)
4.2	Runtime & Interface: Min. 7 mins runtime at full load, featuring a built-in USB port with standard HID-UPS protocol for direct infrastructure signaling.			
(5)	Rack PDU	1		
5.1	PDU Housing & Output: 19-inch horizontal (1U) OR vertical (0U) rack-mountable PDU form factor, subject to the physical height and space availability of the Client's existing server rack as verified during the pre-installation site survey. Must provide an IEC-C14 input plug and min. 4 x Standard Hong Kong 3-pin (BS1363) output sockets to accommodate external legacy power adapters.			
(6)	Network Switch	1		
6.1	Ports: Min. 24 x 1GbE RJ-45 ports AND a Min. of 4 x 10GbE SFP+ slots (to support dual-port server connectivity, dual-port NAS connectivity, and uplink/trunk connectivity).			
6.2	Performance & Management: Must be a Layer 2 (L2) Smart Managed or Fully Managed Switch with a total non-blocking switching capacity of at least 128 Gbps (or standard line-rate performance for the specified port density), featuring a built-in internal power supply (PSU) and active cooling fans for enterprise-grade durability.			
6.3	Capabilities: Must fully support IEEE 802.1Q VLAN Tagging, Link Aggregation Control Protocol (LACP / IEEE 802.3ad) for interface bonding, and Jumbo Frames (up to 9K). The switch must be capable of standalone backup operation and future core integration, supporting flexible uplink deployment to allow multiple VLANs passage across high-speed links to the existing network infrastructure when required.			

(1) 項目 編號	(2) 服務說明	(3) 數量/ 規格	(4) 單價 (HKD)	(5) 總價 (HKD)
(7)	Network Connectivity & Accessories	1 lot		
7.1	10GbE SFP+ Connectivity: The Supplier must provide a complete, fully compatible, and fully populated 10GbE network connectivity solution to inter-connect the Server (Item 1), the NAS (Item 3), and Network Switch (Item 6).			
7.2	SFP+ DAC Cable Quantity: The Supplier shall provide a minimum of four (4) units of 10GbE SFP+ Direct Attach Copper (DAC) twinax cables to fully hook up the Server dual-ports and NAS dual-ports to Network Switch.	4		
7.3	Uplink Cable Quantity: Additionally, the Supplier must provide a minimum of two (2) units of standard Category 6 (Cat 6) UTP patch cords to establish the uplink/trunk interconnection between the Network Switch and the existing core switch.	2		
7.4	Cable Length: The exact length of all cables must be determined by the Supplier during the pre-installation site survey to ensure proper routing and cable management within the rack environment without tension or excessive slack.			
7.5	Cross-Vendor Compatibility: All delivered SFP+ DAC cables or transceivers must be vendor-coded / programmed to match the exact brands and models of the final delivered hardware (including the Server, NAS, and Network Switch). Generic or non-compatible cables that trigger firmware warnings, speed degradation, or link drops in any of the systems will not be accepted.			
(8)	Server Installation & Infrastructure Deployment	1 lot		
8.1	Hardware Decommissioning & Rack Space Clearance: Prior to the installation of any new hardware, the Contractor must safely power down, disconnect, and physically unmount/remove the designated old server(s) or legacy equipment from the Client's existing rack. The Contractor is responsible for clearing sufficient U-space, clearing legacy cable paths, and preparing the rack infrastructure to safely accommodate all newly proposed rackmount hardware.			

(1) 項目 編號	(2) 服務說明	(3) 數量/ 規格	(4) 單價 (HKD)	(5) 總價 (HKD)
8.2	OS Implementation: Install and activate Windows Server 2025 Standard Edition on the new physical server, with OS drives configured in a secure RAID 1 array. Basic system and network configuration.			
8.3	Hyper-V Virtualization: Install the Hyper-V role include Setup Hyper-V Server , configure virtual switches (vSwitch) and virtual networks(vNetwork), and implement LACP network teaming.			
8.4	Migrate Domain Controller Implementation: Install Windows Server 2019 standard VM*2 and 2025 standard VM *2. Promo the 2 new servers to as DC role and change FMSO to new AD. Export and migrate the old AD GPO to the new AD. Provision a new VM within Hyper-V and safely migrate/promote the existing Domain Controller (DC), ensuring full synchronization of user accounts, GPO, and DNS records.			
8.5	V2V VMs from Sangfor to Hyper-V: Setup migration tool for Sangfor to Hyper-V			
(9)	Centralized Backup & Snapshot Policy Setup	1 lot		
9.1	3-2-1 Backup Strategy Execution: The Contractor must fully design and configure an automated data protection workflow inside the NAS Centralized Backup Platform. Backups must be scheduled to run strictly during nighttime/off-peak hours to prevent operational downtime. The configuration must maintain at least three (3) copies of data stored on two (2) different media types (Existing Server storage and New NAS storage pool), with configurations optimized to support future off-site.			
9.2	Immutable Snapshot Implementation: The Contractor must configure automated local Snapshot lifecycle management on both the Hyper-V host environment and the New NAS storage system. Snapshots must be configured as immutable with specific retention rules to deliver multi-layered protection against ransomware and accidental data deletion.			

(1) 項目 編號	(2) 服務說明	(3) 數量/ 規格	(4) 單價 (HKD)	(5) 總價 (HKD)
9.3	Power Optimization (HDD Hibernation):The Contractor must configure and enable the "HDD Hibernation" feature within the NAS operating system, setting an idle timeout of 20 or 30 minutes to optimize energy saving during daytime operational hours.			
(10)	Smart Network-Linked Shutdown Architecture	1 lot		
10.1	Power Distribution Alignment: Physically connect all new and existing proposed network equipment (including switches, servers, and NAS units) directly to the UPS units via the provided PDU strips to preserve network signaling capability during a blackout.			
10.2	Signal Path Integration: Connect a dedicated USB signal cable from UPS 1 to the New NAS to establish direct power telemetry and communications.			
10.3	Sequence Logic Configuration: Configure the New NAS (utilizing the Network UPS Server / NUT framework) with a 5-minute buffer delay. If a power outage continuously exceeds 5 minutes, it must broadcast an emergency network command across the LAN to initiate an automated, sequential **Graceful Shutdown** of all cabinet infrastructure in this exact specified order:			
(11)	Extended Maintenance & Acceptance Terms	1 lot		
11.1	Hardware Warranty: Provide 5 Years comprehensive On-site Warranty (parts and labor) for the New Server and New NAS (including motherboards and all hard drives/SSDs).			
11.2	UPS & PDU Warranty: Provide 3 Years comprehensive On-site Warranty for the UPS chassis, circuitry, and PDU strips (built-in UPS batteries shall strictly follow the manufacturer's standard warranty tier).			
11.3	SLA: All hardware maintenance support must adhere to Next Business Day (NBD) on-site troubleshooting and parts replacement.			

(1) 項目 編號	(2) 服務說明	(3) 數量/ 規格	(4) 單價 (HKD)	(5) 總價 (HKD)
11.4	Network Interconnection & Labeling: The Supplier is strictly responsible for configuring proper Link Aggregation (LACP) for 10GbE links. The setup must support both standalone backup operation and future core integration. For network connectivity, the Supplier shall set up proper interconnection/Trunk Ports between the newly proposed Network Switch and the existing core switch. The Supplier must provide clear, durable physical labels on both ends of the two (2) uplink Cat 6 patch cords, explicitly marked as 'SWITCH-TRUNK-01' and 'SWITCH-TRUNK-02', and apply port-security/Spanning Tree Protocol (STP/RSTP) on both switches to prevent network loops.			
11.5	Server & VM Functional Testing: The Contractor must demonstrate that all newly provisioned Microsoft Hyper-V guest Virtual Machines (VMs) are fully operational, with CPU, RAM, and storage RAID arrays properly allocated and performing up to official manufacturer baselines.			
11.6	Active Directory Domain Join Testing: The Contractor must verify that the newly migrated Active Directory Domain Controller (DC) functions flawlessly. Successful verification requires testing network client machine login authentication, Group Policy Object (GPO) propagation, and DNS resolution accuracy across the existing network infrastructure.			
11.7	Backup Recovery Testing: Prior to sign-off, the Contractor must perform a live backup restoration drill. The Contractor must successfully recover and boot up a simulated production VM from the NAS storage environment to the Hyper-V host using the centralized backup platform, ensuring zero data corruption and proving the disaster recovery plan works.			
11.8	Live Power-Cut Acceptance Testing: The Contractor must conduct a live, on-site "Physical Main Power Disconnection" (Pulling the plug) simulation test. The system is accepted only if the 6 blackout stages execute sequentially with a 100% automated success rate across all affected cabinet infrastructure under either standalone backup topology or trunked network integration.			

(1) 項目 編號	(2) 服務說明	(3) 數量/ 規格	(4) 單價 (HKD)	(5) 總價 (HKD)
11.9	User Acceptance Test (UAT) Sign-Off: The entire project will only be deemed formally completed and ready for final payment upon the successful passing of all technical milestones (11.5 through 11.8) and the official issuance of a signed Overall User Acceptance Test Sign-Off Certificate by the Client's administrators.			
11.10	Project Documentation: Upon successful UAT sign-off, the Contractor must deliver a complete set of Infrastructure Configuration Documentation (in both soft copy and hard copy). This documentation must include, but is not limited to: detailed network topology diagrams, physical rack layout blueprints, IP address allocations, hardware serial numbers, operating system/RAID configuration records, admin/service credentials, and step-by-step backup/restore operational manuals.			
11.11	Project Closure & Nursing Period: The formal closure of the project and release of final payment retention are subject to a mandatory two (2) week standby nursing period immediately following the overall UAT sign-off date. During this nursing period, the Contractor must provide priority technical support and bug-fixing to ensure the absolute stability of the newly deployed infrastructure during actual production workloads.			
	Total Amount :			

備註：

1. 有關終止合約：雙方如欲終止合約，須提早兩個月以書面通知。
2. 請註明收費詳細及其他資料。
3. 投標者須遵守防止賄賂條款：「競投人、其僱員及代理人不得向學校僱員、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」）。若競投人、其僱員或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。」
4. 本校預期於二零二七年二月十二日或之前完成所有是次招標項目。

聲明：

本公司/本人明白，如成為中標公司，便有責任履行投標書的服務內容。如未能履行，須負責賠償學校從另處獲取上述服務的差價。

投標者：_____

獲授權簽署投標書的代表的姓名及簽署：

姓名(請以正楷填寫)：_____ 簽署：_____

日期：_____

協恩中學附屬小學
承投「學校伺服器建置與系統整合服務」
投標服務細則

- 1 有意承辦本標書的供應商可
 - 1.1 於 2026 年 10 月 20 日至 10 月 27
 - 1.2 日期間安排職員到本校現場視察實地情況(須致電校務處與蔡小姐聯絡預約)
- 2 投標書內容要求包括：
 - 2.1 硬件及軟件供應
 - 2.1.1 新伺服器採購：供應全新機架式伺服器 1 台（規格詳見附表二）；
 - 2.1.2 系統授權：提供最新版本之伺服器操作系統及虛擬化軟件授權（如 Windows Server 2025 / Hyper-V 等）；
 - 2.1.3 網絡連接：配備兼容本校現有核心交換機之萬兆（1GbE）網卡及相應光纖跳線；
 - 2.2 系統安裝與設置
 - 2.2.1 虛擬化環境架設：設定高可用性（High Availability）虛擬化平台；
 - 2.2.2 網絡與安全設定：設定 VLAN、防火牆規則、IP 位址分配，並建立獨立的管理網絡。
 - 2.3 數據及系統遷移
 - 2.3.1 無縫遷移：將現有舊伺服器之數據、虛擬機器（VMs）、學校行政系統、內聯網及檔案伺服器完整遷移至新系統，轉移過程須確保資料完整性（Data Integrity），轉移前後須進行資料 Checksum 對比驗證；
 - 2.3.2 過渡方案：遷移工作必須在不影響學校日常運作及教學的前提下進行。主要系統切換必須安排在週末或學校假期。
 - 2.4 備份與故障復原
 - 2.4.1 本地備份：架設自動化定時備份系統，確保具備全面還原能力；
 - 2.5 項目時程與交付條款
 - 2.5.1 交貨期限：中標之服務供應商必須於接獲正式訂單後兩個月內，將所有訂購之產品運送至本校並開展工程。如因全球供應鏈問題導致延誤，必須第一時間書面聯絡校方商討；
 - 2.5.2 施工時間：校內實地安裝及測試如需停機，必須安排於非上課時間（如聖誕/農曆新年/復活節假期）進行，並須提前 7 個工作天通知本校資訊科技技術員。
 - 2.6 保養及技術支援服務
 - 2.6.1 硬件保養：提供由原廠提供之 3 / 5 年（7x24）的原廠保固服務；
 - 2.6.2 軟件支援：保養期內免費提供系統安全性更新、修補程式（Patches）安裝支援；
 - 2.6.3 資訊科技管理與資訊科技安全認證：供應商指派之主要技術人員，宜具備以下至少一項或多項專業認證或同等資歷，以確保專案管理與資安品質：PMI-PMP 專案管理師、ITIL 4 認證 或同等專案管理經驗。
ISACA-CISM 國際資訊安全經理、ISACA-CISA 國際資訊系統審計師、或著名網路廠商（如 H3C / Cisco / Microsoft / Fortinet）之專業工程師認證。
 - 2.6.4 緊急應變：若伺服器發生故障導致學校網絡中斷，技術人員須於 4 小時內提供遠端支援或下一工作日到場維修；

2.6.5 技術培訓：工程完成後，須為本校資訊科技技術員（TSS）提供新系統日常操作及備份還原培訓。

3. 評審程序：

3.1校方將根據所提交投標書的內容對所有合資格投標者進行評審，準則如下：

評審內容	比重
a) 服務細則： ➤ 硬體規格與系統相容性 ➤ 系統整合與轉移方案 ➤ 售後服務與品質保障	40%
b) 價格	40%
c) 個案經驗	20%

3.2評審過程中，可能需要邀請投標者派員向校方講解及闡釋投標書內所列內容及資料，但資料以投標書內容為準。

附件四

公司簡介
(以下資料必須提供，以便評審)

個案經驗 (請優先提供學校伺服器建置與系統整合服務，可另加附件補充)

	學校/機構	項目	服務金額	完工日期
1.				
2.				
3.				
4.				
5.				

**承投「學校伺服器建置與系統整合服務」
投標表格**

學校名稱：協恩中學附屬小學

學校地址：九龍城農圃道一號

學校檔案：SER20261013/

截標日期/時間：2026 年 11 月 13 日(星期五)中午十二時正

第一部份

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；投標書由上述截標日期起計 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份內容。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。

第二部份

再行確定投標書的有效期

有關本投標的第一部分，現再確定本公司的投標書有效期由二零二六年十一月十三日起計為 90 天內有效。

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。

第三部份

維護國家安全

下方簽署人確認即使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：

- iv. 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；
- v. 繼續僱用其公司或繼續履行合約不利於國家安全；或
- vi. 學校合理地認為上述任何一種情況即將出現。

日期： 年 月 日

姓名(請以正楷填寫)：_____ 簽署人：_____

職銜：_____ (請註明職位，例如董事、經理、秘書等)

上方簽署人已獲授權，代表：_____ 公司簽署投標書，該公司

在香港註冊的辦事處地址為 _____

電話號碼：_____ 傳真號碼：_____

附件二

協恩中學附屬小學
承投「學校伺服器建置與系統整合服務」
投標附表
(請填寫及呈交一式兩份)

報價單總額預算 HK\$ 299, 900，若超過此數目將不作考慮

供應商於服務計劃書中須詳列以下項目：

(1) 項目 編號	(2) 服務說明	(3) 數量/ 規格	(4) 單價 (HKD)	(5) 總價 (HKD)
(1)	Rack Server (1U or 2U Rackmount chassis)	1 set		
1.1	CPU: Min. 1 x Intel Xeon / AMD EPYC enterprise-grade processor, min. 16 Cores, current mainstream generation or above.	1		
1.2	RAM: 2 x 64GB DDR5 5600MT/s (or above) ECC Registered RDIMM (2Rx4), must be original factory-certified and branded by the server manufacturer.	2		
1.3	OS Disk: 2 x 480GB (or above) Enterprise-grade SATA/NVMe SSD, must be configured in Hardware RAID 1 for OS installation.	2		
1.4	Data Storage & Chassis (Tenderer is highly requested to price BOTH options below. Option A is Preferred; Option B is accepted as an Alternative):	Dual-Option		
	[OPTION A] All-Flash SSD Route (Preferred) - Drives: 5 x 3.84TB Server Manufacturer Original Certified Enterprise SATA SSD (with Power Loss Protection - PLP, ≥ 0.8 DWPD), configured in Hardware RAID 5. - Chassis: 1U/2U rackmount chassis with at least 8 x 2.5" SFF hot-swappable drive bays.	5		
	[OPTION B] Traditional SAS HDD Route (Alternative) - Drives: 8 x 2.4TB 10K SAS 12Gb Hot Swap 512e HDD v2, configured in Hardware RAID 6. - Chassis: 2U rackmount chassis with at least 16 x 2.5" SFF hot-swappable drive bays.	8		
1.5	NIC: 1 x Onboard or PCIe 4-Port 1GbE RJ45 Base-T (or above) network adapter, supporting Link Aggregation/NIC Teaming.	1		
1.6	NIC2: 1 x Onboard or PCIe 2-Port 10GbE SFP+ (or higher) high-speed optical adapter, dedicated for the the newly proposed Network Switch and NAS backup infrastructure.	1		

(1) 項目 編號	(2) 服務說明	(3) 數量/ 規格	(4) 單價 (HKD)	(5) 總價 (HKD)
1.7	Power Supply: 2 x 800W (or above) Platinum high-efficiency hot-swappable dual redundant power supplies (1+1 Redundant configuration).	2		
(2)	Microsoft Software & Client Access Licensing (Academic Volume)	1 lot		
2.1	Operating System License: 16-Core Windows Server 2025 Standard Academic License (to license 1 physical host and up to 2 production guest VMs).	1		
2.2	Client Access License: Windows Server 2025 Device CAL (Device Client Access License) - Academic Version (Supplier is responsible for successful injection and activation within the AD environment).	180		
(3)	NAS (1U or 2U Rackmount)	1		
3.1	Hardware: min. 4-Core x86 CPU, 16GB ECC RAM, and 1 x Dual-port 10GbE SFP+ interface including official rack-mounting rail kits.	1set		
3.2	Backup Software: Must include a native, license-free, and centralized enterprise backup platform. The software must support automated, agentless backup for Microsoft Hyper-V virtual machines, combined with global block-level deduplication and instant VM restoration capabilities within the NAS environment.	1		
3.3	Storage Drives: Fully equipped with Tier-1 7200rpm CMR Enterprise SATA HDDs to deliver a MINIMUM of 48TB raw capacity before Hardware RAID, or a minimum of 40TB net usable capacity inside the NAS operating system storage pool.	1 lot		
3.4	Drive Compatibility: All installed storage drives must be certified Enterprise-grade HDDs with official manufacturer compatibility. The NAS operating system must fully recognize the drives without triggering any system warnings.			
3.5	Compatibility: Must natively support Network UPS Server functionality.			
(4)	UPS (2U Rackmount)	2		
4.1	Power & Form Factor: Min. 1500VA / 900W Pure Sine Wave 2U Rackmount UPS, including official rack-mounting rail kits and a front panel graphical LCD.			

(1) 項目 編號	(2) 服務說明	(3) 數量/ 規格	(4) 單價 (HKD)	(5) 總價 (HKD)
4.2	Runtime & Interface: Min. 7 mins runtime at full load, featuring a built-in USB port with standard HID-UPS protocol for direct infrastructure signaling.			
(5)	Rack PDU	1		
5.1	PDU Housing & Output: 19-inch horizontal (1U) OR vertical (0U) rack-mountable PDU form factor, subject to the physical height and space availability of the Client's existing server rack as verified during the pre-installation site survey. Must provide an IEC-C14 input plug and min. 4 x Standard Hong Kong 3-pin (BS1363) output sockets to accommodate external legacy power adapters.			
(6)	Network Switch	1		
6.1	Ports: Min. 24 x 1GbE RJ-45 ports AND a Min. of 4 x 10GbE SFP+ slots (to support dual-port server connectivity, dual-port NAS connectivity, and uplink/trunk connectivity).			
6.2	Performance & Management: Must be a Layer 2 (L2) Smart Managed or Fully Managed Switch with a total non-blocking switching capacity of at least 128 Gbps (or standard line-rate performance for the specified port density), featuring a built-in internal power supply (PSU) and active cooling fans for enterprise-grade durability.			
6.3	Capabilities: Must fully support IEEE 802.1Q VLAN Tagging, Link Aggregation Control Protocol (LACP / IEEE 802.3ad) for interface bonding, and Jumbo Frames (up to 9K). The switch must be capable of standalone backup operation and future core integration, supporting flexible uplink deployment to allow multiple VLANs passage across high-speed links to the existing network infrastructure when required.			

(1) 項目 編號	(2) 服務說明	(3) 數量/ 規格	(4) 單價 (HKD)	(5) 總價 (HKD)
(7)	Network Connectivity & Accessories	1 lot		
7.1	10GbE SFP+ Connectivity: The Supplier must provide a complete, fully compatible, and fully populated 10GbE network connectivity solution to inter-connect the Server (Item 1), the NAS (Item 3), and Network Switch (Item 6).			
7.2	SFP+ DAC Cable Quantity: The Supplier shall provide a minimum of four (4) units of 10GbE SFP+ Direct Attach Copper (DAC) twinax cables to fully hook up the Server dual-ports and NAS dual-ports to Network Switch.	4		
7.3	Uplink Cable Quantity: Additionally, the Supplier must provide a minimum of two (2) units of standard Category 6 (Cat 6) UTP patch cords to establish the uplink/trunk interconnection between the Network Switch and the existing core switch.	2		
7.4	Cable Length: The exact length of all cables must be determined by the Supplier during the pre-installation site survey to ensure proper routing and cable management within the rack environment without tension or excessive slack.			
7.5	Cross-Vendor Compatibility: All delivered SFP+ DAC cables or transceivers must be vendor-coded / programmed to match the exact brands and models of the final delivered hardware (including the Server, NAS, and Network Switch). Generic or non-compatible cables that trigger firmware warnings, speed degradation, or link drops in any of the systems will not be accepted.			
(8)	Server Installation & Infrastructure Deployment	1 lot		
8.1	Hardware Decommissioning & Rack Space Clearance: Prior to the installation of any new hardware, the Contractor must safely power down, disconnect, and physically unmount/remove the designated old server(s) or legacy equipment from the Client's existing rack. The Contractor is responsible for clearing sufficient U-space, clearing legacy cable paths, and preparing the rack infrastructure to safely accommodate all newly proposed rackmount hardware.			

(1) 項目 編號	(2) 服務說明	(3) 數量/ 規格	(4) 單價 (HKD)	(5) 總價 (HKD)
8.2	OS Implementation: Install and activate Windows Server 2025 Standard Edition on the new physical server, with OS drives configured in a secure RAID 1 array. Basic system and network configuration.			
8.3	Hyper-V Virtualization: Install the Hyper-V role include Setup Hyper-V Server , configure virtual switches (vSwitch) and virtual networks(vNetwork), and implement LACP network teaming.			
8.4	Migrate Domain Controller Implementation: Install Windows Server 2019 standard VM*2 and 2025 standard VM *2. Promo the 2 new servers to as DC role and change FMSO to new AD. Export and migrate the old AD GPO to the new AD. Provision a new VM within Hyper-V and safely migrate/promote the existing Domain Controller (DC), ensuring full synchronization of user accounts, GPO, and DNS records.			
8.5	V2V VMs from Sangfor to Hyper-V: Setup migration tool for Sangfor to Hyper-V			
(9)	Centralized Backup & Snapshot Policy Setup	1 lot		
9.1	3-2-1 Backup Strategy Execution: The Contractor must fully design and configure an automated data protection workflow inside the NAS Centralized Backup Platform. Backups must be scheduled to run strictly during nighttime/off-peak hours to prevent operational downtime. The configuration must maintain at least three (3) copies of data stored on two (2) different media types (Existing Server storage and New NAS storage pool), with configurations optimized to support future off-site.			
9.2	Immutable Snapshot Implementation: The Contractor must configure automated local Snapshot lifecycle management on both the Hyper-V host environment and the New NAS storage system. Snapshots must be configured as immutable with specific retention rules to deliver multi-layered protection against ransomware and accidental data deletion.			

(1) 項目 編號	(2) 服務說明	(3) 數量/ 規格	(4) 單價 (HKD)	(5) 總價 (HKD)
9.3	Power Optimization (HDD Hibernation):The Contractor must configure and enable the "HDD Hibernation" feature within the NAS operating system, setting an idle timeout of 20 or 30 minutes to optimize energy saving during daytime operational hours.			
(10)	Smart Network-Linked Shutdown Architecture	1 lot		
10.1	Power Distribution Alignment: Physically connect all new and existing proposed network equipment (including switches, servers, and NAS units) directly to the UPS units via the provided PDU strips to preserve network signaling capability during a blackout.			
10.2	Signal Path Integration: Connect a dedicated USB signal cable from UPS 1 to the New NAS to establish direct power telemetry and communications.			
10.3	Sequence Logic Configuration: Configure the New NAS (utilizing the Network UPS Server / NUT framework) with a 5-minute buffer delay. If a power outage continuously exceeds 5 minutes, it must broadcast an emergency network command across the LAN to initiate an automated, sequential **Graceful Shutdown** of all cabinet infrastructure in this exact specified order:			
(11)	Extended Maintenance & Acceptance Terms	1 lot		
11.1	Hardware Warranty: Provide 5 Years comprehensive On-site Warranty (parts and labor) for the New Server and New NAS (including motherboards and all hard drives/SSDs).			
11.2	UPS & PDU Warranty: Provide 3 Years comprehensive On-site Warranty for the UPS chassis, circuitry, and PDU strips (built-in UPS batteries shall strictly follow the manufacturer's standard warranty tier).			
11.3	SLA: All hardware maintenance support must adhere to Next Business Day (NBD) on-site troubleshooting and parts replacement.			

(1) 項目 編號	(2) 服務說明	(3) 數量/ 規格	(4) 單價 (HKD)	(5) 總價 (HKD)
11.4	Network Interconnection & Labeling: The Supplier is strictly responsible for configuring proper Link Aggregation (LACP) for 10GbE links. The setup must support both standalone backup operation and future core integration. For network connectivity, the Supplier shall set up proper interconnection/Trunk Ports between the newly proposed Network Switch and the existing core switch. The Supplier must provide clear, durable physical labels on both ends of the two (2) uplink Cat 6 patch cords, explicitly marked as 'SWITCH-TRUNK-01' and 'SWITCH-TRUNK-02', and apply port-security/Spanning Tree Protocol (STP/RSTP) on both switches to prevent network loops.			
11.5	Server & VM Functional Testing: The Contractor must demonstrate that all newly provisioned Microsoft Hyper-V guest Virtual Machines (VMs) are fully operational, with CPU, RAM, and storage RAID arrays properly allocated and performing up to official manufacturer baselines.			
11.6	Active Directory Domain Join Testing: The Contractor must verify that the newly migrated Active Directory Domain Controller (DC) functions flawlessly. Successful verification requires testing network client machine login authentication, Group Policy Object (GPO) propagation, and DNS resolution accuracy across the existing network infrastructure.			
11.7	Backup Recovery Testing: Prior to sign-off, the Contractor must perform a live backup restoration drill. The Contractor must successfully recover and boot up a simulated production VM from the NAS storage environment to the Hyper-V host using the centralized backup platform, ensuring zero data corruption and proving the disaster recovery plan works.			
11.8	Live Power-Cut Acceptance Testing: The Contractor must conduct a live, on-site "Physical Main Power Disconnection" (Pulling the plug) simulation test. The system is accepted only if the 6 blackout stages execute sequentially with a 100% automated success rate across all affected cabinet infrastructure under either standalone backup topology or trunked network integration.			

(1) 項目 編號	(2) 服務說明	(3) 數量/ 規格	(4) 單價 (HKD)	(5) 總價 (HKD)
11.9	User Acceptance Test (UAT) Sign-Off: The entire project will only be deemed formally completed and ready for final payment upon the successful passing of all technical milestones (11.5 through 11.8) and the official issuance of a signed Overall User Acceptance Test Sign-Off Certificate by the Client's administrators.			
11.10	Project Documentation: Upon successful UAT sign-off, the Contractor must deliver a complete set of Infrastructure Configuration Documentation (in both soft copy and hard copy). This documentation must include, but is not limited to: detailed network topology diagrams, physical rack layout blueprints, IP address allocations, hardware serial numbers, operating system/RAID configuration records, admin/service credentials, and step-by-step backup/restore operational manuals.			
11.11	Project Closure & Nursing Period: The formal closure of the project and release of final payment retention are subject to a mandatory two (2) week standby nursing period immediately following the overall UAT sign-off date. During this nursing period, the Contractor must provide priority technical support and bug-fixing to ensure the absolute stability of the newly deployed infrastructure during actual production workloads.			
	Total Amount :			

備註：

5. 有關終止合約：雙方如欲終止合約，須提早兩個月以書面通知。
6. 請註明收費詳細及其他資料。
7. 投標者須遵守防止賄賂條款：「競投人、其僱員及代理人不得向學校僱員、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」）。若競投人、其僱員或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。」
8. 本校預期於二零二七年二月十二日或之前完成所有是次招標項目。

聲明：

本公司/本人明白，如成為中標公司，便有責任履行投標書的服務內容。如未能履行，須負責賠償學校從另處獲取上述服務的差價。

投標者：_____

獲授權簽署投標書的代表的姓名及簽署：

姓名(請以正楷填寫)：_____ 簽署：_____

日期：_____

協恩中學附屬小學
承投「學校伺服器建置與系統整合服務」
投標服務細則

3 有意承辦本標書的供應商可

3.1 於 2026 年 10 月 20 日至 10 月 27

3.2 日期間安排職員到本校現場視察實地情況(須致電校務處與蔡小姐聯絡預約)

4 投標書內容要求包括：

4.1 硬件及軟件供應

4.1.1 新伺服器採購：供應全新機架式伺服器 1 台（規格詳見附表二）；

4.1.2 系統授權：提供最新版本之伺服器操作系統及虛擬化軟件授權（如 Windows Server 2025 / Hyper-V 等）；

4.1.3 網絡連接：配備兼容本校現有核心交換機之萬兆（1GbE）網卡及相應光纖跳線；

4.2 系統安裝與設置

4.2.1 虛擬化環境架設：設定高可用性（High Availability）虛擬化平台；

4.2.2 網絡與安全設定：設定 VLAN、防火牆規則、IP 位址分配，並建立獨立的管理網絡。

4.3 數據及系統遷移

4.3.1 無縫遷移：將現有舊伺服器之數據、虛擬機器（VMs）、學校行政系統、內聯網及檔案伺服器完整遷移至新系統，轉移過程須確保資料完整性（Data Integrity），轉移前後須進行資料 Checksum 對比驗證；

4.3.2 過渡方案：遷移工作必須在不影響學校日常運作及教學的前提下進行。主要系統切換必須安排在週末或學校假期。

4.4 備份與故障復原

4.4.1 本地備份：架設自動化定時備份系統，確保具備全面還原能力；

4.5 項目時程與交付條款

4.5.1 交貨期限：中標之服務供應商必須於接獲正式訂單後兩個月內，將所有訂購之產品運送至本校並開展工程。如因全球供應鏈問題導致延誤，必須第一時間書面聯絡校方商討；

4.5.2 施工時間：校內實地安裝及測試如需停機，必須安排於非上課時間（如聖誕/農曆新年/復活節假期）進行，並須提前 7 個工作日通知本校資訊科技技術員。

4.6 保養及技術支援服務

4.6.1 硬件保養：提供由原廠提供之 3 / 5 年（7x24）的原廠保固服務；

4.6.2 軟件支援：保養期內免費提供系統安全性更新、修補程式（Patches）安裝支援；

4.6.3 資訊科技管理與資訊科技安全認證：供應商指派之主要技術人員，宜具備以下至少一項或多項專業認證或同等資歷，以確保專案管理與資安品質：PMI-PMP 專案管理師、ITIL 4 認證 或同等專案管理經驗。
ISACA-CISM 國際資訊安全經理、ISACA-CISA 國際資訊系統審計師、或著名網路廠商（如 H3C / Cisco / Microsoft / Fortinet）之專業工程師認證。

4.6.4 緊急應變：若伺服器發生故障導致學校網絡中斷，技術人員須於 4 小時內提供遠端支援或下一工作日到場維修；

- 4.6.5 技術培訓：工程完成後，須為本校資訊科技技術員（TSS）提供新系統日常操作及備份還原培訓。

4. 評審程序：

4.1校方將根據所提交投標書的內容對所有合資格投標者進行評審，準則如下：

評審內容	比重
d) 服務細則： ➤ 硬體規格與系統相容性 ➤ 系統整合與轉移方案 ➤ 售後服務與品質保障	40%
e) 價格	40%
f) 個案經驗	20%

4.2評審過程中，可能需要邀請投標者派員向校方講解及闡釋投標書內所列內容及資料，但資料以投標書內容為準。

附件四

公司簡介
(以下資料必須提供，以便評審)

個案經驗 (請優先提供學校伺服器建置與系統整合服務，可另加附件補充)

	學校/機構	項目	服務金額	完工日期
6.				
7.				
8.				
9.				
10.				