

Request for Proposal: Supply, Installation, and Commissioning of ICT Infrastructure for the Persons with Disabilities and Special Needs (PWDSN) Commission

Section	Content
Background	Introduction The Persons with Disabilities and Special Needs (PWDSN) program, overseen by the PWDSN commission under MOLSA, is a non-contributory social protection initiative in Iraq. This program is aimed at assisting caregivers of individuals with disabilities. Working closely with the Ministry of Health and another partner organization, the program currently supports approximately 232,715 beneficiaries, a number that continues to grow. These beneficiaries are caregivers who provide essential services to individuals with various disabilities across Iraq. Support is extended to caregivers following a disability assessment conducted by a medical committee from the Ministry of Health. This assessment verifies the nature and severity of the disability. The program covers a range of disabilities, including physical disabilities, hemophilia, visual impairments (blindness), autism, hearing impairments (deafness), schizophrenia, mental disabilities, cerebral palsy, Down syndrome, short stature, thalassemia, and diabetic children (under 18). The PWDSN program offers multiple benefits and services to its beneficiaries. The most prominent service is the provision of caregivers. If the caregiver is a civil servant, they are eligible for a fully paid one-year leave, which can be renewed annually. Alternatively, caregivers who are unemployed or work in the private sector receive cash assistance determined by the relevant department. Prospective beneficiaries of the PWDSN program have the option to register either online or in person using a paper form. Once submitted, applications undergo a thorough review by the relevant department within the PWDSN Authority. Additionally, an external health committee, established for this specific purpose, evaluates the applications to ensure proper assessment.
	2. Project Vision The collaboration between the United Nations Children's Fund (UNICEF) and the World Food Programme (WFP) represents a pioneering effort to bolster the Persons with Disabilities and Special Needs (PWDSN). This joint endeavor harnesses the extensive expertise of these distinguished entities to address the needs of vulnerable populations, with a particular emphasis on persons with disabilities. At the core of this initiative lies the development and execution of an advanced ICT infrastructure to be aligned with PWDSN authority endeavors to develop the Management Information System (MIS) that serves as a catalyst for enhancing the commission's services.
	3. ICT Infrastructure Current Profile Within its PWDSN headquarters located in Baghdad, which is part of a larger complex under the Ministry of Labor and Social Affairs, the PWDSN Authority possesses a collection of small to medium-sized buildings. Additionally, the authority has established branches across all Iraqi governorates, excluding the Kurdistan region. Regrettably, the existing network infrastructure in place is characterized by its frailty and irregularity, lacking adherence to recognized standards or technological norms. The existing deployment of the PWDSN Management Information System (MIS) is fraught with security vulnerabilities as it relies on servers that possess restricted processing capabilities and storage capacities.

	This setup proves inadequate to accommodate any potential future expansions. Additionally, the PWDSN organization lacks functional data centers in the conventional sense. Currently, the PWDSN Authority operates within a confined space, housing a rack, UPS, and servers. These servers are primarily dedicated to hosting the PWDSN MIS. Notably, this setup is associated with limited network accessibility at the headquarters. Moreover, the server is directly linked to a restricted internet connection featuring a public IP address. This connection, although permitting other PWDSN branches to access the system, is characterized by its lack of security measures.															
Objectives, Purpose & Expected results	The project aims to enhance the management information system (MIS) of PWDSN’s programme by procuring necessary hardware and software components, strengthening network infrastructure, implementing robust data protection and cybersecurity measures, and improving the ICT skills of PWDSN staff. Therefore, the project encompasses two interrelated strategic categories: Objective 1: Enhance PWDSN ICT Infrastructure Readiness by procuring and deploying essential hardware and software components and strengthening network infrastructure. Objective 2: Ensure PWDSN Data Protection and Cybersecurity Implementation to protect sensitive data through the implementation of robust data protection and cybersecurity measures.															
Description of the assignment	Project Scope The project encompasses comprehensive endeavors across the following key domains: • Implementation of a PWDSN HQ DC hardware and software infrastructure. • Augmentation of PWDSN HQ network infrastructure to support enhanced data flows. • Rigorous implementation of data protection and cybersecurity measures PWDSN HQ. Timeline The project is anticipated to span a duration of 4 to 8 months, beginning with the supply and implementation. This will be followed by testing of successful implementation. <table><tr><th>#</th><th>Activities</th><th>Timeline</th></tr><tr><td>1</td><td>Vendor selection</td><td>Q1 2024</td></tr><tr><td>2</td><td>Procurement and shipping</td><td>Q1 2024</td></tr><tr><td>3</td><td>Implementation</td><td>Q2 2024</td></tr><tr><td>4</td><td>Documentation and Handover</td><td>Q2 2024</td></tr></table>	#	Activities	Timeline	1	Vendor selection	Q1 2024	2	Procurement and shipping	Q1 2024	3	Implementation	Q2 2024	4	Documentation and Handover	Q2 2024
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Deliverables and Methodology	<table border="1" data-bbox="349 220 1372 772"> <thead> <tr> <th>Deliverable</th><th>Duration</th></tr> </thead> <tbody> <tr> <td>1. Deliverable 1: Provision of upgraded hardware infrastructure and software licenses at PWDSN HQ Data Center.</td><td>3 months</td></tr> <tr> <td>2. Deliverable 2: Installment and augmentation of PWDSN HQ network infrastructure to support increased data flows.</td><td>1 month</td></tr> <tr> <td>3. Deliverable 3: On-Job-Training and orientation sessions for the PWDSN technical team before and during the implementation.</td><td>2 weeks</td></tr> <tr> <td>4. Deliverable 4: Implementation of data protection and cybersecurity measures at PWDSN HQ.</td><td>1 months</td></tr> <tr> <td>5. Provide technical and end-user support where necessary</td><td>6 months</td></tr> </tbody> </table> Note: Milestones can be implemented in parallel or in any other sequence suggested by a vendor to speed up the processes. More information can be found in ANNEX 1 & ANNEX 2	Deliverable	Duration	1. Deliverable 1: Provision of upgraded hardware infrastructure and software licenses at PWDSN HQ Data Center.	3 months	2. Deliverable 2: Installment and augmentation of PWDSN HQ network infrastructure to support increased data flows.	1 month	3. Deliverable 3: On-Job-Training and orientation sessions for the PWDSN technical team before and during the implementation.	2 weeks	4. Deliverable 4: Implementation of data protection and cybersecurity measures at PWDSN HQ.	1 months	5. Provide technical and end-user support where necessary	6 months
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Reporting requirements	Lists of the reporting guidelines and the reports to be prepared during the assignment as well as deadlines for submission; it includes requirements such as contents, number of copies, language, who should receive the reports, and whether they should be submitted electronically (specify the file format, e.g., "pdf"), in hard copy, or both. Following reports for project milestones are required are: - The bidder shall submit periodic progress reports: A report shall be submitted one week prior the submission of each payment request. The report shall contain all the works done during the period, enclosed by documents and photos if available, minutes of meetings signed by all parties. - Preliminary handing over report: One technical report shall be submitted after the physical completion of all works and preliminary handing over. This report shall contain all the implementation details as stated, time correction, signed good receipts enclosed with an official cover letter from the management of the project/ directorate. Submission Requirements and Guidelines Detailed technical proposal and implementation plan. Including evidence of accreditation/licensing/authorization from the manufacturers of the hardware and software and provision of three years manufacturer warranty with service maintenance. Financial proposal, including cost breakdowns for hardware, software licenses, and services. References from previous similar projects.												

Location and Duration	Ministry of Labour and Social Affairs (MOLSA) Baghdad – PWDSN Commission. The expected duration of the project is 6 months after awarding the contract.
Qualification requirements	Specify the professional requirements of the individual(s) and/or team(s) for the assignment including required experience, skills, and qualifications; if applicable: • Company background, with minimum of 3-5 years in business in related assignment and experience in managing similar services or projects. • Provision of a certified hardware/network specialist/engineer with experience with ICT Governance, and that he/she is supported by a Business Analyst. • Financial strength, financial statement for the year 2020-2021 or 2022-2023 shall be provided. • Registration documents of the company is required. • Appropriate technical resources with the right skills/expertise, qualifications to deliver the outputs required. Key technical skills/expertise of individual team members to be used to execute the assignment, qualifications/level of education of key staff that will be assigned to this project, evidence of expertise/experience of each individual team member etc. • Proof of accreditation/licensing/authorization from the manufacturers of the hardware and software The bidder should take note of the following: All works shall be accomplished according to UNICEF- General Terms and Conditions as well as the direction of the supervising officer (supervising committee) formulated by the directorate and the below requirements: The bidder shall prepare and submit the expected methodology of implementation, brands, technical manuals, training plan, and a schedule plan. The bidder shall also be deemed to have read and examined the terms of reference, technical specifications, drawings, and all other relevant documents before completing the bills of quantities. No alterations or modifications shall be allowed without prior written approval from both parties, the respective directorate, and UNICEF. If such approval is granted, it will not relieve the bidder from his responsibilities under the contract. All works shall cover the provision of all required complementary supplies and works. Any demands from any party to undertake any additional works or to substitute any materials or works should be discussed and approved by UNICEF in form of a variation order. The bidder shall provide the certificates to prove the technical capacity possession and institution registration documents The bidder shall be considered: Ensure the best safety and security practices in the site for his own employees, everyone on the site. Information confidentiality and privacy practices should be followed at all stages of the project. The contractor should not handle, receive, or deal with any real data from MoH as this should be only MoH responsibility.
Evaluation process and methods	4.1 Initial Technical Evaluation Pass/Fill approach: (Vendor must be passed all the below requirement to be consider for the technical evaluation process).

MANDATORY REQUIREMENTS		SUPPORTING DOCUMENTS	SCORE
Lead bidder is a legal entity regulated and licensed in the country of registration		A copy of the certificate of incorporation (i.e., company legal registration) or equivalent document verifying legal status is to be provided.	Pass / Fail
Relevant experience with the supply, installation and commissioning of hardware and ICT infrastructure of similar size and nature;		Reports, relevant supporting documents, and reference check.	Pass / Fail
The bidders have valid certification/license for the proposed software and hardware		A valid copy of Partnership / Authorization from the relevant manufacturers.	Pass / Fail
Then Bid shall be evaluated based on technical and financial criteria. The ratio weight between technical and financial criteria is (80:20).			
Technical Evaluation: The Bid shall be technically evaluated as below:			
	Technical evaluation Criteria		Max. Points Obtainable
i	Company and organizational profile		30
	Company Background and Presence in Iraq or the MENA Region: Evaluation based on the firm's history, establishment, and understanding of the local context. The scores will be calculated as following: Presence in Iraq = 7 points, Presence in MENA = 3 points. 10 points for having both		10
	Relative Experience: Assessment of past similar projects and the firm's engagement/operations in Iraq with evidence considering the minimum 5 years requirement. The scores will be calculated as following: 3-5 years=2 scores; 6 years=4 scores; 7 years=6 scores; 8 years=8 scores; 10+ years=10 scores		10
	Reputation and Success Track Record: Consideration of the company's reputation, reliability, and success in delivering projects in Iraq. (Evidence provided for successful implementation of similar Projects in Iraq). Company to provide evidence supporting this which could include client testimonials, industry reports, media coverage, online reviews, and feedback from stakeholders or partners. The scores will be calculated as following:		10

		One evidence -3points, two evidence – 5 marks and three or more evidence provided – 10 marks.		
	ii	Proposed work plan and approach	30	
		Compliance with the ToR approach (Technical Objectives Alignment) and practicality of the proposed methodology relative to the context of the service and in line with the required technical specifications. Assessment of the proposed plan's alignment with the objectives outlined in the Terms of Reference.	12 Marks	
		Appropriateness of the implementation schedule to the project timelines and project quality assurance measures to ensure successful implementation. Evaluation of the proposed timeline and milestones against the project's scope.	12 Marks	
		Examination of the clarity, innovation, and practicality of the proposed approach	6 Marks	
	iii	Company Key Resources	20	
		Appropriate technical resource with the right skills/expertise, qualifications (e.g certified hardware/network engineer) to deliver the outputs required; Key technical skills/expertise of Individual team members to be used to execute the assignment; Qualifications/level of education of key staff that will be assigned to this project, evidence of expertise/experience of each individual team member etc. The technical proposal should include the following: a) Technical Expertise and Skills of the team (10 Marks) The CVs of proposed team members, with the required qualification based on the required task. The CVs will be assessed against the depth and length of the experience and the strength of expertise and skills mentioned in this section. Relevant academic qualifications and certifications in information technology, cybersecurity, network infrastructure, or related fields will be necessary. Key qualifications and certifications of the team members will be evaluated and scored using the following criteria: 3 certifications or academic qualification of team members = 3 points, 5 certifications or academic qualification of team members = 5 points; 6 or more certifications or academic qualification of team members = 10 Points. Certification and qualification are based on relevance as mentioned above. b) Samples of work of the team leader (10 Marks) UNICEF may decide to invite Team Leader and/or the team members for an interview as part of the selection process. The scoring of the interview will be reflected in	20	

	the scoring of the team leader and/or the evaluation team member. One Sample provided = 3 points, two samples provided = 5 points and 3 or more samples = 10 points Bidders must score minimum 5 points on the CV of the team leader to be considered technically responsive and compliant and in order for the Financial Proposal to be opened.		
	Total out of 80 (minimum passing score is 64)	80	
	The passing score of the technical criteria is 64 out of 80. Financial Evaluation: - The bidder will be financially scored based on the formula below: Contractor (A) = (Maximum score for price proposal (20 points) x Price of lowest-priced proposal among technically passed bidders)/Price of the proposal (A) The total weight of the bidder will be cumulative of the two above formulas (Technical and Financial).		
Administrative issues	UNICEF will make payments to the contractor in US \$ Dollars if it's an entity registered outside of Iraq with a bank account outside of Iraq or in IQD Iraq Dinar if the company is registered in Iraq, with a bank account in Iraq according to percentages of completed work certified by the supervising committee and approved by UNICEF focal person at Iraq Country Office. Please take note; If the financial offer is in: - IQD (Iraq Dinars), it is important for a bidder to have an IQD bank account. - If a bidder quotes in any other currency i.e US Dollar (USD), below shall apply: - Awards will be made based on the currency of their offer. The bidder is required to have a bank account in the currency of their offer. - If a bidder has quoted in USD (US Dollar) or any other currency, for evaluation purposes only, proposals submitted in USD or any other currency will be converted into IQD using the United Nations rate of exchange in effect on the submission deadline date.		
Project management	For the technical related communications between UNICEF and other parties, UNICEF will provide overall supervision to the subject project through the technical officer in UNICEF-ICO, reports will be submitted to the supervision committee.		

Payment Schedule	Payments shall be made to the contractor in installments upon accomplishment of the deliverables based on the submitted offers and pricing, Therefore, payment will be link to completion of each Milestone and the vendor should provide a complete inventory of procured hardware and software (including Installation) report and/or training completion reports for each milestone. UNICEF shall make payments in US Dollars (\$) or Iraq Dinar (IQD) based on the offered currency in the financial proposal through bank transfer modality only: the contractor shall provide UNICEF with details of bank account
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Prepared by:

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Social Policy Specialist



22nd November 2023

Reviewed by:

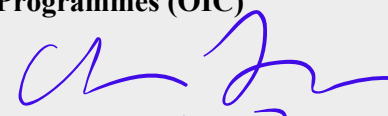
- Ali Rasheed**
Information Technology Officer **Comm.**


23 November 2023

- Luis Gorjon**
Chief Social Policy


23rd November 2023

Approved by: Claes Johansson
Deputy Representative
Programmes (OIC)


27-11-23

ANNEX 1: Milestones Items and Quantities Checklist

A. PWDSN Data Center (HQ)		
#	Items	Qty
Server Hardwar		
A1	Application & Database Server	4
A2	SAN Storage Hybrid 10TB Usable Capacity	1
Data Center cable fittings		
F1	Patch Cord Fiber Optic, 3 m	6
F2	ODF 12/24 Core	1
F3	UTP Patch Panel 24 Port	2
F4	Patch Cord Cat6, 1m	30
Data Center Server Software Requirements		
A3	Windows Server Standard 2022 - Perpetual	10
A4	SQL Server 2022 Standard Core - 2 Core License Pack - Perpetual	8
A5	Veeam Data Platform Foundation Universal Subscription License. Includes Enterprise Plus Edition features. 10 instance pack. 3 Years Subscription Upfront Billing & Production (24/7) Support	2
Other Hardwar Requirements		
A6	Rack (42/48U)	1
A7	Rack Power Distribution - Intelligent PDU	2
A8	Solar Energy system	1
A9	KVM	1
Implementation		
	Cable Fittings implementation	1
	H/w and S/w installation	1
B. PWDSN Cybersecurity Requirements (HQ)		
	Items	Qty
B1	Cybersecurity NG Firewall- 3Y lic. - (Active - Passive)	2
B2	Advance Server Protection + Deap Learning - 3Y	5
B3	Advance Workstation Protection + Deap Learning - 3Y	25
B4	Indoor Access Point - 2x2 MIMO, dual radio, internal antennas. 5,2 GHz	20
	H/w and S/w installation	1
C. PWDSN Networking Requirements (HQ)		
	Items	Qty
C1	Access switch 24-port data, 4 x 10G, Network Essentials (POE) + 3Y lic.	8
C2	Access switch 48-port data, 4 x 10G, Network Essentials (POE) + 3Y lic.	2
C3	Core switch 24 ports SFP of 10G fiber	2
F1	Patch Cord Fiber Optic, 3 m	12
F2	ODF 12/24 Core	10
F3	UTP Patch Panel 24 Port	20
F4	Patch Cord Cat6, 0.1 m	100
F5	Patch Cord Cat6, 5m	100
F6	Cable Tray	1
F7	Rack (12U)	8

F8	PDU	10
F9	UPS (1500VA) for SW	10
F10	RJ45 keystone	100
F11	Single Port – Faceplate	100
F12	Back Box – single	100
F13	Rj45 connector	300
F14	UTP Cat6 cable roll	30
F15	Fiber Optic roll, (Between PWD Building Blocks (4/5) and HQ)	1
F16	Small form-factor pluggable transceiver (SFP)	20
	Installation & Cable fittings implementation	1
D. VMWARE Essential Plus Kit		
	Description	Qty
D1	Include license for 3 servers 2 CPU each 1 license for VCenter Server Essentials. CPU license covers one CPU with up to 32 cores vSphere High Availability (HA) vSphere vMotion Cross Switch vMotion vSphere Replication 3Y Support	1
E. PWDSN PCs, Printers and Scanners (HQ)		
	Items	Qty
E1	Business line laptops	12
E2	Business line PCs	5
E3	Printer Black and white - 20 Page per min (BW) (Network printers wired + wireless)	10
E4	Handheld Scanner (QR Code Reader)	5
E5	Scanner - 30 Page per min	5
F10	UPS (1000VA) for Workstation	12

ANNEX 2: Items Technical Details

A	PWDSN Data Center (HQ)	
A.1	Servers Hardware (Application) equivalent or higher	
	Intel Xeon Gold 5320T 2.3G, 20C/40T DDR4-2933	2
	3.5" Chassis with up to 12 Hard Drives (SAS/SATA), V3CPU Configuration, 2 CPU Configuration	1
	1.92TB SSD SATA Mix Use 6Gbps 512 2.5in Hot-plug AG Drive,3.5in HYB CARR, 3 DWPD	4
	32GB RDIMM, 3200MT/s, Dual Rank 16Gb BASE x8	16
	Dual, Redundant(1+1), Hot-Plug Power Supply,1100W MM(100-240Vac) Titanium	1
	H/W RAID (5 for 3 or more SSDs (Matching Type/Speed/Capacity))	1
	Motherboard with Broadcom 5720 Dual Port 1Gb On-Board LOM, Ti	1

	Broadcom 57412 Dual Port 10GbE SFP+, OCP NIC 3.0	1
	SFP+ SR Optic 10GbE 850nm	2
	OS Support: Windows server, Hyper-V, VMware virtualization support, Linux	1
	Fans: Redundant Fans	1
	UEFI BIOS Boot Mode with GPT Partition	1
	iDRAC9, Enterprise 15G	1
	Basic Next Business Day Initial, 36 Month(s)	1
	rack mounted kit + Rails adjustable	1
A.1	Servers Hardware (Database) equivalent or higher	
	Silver 4314 2.4G, 16C/32T DDR4-2933	2
	3.5" Chassis with up to 12 Hard Drives (SAS/SATA), V3CPU Configuration, 2 CPU Configuration	1
	960GB SSD SATA Mix Use 6Gbps 512 2.5in Hot-plug AG Drive, 3.5in HYB CARR, 3 DWPD	6
	32GB RDIMM, 3200MT/s, Dual Rank 16Gb BASE x8	8
	Dual, Redundant(1+1), Hot-Plug Power Supply, 1100W MM(100-240Vac) Titanium	1
	H/W RAID (5 for 3 or more SSDs (Matching Type/Speed/Capacity))	1
	Motherboard with Broadcom 5720 Dual Port 1Gb On-Board LOM, Ti	1
	Broadcom 57412 Dual Port 10GbE SFP+, OCP NIC 3.0	1
	SFP+ SR Optic 10GbE 850nm	2
	OS Support: Windows server, Hyper-V, VMware virtualization support, Linux	1
	Fans: Redundant Fans	1
	UEFI BIOS Boot Mode with GPT Partition	1
	iDRAC9, Enterprise 15G	1
	Basic Next Business Day Initial, 36 Month(s)	1
	rack mounted kit + Rails adjustable	1
A.2	Storage (SAN) - equivalent or higher	
	Intel CPUs, 12 cores per Array, 1.7GHz	2
	Min. 6 SSDs or 10 HDDs / Max. 500	1
	128 GB RAM	1
	Dual, Hot-plug, Redundant Power Supply (1+1)	1
	1.8TB 10K SAS 25X2.5 DRIVE	8
	10Gb iSCSI Base-T 8 Port Dual Controller	1
	PORT 1 GB	2/4
	SFP+ 10G	4
	OS Support: Windows server, Hyper-V, VMware virtualization, Linux	1
	Fans: Redundant Fans	1
	ProSupport and Next Business Day, 36 Month(s)	1

	rack mounted kit + Rails adjustable	1
	SWAAA Software, AppSync Software and RecoverPoint	1
A.3	Windows server environment Standard - equivalent or higher	
	Windows Server 2022 Standard - 16 Core License Pack or Higher	Perpetual
A.4	Microsoft SQL Server - equivalent or higher	
	SQL Server 2022 Standard Core - 2 Core License Pack	Perpetual
A.5	Backup & Replication Solution - equivalent or higher	
	Cloud: AWS, Microsoft Azure and Google Cloud	3 Year Term license
	Virtual: VMware, Hyper-V, Nutanix and RedHat	
	Physical: Windows, Linux, MacOS and Unix	
	Enterprise Applications: Microsoft SQL, Oracle, SAP and PostgreSQL	
	Security: Immutability, Encryption, MFA and more	
	Backup, Snapshots, Replication and CDP	
	Instant and Granular Recovery Options	
	Extensible API for Automation, Integration and Management	
A.6	Rack (42U to 48U) equivalent or higher	
	Networking/Server Rack Enclosure,	
	Front and Rear with Side Panels Doors + Key(s), Keyed-alike for doors and side panels	
	Horizontal and vertical cable trays	
	Leveling feet, pre-installed casters	
	Enclosures include pre-installed joining hardware to join enclosures in a row and provide additional stability to the enclosure.	
	2 Power Distribution Units	
	The roof, side panels and front and rear doors are grounded to the frame of the enclosure. Eight additional electrical grounding inserts are located on the frame for external grounding.	
	The cabinet must be equipped with a top ventilation system consisting of four (04) fans.	
A. 7	Solar Energy System equivalent or higher	
	high-voltage solar panels, the right inverter, careful array configuration, suitable wiring and components, and compliance with safety regulations. Consider factors like solar panel voltage, array setup, and system sizing. to provide 8/10 kilovolts (10 kV) of electricity.	
A. 8	kvm Switch equivalent or higher	
	kvm switch + console (Integrated LCD KVM console with an 17 to 18.5" LED/LCD-backlit widescreen monitor in a single rail housing with top and bottom clearance for smooth operation in a 1U high system rack - Keyboard and mouse emulation (UTP or USB) for smooth switching and simultaneously booting multiple server)	
B	PWDSN Cybersecurity Requirements (HQ)	
B. 1	HQ Firewall (H/w) equivalent or higher	Active - Passive

	Firewall throughput	70,000 Mbps
	IPsec VPN Throughput	55,000 Mbps
	Firewall Latency (64 byte UDP)	4.91µs / 2.5µs
	IPS throughput	12000 Mbps
	Threat Protection throughput	9000 Mbps
	NGFW	10000 Mbps
	Concurrent connections	7,800,000
	New connections/sec	500,000
	IPsec VPN concurrent tunnels G-G	2,000
	IPsec VPN concurrent tunnels C-G	50,000
	Concurrent SSL-VPN Users	5000
	SSL/TLS Inspection	6,000 Mbps
	CPU	x86 AMD CPU or equivalent
	Memory	16 GB (2666) DDR4
	Flow Processor (NPU)	Marvell NPU or equivalent
	Storage	Integrated min. 240 GB SATA-III SSD
	Ethernet interfaces (fixed)	16 x GE copper 8 x SFP fiber 4 x SFP+ 10 GbE fiber
	Form Factor 1U Rackmount + rack mounted kit	1
	Management ports	1 x RJ45 MGMT 1 x COM RJ45 1 x USB Port
	Number of Flexi Port slots	1
	Transceivers	
	Small form-factor pluggable transceiver (1/10 G - SFP/SFP+)	4X
	HQ Firewall (S/w license) (All-in-One Protection with Synchronized Security and Central Management)	Active - Passive
	BASE LICENSE Networking, wireless, unlimited remote access VPN, site-to-site VPN, reporting	Perpetual (life time)
	NETWORK PROTECTION TLS and DPI engine, IPS, ATP, reporting	3 Year Term license
	WEB PROTECTION TLS and DPI engine, web security and control, application control, reporting	3 Year Term license
	CENTRAL ORCHESTRATION SD-WAN VPN orchestration, Central Firewall Reporting Advanced	3 Year Term license
	ZERO-DAY PROTECTION Machine learning and sandboxing file analysis, reporting	3 Year Term license
	Webserver Protection (WAF)	3 Year Term license

	ENHANCED SUPPORT 24/7 support, feature updates, advanced replacement hardware warranty for term	3 Year Term license
	Multi-site Centralized management	1
B.2	Server Protection For Windows Server - equivalent or higher	3 Year Term license
	Multiple Policies	
	Controlled Updates	
	Application Control	
	Peripheral Control	
	Web Control / Category-based URL blocking	
	Application Whitelisting (Server Lockdown)	
	Download Reputation	
	Web Security	
	Deep Learning Malware Detection	
	Anti-Malware File Scanning	
	Live Protection	
	Pre-execution Behavior Analysis (HIPS)	
	Potentially Unwanted Application (PUA) Blocking	
	Intrusion Prevention System (IPS)	
	Data Loss Prevention	
	Runtime Behavior Analysis (HIPS)	
	Antimalware Scan Interface (AMSI)	
	Malicious Traffic Detection (MTD)	
	Exploit Prevention	
	Active Adversary Mitigations	
	Ransomware File Protection (Crypto Guard)	
	Disk and Boot Record Protection (Wipe Guard)	
	Man-in-the-Browser Protection (Safe Browsing)	
	Enhanced Application Lockdown	
	Live Discover (Cross Estate SQL Querying for Threat Hunting & IT Security Operations Hygiene)	
	SQL Query Library (pre-written, fully customizable queries)	
	Fast Access, On-disk Data Storage (up to 90 days)	
	Cross-product Data Sources e.g. Firewall, Email	
	Prioritized List of Detections	
	Data Lake (Cloud data storage)	
	Threat Cases (Root Cause Analysis)	
	Deep Learning Malware Analysis	
	Advanced On-demand Labs Threat Intelligence	

	Forensic Data Export	
	AI-guided Investigations	
	Automated Malware Removal	
	Live Response (Remote Terminal Access for further investigation and response)	
	On-demand Server Isolation	
	Single-click “Clean and Block”	
	Update Cache and Message Relay	
	Synchronized Application Control (visibility of applications)	
	Update Cache and Message Relay	
	Automatic Scanning Exclusions	
	Security Monitoring(CSPM best practice rules)	
	Advanced Search Capabilities	
	AI-powered Anomaly Detection	
	Email Alerts	
	ompliance Policies and Reports	
	Custom Policies	
	Network Visualization	
	IAM Visualization	
	Spend Monitor	
	Alert Management Integrations (Jira, ServiceNow, Slack, Teams, PagerDuty, Amazon SNS)	
	SIEM Integrations (Splunk, Azure Sentinel)	
	Infrastructure as Code Template Scanning	
	Environment Access Control	
	Synchronized Security over firewall will be preferred	
	Multi-site centralized management and scalability	
B. 3	Endpoint Protection For Windows (Client) - equivalent or higher	3 Year Term license
	Multiple Policies	
	Controlled Updates	
	Application Control	
	Peripheral Control	
	Web Control / Category-based URL blocking	
	Download Reputation	
	Web Security	
	Deep Learning Malware Detection	
	Anti-Malware File Scanning	
	Live Protection	
	Pre-execution Behavior Analysis (HIPS)	
	Potentially Unwanted Application (PUA) Blocking	

	Intrusion Prevention System (IPS)	
	Data Loss Prevention	
	Runtime Behavior Analysis (HIPS)	
	Antimalware Scan Interface (AMSI)	
	Malicious Traffic Detection (MTD)	
	Exploit Prevention	
	Active Adversary Mitigations	
	Ransomware File Protection (Crypto Guard)	
	Disk and Boot Record Protection (Wipe Guard)	
	Man-in-the-Browser Protection (Safe Browsing)	
	Enhanced Application Lockdown	
	Threat Cases (Root Cause Analysis)	
	Automated Malware Removal	
	Synchronized Security over firewall will be preferred	
	Multi-site centralized management and scalability	
B.4	WIFI Access Points - equivalent or higher	
	WLAN Standards : 802.11 a/b/g/n/ac Wave 2	
	Radios : 1 x 2.4 GHz single-band 1 x 5 GHz single-band	
	Antennas : 2x internal dualband antenna for Radio-0 and 1	
	Performance : 2 x 2:2 MU-MIMO	
	Interfaces : 1x 12V DC-in (power supply not included) 1x RJ45 10/100/1000 Ethernet w/PoE	
	Power (MAX.) : 11.8W	
	Power-over-ethernet (MIN.) : PoE 802.3af	
	Deployment: Indoor; desktop, wall, or ceiling mount	
	Certifications and Compliance : CB, UL, CE, FCC, ISED (IC), RCM, MIC, Anatel, EN 60601-1-2 (Medical Equipment Directive)	
	Multi-site centralized management and scalability	
C	PWDSN Networking Requirements (HQ)	
C. 1	Access Switch (24 Port) equivalent or higher	
	Form Factor	1U
	Mounting	Rackmount (ears and screws incl.)
	Technical Specifications	
	Switching Capacity Duplex (Gbps) / Bandwidth	128
	MAC Address Table	16K
	Memory	512 MB
	Flash Memory	NOR 2 MB NAND 128 MB
	Packet Buffer Memory	1.5 MB

	VLANs	Support for up to 256 VLANs simultaneously (out of 4096 VLAN IDs)
	Network Interfaces	
	10/100/1000Base-T(RJ45)	24
	SFP+ 1G/10G	4
	Power Budget	410W
	PoE capable Ports	1 to 24
	PoE Standard	802.3af/802.3at
	Max. PoE Devices	24 (15.4W)/13 (30W)
	Supply Rating	480W
	Type	Internal PSU
	AC Input	100-240VAC, 50/60Hz, 7A
	Output	480W 12V/5A, 54V/7.8A
	Power Adapter Efficiency	100VAC / 9.03A (86.81%) 240VAC / 3.78A (91.55%)
	Idle Power (Typical)	20.41W / 69.5981BTU/hr
	Max. Power (Typical)	500.46W / 1706.5686BTU/hr
	Fan	2
	Regional certifications, Safety, EMC	CB, UL, CE, FCC, ISED, RCM, VCCI, BSMI, NOM, Anatel, KCPost GA: TEC
	Replacement Warranty	3 Year Term license
	Support and license	3 Year Term license
	Multi-site Centralized management (in addition, control over the firewall will be preferred)	
	Small form-factor pluggable transceiver (1/10 G - SFP/SFP+)	2X
C.2	Access Switch (48 Port) equivalent or higher	
	Form Factor	1U
	Mounting	Rackmount (ears and screws incl.)
	Technical Specifications	
	Switching Capacity Duplex (Gbps) / Bandwidth	176
	MAC Address Table	32K
	Memory	512 MB
	Flash Memory	NOR 2 MBNAND 128 MB
	Packet Buffer Memory	2 MB

	VLANs	Support for up to 256 VLANs simultaneously (out of 4096 VLAN IDs)
	Network Interfaces	
	10/100/1000Base-T(RJ45)	48
	SFP+ 1G/10G	4
	Power Budget	740W
	PoE capable Ports	1 to 48
	PoE Standard	802.3af/802.3at
	Max. PoE Devices	48 (15.4W)/24 (30W)
	Power Supply	
	Supply Rating	900W
	Type	Internal PSU
	AC Input	100-240VAC, 50/60Hz, 12A
	Output	12V/8.3A;-54V/14.8A
	Power Adapter Efficiency	100VAC / 9.03A (93.01%) 240VAC / 3.78A (96.61%)
	Power Consumption	
	Idle Power (Typical)	32.00 / 109BTU/hr
	Max. Power (Typical)	885.00W / 3018BTU/hr
	Fan	3
	Certifications	
	Regional certifications, Safety, EMC	CB, UL, CE, FCC, ISED, RCM, VCCI, BSMI, NOM, Anatel, KCPost GA: TEC
	Replacement Warranty	3 Year Term license
	Support and license	3 Year Term license
	Multi-site Centralized management (in addition, control over the firewall will be preferred)	
	Small form-factor pluggable transceiver (1/10 G - SFP/SFP+)	2X
C.3	Core Switch equivalent or higher	
	Device Type	Switch – 24/40 ports – L3 – Managed
	Enclosure Type	Rack-mountable 1U
	Ports	24 x port - 1/10 Gigabit SFP+
	Switching capacity	Up to 480/960 Gbps
	Forwarding rate	Up to 720 Mpps
	Total number of MAC addresses	Up to 64,000*

	Total number of IPv4 routes (Address Resolution Protocol [ARP] plus learned routes)	Up to 64,000 indirect*
	DRAM	16 GB
	Flash	16 GB
	VLAN IDs	4000
	Total Switched Virtual Interfaces (SVIs)	4000
	Jumbo frame	9198 bytes
	Power Supply Feature	Support in the Catalyst 9500 Series
	AC power max rating	950W
	System power consumption	850W max
	Small form-factor pluggable transceiver (1/10 G - SFP/SFP+)	12X
	Replacement Warranty	3 Year Term license
D	VMWARE Essential Plus Kit (HQ)	
D.1	VMWARE Essential Plus Kit	Include license for 3 servers 2 cpu each 1 license for vCenter Server Essentials. CPU license covers one CPU with up to 32 cores vSphere High Availability (HA) vSphere vMotion Cross Switch vMotion vSphere Replication 3Y Support
E	PWDSN PCs, Printers and Scanners (HQ)	
E. 1	laptops - equivalent or higher	
	Core i5 G12 or higher	
	RTX 2GB	
	RAM 16G	
	512GB SSD	
	15.6 IPS	
	Win11 Original / label Perpetual	
	Office Original / label Perpetual	
	USB 3.0, HDMI, USB Type c	
	Wifi 5/6 + 1 GE R45 port	
	Qwerty Arabic Keyboard (integrated) + Mouse (external)	
	Battery 8 Hours	
	1 year Manufacturer Warranty	
E. 2	PCs workstation - equivalent or higher	
	Core i5 G12 or higher	
	RAM 8GB	

	RTX 2GB	
	512G SSD	
	Monitor (21/24 inch) + keyboard Qwerty Arabic Keyboard + mouse	
	Built-in : speaker / WIFI / CD/DVD	
	Win11 Original / label Perpetual	
	office Original / label Perpetual	
	USB 3.0, HDMI, USB Type c	
	Wifi 5/6 + 1 GE R45 port	
	1 year Manufacturer Warranty	
E. 3	Black and whit Printer - equivalent or higher	
	25 ppm single-sided A4	
	Double sided : Up to 20	
	Print, copy and scan	
	Black and white	
	600 x 600 dpi to 1200 x 1200 dpi	
	LAN and WIFI	
	Document Feeder	
	windows compatible latest version, Android and iOS compatible	
	1 year Warranty	
E. 4	Handheld Scanner (QR Code Reader)- equivalent or higher	
	Barcode Scanner, can read 1D/2D/QR codes on paper and screen	
	Plug and Play, Ergonomic design, comfortable to hold.	
	windows compatible latest version, Android and iOS compatible	
E.5	Document Scanner - equivalent or higher	
	Automatic sheet feeding / Feeder	
	Scanning Speed 25 ppm	
	Simplex / Duplex	
	Color Scan	
	windows compatible latest version	
	1 year Warranty	
F	Accessories	
F.1	Patch Cord Fiber - equivalent or higher	
	Patch Cord Fiber Optic , 3m (LC-LC)	
F.2	ODF - equivalent or higher	
	ODF 12/24 Core	
F. 3	Patch Panel - equivalent or higher	
	UTP Patch Panel 24/48 Port	
F.4	Patch Cord Cat6 - equivalent or higher	
	Patch Cord Cat6, 0.15 m	

F.5	Patch Cord Cat6 - equivalent or higher	
	Patch Cord Cat6, 3 m	
F.6	Cable Tray	
	cable tray plastic milte purpose	
F.7	Rack (12 to 16 U)- equivalent or higher	
	Wall mount Rack Cabinet (12 to 16 U) Includes: Key(s), Keyed-alike doors and side panels	
F.8	Power Distribution (PDU) - equivalent or higher	
	Rack Power Distribution - 4/8 port	
F.9	Tower UPS for SW - equivalent or higher	
	Smart-UPS , 1500VA, Tower, 230V, 1.5 kVA	
F.10	UPS for Workstation	
	UPS (1000VA) for Workstation	
F.11	Keystone Jack	
	CAT6A RJ45 Punch Down Keystone Jack	
F.12	Single Port – Faceplate	
	CAT6 Single Port Faceplate - Socket - RJ45	
F.13	Back Box – single	
	Back Box - 21mm depth single	
F.14	Rj45 connector	
	Rj45 connector	
F.15	UTP Cat6 cable roll	
	CAT6 SFTP/UTP CABLE 300m	
F.16	Fiber - equivalent or higher	
	Outdoor Optical Cable Shielded (4/6C) , 1000m	