Bid Bulletin No. 2
May 21, 2019

REFERENCE No. PB19-143-1

Supply, Delivery, Testing, Installation, Commissioning and Training of Back-Up Data System

Issued pursuant to Sec. 22.5 of the IRR of R.A. 9184 to clarify and/or amend certain provisions in the Bidding Documents issued for this project, considering the issues raised and clarifications made by prospective bidders during the Pre-Bid Conference held on **September 5, 2018.**

A. AMENDMENTS/INCLUSIONS

REFERENCE	BASES FOR AMENDMENT / INCLUSION
SECTION III. BID DATA SHEET	
BDS Clause 21 **xxx** The deadline for submission of bids is on ~~May 24, 2019~~ **May 28, 2019**; 10:00AM xxx **BDS Clause 29.1** **xxx** 4. Income Tax Return for year ~~2017~~2018 (BIR Form 1701 or 1702) xxx	*To amend the typographical error.*
SECTION VII. TECHNICAL SPECIFICTION	
Page 73-74 xxx <table><tr><th>TECHNICAL SPECIFICATIONS</th><th>QUANTITY</th><th>SUPPLIER'S OFFER/ BIDDER'S STATEMENT OF COMPLIANCE</th></tr></table>	

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[1] *For the purpose of this Bulletin and for better understanding of its contents, the following rules shall apply: (a) ~~Double Strike out~~ – denotes deletion; (b) <u>Underline</u> – denotes inclusion or new item/requirement; and "xxx" – denotes separation of phrase/s being amended from the rest of the main text.*

BACK-UP SERVER	1 UNIT	BRAND AND MODEL:		
2U RACK-MOUNT. **WINDOW SERVER STANDARD 64-BIT OR 2019 LICENSE** 2X LATEST PROCESSOR W/ 20C 2.0GHZ - INTEL C624. 4X 32GB TRUDDR4 2666 MHz (2Rx4 1.2V) RDIMM 2X 600GB 2.5" 15K SAS 512N 12GBPS SAS / RAID 0/1/10/5/50 – NO CACHE/FLASH 2X 16GB FC DUAL PORT HBA 4X 1GB RJ-45 LOM PORTS 1X RJ-45 10/100/1000 MB ETHERNET SYSTEMS MANAGEMENT PORT. 2X 10GB SFP+ DUAL PORT ADAPTER				*To effect change as approved by the Bids and Awards Committee (BAC) and concurrence of the End-User-Agency, please see attached Appendix "1" for Revised Technical Specification.*

A. CLARIFICATIONS

CONCERN	CLARIFICATION
On the Sever and Storage connectivity, does the client have existing SAN Switch for 16Gb FC Connectivity? Or are we going to direct attach the Server and the Storage?	No existing SAN Switch, just a direct attached server to storage connection only.
Do you need PoE capacity for switch? *Letter of Info centric*	Non-PoE

All provisions of the bidding document that are affected by newly issued bidding documents templates are deemed modified / amended / revised.

By Rules, all other related provisions in the Bidding Documents correspondingly affected by these amendments are likewise deemed amended to conform to this Bid Bulletin.

Amendments made herein shall be considered an integral part of the Bidding Documents.

-SGD-
ENGR. ROSANA D. YAMBAO
Chairperson, Bids and Awards
Committee I

TECHNICAL SPECIFICATIONS

Item	:	**Back-up Data System**
QUANTITY	:	1 lot
APPROVED BUDGET PER UNIT	:	Php 7,087,149.00
APPROVED BUDGET FOR THE CONTRACT	:	Php 7,087,149.00

TECHNICAL SPECIFICATIONS	QUANTITY	SUPPLIER'S OFFER/ BIDDER'S STATEMENT OF COMPLIANCE
BACK-UP SERVER ➢ 2U RACK-MOUNT. ➢ WINDOW SERVER STANDARD 64-BIT OR 2019 LICENSE ➢ 2X LATEST PROCESSOR W/ 20C 2.0GHZ ➢ INTEL C624. ➢ 4X 32GB TRUDDR4 2666 MHZ (2RX4 1.2V) RDIMM ➢ 2X 600GB 2.5" 15K SAS 512N ➢ 12GBPS SAS / RAID 0/1/10/5/50 – NO CACHE/FLASH ➢ 2X 16GB FC DUAL PORT HBA ➢ 4X 1GB RJ-45 LOM PORTS ➢ 1X RJ-45 10/100/1000 MB ETHERNET SYSTEMS MANAGEMENT PORT. ➢ 2X 10GB SFP+ DUAL PORT ADAPTER ➢ FRONT 1X USB 2.0 PORT THAT SUPPORTS MONITORING THRU MOBILE APP RUNNING ON THE ANDROID OR IOS MOBILE DEVICE ➢ REAR: 2X USB 3.0 PORTS AND 1X DB-15 VGA PORT. ➢ 6 X HOT-SWAP SYSTEM FANS WITH N+1 REDUNDANCY. ➢ 2 X 750W PLATINUM PSU ➢ 16 MB MEMORY INTEGRATED INTO THE CONTROLLER. ➢ MAXIMUM RESOLUTION IS 1920x1200 AT 60 HZ WITH 16 BITS PER PIXEL.	**1 UNIT**	**BRAND AND MODEL:**

TECHNICAL SPECIFICATIONS	QUANTITY	SUPPLIER'S OFFER/ BIDDER'S STATEMENT OF COMPLIANCE
➢ DRIVES, POWER SUPPLIES, AND FANS. ➢ POWER-ON PASSWORD, ADMINISTRATOR'S PASSWORD, SECURE FIRMWARE UPDATES, TRUSTED PLATFORM MODULE (TPM) 1.2 OR 2.0 (CONFIGURABLE UEFI SETTING). ➢ MUST HAVE PROACTIVE PLATFORM ALERTS (INCLUDING PFA AND SMART ALERTS) FOR PROCESSORS, VOLTAGE REGULATORS, MEMORY, INTERNAL STORAGE (SAS/SATA HDDs AND SSDs, NVMe SSDs, M.2 STORAGE, FLASH STORAGE ADAPTERS), FANS, POWER SUPPLIES, RAID CONTROLLERS, AND SERVER AMBIENT AND SUB-COMPONENT TEMPERATURES. ➢ MUST INCLUDE SERVICE THAT OFFERS SINGLE POINT OF CONTACT FOR END-TO-END PROBLEM RESOLUTION AND COLLABORATIVE THIRD-PARTY SOFTWARE SUPPORT WITH DIRECT ACCESS TO THE BRAND'S MOST ADVANCED TECHNICIANS FOR FASTER TROUBLESHOOTING. STANDARD 3 YEARS WARRANTY 24x7 4HOURS RESPONSE TIME. MUST NOT BE AN ADDITIONAL ITEM.		
SHARED STORAGE FOR OFF SITE ➢ 24x 2TB 7.2K 2.5 INCH NL HDD ➢ 8x 10M OM3 FIBER CABLE (LC) ➢ 1x 16GB FC ADAPTER PAIR ➢ SFF EXPANSION: 1x POWER CORD - PDU CONNECTION 18x 2TB 7.2K 2.5 INCH NL HDD	1 UNIT	**BRAND AND MODEL:**

TECHNICAL SPECIFICATIONS	QUANTITY	SUPPLIER'S OFFER/ BIDDER'S STATEMENT OF COMPLIANCE
- SUPPORT FOR UP TO 392 DRIVES PER SYSTEM - STORAGE MUST HAVE CATER REQUIRED USEABLE WITH 1 TO 5 YEAR DATA RETENTION USING 7.2K SAS HDDs CONFIGURED IN RAID 6 (USABLE DISK CAPACITY MUST BE UPGRADEABLE. - STORAGE MUST SUPPORT UP TO 10 DISC EXPANSIONS FOR SCALE UP CAPABILITY - STORAGE MUST SUPPORT DATA MIGRATION WITHOUT THE NEED OF THIRD PARTY SOFTWARE - THE STORAGE ARRAY SHALL SUPPORT DISTRIBUTED GLOBAL HOT SPARE FOR THE DISK DRIVES AND SHALL BE CONFIGURED PER INDUSTRY PRACTICE - THE STORAGE ARRAY SHALL SUPPORT INDUSTRY-LEADING OPERATING SYSTEM PLATFORMS INCLUDING: MS WINDOWS SERVER 2012 AND 2016, VMWARE, HPE-UX, IBM AIX, AND LINUX. - THE STORAGE ARRAY SHALL BE GIVEN WITH AT LEAST 16GB CACHE - STORAGE MUST HAVE AT LEAST 2 CORE PROCESSOR - CONTROLLERS SHALL BE TRUE ACTIVE-ACTIVE SO THAT A SINGLE LOGICAL UNIT CAN BE SHARED ACROSS ALL OFFERED CONTROLLERS IN SYMMETRICAL FASHION. - THE STORAGE SUBSYSTEM SHALL SUPPORT RAID 1, 5, 6 AND 10. IT SHOULD ALSO SUPPORT A RAID TECHNOLOGY IN WHICH MULTIPLE DISC WILL WORK TO REBUILD THE DATA IN CASE OF HDD FAILURE INSTEAD OF SINGLE HOT SPARE DISC		

TECHNICAL SPECIFICATIONS	QUANTITY	SUPPLIER'S OFFER/ BIDDER'S STATEMENT OF COMPLIANCE
WORKING ON THE REBUILD ➢ THE STORAGE ARRAY SHALL HAVE NATIVE VIRTUALIZATION SUPPORT SO THAT RAID 1. RAID 5, RAID 6, RAID 10 CAN BE CARVED OUT FROM A LOGICAL SPACE INSTEAD OF DEDICATING SEPARATE PHYSICAL DISKS FOR EACH APPLICATION. ➢ THE STORAGE ARRAY SHALL SUPPORT THIN PROVISIONING AND THIN RE-CLAIM TO MAKE THE VOLUME THIN FOR AN EXTENDED PERIOD OF TIME FOR COMPLETE ARRAY SUPPORTED RAW CAPACITY. ➢ THE STORAGE SHALL SUPPORT ONLINE NON-DISRUPTIVE FIRMWARE UPGRADE FOR BOTH CONTROLLER AND DISK DRIVES. ➢ THE STORAGE SHALL HAVE SUPPORT TO MAKE THE SNAPSHOT AND FULL COPY (CLONE) ON THE THIN VOLUMES IF ORIGINAL VOLUME IS CREATED ON THICK OR VICE-VERSA. ➢ THE STORAGE ARRAY SHALL BE CONFIGURED IN A NO SINGLE POINT OF FAILURE CONFIGURATION INCLUDING ARRAY CONTROLLER CARD, CACHE MEMORY, FAN, POWER SUPPLY ETC. STORAGE SHOULD SUPPORT 16GB FC CONNECTION WITH UP TO 4 PORTS HOST ATTACHMENTS PER CONTROLLER NODE		
Back-up Licenses for Virtualized Environment	**8 LICENSES**	**BRAND AND MODEL:**

TECHNICAL SPECIFICATIONS	QUANTITY	SUPPLIER'S OFFER/ BIDDER'S STATEMENT OF COMPLIANCE
➢ THE SOFTWARE PROVIDES BACKUP, RESTORE AND REPLICATION FUNCTIONALITY FOR VIRTUAL MACHINES WITHOUT AGENTS		
➢ MUST RECOVER AN ENTIRE VIRTUAL MACHINE (VM) ON THE ORIGINAL HOST OR ON A DIFFERENT HOST. INCLUDES QUICK ROLLBACK FUNCTIONALITY TO RESTORE CHANGED BLOCKS ONLY.		
➢ MUST QUICKLY RESTORE SERVICE TO USERS BY STARTING A VM DIRECTLY FROM A BACKUP FILE ON REGULAR BACKUP STORAGE.		
➢ MUST RECOVER INDIVIDUAL VM FILES (SUCH AS VMX) AND VIRTUAL DISKS.		
➢ MUST RESTORE OR MIGRATE ON-PREMISES, WINDOWS-BASED OR LINUX-BASED VMS, PHYSICAL SERVERS AND ENDPOINTS DIRECTLY INTO THE CLOUD OR PANET.		
➢ MUST RECOVER FILES FROM 19 COMMON FILE SYSTEMS USED BY WINDOWS, LINUX, BSD, MAC OS, NOVELL, SOLARIS AND UNIX.3		
➢ CAPABLE RESTORE INDIVIDUAL VMS, GUEST FILES AND APPLICATION ITEMS FROM DIFFERENT KIND OF MODERN STORAGES		
➢ CAPABLE TO SEARCH AND RESTORE FOR ALL ACTIVE DIRECTORY (AD) OBJECT TYPES, SUCH AS USERS, GROUPS, COMPUTER ACCOUNTS AND CONTACTS, INCLUDING USER AND COMPUTER PASSWORD RECOVERY.		

TECHNICAL SPECIFICATIONS	QUANTITY	SUPPLIER'S OFFER/ BIDDER'S STATEMENT OF COMPLIANCE
➢ MUST GET INSTANT VISIBILITY INTO THE PA EMAIL SYSTEM AND BACKUPS FOR ITEM RECOVERY OF ITEMS (EMAILS, APPOINTMENTS, NOTES, CONTACTS, ETC.), ONLINE ARCHIVE MAILBOXES AND HARD-DELETED ITEMS. ➢ LEVERAGE COMPREHENSIVE ELECTRONIC DISCOVERY FUNCTIONALITY, INCLUDING QUERY-RESULT, SIZE ESTIMATION AND DETAILED EXPORT REPORTS. ➢ CAN RESTORE INDIVIDUAL SQL AND NON-SQL DATABASES WITH EASE, WITHOUT NEEDING AN EXTENSIVE SQL BACKGROUND OR HAVING TO SEARCH FOR DATABASE AND TRANSACTION-LOG FILES. ➢ GET INSTANT VISIBILITY INTO ANY SOFTWARE APPLICATION BACKUPS WITH ADVANCED SEARCH-AND-BROWSE CAPABILITIES FOR QUICK RECOVERY OF INDIVIDUAL ITEMS AND ENTIRE SITES. ➢ CAN RESTORE INDIVIDUAL ORACLE DATABASES WITH EASE, WITHOUT NEEDING AN EXTENSIVE ORACLE BACKGROUND OR HAVING TO SEARCH FOR DATABASE AND TRANSACTION-LOG FILES. ➢ CAN RECOVER INDIVIDUAL OBJECTS FOR ANY VIRTUALIZED APPLICATION, INCLUDING POSTGRESQL AND MYSQL DATABASES, BY STARTING UP THE VM DIRECTLY FROM A BACKUP FILE IN AN ISOLATED ENVIRONMENT AND ACCESSING THE APPLICATION WITH NATIVE MANAGEMENT TOOLS.		

TECHNICAL SPECIFICATIONS	QUANTITY	SUPPLIER'S OFFER/ BIDDER'S STATEMENT OF COMPLIANCE
➢ CAN RESTORE GUEST FILES AND VMS WITH A SINGLE CLICK AND RESTORE MISSING MAILBOX ITEMS BACK TO THE ORIGINAL MAILBOX WITH A SINGLE CLICK THROUGH A WEB UI. ➢ CAN DO FILE-RESTORE PORTAL WITH AUTOMATIC VM DETECTION, AND AUTOMATIC DELEGATION BASED ON LOCAL ADMINISTRATOR GROUP MEMBERSHIP. ➢ CAPABLE TO ENABLE FULL SELF-SERVICE FOR ALL WEB UI RECOVERY FEATURES BY DELEGATING RECOVERIES FOR INDIVIDUAL VMS AND GROUPS OF VMS TO SPECIFIC USERS OR GROUPS SUCH AS LOCAL IT STAFF, APPLICATION OWNERS, DEPARTMENT MEMBERS, ETC. ➢ CREATE APPLICATION-CONSISTENT, IMAGE-LEVEL VM BACKUPS WITH ADVANCED, APPLICATION-AWARE PROCESSING (INCLUDING TRANSACTION LOG TRUNCATION). ➢ MUST CAPABLE FOR STREAMLINE AD-HOC BACKUPS OF LIVE VMS FOR ARCHIVAL PURPOSES. ➢ CAN PERFORM QUICK INCREMENTAL BACKUPS OF INDIVIDUAL VMS WITH THE EXISTING BACKUP JOB. ➢ MUST CAPABLE TO SET THE MAXIMUM ACCEPTABLE I/O LATENCY LEVEL FOR PRODUCTION DATA STORES TO ENSURE THAT BACKUP AND REPLICATION ACTIVITIES DO NOT IMPACT STORAGE AVAILABILITY TO PRODUCTION WORKLOADS. ➢ CREATE IMAGE-BASED BACKUPS		

TECHNICAL SPECIFICATIONS	QUANTITY	SUPPLIER'S OFFER/ BIDDER'S STATEMENT OF COMPLIANCE
AND REPLICAS FROM EMC VNX, VNX2 AND VNXE SNAPSHOTS, HPE 3PAR STORESERV, STOREVIRTUAL AND STOREVIRTUAL VSA SNAPSHOTS, AS WELL AS FROM NETAPP DATA ONTAP BASED STORAGE INCLUDING FAS, FLEXARRAY (V-SERIES), DATA ONTAP EDGE, IBM N SERIES AND NIMBLE CS- AND AF-SERIES SNAPSHOTS, AS OFTEN AS NECESSARY WITH LITTLE TO NO IMPACT ON PRODUCTION. ➢ CAPABLE TO ELIMINATE ADDITIONAL IMPACT FROM BACKUP ACTIVITIES ON PRODUCTION STORAGE BY RETRIEVING VM DATA FROM NETAPP SNAPMIRROR OR SNAPVAULT AND NIMBLE REPLICATED COPIES SECONDARY STORAGE SYSTEMS, INSTEAD OF FROM THE PRIMARY STORAGE SYSTEM. ➢ CREATE A SECOND, APPLICATION-CONSISTENT, STORAGE-SNAPSHOT-BASED BACKUP TO NETAPP DATA ONTAP-BASED STORAGE, INCLUDING FAS, FLEXARRAY (V-SERIES), DATA ONTAP EDGE VSA AND IBM N SERIES OR NIMBLE CS- AND AF-SERIES ARRAYS. ➢ MUST CAPABLE TO ELIMINATE THE NEED FOR PERIODIC FULL BACKUPS BY CREATING FOREVER INCREMENTAL BACKUPS THAT SAVE TIME AND STORAGE. ➢ CAPABLE TO DECREASE BACKUP STORAGE REQUIREMENTS AND NETWORK TRAFFIC WITH BUILT-IN DEDUPLICATION; MULTIPLE COMPRESSION OPTIONS LET YOU		

TECHNICAL SPECIFICATIONS	QUANTITY	SUPPLIER'S OFFER/ BIDDER'S STATEMENT OF COMPLIANCE
BALANCE STORAGE CONSUMPTION WITH PERFORMANCE AND BACKUP PROXY LOAD; SWAP EXCLUSION REDUCES BACKUP FOOTPRINT AND IMPROVES PERFORMANCE. ➤ ANALYZES THE NTFS MASTER FILE TABLE (MFT) TO IDENTIFY BLOCKS BELONGING TO DELETED FILES, AND SKIPS THOSE BLOCKS FROM IMAGE LEVEL PROCESSING TO REDUCE BACKUP-FILE SIZES AND REPLICATION BANDWIDTH CONSUMPTION. ➤ CAPABLE TO COPY ALL OR SELECTED VM BACKUPS TO YOUR DR STORAGE LOCATION OF CHOICE AUTOMATICALLY, INCLUDING VALIDATION AND REMEDIATION TO ENSURE COPIES ARE AVAILABLE AND RELIABLE. ➤ CAPABLE TO GET BACKUPS OFF SITE WITH FULLY INTEGRATED, FAST AND SECURE BACKUP, AND RESTORE FROM THE CLOUD THROUGH A SERVICE PROVIDER OF YOUR CHOICE. ➤ MUST CAPABLE TO SECURE BACKUP DATA AND NETWORK TRANSFERS WITH END-TO-END AES 256-BIT ENCRYPTION, WITHOUT ANY NEGATIVE IMPACT ON BUILT-IN COMPRESSION AND WAN ACCELERATION DATA-REDUCTION RATIOS. ➤ CAPABLE TO BACK UP AND ARCHIVE FILES AND VM BACKUPS TO STANDALONE STORAGE CONNECTED TO ANY MICROSOFT WINDOWS AND LINUX SERVER ENVIRONMENT. ➤ CAN SIMPLIFY JOB CREATION AND MAP DIRECT CONNECTIONS BETWEEN PROXIES AND BACKUP REPOSITORIES.		

TECHNICAL SPECIFICATIONS	QUANTITY	SUPPLIER'S OFFER/ BIDDER'S STATEMENT OF COMPLIANCE
➢ CAPABLE TO GET FASTER BACKUP PERFORMANCE BY BACKING UP TO DEDUPLICATING STORAGE INTEGRATIONS (TECHNOLOGIES) (EMC DATA DOMAIN BOOST, HPE STOREONCE CATALYST AND EXAGRID ACCELERATED DATA MOVER). ➢ CAPABLE TO EXCLUDE INDIVIDUAL FILES AND FOLDERS DURING BACKUP AND REPLICATION TO REDUCE THE AMOUNT OF DATA THAT NEEDS TO BE TRANSFERRED AND STORED. ➢ GET BACKUPS OFF SITE UP TO 50X FASTER AND SAVE BANDWIDTH WITH AGENTLESS BACKUP COPY JOBS. ➢ BUILT-IN WAN ACCELERATION TO ANY TARGET. ➢ CAPABLE TO REPLICATE VMS ON SITE FOR HIGH AVAILABILITY, OR OFF SITE FOR DR. ➢ ENSURE AVAILABILITY OF YOUR MISSION-CRITICAL APPLICATIONS WITH FULLY INTEGRATED, FAST AND SECURE CLOUD-BASED DR THROUGH A DRAAS (DISASTER RECOVERY AS A SERVICE) PROVIDER OF YOUR CHOICE. ➢ MUST CAPABLE TO DO REPLICA ROLLBACK AND ASSISTED FAILOVER AND FAILBACK. ➢ MUST CREATE REPLICAS DIRECTLY FROM VM BACKUP FILES WITHOUT IMPACTING PRODUCTION. ➢ CAPABLE TO FACILITATE DATA-CENTER MIGRATIONS WITH ZERO DATA LOSS. ➢ BUILT-IN FAILOVER PLAN ORCHESTRATION ENABLING		

TECHNICAL SPECIFICATIONS	QUANTITY	SUPPLIER'S OFFER/ BIDDER'S STATEMENT OF COMPLIANCE
EASY, 1-CLICK-SITE FAILOVER TO MINIMIZE UNPLANNED DOWNTIME. ➢ AUTOMATICALLY TEST AND VERIFY EVERY BACKED-UP VM FOR RECOVERABILITY BY RUNNING THE VM DIRECTLY FROM THE BACKUP FILE (NO FULL VM RESTORE IS REQUIRED), INCLUDING SUPPORT FOR CUSTOM APPLICATION TEST SCRIPTS. ➢ AUTOMATICALLY TEST AND VERIFY EVERY REPLICA VM FOR RECOVERABILITY, INCLUDING SUPPORT FOR CUSTOM APPLICATION TEST SCRIPTS. ➢ CAPABLE TO RUN ONE OR MORE VMS DIRECTLY FROM A BACKUP IN AN ISOLATED ENVIRONMENT WITH THE ABILITY TO TROUBLESHOOT, TEST AND TRAIN ON A WORKING COPY OF THE PRODUCTION ENVIRONMENT, WITHOUT IMPACTING BUSINESS OPERATIONS. ➢ CAPABLE TO USE STORAGE SNAPSHOTS TO QUICKLY CREATE COMPLETE ISOLATED COPIES OF YOUR PRODUCTION ENVIRONMENT, FOR FAST AND EASY TESTING AND TROUBLESHOOTING. ➢ CAN SUPPORT FOR VMWARE VSPHERE 4.1 OR LATER AND MICROSOFT HYPER-V 2008 R2 SP1 OR LATER. VIEW BOTH HYPERVISORS FROM A SINGLE CONSOLE. ➢ CAPABLE TO INSTALL THE CONSOLE SEPARATELY FROM THE BACKUP SERVER FOR INSTALLATION ON LAPTOPS AND DESKTOPS, ELIMINATING REMOTE DESKTOP PROTOCOL		

TECHNICAL SPECIFICATIONS	QUANTITY	SUPPLIER'S OFFER/ BIDDER'S STATEMENT OF COMPLIANCE
(RDP) SESSIONS TO A BACKUP SERVER. ➢ MANAGEMENT CONSOLE IS CAPABLE FOR WEB-BASED, CONSOLIDATED VIEW OF YOUR DISTRIBUTED DEPLOYMENT IN A SINGLE PANE OF GLASS, WITHOUT HAVING TO LOGIN TO INDIVIDUAL BACKUP SERVERS, INCLUDING FEDERATION OF MULTIPLE BACKUP SERVERS, CENTRALIZED REPORTING AND CONSOLIDATED ALERTING. ➢ CAN BACKUP AND REPLICATE DIRECTLY FROM STORAGE AREA NETWORK (SAN) AND NFS STORAGE, THROUGH HYPERVISOR I/O STACK OR OVER LAN. ➢ CAPABLE TO MIGRATE VMWARE VMS BETWEEN HOSTS AND DATA STORES COMPATIBLE WITH USING VMWARE vMOTION, STORAGE vMOTION AND VEEAM-PROVIDED MIGRATION TECHNOLOGIES. ➢ MUST SUPPORT POWERSHELL AND CAPABLE TO SUPPORTS REPRESENTATIONAL STATE TRANSFER TECHNOLOGY (RESTFUL) APPLICATION PROGRAMMING INTERFACE (API). MUST BE IN THE GARTNER LEADERS QUADRANT FROM 2016 TO 2017		
DISTRIBUTION SWITCH FOR OFF SITE ➢ DISTRIBUTION SWITCH ➢ 1RU FORM FACTOR 24 PORT DATA	**1 UNIT**	

TECHNICAL SPECIFICATIONS	QUANTITY	SUPPLIER'S OFFER/ BIDDER'S STATEMENT OF COMPLIANCE

2x 10G UPLINK IP BASE
 	
➢ MUST DELIVER UP TO 88 GBPS OF SWITCHING CAPACITY AND CAN SUPPORT AT LEAST 68 MBPS OF FORWARDING RATE
 	
➢ SUPPORTS STACKWISE-160 TECHNOLOGY THAT PROVIDES SCALABILITY AND RESILIENCY WITH AT LEAST 160 GBPS OF STACK THROUGHPUT
 	
➢ SUPPORT FOR INTEGRATED WIRELESS CONTROLLER CAPABILITY WITH:
    o UP TO 20G OF WIRELESS CAPACITY PER SWITCH (24-PORT MODELS)
    o UP TO 50 ACCESS POINTS AND 1000 WIRELESS CLIENTS ON EACH SWITCHING ENTITY (SWITCH OR STACK)
➢ MUST SUPPORT DUAL REDUNDANT, MODULAR POWER SUPPLIES AND THREE MODULAR FANS PROVIDING REDUNDANCY
➢ SUPPORT FOR EXTERNAL POWER SYSTEM FOR POWER REDUNDANCY
 	
➢ SOFTWARE SUPPORT FOR IPV4 AND IPV6 ROUTING, MULTICAST ROUTING, MODULAR QUALITY OF SERVICE (QOS), FLEXIBLE NETFLOW (FNF) VERSION 9, AND ENHANCED SECURITY FEATURES
 	
➢ MUST SUPPORT SMART INSTALL DIRECTOR, PROVIDING A SINGLE POINT OF MANAGEMENT		

TECHNICAL SPECIFICATIONS	QUANTITY	SUPPLIER'S OFFER/ BIDDER'S STATEMENT OF COMPLIANCE
ENABLING ZERO-TOUCH DEPLOYMENT FOR NEW SWITCHES AND STACKS IN IN CAMPUS AND BRANCH NETWORKS		
➢ SUPPORTS UNIVERSAL SOFTWARE IMAGE ACROSS ALL LICENSE LEVELS, PROVIDING AN EASY UPGRADE PATH FOR SOFTWARE FEATURES		
➢ SFP+ INTERFACE SUPPORTS BOTH 10 GIGABIT ETHERNET AND GIGABIT ETHERNET PORTS		
➢ MUST HAVE 10/100/1000 RJ-45 CONSOLE AND MANAGEMENT PORT		
➢ MUST HAVE THE FOLLOWING LAYER 3 FEATURES: o STATIC ROUTING o OPEN SHORTEST PATH FIRST (OSPF) FOR ROUTED ACCESS o ENHANCED INTERIOR GATEWAY ROUTING PROTOCOL (EIGRP) STUB ROUTING o ROUTING INFORMATION PROTOCOL VERSION 1 AND 2 (RIPv1/v2) o LAYER 3 MULTICAST ROUTING o QUALITY OF SERVICE (QoS) o IPv6 READY (INTERNET PROTOCOL VERSION 6)		
➢ MUST HAVE THE FOLLOWING		

TECHNICAL SPECIFICATIONS	QUANTITY	SUPPLIER'S OFFER/ BIDDER'S STATEMENT OF COMPLIANCE
INDUSTRY STANDARDS: o IEEE 802.1S o IEEE 802.1W o IEEE 802.11 o IEEE 802.1X o IEEE 802.1X-REV o IEEE 802.3AD o IEEE 802.3AF o IEEE 802.3AT o IEEE 802.3X FULL DUPLEX ON 10BASE-T, 100BASE-TX, AND 1000BASE-T PORTS o IEEE 802.1D SPANNING TREE PROTOCOL o IEEE 802.1P COS PRIORITIZATION o IEEE 802.1Q VLAN o IEEE 802.3 10BASE-T SPECIFICATION o IEEE 802.3U 100BASE-TX SPECIFICATION o IEEE 802.3AB 1000BASE-T SPECIFICATION o IEEE 802.3Z 1000BASE-X SPECIFICATION o RMON I AND II STANDARDS o SNMPV1, SNMPV2C, AND SNMPV3 ➤ MUST SUPPORT OPERATING TEMPERATURE OF UP TO 45°C ➤ MUST HAVE A MEAN-TIME-BETWEEN-FAILURES (MTBF) OF 661,800 ➤ MUST SUPPORT RELATIVE HUMIDITY OF UP TO 96% NON-CONDENSING ➤ MUST SUPPORT UP TO 32,000 MEDIA ACCESS CONTROL (MAC) ENTRIES ➤ MUST SUPPORT UP TO 24,000		

TECHNICAL SPECIFICATIONS	QUANTITY	SUPPLIER'S OFFER/ BIDDER'S STATEMENT OF COMPLIANCE
IPv4 ROUTES ➢ MUST SUPPORT UP TO 24,000 FNF ENTRIES ➢ MUST SUPPORT UP TO 4 GB DRAM ➢ MUST SUPPORT UP TO 2 GB FLASH ➢ MUST SUPPORT UP TO 4,094 TOTAL VLAN IDs ➢ MUST SUPPORT UP TO 1000 TOTAL ➢ SWITCHED VIRTUAL INTERFACES (SVIs) ➢ MUST SUPPORT UP TO 9198 bytes of JUMBO FRAMES ➢ MINIMUM equipment accessories (PER DISTRIBUTION SWITCH): ➢ 1X CONSOLE CABLE WITH AT LEAST 6FT WITH USB TYPE A AND MINI-B ➢ **WARRANTY:** AT LEAST THREE (3) YEARS ON PARTS AND LABOR WITH 24 HOURS A DAY, 7 DAYS A WEEK COVERAGE AND 4-HOUR RESPONSE TIME.		
RACK CABINET 42" ➢ MAXIMUM HEIGHT: 1991MM, (199.1CM) ➢ MAXIMUM WIDTH: 600MM, (60.0CM) ➢ MAXIMUM DEPTH: 1070MM, (107.0CM) ➢ COLOR: PREFERABLY BLACK ➢ WEIGHT CAPACITY (DYNAMIC LOAD): 1,025 KG MAX	**1 UNIT**	

TECHNICAL SPECIFICATIONS	QUANTITY	SUPPLIER'S OFFER/ BIDDER'S STATEMENT OF COMPLIANCE
➢ WEIGHT CAPACITY (STATIC LOAD): 1,370.KG MAX		

POWER DISTRIBUTION UNIT
 	
➢ OUTPUT:
  o NOMINAL OUTPUT VOLTAGE: 230V
  o OVERLOAD PROTECTION: YES
  o MAXIMUM TOTAL CURRENT DRAW: 32
➢ NOMINAL INPUT VOLTAGE: 220V-230V
➢ INPUT FREQUENCY: 60 Hz
➢ INPUT CONNECTIONS: IEC 309 32A 2P+E
➢ CORD LENGTH: AT LEAST 3 METERS
➢ ACCEPTABLE INPUT VOLTAGE: AT LEAST 220 UP TO 240VAC
➢ NUMBER OF POWER CORDS: 1
➢ MAXIMUM INPUT CURRENT: 32A
➢ MAXIMUM LINE CURRENT: 32A
➢ COLOR: BLACK
 	
➢ **WARRANTY:**
➢ AT LEAST TWO (2) YEARS ON PARTS AND LABOR WITH 24 HOURS A DAY, 7 DAYS A WEEK COVERAGE AND 4-HOUR RESPONSE TIME.
	2 UNITS	

3KVA SMART UNINTERRUPTED POWER SUPPLY FOR OFFSITE ➢ OUTPUT POWER CAPACITY: 3.0 KVA ➢ NOMINAL OUTPUT VOLTAGE: 230V ➢ OUTPUT VOLTAGE DISTORTION: LESS THAN 2% ➢ OUTPUT FREQUENCY (SYNC TO MAINS): 60HZ +/- 3 HZ	**1 UNITS**	

TECHNICAL SPECIFICATIONS	QUANTITY	SUPPLIER'S OFFER/ BIDDER'S STATEMENT OF COMPLIANCE

➢ OTHER OUTPUT VOLTAGES: 220, 240
➢ LOAD CREST FACTOR: 3:01
➢ TOPOLOGY: DOUBLE CONVERSION ONLINE
➢ WAVEFORM TYPE: SINE WAVE
➢ OUTPUT CONNECTIONS:
   - (6) IEC 320 C13 (BATTERY BACKUP)
   - (2) IEC JUMPERS (BATTERY BACKUP)
   - (4) IEC 320 C19 (BATTERY BACKUP)
➢ BYPASS: INTERNAL BYPASS (AUTOMATIC AND MANUAL)
➢ NOMINAL INPUT VOLTAGE: AT LEAST 230V
➢ INPUT FREQUENCY: MINIMUM 40 UP TO 70 HZ (AUTO SENSING)
➢ INPUT CONNECTIONS
 	
HARD WIRE: 3 WIRE (1PH+N+G)
 	
➢ INPUT VOLTAGE RANGE FOR MAIN OPERATIONS: MINIMUM 160V UP TO 275V
➢ INPUT VOLTAGE ADJUSTABLE RANGE FOR MAIN OPERATION: MINIMUM 100 UP TO 275 (HALF LOAD)V MAXIMUM
➢ OTHER INPUT VOLTAGES: 220, 240
 	
➢ BATTERIES & RUNTIME:
➢ BATTERY TYPE
➢ MAINTENANCE-FREE SEALED LEAD-ACID BATTERY WITH SUSPENDED ELECTROLYTE: LEAK PROOF
➢ INCLUDED BATTERY MODULES: 2
➢ TYPICAL RECHARGE TIME: 1.5 HOUR(S)
➢ REPLACEMENT BATTERY
➢ EXPECTED BATTERY LIFE: 2 YEARS		

TECHNICAL SPECIFICATIONS	QUANTITY	SUPPLIER'S OFFER/ BIDDER'S STATEMENT OF COMPLIANCE
➢ RBC QUANTITY: 1 ➢ EXTENDABLE RUN TIME: 1 ➢ BATTERY VOLT-AMP-HOUR CAPACITY: 845 ➢ WITH BATTERY PACK BACKUP POWER FOR AT LEAST 30 MINUTES ➢ **WARRANTY:** AT LEAST THREE (3) YEARS ON MAIN UNITS (2) YEARS ON INTERNAL BATTERY **For complete Technical Specifications please refer to attached Terms of Reference of the Philippine Army**		
Other Requirements:		
➢ **Quality Control/Assurance** During Final acceptance, actual test shall be jointly undertaken by the bidder and Back Up System Project TWG to ensure quality of all deliver product and compatibility with the AFP Telecommunications Network and Information Systems. ➢ **Testing** During final acceptance, the Back Up System Project should be tested for the compatibility and interoperability with the existing systems and ICT infrastructure of the Philippine Army ➢ **Training** Trainers, operator and maintenance training should be provided to the designated Technical Personnel of the Philippine Army for at least forty (40) hours, under the expense of the bidder. ➢ **Documentation** Three (3) copies of documentation relevant to the		

TECHNICAL SPECIFICATIONS	QUANTITY	SUPPLIER'S OFFER/ BIDDER'S STATEMENT OF COMPLIANCE
Project and other pertinent information including Technical Brochures Operations Manual with corresponding Technical Troubleshooting Procedures must be provided and submitted, ➢ **Key Personnel/Technical Work Experience** **Network Engineer/Administrator**-Not less than 3 Years work experience related to complex network systems **System Engineer/Administrator**- Not less than 3 Years work experience related to complex network systems **Network Technician**- Not less than 2 Years work experience related to complex network systems **IT Technician-** Not less than 2 Years work experience related to complex network systems **Service & Supportability**- Not less than 2 Years work experience related to complex network systems ➢ **Interoperability**- All parts enumerated should be **branded**, **brand new be compatible with the existing network system and ICT infrastructure installed in the Philippine Army Network (PANET).** This project includes the supply, delivery, installation, configuration and commissioning.		

I hereby certify that the statement of compliance to the foregoing technical specifications are true and correct, otherwise, if found false either during evaluation or post-qualification, the same shall give rise to automatic disqualification of our bid.

| Name of Company | Signature Over Printed Name of Authorized Representative | Date |