

LBP LEASING AND FINANCE CORPORATION

(A LANDBANK Subsidiary)

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INVITATION TO QUOTE FOR PROCUREMENT OF ONE (1) UNIT NETWORK SWITCH

(LLFC-CAP-25-017)

REQUEST FOR QUOTATION (Small Value Procurement)

LBP Leasing and Finance Corporation (LLFC) through its Bids and Awards Committee (BAC) will undertake a Small Value Procurement in accordance with Section 53.0 of the 2016 Revised Implementing Rules and Regulations of the Republic Act No. 9184.

Name of the Project	Procurement of One (1) Unit Network Switch (LLFC-CAP-25-017)
Approved Budget of the Contract (ABC)	Six Hundred Thousand Pesos (PhP600,000.00)
switches to manage devi	BACKGROUND tion upgraded its network infrastructure, including the installation of several network ce communication within the LAN. However, the recent addition of a server has vitch port capacity, necessitating the procurement of an additional network switch.
	OBJECTIVES curement is to acquire a new Network Switch to support the expansion of LLFC's
	SPECIFICATIONS
KEY FEATURES	
1/2.5/5/10G (Multi-Gigabit) connect	ctivity on copper ports
1/10 G (SFP and SFP+) connectiv	
Active Fiber Monitoring (AFM)	
OpenFlow for SDN	
Upstream Forwarding Only (UFO)	
Link Monitoring	
Loop and storm protection	
Stack 2 units at any speed	
Support EPSR & G.8032 high-spe	ed resilient rings
SPECIFICATIONS	
The switch must support up to 24	x 100/1000T/2.5/5/10G (RJ-45) COPPER PORTS
The switch must support 560Gbps	s switching fabric
The switch must support 416.7Mp	ps forwarding rate
PERFORMANCE	
The switch must support up to 32	K MAC addresses
The switch must support to 16 sta	
The switch must support 2 GB DD	
The switch support 4094 configura	
The switch support 256 MB flash	
The switch support Packet Buffer	
The switch support Supports 10Ki	3 L2 Jumbo
RELIABILITY Meduler Operating System	
Modular Operating System	SUs, fans, temperature and internal voltages, SNMP traps alert network managers in case of failure
FLEXIBILITY & COMPATIBILITY	
	combination of 1000Mbps SFP & 10GbE SFP+ modules and direct attach cables
Stacking ports can be configured	
DIAGNOSTIC TOOLS	
Active Fiber Monitoring detects ta	mpering on optical links
Find-me device locator	
Connectivity Fault Management (CEM) for use with G 8032 ERPS
Link Monitoring	
Automatic link flap detection and p	port shutdown
Optical Digital Diagnostic Monitoring (DDM)	
Ping polling for IPv4 and IPv6	
Port and VLAN mirroring (RSPAN	
TraceRoute for IPv4 and IPv6	,

Un-Directional Link Detection (UDD) UP-Darkates that IECNR provides State: and EIP rotating to IPA4 State: and EIP rotating to IPA4 Direction of EIP rotating to IPA4 Direction	
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Secure File Transfer Protocol (SFTP) client Strong password security and encryption VLAN SUPPORT Voice VLAN Private VLANs provide security and port isolation for multiple customers using the same VLAN VLAN ID translation	RADIUS group selection per VLAN or port
Strong password security and encryption VLAN SUPPORT Voice VLAN Private VLANs provide security and port isolation for multiple customers using the same VLAN VLAN ID translation	
VLAN SUPPORT Voice VLAN Private VLANs provide security and port isolation for multiple customers using the same VLAN VLAN ID translation	Secure File Transfer Protocol (SFTP) client
Voice VLAN Private VLANs provide security and port isolation for multiple customers using the same VLAN VLAN ID translation	
Voice VLAN Private VLANs provide security and port isolation for multiple customers using the same VLAN VLAN ID translation	
Private VLANs provide security and port isolation for multiple customers using the same VLAN VLAN ID translation	
VLAN ID translation	

Upstream Forwarding Only (UFO)
Operating temperature range 0°C to 50°C (32°F to 122°F) Derated by 1°C per 305 meters (1,000 ft)
Storage temperature range -25°C to 70°C (-13°F to 158°F)
Operating relative humidity range of 5% to 90% non-condensing
Storage relative humidity range of 5% to 95% non-condensing
Operating altitude 3,000 meters maximum (9,843 ft)
POWER & NOISE CHARACTERISTICS
Maximum power consumption of 160W
Maximum heat dissipation of 540 (BTU/H)
Noise 46-63 (DB)
ELECTRICAL, SAFETY & RoHS COMPLIANCE
Standards: UL62368-1, CAN/CSA-C22.2 No.60950-1-03, EN60950-1, EN60825-1, AS/NZS 60950.1
EMC: ETSI EN300-386, EN300-132-2, FCC class A, VCCI class A
Immunity: EN55024, EN61000-3-levels 2 (Harmonics), and 3 (Flicker) – AC models only
Certification: UL, cUL.
EU RoHS compliant
LATENCY SPECIFICATIONS
Latency at 1GBPs is about 4.48 microsecond
Latency at 10Gbps is about 2.73 microsecond
Cryptographic Algorithms (FIPS Approved Algorithms)
Encryption (Block Ciphers):
-AES (ECB, CBC, CFB and OFB Modes
-3DES (ECB, CBC, CFB and OFB Modes
Block Cipher Modes: -CCM , -CMAC , -GCM, -XTS
Digital Signatures & Asymmetric Key Generation: -DSA , -ECDSA , -RSA
Secure Hashing: -1-SHA , -512-SHA-2 (SHA-224, SHA-256, SHA-384.) SHA
Message Authentication: 512,384,256,224(2-HMAC (SHA-1, SHA)
Random Number Generation: -DRBG (Hash, HMAC and Counter
Non FIPS Approved Algorithms: -RNG (AES128/192/256) DES, -MD5
ETHERNET STANDARDS
IEEE 802.2 Logical Link Control (LLC)
IEEE 802.3 Ethernet
IEEE 802.3ab 1000BASE-T
IEEE 802.3ae 10 Gigabit Ethernet
IEEE 802.3an 10GBASE-T
IEEE 802.3az Energy Efficient Ethernet (EEE)
IEEE 802.3bz 2.5GBASE-T and 5GBASE-T ("multi-gigabit")
IEEE 802.3x Flow control - full-duplex operation
IEEE 802.3z 1000BASE-X
VLAN SUPPORT
IEEE 802.1ad Provider bridges (VLAN stacking, Q-in-Q)
IEEE 802.1ad Provider bridges (VLAN stacking, Q-in-Q) IEEE 802.1Q Virtual LAN (VLAN) bridges
IEEE 802.1Q Virtual LAN (VLAN) bridges
IEEE 802.1Q Virtual LAN (VLAN) bridges IEEE 802.1v VLAN classification by protocol and port IEEE 802.3acVLAN tagging
IEEE 802.1Q Virtual LAN (VLAN) bridges IEEE 802.1v VLAN classification by protocol and port IEEE 802.3acVLAN tagging IPv4 STANDARDS
IEEE 802.1Q Virtual LAN (VLAN) bridges IEEE 802.1v VLAN classification by protocol and port IEEE 802.3acVLAN tagging IPv4 STANDARDS RFC768 - User Datagram Protocol (UDP)
IEEE 802.1Q Virtual LAN (VLAN) bridges IEEE 802.1v VLAN classification by protocol and port IEEE 802.3acVLAN tagging IPv4 STANDARDS RFC768 - User Datagram Protocol (UDP) RFC791 - Internet Protocol (IP)
IEEE 802.1Q Virtual LAN (VLAN) bridges IEEE 802.1v VLAN classification by protocol and port IEEE 802.3acVLAN tagging IPv4 STANDARDS RFC768 - User Datagram Protocol (UDP) RFC791 - Internet Protocol (IP) RFC792 & RFC793 - Internet Control Message Protocol (ICMP) & Transmission Control Protocol (TCP)
IEEE 802.1Q Virtual LAN (VLAN) bridges IEEE 802.1v VLAN classification by protocol and port IEEE 802.3acVLAN tagging IPv4 STANDARDS RFC768 - User Datagram Protocol (UDP) RFC791 - Internet Protocol (IP) RFC792 & RFC793 - Internet Control Message Protocol (ICMP) & Transmission Control Protocol (TCP) RFC826 - Address Resolution Protocol (ARP)
IEEE 802.1Q Virtual LAN (VLAN) bridges IEEE 802.1v VLAN classification by protocol and port IEEE 802.3acVLAN tagging IPv4 STANDARDS RFC768 - User Datagram Protocol (UDP) RFC791 - Internet Protocol (IP) RFC792 & RFC793 - Internet Control Message Protocol (ICMP) & Transmission Control Protocol (TCP) RFC826 - Address Resolution Protocol (ARP) RFC919 - Broadcasting Internet datagrams Broadcasting Internet datagrams in the presence of subnets
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IEEE 802.1Q Virtual LAN (VLAN) bridges IEEE 802.1v VLAN classification by protocol and port IEEE 802.3acVLAN tagging IPv4 STANDARDS RFC768 - User Datagram Protocol (UDP) RFC791 - Internet Protocol (IP) RFC792 & RFC793 - Internet Control Message Protocol (ICMP) & Transmission Control Protocol (TCP) RFC826 - Address Resolution Protocol (ARP) RFC919 - Broadcasting Internet datagrams Broadcasting Internet datagrams in the presence of subnets RFC932 - Subnetwork addressing scheme RFC932 - Internet standard subnetting procedure RFC1035 - DNS client RFC1071 - Computing the Internet checksum RFC1122 - Internet host requirements RFC1129 - Park MTU discovery RFC1591 - Domain Name System (DNS) RFC1591 - Domain Name System (DNS) RFC1518 - Requirements for IPv4 routers RFC1519 - IP addressing RFC1519 - Domain Name System (DNS) RFC1519 - IP addressing RFC1518 - Requirements for IPv4 routers RFC1519 - IP addressing RFC1518 - Requirements for IPv4 routers RFC1519 - IP addressing RFC1518 - Requirements for IPv4 routers RFC1519 - Domain Name System (DNS) RFC1518 - Requirements for IPv4 routers
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IEEE 802.1Q Virtual LAN (VLAN) bridges IEEE 802.1v VLAN classification by protocol and port IEEE 802.1v VLAN classification by protocol and port IEEE 802.3evLAN tagging IPv4 STANDARDS RFC791 - Internet Protocol (IDP) RFC793 - Internet Control Message Protocol (ICMP) & Transmission Control Protocol (TCP) RFC893 - Internet Control Message Protocol (ICMP) & Transmission Control Protocol (TCP) RFC893 - Subnetwork address resolution Protocol (ARP) RFC939 - Broadcasting Internet datagrams Broadcasting Internet datagrams in the presence of subnets RFC930 - Internet standard subnetting procedure RFC1035 - DNS client RFC1122 - Internet host requirements RFC1121 - Internet host requirements RFC1122 - Internet host requirements RFC1131 - Path MTU discovery RFC1132 - Requirements for IPv4 routers RFC1131 - Domain Name System (DNS) RFC1812 - Requirements for IPv4 routers RFC1813 - IP addressing RFC1814 - Path MTU discovery RFC1815 - Padjuressing RFC1816 - Padjuressing RFC1812 - Requirements for IPv4 routers RFC1814 - Requirements for IPv4 routers RFC1815 - Padjuressing RFC2581 - TCP congestion control
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IEEE 802.1Q Virtual LAN (VLAN) bridges IEEE 802.1V VLAN classification by protocol and port IEEE 802.21V VLAN classification by protocol (IDP) RFC7919.1 Internet Protocol (IP) RFC792 & RFC793 - Internet Control Message Protocol (ICMP) & Transmission Control Protocol (TCP) RFC6293 - Subnetwork addressing scheme RFC929 - Subnetwork addressing scheme RFC1931 - Domating Internet chacksum RFC1122 - Internet tost requirements RFC1122 - Internet host requirements RFC1122 - Internet host requirements RFC1191 - Damain Name System (DNS) RFC1519 - An architecture for IP address allocation with CIDR & Classless Inter-Domain Routing (CIDR) RFC1182 - Requirements for IPv4 routers RFC1918 - IP addressing RFC1918 - IP a
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Neighbor discovery for IPv6 - RFC4861
IPv6 Stateless Address Auto-Configuration (SLAAC) - RFC4862
IPv6 socket API for source address selection - RFC5014
ROUTING INFORMATION PROTOCOL (RIP)
Routing Information Protocol (RIP) - RFC1058
RIP-2 MD5 authentication - RFC2082
RIPv2 - RFC2453
QUALITY OF SERVICE (QOS)
IEEE 802.1p Priority tagging RFC 2474 DiffServ precedence for eight queues/port
RFC 2474 DiffServ architecture
RFC 2697 A single-rate three-color marker
RFC 2698 A two-rate three-color marker
Resiliency Features
ITU-T G.8032 Ethernet Ring Protection Switching (ERPS)
IEEE 802.1ag Connectivity Fault Management (CFM), Continuity Check Protocol (CCP)
IEEE 802.1AXLink aggregation (static and LACP)
IEEE 802.1D MAC bridges IEEE 802.1s Multiple Spanning Tree Protocol (MSTP)
IEEE 802.1% Rapid Spanning Tree Protocol (RSTP)
EEE 802.3adStatic and dynamic link aggregation
SECURITY FEATURES
SSH remote login
SSLv2 and SSLv3
IEEE 802.1X Authentication protocols (TLS, TTLS, PEAP and MD5)
IEEE 802.1X Multi-supplicant authentication
IEEE 802.1X Port-based network access control RFC 2560 X.509 Online Certificate Status Protocol (OCSP)
RFC 2560 X.509 Online Certificate Status Protocol (OCSP) RFC 2818 HTTP over TLS ("HTTPS")
RFC 2865 RADIUS authentication
RFC 2866 RADIUS accounting
RFC 2868 RADIUS attributes for tunnel protocol support
SERVICES
RFC 854 Telnet protocol specification
RFC 855 Telnet option specifications
RFC 857 Telnet echo option
RFC 858 Telnet suppress go ahead option Telnet terminal-type option RFC 1091 Trivial File Transfer Protocol (TFTP) SMTP service extension
RFC 1350 Trivial File Transfer Protocol (TFTP)
RFC 1985 SMTP service extension
RFC 2131 DHCPv4 client
RFC 2616 Hypertext Transfer Protocol- HTTP/1.1
RFC 3046 DHCP relay agent information option (DHCP option 82)
RFC 3315 DHCPv6 client
RFC 3396 Encoding long options in DHCPv4
RFC 3646 DNS configuration options for DHCPv6
RFC 3993 Subscriber-ID suboption for DHCP relay agent option
RFC 4330 Simple Network Time Protocol (SNTP) version 4 RFC 4954 SMTP service extension for authentication
RFC 5905 Network Time Protocol (NTP) version 4
MANAGEMENT
SNMPv1, v2c and v3
IEEE 802.1ABLink Layer Discovery Protocol (LLDP)
Simple Network Management Protocol (SNMP) - RFC1157
MIB for network management of TCP/ IP-based Internets: MIB-II - RFC1213
Standard MIB - RFC1239
RIPv2 MIB extension - RFC1724 Structure of Management Information v2 (SMIv2) - RFC2578
RMON MIB (groups 1,2,3 and 9) - RFC2819
Interfaces group MIB - RFC2863
sFlow: a method for monitoring traffic in switched and routed networks - RFC3176
An architecture for describing SNMP management frameworks - RFC3411
User-based Security Model (USM) for SNMPv3 - RFC3414
View-based Access Control Model (VACM) for SNMP - RFC3415
Version 2 of the protocol operations for the SNMP - RFC3416
MIB for SNMP - RFC3418 MIB for the Transmission Control Protocol (TCD) - DEC4022
MIB for the Transmission Control Protocol (TCP) - RFC4022
MIB for the User Datagram Protocol (UDP) - RFC4113 IP forwarding table MIB - RFC4292
MIB for the Internet Protocol (IP) - RFC4293
Definitions of managed objects for bridges with RSTP - RFC4318
RMON 2 - RFC4502
Definitions of managed objects for remote ping, traceroute and lookup operations - RFC4560
The Syslog protocol - RFC5424

Transceiver
Must include 6 x 10GSR 850 nm short-haul, 300 m with MMF, with 1 year support on hardware and firmware
Support
-Includes One Time Implementation - Installation, Configuration, and Knowledge Transfer.
-Includes 8 x 5 support for 1 year with at least 6 onsite incidents
Vendor Requirements
-Bidder must have local sales and service office in the Philippines for guaranteed support and services. Must submit office address, contact persons and telephone numbers.
-Bidder must have local engineer/s to support hardware, configuration and software issues. Must submit certificate of employment of its local engineers.
-Bidders must be at least 10 years of existence in the IT industry
-Must provide detailed support plan (SLA, escalation procedure and support).
Delivery Period
Sixty (60) Days

- 1. Please accomplish the following:
 - a.) Price Quotation Form (Annex "A") together with the supplier's official proposal/quotation
 - b.) Statement of Compliance under Schedule of Requirements and Technical Specifications (Annex "B")
 - c.) Original and notarized Omnibus Sworn Statement (Annex "C")

Submit in a <u>sealed envelope</u> to LBP Leasing and Finance Corporation office located at 15th Floor, SyCip Law Centre Bldg, #105 Paseo de Roxas St., Makati City **on or before May 28, 2025, 05:00PM** together with the **Certified True Copies** of the following **Eligibility documents**:

- a.) Valid and current year Mayor's Permit or proof of application
- b.) Valid and current PhilGEPS Registration Number
- c.) DTI/SEC Registration (for Partnership/Corporation)
- d.) Latest Tax Clearance per E.O. 398, series of 2005
- e.) BIR Certificate of Registration (Form 2303)
- f.) Latest Income/Business Tax Return for two quarters
- 2. All quotations must include all applicable taxes and shall be valid for a period of thirty (30) calendar days from the deadline of submission of quotations. Quotations received in excess of the approved budget shall be automatically rejected.
- 3. Liquidated damages equivalent to one tenth (1/10) of the one percent (1%) of the value of Purchase Order not completed within the prescribed completion period shall be imposed per day to day of delay. LLFC may rescind the agreement once the cumulative amount of liquidated damages reaches ten percent (10%) of the amount of purchase order, without prejudice to other courses of action and remedies open to it.
- 4. The project shall be awarded to the proponent determined to have submitted the complete and lowest quotation including compliance to the Schedule of Requirements and Eligibility documents.
- 5. The prospective bidder shall be a Filipino citizen/sole proprietorship/partnership/Corporation duly organized under the laws of the Philippines.
- 6. LLFC reserves the right to reject any or all quotations at any time prior to award of the project without thereby incurring any liability to the affected proponents and to waive any minor defects therein to accept the quotation as may be considered more advantageous to the Government.
- 7. Terms of payment shall be within thirty (30) calendar days from date of acceptance. The procurement of LLFC is subject to a final VAT withholding of five percent (5%) in addition to the applicable withholding tax.

For further information, please visit LBP Leasing and Finance Corporation office or contact the BAC Secretariat Ms. Jose Emmanuel I. Guerrero at telephone number 8818-2200 loc. 231 or send e-mail to procurement@lbpleasing.com

Date of issue: 23 May 2025

(Sgd.) MS. RIZA M. HERNANDEZ CHAIRPERSON BIDS AND AWARDS COMMITTEE

PROJECT NAME	:	Procurement of One (1) Unit Network Switch
APPROVED BUDGET FOR THE CONTRACT	:	Six Hundred Thousand Pesos (P600,000.00) inclusive of all applicable taxes
MODE OF PROCUREMENT	:	Small Value Procurement

I. BACKGROUND

In April 2022, the Corporation upgraded its network infrastructure, including the installation of several network switches to manage device communication within the LAN. However, the recent addition of a server has exceeded the available switch port capacity, necessitating the procurement of an additional network switch.

II. SCOPE OF SERVICE

SCOPE OF SERVICE	
KEY FEATURES	
1/2.5/5/10G (Multi-Gigabit) connectivity on copper ports	
1/10 G (SFP and SFP+) connectivity on fiber ports	
Active Fiber Monitoring (AFM)	
OpenFlow for SDN	
Upstream Forwarding Only (UFO)	
Link Monitoring	
Loop and storm protection	
Stack 2 units at any speed	
Support EPSR & G.8032 high-speed resilient rings	
SPECIFICATIONS	
The switch must support up to 24 x 100/1000T/2.5/5/10G (RJ-45) COPPER PORT	ΓS
The switch must support 560Gbps switching fabric	
The switch must support 416.7Mpps forwarding rate	
PERFORMANCE	
The switch must support up to 32K MAC addresses	
The switch must support to 16 static or RIP routes	
The switch must support 2 GB DDR SDRAM	
The switch support 4094 configurable VLANs	
The switch support 256 MB flash memory	
The switch support Packet Buffer memory: 8MB	
The switch support Supports 10KB L2 jumbo	
RELIABILITY	
Modular Operating System	
Full environmental monitoring of PSUs, fans, temperature and internal voltages,	
SNMP traps alert network managers in case of failure	
FLEXIBILITY & COMPATIBILITY	
10G SFP+ ports will support any combination of 1000Mbps SFP & 10GbE SFP+	
modules and direct attach cables	
Stacking ports can be configured from 10G ports DIAGNOSTIC TOOLS	
Active Fiber Monitoring detects tampering on optical links	
Find-me device locator	
Connectivity Fault Management (CFM) for use with G.8032 ERPS	
Link Monitoring	
Automatic link flap detection and port shutdown	
Optical Digital Diagnostic Monitoring (DDM)	
Ping polling for IPv4 and IPv6	
Port and VLAN mirroring (RSPAN)	

Trace Doute for IDv4 and IDv6
TraceRoute for IPv4 and IPv6
Uni-Directional Link Detection (UDLD
IP FEATURES
Equal Cost Multi Path (ECMP) routing
Static and RIP routing for IPv4
UDP broadcast helper (IP helper)
Directed broadcast forwarding
DHCP client, relay and server for IPv4
Black hole routing
DNS relay
Route redistribution (RIP)
Policy-based routing
DHCPv6 client and relay
IPv4 and IPv6 dual stack
IPv6 hardware ACLs
Device management over IPv6 networks with SNMPv6, Telnetv6 and SSHv6
Static unicast routing for IPv6
Log to IPv6 hosts with Syslog v6
MANAGEMENT
Must support centralized management and zero-touch device installation and
recovery. With builtin starter FREE license
Console management port on the front pannel for ease of access
Comprehensive SNMP MIB support for standards-based device management
Support NETCONF/RESTCONF northbound interface with YANG data modelling
Eco-friendly mode allows ports and LEDs to be disabled to save power
USB interface allows software release files and configurations and other files to be
stored for backup and distribution to other devices
Powerful CLI scripting engine with built-in text editor
Voice VLAN
Web-based Graphical User Interface (GUI)
Industry-standard CLI with context-sensitive help
Management stacking allows up to 24 devices to be managed from a single console
QUALITY OF SERVICE (QOS)
IP precedence and DiffServ marking based on Layer2, 3 and 4 headers
Queue schedulling options for strict priority, weighted round robin or mixed
schedulling
Taildrop for queue congestion control
Extensive remarking capabilites
Policy-based QoS based on VLAN, port, MAC and general packet classifiers
Limit bandwidth per port or per traffic class down to 64Kbps
8 priority queues with a hierarchy of high priority queues for real time traffic, and
mixed schedulling for each switch port
Policy-based storm protection
Wirespeed traffic classification with low latency essential for VoIP and real-time
streaming media applications
RESILIENCY FEATURES
SFP+ stacking ports can be configured as 10GEthernet ports
Control Plane Prioritization (CPP) ensures the CPU always has sufficient bandwidth
to process network control traffic
Dynamic link failover (host attach)
EPSR (Ethernet Protection Switched Rings) withSuperLoop Protection (SLP)
Ethernet Ring Protection Switching (ITU-T G.8032 ERPS)
Flexi-stacking - use any port-speed to stack

TERMS OF REFERENCE

FOR LBP LEASING AND FINANCE CORPORATION	ON
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Long-distance stacking with 10G SFP+ modules(LD-VCStack) Loop protection: loop detection and thrash limiting PVST+ compatibility mode RRP snooping Spanning Tree Protocols (STP, RSTP, MSTP) STP root guard Stack fast failover minimizes network disruption SECURITY FEATURES Access Control Lists (ACLs) based on layer 3 and4 headers Configurable ACLs for management traffic Auth fail and guest VLANs Authentication, Authorization and Accounting (AAA) for TACACS+ and RADIUS Bootloader can be password protected for device security BPDU protection DHCP snooping, IP source guard and Dynamic ARP Inspection (DAI) Dynamic VLAN assignment Local RADIUS server for user and device authentication Network Access and Control (NAC) features manage endpoint security Port-based learn limits (intrusion detection) RADIUS group selection per VLAN or port Secure Copy (SCP) Secure File Transfer Protocol (SFTP) client Strong password security and encryption VLAN SuPPORT Voice VLAN Private VLANs provide security and port isolation for multiple customers using the same VLAN VLAN ID translation Upstream Forwarding Only (UFO) EVVINONMENTAL SPECIFICATIONS Operating temperature range 0°C to 50°C (32°F to 122°F) Derated by 1°C per 305 meters (1,000 ft) Storage temperature range of 5% to 90% non-condensing Storage relative humidity range of 5% to 90% non-condensing Operating altitude 3,000 meters maximum (9,843 ft) POWER & NOISE CHARACTERISTICS Maximum heat dissipation of 540 (BTU/H) Noise 46-63 (DB) ELECTRICAL, SAFETY & RoHS COMPLIANCE Standards: UL62368.1, CAN/CSA-C22.2 No.60950-1-03, EN60950-1, EN60825-1, AS/NZS 60950.1 EMC: ETSI EN300-386, EN300-	
Loop protection: loop detection and thrash limiting PVST+ compatibility mode RRP snooping Spanning Tree Protocols (STP, RSTP, MSTP) STP root guard Stack fast failover minimizes network disruption SECURITY FEATURES Access Control Lists (ACLs) based on layer 3 and4 headers Configurable ACLs for management traffic Auth fail and guest VLANs Authentication, Authorization and Accounting (AAA) for TACACS+ and RADIUS Boottoader can be password protected for device security BPDU protection DHCP snooping, IP source guard and Dynamic ARP Inspection (DAI) Dynamic VLAN assignment Local RADIUS server for user and device authentication Network Access and Control (NAC) features manage endpoint security Port-based learn limits (intrusion detection) RADIUS group selection per VLAN or port Secure Copy (SCP) Secure File Transfer Protocol (SFTP) client Strong password security and encryption VLAN SUPPORT Voice VLAN Private VLANs provide security and port isolation for multiple customers using the same VLAN VLAN ID translation Upstream Forwarding Only (UFO) ENVIRONMENTAL SPECIFICATIONS Operating temperature range -25°C to 70°C (-13°F to 122°F) Derated by 1°C per 305 meters (1,000 ft) Storage temperature range -25°C to 70°C (-13°F to 122°F) Derated by 1°C per 305 meters (1,000 ft) Storage temperature range -25°C to 70°C (-13°F to 122°F) Derated by 1°C per 305 meters (1,000 ft) Storage temperature range -25°C to 70°C (-13°F to 158°F) Operating relative humidity range of 5% to 95% non-condensing Storage temperature range -25°C to 70°C (-13°F to 158°F) Operating altitude 3,000 meters maximum (9,843 ft) POWER & NOISE CHARACTERISTICS Maximum power consumption of 160W Maximum heat dissipation of 540 (BTU/H) Noise 46-63 (DB) ELECTRICAL, SAFETY & RoHS COMPLIANCE Standards: UL62368, 1, CAN/CSA-C22, 2, No.60950-1-03, EN60950-1, EN60825-1, AS/NZS 60950.1 ENC: ETSI EN300-386, EN300-132-2, FCC class A, VCCI class A Immunity: EN55024, EN61000-3-levels 2 (Harmonics), and 3 (Flicker) – AC models only	Link aggregation (LACP) on LAN ports
PVST+ compatibility mode RRP snooping Spanning Tree Protocols (STP, RSTP, MSTP) STP root guard Stack fast failover minimizes network disruption SECURTY FEATURES Access Control Lists (ACLs) based on layer 3 and4 headers Configurable ACLs for management traffic Auth fail and guest VLANS Authentication, Authorization and Accounting (AAA) for TACACS+ and RADIUS Bootloader can be password protected for device security BPDU protection DHCP snooping, IP source guard and Dynamic ARP Inspection (DAI) Dynamic VLAN assignment Local RADIUS server for user and device authentication Network Access and Control (NAC) features manage endpoint security Port-based learn limits (intrusion detection) RADIUS group selection per VLAN or port Secure Copy (SCP) Secure Cipy (SCP) Secure File Transfer Protocol (SFTP) client Strong password security and encryption VLAN SUPPORT Vicia VLAN Private VLAN Private VLAN Private VLAN Private VLAN Dyntemperature range 0°C to 50°C (32°F to 122°F) Derated by 1°C per 305 meters (1,000 ft) Storage temperature range 0°C to 70°C (-13°F to 158°F) Operating relative humidity range of 5% to 90% non-condensing Storage relative humidity range of 5% to 90% non-condensing Storage relative humidity range of 5% to 90% non-condensing Operating relative humidity range of 5% to 90% non-condensing Operating altitude 3,000 meters maximum (9,843 ft) POWER & NOISE CHARACTERISTICS Maximum power consumption of 160W Maximum power consumption of 540 (BTU/H) Noise 46-63 (DB) ELECTRICAL, SAFETY & RoHS COMPLIANCE Standards: UL62368-1, CAN/CSA-C22.2 No.60950-1-03, EN60950-1, EN60825-1, AS/NZS 60950.1 EMC: ETSI EN300-386, EN300-132-2, FCC class A, VCCI class A Immunity: EN55024, EN61000-3-levels 2 (Harmonics), and 3 (Flicker) – AC models only Certification: UL, cUL, EU ROHS compliant	
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Spanning Tree Protocols (STP, RSTP, MSTP) STP root guard Stack fast failover minimizes network disruption SECURITY FEATURES Access Control Lists (ACLs) based on layer 3 and4 headers Configurable ACLs for management traffic Auth fail and guest VLANs Authentication, Authorization and Accounting (AAA) for TACACS+ and RADIUS Bootloader can be password protected for device security BPDU protection DHCP snooping, IP source guard and Dynamic ARP Inspection (DAI) Dynamic VLAN assignment Local RADIUS server for user and device authentication Network Access and Control (NAC) features manage endpoint security Port-based learn limits (intrusion detection) RADIUS group selection per VLAN or port Secure Copy (SCP) Secure Copy (SCP) Secure File Transfer Protocol (SFTP) client Strong password security and encryption VLAN SUPPORT Voice VLAN Private VLANs provide security and port isolation for multiple customers using the same VLAN VLAN SUPPORT Voice VLAN Private VLANs provide security and port isolation for multiple customers using the same VLAN VLAN SUPPORT Storage temperature range 0°C to 50°C (32°F to 122°F) Derated by 1°C per 305 meters (1,000 ft) Storage temperature range 0°C to 50°C (-13°F to 158°F) Operating relative humidity range of 5% to 95% non-condensing Storage relative humidity range of 5% to 95% non-condensing Operating altitude 3,000 meters maximum (9,843 ft) POWER & NOISE CHARACTERISTICS Maximum power consumption of 160W Maximum power consumption of 540 (BTU/H) Noise 46-63 (DB) ELECTRICAL, SAFETY & ROHS COMPLIANCE Standards: UL62368-1, CAN/CSA-C22.2 No.60950-1-03, EN60950-1, EN60825-1, AS/NZS 60950.1 EMC: ETSI EN300-386, EN300-132-2, FCC class A, VCCI class A Immunity: EN55024, EN61000-3-levels 2 (Harmonics), and 3 (Flicker) – AC models only Certification: UL, cUL, EU ROHS compliant	PVST+ compatibility mode
STP root guard STP root guard Stack fast failover minimizes network disruption SECURITY FEATURES Access Control Lists (ACLs) based on layer 3 and4 headers Configurable ACLs for management traffic Auth fail and guest VLANs Authentication, Authorization and Accounting (AAA) for TACACS+ and RADIUS Bootloader can be password protected for device security BPDU protection DHCP snooping, IP source guard and Dynamic ARP Inspection (DAI) Dynamic VLAN assignment Local RADIUS server for user and device authentication Network Access and Control (NAC) features manage endpoint security Port-based learn limits (intrusion detection) RADIUS group selection per VLAN or port Secure Copy (SCP) Secure File Transfer Protocol (SFTP) client Strong password security and encryption VLAN SUPPORT Vicae VLANs provide security and port isolation for multiple customers using the same VLAN VLAN ID translation Upstream Forwarding Only (UFO) ENVIRONMENTAL SPECIFICATIONS Operating temperature range of 5% to 95% non-condensing Storage temperature range of 5% to 95% non-condensing Operating relative humidity range of 5% to 95% non-condensing Operating relative humidity range of 5% to 95% non-condensing Operating altitude 3,000 meters maximum (9,843 ft) POWER & NOISE CHARACTERISTICS Maximum power consumption of 160W Maximum power consumption of 160W Maximum heat dissipation of 540 (BTU/H) Noise 46-63 (DB) ELECTRICAL, SAFETY & ROHS COMPLIANCE Standards: UL62368-1, CAN/CSA-C22.2 No.60950-1-03, EN60950-1, EN60825-1, AS/NZS 60950.1 ELCTRICAL, SAFETY & ROHS COMPLIANCE Standards: UL62368-1, CAN/CSA-C22.2 No.60950-1-03, EN60950-1, EN60825-1, AS/NZS 60950.1 ELCTRICAL, SAFETY & ROHS COMPLIANCE Standards: UL62368-1, CAN/CSA-C22.2 No.60950-1-03, EN60950-1, EN60825-1, AS/NZS 60950.1 ELCTRICAL, SAFETY & ROHS COMPLIANCE Standards: UL62368-1, CAN/CSA-C22.2 No.60950-1-03, EN60950-1, EN60825-1, AS/NZS 60950.1 ELCTRICAL, SAFETY & ROHS COMPLIANCE Standards: UL62368-1, CAN/CSA-C22.2 No.60950-1-03, EN60950-1, EN60825-1, AS/NZS 60950.1 ELCTRICAL, SAFETY & ROHS COMPLIANC	RRP snooping
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only Certification: UL, cUL, EU RoHS compliant	
Certification: UL, cUL, EU RoHS compliant	
EU RoHS compliant	
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	•
	LATENCY SPECIFICATIONS
	Latency at 1GBPs is about 4.48 microsecond
Latency at 10Gbps is about 2.73 microsecond	Latency at 10Gbps is about 2.73 microsecond
Cryptographic Algorithms (FIPS Approved Algorithms)	Cryptographic Algorithms (FIPS Approved Algorithms)

Enoruption (Plook Ciphore):
Encryption (Block Ciphers):
-AES (ECB, CBC, CFB and OFB Modes
-3DES (ECB, CBC, CFB and OFB Modes
Block Cipher Modes: -CCM , -CMAC , -GCM, -XTS
Digital Signatures & Asymmetric Key Generation: -DSA , -ECDSA , -RSA
Secure Hashing: -1-SHA , -512-SHA-2 (SHA-224, SHA-256, SHA-384.) SHA
Message Authentication: 512 ,384 ,256 ,224(2-HMAC (SHA-1, SHA)
Random Number Generation: -DRBG (Hash, HMAC and Counter
Non FIPS Approved Algorithms: -RNG (AES128/192/256) DES, -MD5
ETHERNET STANDARDS
IEEE 802.2 Logical Link Control (LLC)
IEEE 802.3 Ethernet
IEEE 802.3ab 1000BASE-T
IEEE 802.3ae 10 Gigabit Ethernet
IEEE 802.3an 10GBASE-T
IEEE 802.3az Energy Efficient Ethernet (EEE)
IEEE 802.3bz 2.5GBASE-T and 5GBASE-T ("multi-gigabit")
IEEE 802.3x Flow control - full-duplex operation
IEEE 802.3z 1000BASE-X
VLAN SUPPORT
IEEE 802.1ad Provider bridges (VLAN stacking, Q-in-Q)
IEEE 802.1Q Virtual LAN (VLAN) bridges
IEEE 802.1v VLAN classification by protocol and port
IEEE 802.3acVLAN tagging
IPv4 STANDARDS
RFC768 - User Datagram Protocol (UDP)
RFC791 - Internet Protocol (IP)
RFC792 & RFC793 - Internet Control Message Protocol (ICMP) & Transmission
Control Protocol (TCP)
RFC826 - Address Resolution Protocol (ARP)
RFC919 - Broadcasting Internet datagrams Broadcasting Internet datagrams in the
presence of subnets
RFC932 - Subnetwork addressing scheme
RFC950 - Internet standard subnetting procedure
RFC1035 - DNS client
RFC1071 - Computing the Internet checksum
RFC1122 - Internet host requirements
RFC1191 - Path MTU discovery
RFC1518 & RFC1519 - An architecture for IP address allocation with CIDR &
Classless Inter-Domain Routing (CIDR)
RFC1591 - Domain Name System (DNS)
RFC1812 - Requirements for IPv4 routers
RFC1918 - IP addressing
RFC2581 - TCP congestion control
IPv6 STANDARDS
Path MTU discovery for IPv6 - RFC1981
IPv6 specification - RFC2460
Transmission of IPv6 packets over Ethernet networks - RFC2464
Default address selection for IPv6 - RFC3484
IPv6 global unicast address format - RFC3587
DNS extensions to support IPv6 - RFC3596
IPv6 scoped address architecture - RFC4007
Unique local IPv6 unicast addresses - RFC4193

Transition mechanisms for IPv6 hosts and routers - RFC4213
IPv6 addressing architecture - RFC4291
Internet Control Message Protocol (ICMPv6) - RFC4443
Neighbor discovery for IPv6 - RFC4861
IPv6 Stateless Address Auto-Configuration (SLAAC) - RFC4862
IPv6 socket API for source address selection - RFC5014
ROUTING INFORMATION PROTOCOL (RIP)
Routing Information Protocol (RIP) - RFC1058
RIP-2 MD5 authentication - RFC2082
RIPv2 - RFC2453
QUALITY OF SERVICE (QOS)
IEEE 802.1p Priority tagging
RFC 2474 DiffServ precedence for eight queues/port
RFC 2475 DiffServ architecture
RFC 2697 A single-rate three-color marker
RFC 2698 A two-rate three-color marker
Resiliency Features
ITU-T G.8032 Ethernet Ring Protection Switching (ERPS)
IEEE 802.1ag Connectivity Fault Management (CFM), Continuity Check Protocol
(CCP)
IEEE 802.1AXLink aggregation (static and LACP)
IEEE 802.1D MAC bridges
IEEE 802.1s Multiple Spanning Tree Protocol (MSTP)
IEEE 802.1w Rapid Spanning Tree Protocol (RSTP) I
EEE 802.3adStatic and dynamic link aggregation
SECURITY FEATURES
SSH remote login
SSLv2 and SSLv3
IEEE 802.1X Authentication protocols (TLS, TTLS, PEAP and MD5)
IEEE 802.1X Multi-supplicant authentication
IEEE 802.1X Port-based network access control
RFC 2560 X.509 Online Certificate Status Protocol (OCSP)
RFC 2818 HTTP over TLS ("HTTPS")
RFC 2865 RADIUS authentication
RFC 2866 RADIUS accounting
RFC 2868 RADIUS attributes for tunnel protocol support
SERVICES
RFC 854 Telnet protocol specification
RFC 855 Telnet option specifications
RFC 857 Telnet echo option
RFC 858 Telnet suppress go ahead option Telnet terminal-type option
RFC 1091 Trivial File Transfer Protocol (TFTP) SMTP service extension
RFC 1350 Trivial File Transfer Protocol (TFTP)
RFC 1985 SMTP service extension
RFC 2131 DHCPv4 client
RFC 2616 Hypertext Transfer Protocol- HTTP/1.1
RFC 3046 DHCP relay agent information option (DHCP option 82)
RFC 3315 DHCPv6 client
RFC 3396 Encoding long options in DHCPv4
RFC 3646 DNS configuration options for DHCPv6
RFC 3993 Subscriber-ID suboption for DHCP relay agent option RFC 4330 Simple Network Time Protocol (SNTP) version 4
RFC 4954 SMTP service extension for authentication

RFC 5905 Network Time Protocol (NTP) version 4
MANAGEMENT
SNMPv1, v2c and v3
IEEE 802.1ABLink Layer Discovery Protocol (LLDP)
Simple Network Management Protocol (SNMP) - RFC1157
MIB for network management of TCP/ IP-based Internets: MIB-II - RFC1213
Standard MIB - RFC1239
RIPv2 MIB extension - RFC1724
Structure of Management Information v2 (SMIv2) - RFC2578
RMON MIB (groups 1,2,3 and 9) - RFC2819
Interfaces group MIB - RFC2863
sFlow: a method for monitoring traffic in switched and routed networks - RFC3176
An architecture for describing SNMP management frameworks - RFC3411
User-based Security Model (USM) for SNMPv3 - RFC3414
View-based Access Control Model (VACM) for SNMP - RFC3415
Version 2 of the protocol operations for the SNMP - RFC3416
MIB for SNMP - RFC3418
MIB for the Transmission Control Protocol (TCP) - RFC4022
MIB for the User Datagram Protocol (UDP) - RFC4113
IP forwarding table MIB - RFC4292
MIB for the Internet Protocol (IP) - RFC4293
Definitions of managed objects for bridges with RSTP - RFC4318
RMON 2 - RFC4502
Definitions of managed objects for remote ping, traceroute and lookup operations -
RFC4560
The Syslog protocol - RFC5424
Transceiver
Must include 6 x 10GSR 850 nm short-haul, 300 m with MMF, with 1 year support on
hardware and firmware
Support
-Includes One Time Implementation - Installation, Configuration, and Knowledge
Transfer.
-Includes 8 x 5 support for 1 year with at least 6 onsite incidents

Vendor Requirements

-Bidder must have local sales and service office in the Philippines for guaranteed support and services. Must submit office address, contact persons and telephone numbers.

-Bidder must have local engineer/s to support hardware, configuration and software issues. Must submit certificate of employment of its local engineers.

-Bidders must be at least 10 years of existence in the IT industry.-

-Must provide detailed support plan (SLA, escalation procedure and support).

III. DELIVERABLES

Delivery not later than 60 calendar days

IV. CONTRACT PAYMENT SCHEME

The supplier will be paid on a monthly basis 30 days after acceptance of the service.

V. DATA PRIVACY ACT

VI. The supplier must comply with the requirement of the Data Privacy Act.

Annex "A"

Price Quotation Form

Date:

MS. RIZA M. HERNANDEZ

Chairperson, Bids and Awards Committee LBP Leasing and Finance Corporation (LLFC) 15th FIr., Sycip Law Center, #105 Paseo de Roxas St., Makati City

Dear Ms. Hernandez:

After having carefully read and accepted the terms and conditions in the Request for Quotation (RFQ), hereunder is our quotation/s for the item/s as follows:

Description/ Specifications:	Qty.	Unit Price (P)	Total Price (P)
(In details)			
Amount in Words:			
Warranty			

The above-quoted prices are inclusive of all costs and applicable taxes. Delivery **to LBP Leasing and Finance Corporation** shall be within sixty (60) calendar days upon receipt of Purchase Order (P.O.) and Notice to Proceed.

Very truly yours,

Printed Name over Signature of Authorized Representative

Name of Company

Contact No./s

*Please submit all the required eligibility documents together with the Annexes "A, B and C"

Schedule of Requirements and Eligibility Requirements

Bidders must state **"Comply"** in the column "Statement of Compliance" against each of the individual parameters.

Requirements	Statement of
KEY FEATURES	Compliance
1/2.5/5/10G (Multi-Gigabit) connectivity on copper ports	
1/10 G (SFP and SFP+) connectivity on fiber ports	
Active Fiber Monitoring (AFM)	
OpenFlow for SDN	
Upstream Forwarding Only (UFO)	
Link Monitoring	
Loop and storm protection	
Stack 2 units at any speed	
Support EPSR & G.8032 high-speed resilient rings	
SPECIFICATIONS	
The switch must support up to 24 x 100/1000T/2.5/5/10G (RJ-45) COPPER PORTS	
The switch must support 560Gbps switching fabric	
The switch must support 416.7Mpps forwarding rate PERFORMANCE	
The switch must support up to 32K MAC addresses	
The switch must support to 16 static or RIP routes	
The switch must support 2 GB DDR SDRAM	
The switch support 4094 configurable VLANs	
The switch support 256 MB flash memory	
The switch support Packet Buffer memory: 8MB	
The switch support Supports 10KB L2 jumbo	
RELIABILITY	
Modular Operating System	
Full environmental monitoring of PSUs, fans, temperature and internal voltages, SNMP traps alert network	
managers in case of failure	
FLEXIBILITY & COMPATIBILITY	
10G SFP+ ports will support any combination of 1000Mbps SFP & 10GbE SFP+ modules and direct attach	
cables Stacking ports can be configured from 10G ports	
DIAGNOSTIC TOOLS	
Active Fiber Monitoring detects tampering on optical links	
Find-me device locator	
Connectivity Fault Management (CFM) for use with G.8032 ERPS	
Link Monitoring	
Automatic link flap detection and port shutdown	
Optical Digital Diagnostic Monitoring (DDM)	
Ping polling for IPv4 and IPv6	
Port and VLAN mirroring (RSPAN)	
TraceRoute for IPv4 and IPv6	
Uni-Directional Link Detection (UDLD	
IP FEATURES	
Equal Cost Multi Path (ECMP) routing	
Static and RIP routing for IPv4	
UDP broadcast helper (IP helper) Directed broadcast forwarding	
DHCP client, relay and server for IPv4	
Black hole routing	
DNS relay	
Route redistribution (RIP)	
Policy-based routing	
DHCPv6 client and relay	
IPv4 and IPv6 dual stack	
IPv6 hardware ACLs	
Device management over IPv6 networks with SNMPv6, Telnetv6 and SSHv6	
Static unicast routing for IPv6	
Log to IPv6 hosts with Syslog v6	
MANAGEMENT	
Must support centralized management and zero-touch device installation and recovery. With builtin starter	
FREE license	
Console management port on the front pannel for ease of access Comprehensive SNMP MIB support for standards-based device management	
Support NETCONF/RESTCONF northbound interface with YANG data modelling	
Eco-friendly mode allows ports and LEDs to be disabled to save power	
USB interface allows software release files and configurations and other files to be stored for backup and	
distribution to other devices	

Annex "B"

Powerful CLI scripting engine with built-in text editor	
Voice VLAN	
Web-based Graphical User Interface (GUI)	
Industry-standard CLI with context-sensitive help	
Management stacking allows up to 24 devices to be managed from a single console	
QUALITY OF SERVICE (QOS)	
IP precedence and DiffServ marking based on Layer2, 3 and 4 headers	
Queue schedulling options for strict priority, weighted round robin or mixed schedulling	
Taildrop for queue congestion control	
Extensive remarking capabilites	
Policy-based QoS based on VLAN, port, MAC and general packet classifiers	
Limit bandwidth per port or per traffic class down to 64Kbps	
8 priority queues with a hierarchy of high priority queues for real time traffic, and mixed schedulling for each switch port	
Policy-based storm protection	
Wirespeed traffic classification with low latency essential for VoIP and real-time streaming media	
applications	
RESILIENCY FEATURES	
SFP+ stacking ports can be configured as 10GEthernet ports	
Control Plane Prioritization (CPP) ensures the CPU always has sufficient bandwidth to process network	
control traffic	
Dynamic link failover (host attach)	
EPSR (Ethernet Protection Switched Rings) withSuperLoop Protection (SLP)	
Ethernet Ring Protection Switching (ITU-T G.8032 ERPS)	
Flexi-stacking - use any port-speed to stack	
Link aggregation (LACP) on LAN ports	
Long-distance stacking with 10G SFP+ modules(LD-VCStack)	
Loop protection: loop detection and thrash limiting PVST+ compatibility mode	
RRP snooping	
Spanning Tree Protocols (STP, RSTP, MSTP)	
STP root guard	
Stack fast failover minimizes network disruption	
SECURITY FEATURES	
Access Control Lists (ACLs) based on layer 3 and4 headers	
Configurable ACLs for management traffic	
Auth fail and guest VLANs	
Authentication, Authorization and Accounting (AAA) for TACACS+ and RADIUS	
Bootloader can be password protected for device security	
BPDU protection	
DHCP snooping, IP source guard and Dynamic ARP Inspection (DAI)	
Dynamic VLAN assignment	
Local RADIUS server for user and device authentication	
Network Access and Control (NAC) features manage endpoint security	
Port-based learn limits (intrusion detection)	
RADIUS group selection per VLAN or port Secure Copy (SCP)	
Secure File Transfer Protocol (SFTP) client	
Strong password security and encryption	
VLAN SUPPORT	
Voice VLAN	
Private VLANs provide security and port isolation for multiple customers using the same VLAN	
VLAN ID translation	
Upstream Forwarding Only (UFO)	
ENVIRONMENTAL SPECIFICATIONS	
Operating temperature range 0°C to 50°C (32°F to 122°F) Derated by 1°C per 305 meters (1,000 ft)	
Storage temperature range -25°C to 70°C (-13°F to 158°F)	
Operating relative humidity range of 5% to 90% non-condensing	
Storage relative humidity range of 5% to 95% non-condensing	
Operating altitude 3,000 meters maximum (9,843 ft) POWER & NOISE CHARACTERISTICS	┟────┤
Maximum power consumption of 160W	
Maximum heat dissipation of 540 (BTU/H)	
Noise 46-63 (DB)	
ELECTRICAL, SAFETY & RoHS COMPLIANCE	
Standards: UL62368-1, CAN/CSA-C22.2 No.60950-1-03, EN60950-1, EN60825-1, AS/NZS 60950.1	
EMC: ETSI EN300-386, EN300-132-2, FCC class A, VCCI class A	
Immunity: EN55024, EN61000-3-levels 2 (Harmonics), and 3 (Flicker) – AC models only	
Certification: UL, cUL,	
EU RoHS compliant	
LATENCY SPECIFICATIONS	
Latency at 1GBPs is about 4.48 microsecond	
Latency at 10Gbps is about 2.73 microsecond	
Cryptographic Algorithms (FIPS Approved Algorithms)	

Annex "B"

GL65 (CDC, CPB ard OFB Modes DOES (CDC, NCPB ard OFB Modes) Block Clipher Modes: -CCM, CMAC, GCM, -XTS Dight Signatures: Asymmetric Key Generation: -DSA, -ECDSA, -RSA Secure Tashing: -1-SHA, -512-SHA-2(SHA-224, SHA-224, SHA-284, SHA Message Authentication: 512: 384-265 (Haik, HAAC) and Counture Nessage Authentication: 512: 384-265 (Haik, HAAC) and Counture Message Authentication: 512: 384-265 (Haik, HAAC) and Counture Nessage Authentication: 512: 384-265 (Haik), HAAC) and Counture Nessage Authentication: 512: 384-255 (Haik), HAAC and Counture Nessage Authentication: 512: 384-384 (Haik), HAAC and Counture Nessage Authentis Authentis Authentis, Chi-O	Encryption (Block Ciphers):	1
-DES (ECB., CEC, CFB and OFB Modes Bolk Cipher Modes: CCM., CARA, C, SCM, XTS Digital Signatures & Asymmetrix Key Generation: -DSA, -ECDSA-RSA Digital Signatures & Asymmetrix Key Generation: -DSA, -ECDSA-RSA Massage Authentication: 512, 384 286 224 (2+HMAC (2H+A, 75, 54A) Monsage Authentication: 512, 384 286 224 (2+HMAC (2H+A, 75, 54A) Monsage Authentication: 512, 384 286 224 (2+HMAC (2H+A, 75, 54A) Monsage Authentication: 512, 384 286 224 (2+HMAC (2H+A, 75, 54A) Monsage Authentication: 512, 384 286 224 (2HMAC (2H+A, 75, 54A) Ministry Composition (LLC) IEEE 802 24 100 (2008ASE-T) IEEE 802 24 100 (26ASE-T) IEEE 802 24 10 (26ASE-T) IEEE 802 24 100 (2ASE (2H-M)) IEEE 802 24 100 (2ASE (2H-M)) IEEE 802 24 100 (2ASE (2H-M)) IEEE 802 25 10 (2AAN 180g) IEEE 802 14 (2AAN 140g) IEEE 802 14 (2AAN 140g) IEEE 802 14 (2AAA 180g) IEEE 802 14 (2AAA 180g) IEEE 802 14 (2AAA 180g) IEEE 802 14 (2AAAA 180g) IEEE 802 14 (2AAAA 180g)		
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Annex "B"

SECURITY FEATURES	
SSH remote login SSLv2 and SSLv3	
IEEE 802.1X Authentication protocols (TLS, TTLS, PEAP and MD5) IEEE 802.1X Multi-supplicant authentication	
IEEE 802.1X Port-based network access control	
RFC 2560 X.509 Online Certificate Status Protocol (OCSP)	
RFC 2818 HTTP over TLS ("HTTPS")	
RFC 2865 RADIUS authentication	
RFC 2866 RADIUS accounting	
RFC 2868 RADIUS attributes for tunnel protocol support	
SERVICES	
RFC 854 Telnet protocol specification	
RFC 855 Telnet option specifications	
RFC 857 Telnet echo option	
RFC 858 Telnet suppress go ahead option Telnet terminal-type option	
RFC 1091 Trivial File Transfer Protocol (TFTP) SMTP service extension	
RFC 1350 Trivial File Transfer Protocol (TFTP)	
RFC 1985 SMTP service extension	
RFC 2131 DHCPv4 client	
RFC 2616 Hypertext Transfer Protocol- HTTP/1.1	
RFC 3046 DHCP relay agent information option (DHCP option 82)	
RFC 3315 DHCPv6 client	
RFC 3396 Encoding long options in DHCPv4	
RFC 3646 DNS configuration options for DHCPv6	
RFC 3993 Subscriber-ID suboption for DHCP relay agent option	
RFC 4330 Simple Network Time Protocol (SNTP) version 4	
RFC 4954 SMTP service extension for authentication	
RFC 5905 Network Time Protocol (NTP) version 4	
MANAGEMENT	
SNMPv1, v2c and v3	
IEEE 802.1ABLink Layer Discovery Protocol (LLDP)	
Simple Network Management Protocol (SNMP) - RFC1157	
MIB for network management of TCP/ IP-based Internets: MIB-II - RFC1213	
Standard MIB - RFC1239	
RIPv2 MIB extension - RFC1724	
Structure of Management Information v2 (SMIv2) - RFC2578	
RMON MIB (groups 1,2,3 and 9) - RFC2819	
Interfaces group MIB - RFC2863	
sFlow: a method for monitoring traffic in switched and routed networks - RFC3176	
An architecture for describing SNMP management frameworks - RFC3411	
User-based Security Model (USM) for SNMPv3 - RFC3414	
View-based Access Control Model (VACM) for SNMP - RFC3415	
Version 2 of the protocol operations for the SNMP - RFC3416	
MIB for SNMP - RFC3418	
MIB for the Transmission Control Protocol (TCP) - RFC4022	
MIB for the User Datagram Protocol (UDP) - RFC4113	
IP forwarding table MIB - RFC4292	
MIB for the Internet Protocol (IP) - RFC4293	
Definitions of managed objects for bridges with RSTP - RFC4318	
RMON 2 - RFC4502	
Definitions of managed objects for remote ping, traceroute and lookup operations - RFC4560	
The Syslog protocol - RFC5424	
Transceiver	
Must include 6 x 10GSR 850 nm short-haul, 300 m with MMF, with 1 year support on hardware and firmware	
Support	
-Includes One Time Implementation - Installation, Configuration, and Knowledge Transfer.	
-Includes 8 x 5 support for 1 year with at least 6 onsite incidents	
Vendor Requirements	
-Bidder must have local sales and service office in the Philippines for guaranteed support and services. Must	
submit office address, contact persons and telephone numbers.	
-Bidder must have local engineer/s to support hardware, configuration and software issues. Must submit	
certificate of employment of its local engineers.	
-Bidders must be at least 10 years of existence in the IT industry	
-Must provide detailed support plan (SLA, escalation procedure and support). Delivery Period	
Sixty (60) Days	
Eligibility Requirements (Certified True Copies only):	
Valid and Current Year Mayor's Permit or proof of application Valid and Current PhilGEPS Registration Number	
3. DTI / SEC Registration (for Partnership / Corporations)	
4. Latest Tax Clearance per E.O. 398, series of 2005	
5. BIR Certificate of Registration (Form 2303)	
6. Latest Income/Business Tax Return for two quarters 7. Notarized Omnibus Sworn Statement (Annex C)	

I hereby certify to comply and deliver all the above Schedule of Requirements.

Name of Company /Bidder Signature over Printed Name of Authorized Representative

Date

REPUBLIC OF THE PHILIPPINES) CITY/MUNICIPALITY OF _____) S.S.

AFFIDAVIT

I, [Name of Affiant], of legal age, [Civil Status], [Nationality], and residing at [Address of Affiant], after having been duly sworn in accordance with law, do hereby depose and state that:

1. Select one, delete the other:

If a sole proprietorship: I am the sole proprietor or authorized representative of *[Name of Bidder]* with office address at *[address of Bidder]*;

If a partnership, corporation, cooperative, or joint venture: I am the duly authorized and designated representative of [Name of Bidder] with office address at [address of Bidder];

2. Select one, delete the other:

If a sole proprietorship: As the owner and sole proprietor, or authorized representative of [Name of Bidder], I have full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for [Name of the Project] of the [Name of the Procuring Entity], as shown in the attached duly notarized Special Power of Attorney;

If a partnership, corporation, cooperative, or joint venture: I am granted full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for [Name of the Project] of the [Name of the Procuring Entity], as shown in the attached [state title of attached document showing proof of authorization (e.g., duly notarized Secretary's Certificate, Board/Partnership Resolution, or Special Power of Attorney, whichever is applicable;)];

- 3. *[Name of Bidder]* is not "blacklisted" or barred from bidding by the Government of the Philippines or any of its agencies, offices, corporations, or Local Government Units, foreign government/foreign or international financing institution whose blacklisting rules have been recognized by the Government Procurement Policy Board;
- 4. Each of the documents submitted in satisfaction of the bidding requirements is an authentic copy of the original, complete, and all statements and information provided therein are true and correct;
- 5. *[Name of Bidder]* is authorizing the Head of the Procuring Entity or its duly authorized representative(s) to verify all the documents submitted;

6. Select one, delete the rest:

If a sole proprietorship: The owner or sole proprietor is not related to the Head of the Procuring Entity, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

If a partnership or cooperative: None of the officers and members of *[Name of Bidder]* is related to the Head of the Procuring Entity, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

If a corporation or joint venture: None of the officers, directors, and controlling stockholders of *[Name of Bidder]* is related to the Head of the Procuring Entity, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

- 7. [Name of Bidder] complies with existing labor laws and standards; and
- 8. *[Name of Bidder]* is aware of and has undertaken the following responsibilities as a Bidder:
 - a) Carefully examine all of the Bidding Documents;
 - b) Acknowledge all conditions, local or otherwise, affecting the implementation of the Contract;
 - c) Made an estimate of the facilities available and needed for the contract to be bid, if any; and
 - d) Inquire or secure Supplemental/Bid Bulletin(s) issued for the [Name of the Project].
- 9. *[Name of Bidder]* did not give or pay directly or indirectly, any commission, amount, fee, or any form of consideration, pecuniary or otherwise, to any person or official, personnel or representative of the government in relation to any procurement project or activity.

IN WITNESS WHEREOF, I have hereunto set my hand this ____ day of ____, 20___ at ____, Philippines.

Bidder's Representative/Authorized Signatory

SUBSCRIBED AND SWORN to before me this ____ day of [month] [year] at [place of execution], Philippines. Affiant/s is/are personally known to me and was/were identified by me through competent evidence of identity as defined in the 2004 Rules on Notarial Practice (A.M. No. 02-8-13-SC). Affiant/s exhibited to me his/her [insert type of government identification card used], with his/her photograph and signature appearing thereon, with no. _____ and his/her Community Tax Certificate No. _____ issued on _____ at ____.

Witness my hand and seal this ____ day of [month] [year].

NAME OF NOTARY PUBLIC

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_ until
sued], [place issued]
sued], [place issued]

Doc. No. _____ Page No. _____ Book No. _____ Series of _____

* This form will not apply for WB funded projects.