Republic of the Philippines

ANTI-MONEY LAUNDERING COUNCIL

BIDS AND AWARDS COMMITTEE

BID BULLETIN No. 1

Project Title : 1 Lot Supply, Delivery, Installation, Testing and Commissioning of Data Structured Cabling

Date : 19 July 2021

In its meeting on 13 July 2021 and pursuant to the email of American Technologies Inc. (ATI) dated 16 July 2021, the Bids and Awards Committee resolved to issue this Bid Bulletin to clarify issue in the Bid Documents. This shall form an integral part of the Bid Documents.

ISSUE/S	CLARIFICATION/AMENDMENTS
Issue No. 1 **Section II. Invitation to Bid** 5. A complete set of Bidding Documents may be acquired by interested Bidders on appointment basis at Gate 3, Bangko Sentral ng Pilipinas Complex, Malate, Manila 1004 and upon payment of the applicable fee for the Bidding Documents, pursuant to the latest Guidelines issued by the GPPB, in the amount of **PhP25,000.00**. The Procuring Entity shall allow the bidder to present its proof of payment for the fees by sending to the email address indicated below.	**Amendment No.1** 5. *A complete set of Bidding Documents may be acquired by interested Bidders on appointment basis at Gate 3, Bangko Sentral ng Pilipinas Complex, Malate, Manila 1004 and upon payment of the applicable fee for the Bidding Documents, pursuant to the latest Guidelines issued by the GPPB, in the amount of **PhP5,000.00**. The Procuring Entity shall allow the bidder to present its proof of payment for the fees by sending to the email address indicated below.*
Issue No. 2 **Section VI. Schedule of Requirements** Clarification on Negative Antigen Result Requirement for fully vaccinated personnel	**Clarification No.1** *A negative swab test result (antigen or RT-PCR) is still required as part of entry and work permits and to be submitted at least three (3) days prior conduct of activity.* *This is in accordance with Bangko Sentral ng Pilipinas (BSP) COVID-19 Protocols that partially and fully vaccinated individuals are still subjected to health and safety protocols*

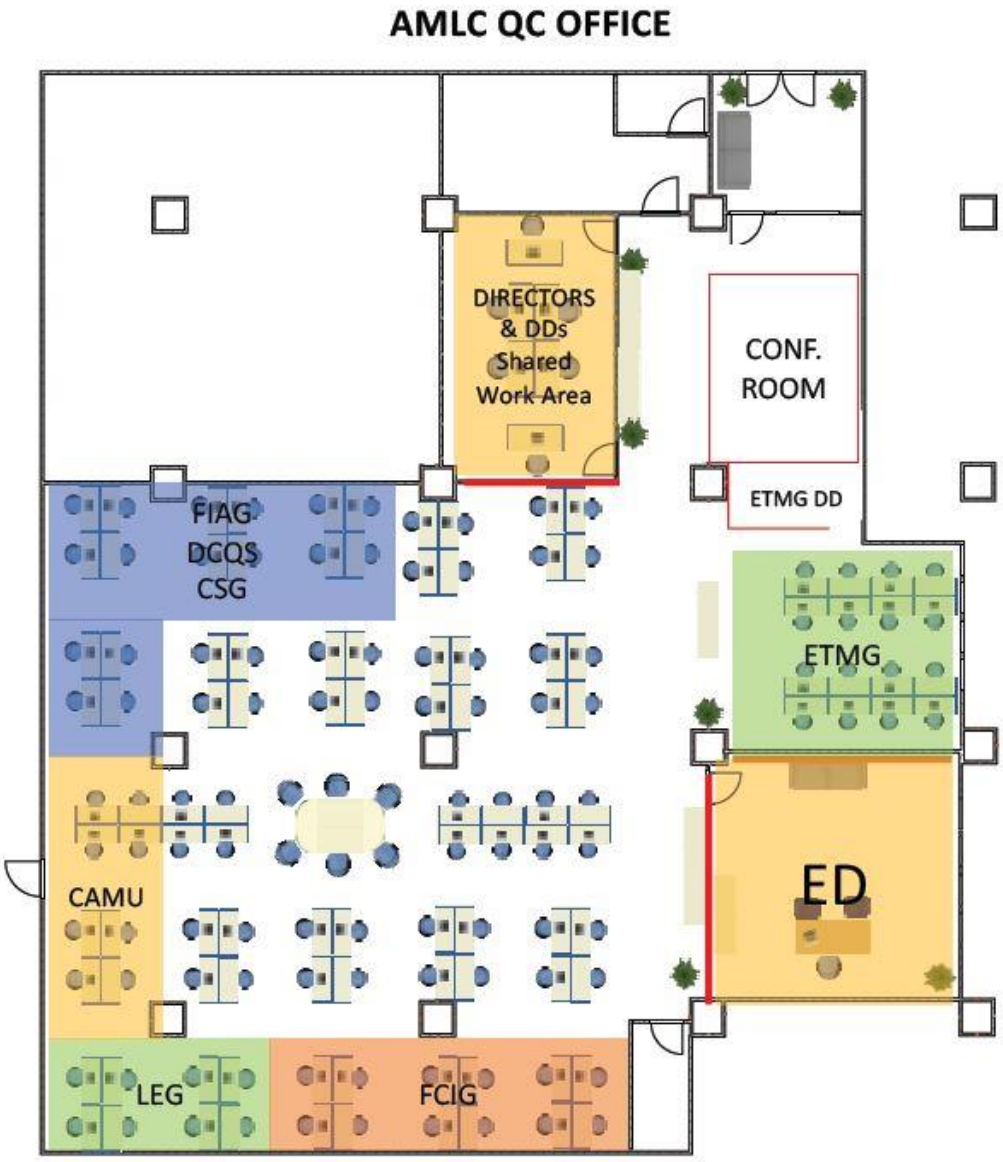
	particularly those who are experiencing symptoms. This is to prevent spread and infection, given that the vaccine does not guarantee total immunity.
Issue No. 3 **Section VI. Schedule of Requirements** The Supplier shall provide an end-to-end UTP Category 6 cabling solution from the patch panels inside the data cabinet to the LAN ports/consolidation points. Likewise, the Supplier shall supply the **end-to-end OM3/OM4 Fiber Optic cabling Solution** from Data Cabinet to the Main Wiring Rack	**Amendment No.2** The Supplier shall provide an end-to-end UTP Category 6 cabling solution from the patch panels inside the data cabinet to the LAN ports/consolidation points. – This component is still included in project lot. A total of 250 nodes will be allocated and termination points for Data and Voice will be at the workstations and cubicles (120 each for Data and Voice – 240 nodes), from the patch panels inside the data cabinet. The other 10 nodes will be used as data ports and network provisions. Also, supplier does not need to install I/O ports for the office fixtures, only termination. **(Please see attached ANNEX A – AMLC QC Floorplan)** Likewise, the Supplier shall supply the **end-to-end OM3/OM4 Fiber Optic cabling Solution** from Data Cabinet to the Main Wiring Rack. – This component will be deferred or removed from project lot given the developments that the Bangko Sentral ng Pilipinas (BSP) – Technology Digital Innovation Office (TDIO) will provide the fiber optic link that traversed from Building A to New Mint Plant Building wherein AMLC extension office is located. AMLC Telco circuits will route through the said fiber connection and will be deployed inside the data cabinet within new location site of ICT equipment.

Issue No. 4 **Section VII. Technical Specifications** Modification of Technical Specifications	**Amendment No.3** Please see attached **ANNEX B - Section VII. Technical Specifications (revised)**
Issue No. 5 Schedule of Ocular Visit in AMLC Office – Quezon City.	**Clarification No. 2** The end user will **conduct virtual site visit on 22 July 2021 at 10:00AM via Zoom**. Participating bidders are requested to submit their contact information and email addresses to be used for the videoconferencing to aladores@amlc.gov.ph at least one (1) day before the scheduled virtual site visit. Termination and placement of nodes will be explained in scheduled virtual walkthrough.
Issue No. 6 Clarification on the form template of the following documents: 1. List of Ongoing Contract 2. Single Largest Contract	**Clarification No. 3** The AMLC does not have form template of the said forms.

Digitally signed by Santos-Mendoza Ma. Rhea Marcella

MA. RHEA M. SANTOS-MENDOZA
Chairperson

ANNEX A



AMLC QC Floorplan

ANNEX B

Section VII. Technical Specifications (revised)

*[Bidders **must** state here either "Comply" or "Not Comply" against each of the individual parameters of each Specification stating the corresponding performance parameter of the equipment offered. Statements of "Comply" or "Not Comply" must be supported by evidence in a Bidders Bid and cross-referenced to that evidence. Evidence shall be in the form of manufacturer's un-amended sales literature, unconditional statements of specification and compliance issued by the manufacturer, samples, independent test data etc., as appropriate. A statement that is **not supported by evidence** or is subsequently found to be contradicted by the evidence presented will render the Bid under evaluation **liable for rejection**. A statement either in the Bidder's statement of compliance or the supporting evidence that is found to be false either during Bid evaluation, post-qualification or the execution of the Contract may be regarded as fraudulent and render the Bidder or supplier liable for prosecution subject to the applicable laws and issuances.]*

Item	Specification		Statement of Compliance	Reference
A.	1 Lot Supply, delivery, installation, testing and commissioning of Data and Structured Cabling as stated in the Section VI and VII of the Bidding Documents for the AMLC-SPC Office Quezon City.			
B.	**Cables**			
B.1	The Supplier shall design, supply, deliver, install, and test Fiber Optic Cabling with Service Entrance Facility and Category 6 Structured Cabling System and necessary components required to enable the LAN connection of the following areas within AMLC Office.			
	Location	Node Requirements		
B.2	Office Cubicles and Workstations	125 Data Ports – CAT6 and 125 Voice Ports – CAT6		
B.3	Printer Ports for Horizontal Distribution	4 Ports – CAT6		
B.4	Access Point for Horizontal or Vertical Distribution	2 Ports – CAT6		
B.5	The Supplier shall supply and deliver industry-certified Fiber Optic and Category 6 UTO Cables, UL Listed and ROHS compliant Note: The Supplier must submit certificates and/or other supporting documents (original or certified true copies) as proof of compliance. For reference of the Supplier, AMLC has been installed with the following brands Fiber Optic and Category 6 UTO Cables: - Krone - Belden - Panduit - Nexans - Leviton - AMP - Clipsal - Optronics			

ANNEX B

C.	**2 units of Data Cabinet – 42RU**		
	Sample Figure A – For reference  **Sample Figure B – For reference** 		
C.1	Dimension : 213.36cm x 80cm x 100mm(H x W x D)		
C.2	Minimum Usable Depth: 16.2” or 414mm		
C.3	Swing out Wall Cabinet *Description:* *Front Door - Perforated Full Swing Out Panel and must be Removable.* *Rear Door – Split Swing Panel* *Side Doors – Solid Side Panels and must be Removable.*		

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C.4	Description: With perforated front door panel and split rear door panel			
C.5	Includes 20 screws and pish-in nuts.			
C.6	Minimum 16-gauge steel rear and center section.			
C.7	Smooth black powder paint finish.			
C.8	Ventilation slots front and side.			
C.9	Ventilation Fans on top cutouts.			
C.10	Can be easily removed and hinged in either direction and complete with lock and key.			
C.11	Hinged cabinet body can open 120 degree.			
C.12	Solid Side Panels must be removable.			
C.13	With Vertical Power Strips			
C.14	With Horizontal Cable Management			
D.	**Core Switch - 2 units**			
D.1	Ports	48 GE RJ45 ports + > 4 10GE SFP ports with transceivers		
D.2	Card slot	2		
D.3	Card type	1-port QSFP+ dedicated stack card		
D.4	4-port 10GE SFP+ interface card			
D.5	ETH management port	1		
D.6	Console port (RJ45)	1		
D.7	Console port (Mini USB)	1		
D.8	USB 2.0 port	1		
D.9	Switching capacity	>598Gbps/5.98Tbps		
D.10	Forwarding rate	>252Mpps		
D.11	MAC table size	>64,000		
D.12	ARP table size	>20,000		
D.13	Jumbo frame	>9216 Bytes		
D.14	Packet buffer	>32Mbit		
D.15	Dimensions (WxDxH)	$\leq$440 X $\leq$300 X $\leq$44mm		
D.16	Unit weight	4.2kg to 4.5 kg		
D.17	Type	Hot swappable		
D.18	Redundancy	1+1		
D.19	AC frequency	50/60Hz		
D.20	Rated AC voltage	100~240V		
D.21	Maximum AC voltage	90~264V		

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D.22	Rated HVDC voltage	240V DC		
D.23	Maximum HVDC voltage	192~288V DC		
D.24	Rated DC voltage	-36V ~ -72V DC		
D.25	Maximum power rating	140W		
D.26	Idle power rating	45W		
D.27	Dissipation mode	Air-cooled heat dissipation. Intelligent speed adjustment		
D.28	Number of fans	>3		
D.29	Safety	EN 60960-1, IEC 60950-1		
D.30	Operating temperature	0 ℃ ~ 50 ℃		
D.31	Storage temperature	-40 ℃ ~ 70 ℃		
D.32	Operating humidity	10%~90% RH		
D.33	Storage humidity	5%~95% RH		
D.34	Operating altitude	-500 ~ 5000m		
D.35	Ethernet	Full-duplex, Half-duplex, Auto negotiation, Flow control on interface, Jumbo frames, Link aggregation (IEEE802.3ad, LACP, maximum 8 member ports per AP), 2048 maximum aggregation ports, Load balancing, Broadcast storm control		
D.36	VLAN	IEEE802.1Q, 4094 VLAN ID, 4094 VLANIF interface, Access mode, Trunk mode, Default VLAN, Port-based VLAN, MAC-based VLAN, Protocol based VLAN, IP subnet-based VLAN, Voice VLAN, GVRP, Super VLAN, Private VLAN, Guest VLAN		
D.37	MAC	Automatic learning and aging of MAC addresses, Static and dynamic MAC address entries, Interface-based and VLAN-based MAC address learning limiting, Sticky MAC, MAC address spoofing guard		
D.38	ARP	Static ARP, Trusted ARP, Gratuitous ARP, Proxy ARP, Local proxy ARP, ARP trustworthiness detection, ARP-based IP guard		
D.39	STP	STP(IEEE802.1D), RSTP(IEEE802.1w), MSTP(IEEE802.1s), 64 MST instances, Port Fast, BPDU guard, BPDU filter, TC guard, TC filter, Root guard, Auto edge, BPDU transparent transmission, BPDU		

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		tunnel, VLAN-Specific Spanning Tree (VSST, working with PVST, PVST+ and RPVST)		
D.40	ERPS	G.8032 v1/v2, Single-ring, Tangent-ring, Intersecting-ring, Load balancing		
D.41	L2 multicast	IGMP v1/v2/v3 snooping, IGMP filter, IGMP fast leave, IGMP querier, IGMP security control, IGMP profile, MLD v1/v2 snooping, MLD filter, MLD fast leave, MLD source check		
D.42	QinQ	Basic QinQ, Selective QinQ (Flexible QinQ), 1:1 VLAN switching, N:1 VLAN switching VLAN mapping, TPID configuration, MAC address replication, L2 transparent transmission, Priority replication, Priority mapping		
D.43	IPv4 unicast routing	IPv4 static routing, RIPv1/v2, OSPFv2, BGP4, MBGP, IS-IS, PBR, VRF, ECMP, WCMP, Routing policies, 12000 IPv4 routing table		
D.44	IPv6 unicast routing	IPv6 static routing, RIPng, OSPFv3, BGP4+, IS-ISv6, PBRv6, VRFv6, Packet–based load balancing and flow-based load balancing, 6000 IPv6 routing table		
D.45	IPv6 feature	ND (Neighbor Discovery), 10000 ND entries, ND snooping, 6 over 4 manual tunnel, 6 to 4 auto tunnel, ISATAP, IPv4 over IPv6 tunnel, IPv6 over IPv6 tunnel, GRE tunnel (4 over 6), GRE tunnel (6 over 6), IPv6 extender option head, manually configure local address, automatically create local address, 0-64 bit mask, 65-128 bit mask		
D.46	Multicast routing	IGMPv1/v2/v3, MLDv1/v2, PIM-DM, PIM-SM, PIM-SSM, PIM-DMv6, PIM-SMv6, MSDP, MCE, IGMP proxy, MLD proxy, Multicast static routing, 8000 IPv4 multicast routing table, 4000 IPv6 multicast routing table		
D.47	DHCP	DHCP server/relay/client, DHCPv6 server/relay/client, DHCP option 43/82/138		
D.48	MPLS	MPLS labels and forwarding, LSP, LDP, Inter-domain LDP LSP		
D.49	MPLS L3 VPN	BGP VPN, IS-IS VPN, OSPF VPN		
D.50	BFD	Single-hop BFD, BFD for IPv4 static routes/OSPF/IS-IS/BGP4/VRRP/MPLS/PBR, BFD for		

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		IPv6 static routes/OSPFv3/IS-ISv6/BGP4+/VRRPv6/PBRv6		
D.51	DLDP	DLDP for IPv4 static routes/OSPF/BGP4/VRRP/PBR		
D.52	LLDP	IEEE802.1AB 2005, ANSI/TIA-1057, LLDP, LLDP-MED, LLDP-PoE		
D.53	RLDP	Uni-directional link detection, Bi-directional forwarding detection, Downlink loop detection		
D.54	VSU	9 VSU (Virtual Switch Unit) stacked members, 80Gbps maximum stacking bandwidth with service port VSL connection, Traffic balancing		
D.55	VRRP	VRRPv3, VRRP+		
D.56	GR	GR for RIP/OSPF/IS-IS/BGP/MPLS L3 VPN/LDP		
D.57	RNS	RNS test for ICMP/DNS/TCP, Track support for RNS		
D.58	Stream classification	Classification based on IEEE802.1p/DSCP/TOS		
D.59	Shaping	Rate-limit on ingress/egress traffic on interface		
D.60	Congestion avoidance	RED, WRED, Tail drop		
D.61	Congestion management	SP, WRR, DRR, WFQ, SP+WFQ, SP+WRR, SP+DRR, 8 queue priorities per port		
D.62	ACL entries	3500 IPv4/v6 rules		
D.63	ACL type	Standard IP ACL, Extended IP ACL, MAC-extended ACL, Time-based ACL, Expert ACL, ACL80, IPv6 ACL, SVI router ACL, ACL logging, ACL counter, ACL remark, ACL redirection, Security channel, Protected port, Port security		
D.64	ARP security	ARP check, DAI, Trusted ARP, ARP trustworthiness detection, Gateway-targeted ARP spoofing prevention, ARP rate-limit,		
D.65	Attack defense	CPP (CPU Protection Policy), NFPP (Network Foundation Protection Policy) guard for ARP/IP/ICMP/DHCP/DHCPv6/ND/Self-defined attack, URPF		
D.66	IP	IP source guard v4/v6, 3500 IPv4 source guard user capacity, 1500 IPv6 source guard user capacity		
D.67	DHCP	DHCP snooping, DHCPv6 snooping, DHCP snooping on option 82		

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D.68	AAA	Local, RADIUS, RADIUS v6, TACACS+		
D.69	IEEE802.1X	IEEE802.1X port/MAC based authentication, Dynamic VLAN and ACL assignment, MAC authentication bypass		
D.70	Login	CLI, Console, Telnet, Telnet for IPv6, SSH v1.5/v2.0, SSH for IPv6, SCP, SNMP-based NMS, Web-based UI, Fast deploy, Cloud management		
D.71	File	Multiple boot configuration, Multiple firmware		
D.72	Network	Ping(v4/v6), Traceroute (v4/v6), sFlow, SNMPv1/v2c/v3, HTTP, HTTPS, RMON (1,2,3,9), CWMP(TR069), Syslog, MIB,		
D.73	Application	DNS client v4/v6, TFTP Server/Client, TFTP Client v6, FTP Server/Client, FTP Server/Client v6, NTP Server/Client, NTP Server/Client v6, SNTP, EEE(IEEE802.3az), OpenFlow v1.0, OpenFlow v1.3, Hot patch, Z-PoE (Non-stop PoE)		
D.74	Mirroring	Many-to-one mirroring, One-to-many mirroring, Flow-based mirroring, Over devices mirroring, VLAN-based mirroring, VLAN-filtering mirroring, AP-port mirroring, SPAN, RSPAN, ERSPAN		
D.75	Hardware monitoring	Power supply monitoring, Fan status and alarm monitoring		
D.76	Licenses	The supplier must submit contract of support or proof of entitlement for service/subscription and required licenses.		
D.77	Warranty	The supplier must warranty certificates for all appropriate equipment and peripherals with Warranty Coverage on all Hardware Components atleast twelve (12) months or one (1) year.		
D.78	Support	The supplier shall submit an After Sales Service and Support - 24H by 7D (Service Level Agreement (SLA) for Technical Support and Helpdesk Support).		
D.79	Certification	The supplier shall submit a current and valid Certification from the Product Manufacturer or Principal stating that the contractor/bidder is an existing Certified		

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		Partner or Reseller of the Proposed Core Switch.		
E.	**Distribution / Access Switches - 12 units**			
E.1	Ports	48 10/100/1000BASE-T ports (PoE/PoE+) 2 100/1000BASE-X SFP ports (combo) 2 1G/10GBASE-X SFP+ ports (non-combo)		
E.2	Expansion Slots	2		
E.3	Modular Power Slots	2		
E.4	Fan Slots	Fixed		
E.5	Management Ports	1 console port RJ 45 1 USB 2.0 port		
E.6	Switching Capacity	≥264Gbps		
E.7	Packet Forwarding Rate	≥132Mpps		
E.8	Max. Number of 10GE Ports	4		
E.9	PoE	IEEE802.3af and 802.3at power supply standards; Automatic/energy-saving (default) power supply mode; Hot startup and uninterrupted power supply; Port priority; PoE devices support stacking		
E.10	Port Buffer	≥1.5MB		
E.11	RAM	≥512MB		
E.12	ARP Table	≥1,000		
E.13	MAC Address	≥16K		
E.14	Routing Table Size (IPv4/IPv6)	500 (IPv4/IPv6)		
E.15	ACL Entries	In: 1,500 Out: 500		
E.16	VLAN	4K 802.1q VLANs, Port-based VLAN, MAC-based VLAN, Protocol-based VLAN, Private VLAN, Voice VLAN, QinQ, IP subnet-based VLAN, GVRP, Guest VLAN		
E.17	QinQ	Basic QinQ, Flexible QinQ, 1:1 VLAN switching, N:1 VLAN switching, 1:N VLAN switching		
E.18	Link Aggregation	AP, LACP (maximum 8 ports can be aggregated), Cross devices AP, Flow balance		
E.19	Port Mirroring	Many-to-one mirroring, One-to-many mirroring, Flow-based mirroring, Over devices mirroring, VLAN-based		

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		mirroring, VLAN-filtering mirroring, AP-port mirroring, RSPAN, ERSPAN		
E.20	Spanning Tree Protocols	IEEE802.1d STP, IEEE802.1w RSTP, Standard 802.1s MSTP, Port fast, BPDU filter, BPDU guard, TC guard, TC protection, ROOT guard, Spanning Tree Root Guard(STRG)		
E.21	DHCP	DHCP server, DHCP client, DHCP snooping, DHCP relay, IPv6 DHCP snooping, IPv6 DHCP client, IPv6 DHCP relay, DHCP Snooping Option 82		
E.22	Multiple Spanning Tree Protocol (MSTP) Instances	64		
E.23	Maximum Aggregation Port (AP)	128		
E.24	SDN	OpenFlow 1.0 & 1.3		
E.25	VSU (Virtual Switch Unit)	Support (up to 9 stack members to ensure the effectiveness of the use, 4 members are recommended*), Local and distant stacking, Cross-chassis link aggregation in the stack, Stacking via 10G Ethernet ports		
E.26	Zero Configuration	CWMP(TR069)		
E.27	L2 Features	MAC, EEE, ARP, VLAN, Basic QinQ, Felix QinQ, Link aggregation, Mirroring, STP, RSTP, MSTP, Broadcast/Multicast/Unknown unicast storm control, IGMP v1/v2/v3 snooping, IPv6 MLD Snooping v1/v2, IGMP SGVL/IVGL, IGMP querier, IGMP filter, IGMP fast leave, DHCP, Jumbo frame, RLDP, LLDP, REUP, G.8032 ERPS, Layer 2 protocol tunnel		
E.28	Layer 2 Protocols	IEEE802.3, IEEE802.3u, IEEE802.3z, IEEE802.3x, IEEE802.3ad, IEEE802.1p, IEEE802.1x, IEEE802.3ab, IEEE802.1Q (GVRP), IEEE802.1d, IEEE802.1w, IEEE802.1s		
E.29	IPv4 Features	Ping, Traceroute		
E.30	IPv6 Features	ICMPv6, IPv6 Ping, IPv6 Tracert, manually configure local address, automatically create local address		
E.31	IPv4 Routing Protocols	Static Routing, RIP, OSPF v1/v2		
E.32	Basic IPv6 Protocols	IPv6 addressing, Neighbor Discovery (ND), ICMPv6, IPv6 Ping and IPv6 Tracert		

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E.33	IPv6 Routing Protocols	Static routing, RIPng, OSPF v3		
E.34	ACL	Standard/Extended/Expert ACL, Extended MAC ACL, ACL 80, IPv6 ACL, ACL logging, ACL counter, ACL remark, Global ACL, ACL redirect, Time-based ACL, Router ACL, VLAN ACL, Port-Based ACL		
E.35	QoS	802.1p/DSCP/TOS traffic classification; Multiple queue scheduling mechanisms, such as SP, WRR, DRR, SP+WFQ, SP+WRR, SP+DRR; Input / output port-based speed limit; Port-based traffic recognition; Each port supports 8 queue priorities; flow-based rate limiting with the minimum granularity of 8Kbps, Dynamic QoS		
E.36	Reliability	VSU (virtualization technology for virtualizing multiple devices into 1); RIP GR; ERPS (G.8032); REUP dual-link fast switching technology; RLDP (Rapid Link Detection Protocol); 1+1 power redundancy; Hot-swappable power module		
E.37	EEE Format	Support IEEE 802.3az standard		
E.38	Security	Binding of the IP address, MAC address, and port address; Binding of the IPv6, MAC address, and port address; Filter illegal MAC addresses; Port-based and MAC-based 802.1x; MAB; Portal and Portal 2.0 authentication; ARP-check; DAI; Restriction on the rate of ARP packets; Gateway anti-ARP spoofing; Broadcast suppression; Hierarchical management by administrators and password protection; RADIUS and TACACS+;Change of Authorization; AAA security authentication (IPv4/IPv6) in device login management; SSH and SSH V2.0; BPDU guard; IP source guard; CPP, NFPP; Port protection, CoA(RADIUS change of authorization, SCP (Secure Copy)Dynamic ARP Inspection(DAI)		
E.39	Manageability	SNMPv1/v2c/v3, CLI (Telnet / Console), RMON (1, 2, 3, 9), SSH, Syslog / Debug, NTP / SNTP, FTP, TFTP, Web, SFLOW , HTTP or HTTPS		
E.40	Hot Patch	Support		

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E.41	Smart Temperature Control	Auto fan speed adjustment; Fan malfunction alerts; Fan status check		
E.42	Smart Power Supply	Support power control and management		
E.43	Other Protocols	FTP, TFTP, DNS client, DNS static		
E.44	Dimensions (W x D x H) (mm)	≤440 × ≤360 × ≤44		
E.45	Rack Height	1RU		
E.46	Weight	≤6.8kg		
E.47	Power Supply	AC power AC500P: Rated voltage range: 100V to 240V AC Frequency: 50/60Hz Rated current range: 7A to 3.5A HVDC input: Input voltage range: 192V to 290V DC Input current range: 3.5A to 2.5A DC power DC500P: Rated voltage range: -36V to -72V DC Rated current: 16.5A		
E.48	Power Consumption	1700W (with 48-port PoE+)		
E.49	PoE Power	AC500P: 370W DC500P: 370W		
E.50	Safety Standards	IEC 60950-1, EN 60950-1		
E.51	Emission Standards	EN 300 386, EN 55022/55032, EN 61000-3-2, EN 61000-3-3, EN 55024, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-8, EN 61000-4-11		
E.52	Temperature	Operating temperature: 0°C to 50°C Storage temperature: -40°C to 70°C		
E.53	Humidity	Operating humidity: 10% to 90%RH Storage humidity: 5% to 95%RH		
E.54	Operating Altitude	-500m to 5,000m		
E.55	Licenses	The supplier must submit contract of support or proof of entitlement for service/subscription and required licenses.		
E.56	Warranty	The supplier must warranty certificates for all appropriate equipment and peripherals with Warranty Coverage on all Hardware Components atleast twelve (12) months or one (1) year.		
E.57	Support	The supplier shall submit an After Sales Service and Support - 24H by 7D (Service Level Agreement (SLA) for		

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		Technical Support and Helpdesk Support).		
E.58	Certification	The supplier shall submit a current and valid Certification from the Product Manufacturer or Principal stating that the contractor/bidder is an existing Certified Partner or Reseller of the Proposed Distribution /Access Switch.		
F.	**5KVA Uninterrupted Power Supply - 2 units**			
	Output			
F.1	Output power capacity	4.5kWatts / 5.0kVA		
F.2	Max Configurable Power (Watts)	4.5kWatts / 5.0kVA		
F.3	Nominal Output Voltage	230V		
F.4	Output Voltage Distortion	Less than 2 %		
F.5	Output Frequency (sync to mains)	50/60 Hz +/- 3 Hz Sync to mains		
F.6	Other Output Voltages	220 V, 240 V		
F.7	Load Crest Factor	3:1		
F.8	Topology	Double conversion online		
F.9	Waveform type	Sine wave		
F.10	Output Connections	(4) IEC 60320 C19 (6) IEC 60320 C13 (2) IEC Jumpers		
F.11	Bypass	Internal bypass (automatic and manual)		
	Input			
F.12	Nominal Input Voltage 230V	230V		
F.13	Input frequency	40 - 70 Hz Auto-sensing		
F.14	Input Connections	Hard wire 3-wire (1P + N + E)		
F.15	Input voltage range for main operations	100 - 275 Adjustable (half load), 160 - 275V		
F.16	Other Input Voltages	220 V, 240 V		
F.17	Batteries & Runtime			
F.18	Battery type	Lead-acid battery		
F.19	Included Battery Modules	2		
F.20	Typical recharge time 1.5hour	1.5hour(s)		
F.21	Nominal Battery Voltage	192 V		

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F.22	Expected Battery Life (years)	3 - 5		
F.23	RBC Quantity	1		
F.24	Battery Charge Power (Watts)	560 Watts		
F.25	Extendable Run Time	1		
F.26	Communications & Management			
F.27	Interface Port(s)	RJ-45 10/100 Base-T, RJ-45 Serial, Smart-Slot, USB		
F.28	Control panel	Multifunction LCD status and control console		
F.29	Audible Alarm	Audible and visible alarms prioritized by severity		
F.30	Emergency Power Off (EPO)	Yes		
	Surge Protection and Filtering			
F.31	Surge energy rating	480Joules		
	Environmental			
F.32	Operating Temperature	0 - 40 °C		
F.33	Operating Relative Humidity	0 - 95 (Non-condensing) %		
F.34	Operating Elevation	0 - 3048meters		
F.35	Storage Temperature	-15 - 45 °C		
F.36	Storage Relative Humidity	0 - 95 (Non-condensing) %		
F.37	Storage Elevation	0 - 15240meters		
F.38	Online thermal dissipation	931.0BTU/hr		
F.39	Protection Class	IP20		
F.40	Warranty	The supplier must warranty certificates for all appropriate equipment and peripherals with Warranty Coverage on all Hardware Components atleast twelve (12) months or one (1) year.		
F.41	Support	The supplier shall submit an After Sales Service and Support - 24H by 7D (Service Level Agreement (SLA) for Technical Support and Helpdesk Support).		
G.	**Rough-In Materials**			
G.1	The Supplier shall supply, delivery and install the following recommended rough-in materials, including, but not limited to:			

ANNEX B

G.2	Cable trays with cover (galvanized steel, painted white with AMLC-ETMG markings)		
G.3	Telecommunications Terminal Cabinet (with backboard, gauge 16, 20”x16”x16” H x W x D at minimum)		
G.4	110 Terminal Block		
G.5	Intermediate Metal Conduit (IMC), or Electrical Metal Tubing (EMT) with compression connectors (painted white)		
G.6	Liquid Tight Flexible Metal Conduit/Tubing		
G.7	Strut channel (galvanized steel)		
G.8	Threaded bars with anchors		
G.9	Other miscellaneous materials and consumables		
H.	The Supplier shall conduct end-to-end testing industry certified tools and equipment. Test results shall be submitted to authorized AMLC-ETMG representatives for verification.		
I.	Other deliverables not mentioned under this Section but are necessary for the operation of the system as defined in this Bidding Documents shall be supplied, delivered, installed, and tested by the Supplier.		
J.	After Sales Service and Support - 24H by 7D (Service Level Agreement (SLA) for Technical Support and Helpdesk Support).		
K.	Must provide training on the following: Management, Configuration, Utilization of GUI for Monitoring, Diagnostics with Hands-On Training and Certificate for 6 personnel for Active Devices.		
L.	**QUALIFICATIONS**		
L.1	The Supplier or its direct affiliate/cabling partner is a Certified Cabling Installer and is eligible to service cable warranty coverage.		
L.2	The bidder must submit a list of Technical Team consisting of at least One (1) Project Manager, (1) Project Engineer, One (1) Project Supervisor/Foreman per Site and Three (3) Structured Cabling Installer on Project Site with the following documentations and certifications: • Certificate of Employment issued by the Contractor/Bidder. • Resume with at least 2 years’ experience in project implementation		