TERMS OF REFERENCE

Supply and Delivery of Various ICT Equipment, and Productivity Software for the National Security Council

A. BACKGROUND

A.1 PROCURING ENTITY

The National Security Council (NSC) is the principal advisory body on the proper coordination and integration of plans and policies affecting national security. It oversees the implementation of national security policies and directives and has the duty to carry out planning and coordination of national security related programs (Executive Order 115, series of 1986; as amended by Executive Order No. 33, series of 1992; and Executive Order 34, series of 2001).

In order to effectively fulfill said mandate and facilitate the delivery of NSC core and support functions, it maintains 24/7 operations and the computers, printers and scanners from the different units are connected to the Data Centers via local area network to access the different application systems and network resources/services.

A.2 PROJECT OVERVIEW/OBJECTIVES

The NSC intends to procure various ICT equipment, software and training for the different offices of NSC.

Objectives of the project:

- To replace the defective and unserviceable ICT equipment of the agency;
- To acquire up-to-date, reliable, dependable, and efficient ICT equipment and productivity software; and
- To improve office productivity through the upgrading of ICT equipment and software for employees and staff.

A.3 PROJECT SCOPE

Bidders shall comply with the following:

A.3.1 The implementation of the procurement of various ICT equipment and software will primarily be at the NSC in Quezon City.

A.3.2 Supply and delivery of brand-new desktop computers with Windows 10 Pro 64-bit edition, including monitor, keyboard, mouse, and other accessories as mentioned in the minimum technical specifications;

A.3.3 Supply and delivery of brand-new laptop computers with Windows 10 Pro 64-bit edition, including its accessories as mentioned in the minimum technical specifications;

A.3.4 Supply and delivery of brand-new printers and scanners with its accessories as described in the minimum technical specifications;

A.3.5 Supply and delivery of various brand-new Managed Network Switches with Power over Ethernet feature and its accessories as described in the minimum technical specifications;
A.3.6 Supply and delivery of brand-new Uninterruptable Power Supply (UPS) with its accessories as described in the minimum technical specifications;

A.3.7 Supply and delivery of brand-new Portable Multimedia Projectors with its accessories as described in the minimum technical specifications;

A.3.8 Supply and delivery of Microsoft Office 2019 Perpetual Licenses;

A.3.9 Supply, delivery, and knowledge transfer training of brand-new Antivirus System with its accessories as described in the minimum technical specifications;

A.3.10 The project shall cover the warranty, maintenance, and support service for the ICT equipment to cover at least three (3) years on parts and labor to ensure stability of the equipment. Except for the Anti-Virus System which will cover only one (1) year with option to renew or discontinue after that period.

B. PROJECT ESTIMATES

B.1 APPROVED BUDGET COST

The NSC intends to apply the sum of TEN MILLION SIX HUNDRED SIXTY-FIVE THOUSAND AND ZERO CENTAVOS ( Php 10,665,000.00) being the Approved Budget for the Contract (ABC) of the project inclusive of all applicable taxes. Bidders can participate to either Lot 1, 2, or 3, or all.

<table>
<thead>
<tr>
<th>LOT NO.</th>
<th>NAME OF PROJECT</th>
<th>ABC</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>VARIOUS ICT EQUIPMENT</td>
<td>PHP 4,880,000.00</td>
</tr>
<tr>
<td>2</td>
<td>NETWORK COMPONENTS</td>
<td>PHP 3,085,000.00</td>
</tr>
<tr>
<td>3</td>
<td>MICROSOFT OFFICE AND ANTI-VIRUS SYSTEM</td>
<td>PHP 2,700,000.00</td>
</tr>
</tbody>
</table>

C. BID REQUIREMENT

The NSC shall select a qualified PROVIDER for the procurement of various ICT Equipment with warranties and technical support services of the following ICT resources, software license and training.

C.1 END USER ICT EQUIPMENT and MS OFFICE LICENSE

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Various ICT Equipment</th>
<th>QUANTITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Desktop Computer</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td>Laptop Computer</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Printer</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Scanner</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>UPS</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Multimedia Projector</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>66</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Network Components</th>
<th>QUANTITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>48-Port Managed Switch with PoE</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>24-Port Managed Switch with PoE</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>16-Port Managed Switch with PoE</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>8-Port Managed Switch with PoE</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>20</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Microsoft Office and Anti-Virus System</th>
<th>QUANTITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Microsoft Office User License</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>- Home and Business 2019 (perpetual)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Anti-Virus System</td>
<td>1 Lot</td>
</tr>
<tr>
<td></td>
<td>- Network and Endpoint Security</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Knowledge transfer training for 10 pax</td>
<td></td>
</tr>
</tbody>
</table>
C.2 TECHNICAL SPECIFICATIONS

The bidder shall supply and deliver the following minimum technical specifications:

<table>
<thead>
<tr>
<th>Item No. 1</th>
<th>ICT EQUIPMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DESKTOP COMPUTER:</strong></td>
<td></td>
</tr>
<tr>
<td>Processor:</td>
<td>Intel® Core™ i7 8th Gen</td>
</tr>
<tr>
<td>Operating System:</td>
<td>Microsoft® Windows 10 Pro (64-bit)</td>
</tr>
<tr>
<td>Memory:</td>
<td>8GB (1x8GB) 2666MHz DDR4 Memory</td>
</tr>
<tr>
<td>Hard Drive:</td>
<td>3.5 inch 1TB 7200rpm SATA HDD (partition: 30% system; 70% data)</td>
</tr>
<tr>
<td>Chipset:</td>
<td>Intel® 300 Series Chipset</td>
</tr>
<tr>
<td>Optical Drive:</td>
<td>Internal slim Optical Disk Drive</td>
</tr>
<tr>
<td></td>
<td>Optional SD Media Card reader</td>
</tr>
<tr>
<td>Video Card:</td>
<td>Integrated Intel® HD Graphics 610/630</td>
</tr>
<tr>
<td></td>
<td>Supports NVIDIA GeForce®/discrete graphics</td>
</tr>
<tr>
<td>Power:</td>
<td>Typical 92% Efficient PSU (80 PLUS Platinum) or Manufacturer Standard ENERGY STAR compliant</td>
</tr>
<tr>
<td>Ports:</td>
<td>1 x USB 3.1 Type-C</td>
</tr>
<tr>
<td></td>
<td>4 x USB 3.1 Gen 1</td>
</tr>
<tr>
<td></td>
<td>1 x USB 2.0 (optional)</td>
</tr>
<tr>
<td></td>
<td>1 x RJ-45</td>
</tr>
<tr>
<td></td>
<td>1 x Serial</td>
</tr>
<tr>
<td></td>
<td>1 x HDMI or DisplayPort</td>
</tr>
<tr>
<td></td>
<td>1 x PS/2 (optional)</td>
</tr>
<tr>
<td></td>
<td>1 x Universal Audio Jack</td>
</tr>
<tr>
<td></td>
<td>1 x VGA</td>
</tr>
<tr>
<td>Slots:</td>
<td>1 M.2 for storage</td>
</tr>
<tr>
<td></td>
<td>1 M.2 for wireless</td>
</tr>
<tr>
<td>Chassis:</td>
<td>Bays</td>
</tr>
<tr>
<td></td>
<td>HDD</td>
</tr>
<tr>
<td></td>
<td>Internal slim ODD</td>
</tr>
<tr>
<td>Form Factor:</td>
<td>Tower Type</td>
</tr>
<tr>
<td>Security:</td>
<td>Chassis lock slot support</td>
</tr>
<tr>
<td></td>
<td>Setup/BIOS Password</td>
</tr>
<tr>
<td></td>
<td>Optional Trusted Platform Module (TPM) 2.0</td>
</tr>
<tr>
<td></td>
<td>Optional Intel Software Guard Extensions (SGX)</td>
</tr>
<tr>
<td>Regulatory:</td>
<td>ENERGY STAR</td>
</tr>
<tr>
<td></td>
<td>EPEAT Registered</td>
</tr>
<tr>
<td></td>
<td>TCO Certified</td>
</tr>
<tr>
<td>Display:</td>
<td>23 inch monitor (of the same brand)</td>
</tr>
<tr>
<td>Other Accessories:</td>
<td>USB keyboard and USB mouse of the same brand</td>
</tr>
<tr>
<td></td>
<td>Other cable accessories</td>
</tr>
</tbody>
</table>

Terms of Reference: Supply and Delivery of Various ICT Equipment for NSC Q42019_TZ_4

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**LAPTOP COMPUTER:**

Processor
Intel® Core™ i7 8th Gen

Operating System
Windows 10 Pro (64bit) English

Memory
8GB (1x8GB) RAM

Video Card
Intel® UHD Graphics

Display
14" FHD

Audio and Speakers
Stereo speakers with high quality

Hard Drive
500GB 2.5" Hard drive (partition: 30% system; 70% data)

Power
Battery 45Whr battery
A/C Adapter

Camera
HD (720p) webcam

Wireless
Intel® Dual Band wireless 802.11ac Wi-Fi and Bluetooth

Ports
1 x USB-C 3.1
1 x USB-C 2.0
1 x SD Memory Card Reader
1 x Universal Audio jack
1 x HDMI

Slots
Lock Slot

Exterior Chassis Materials
Manufacturer standard

Keyboard
Backlit keyboard, spill-resistant

Security (option)
Microsoft® Hello compliant fingerprint reader

Screen
FHD resolution display, LED backlit, anti-glare

Touchpad
Multi-touch surface touchpad

Dimension/Weight
14inch, not more than 2 kgs.

Regulatory
Environmental Standards (eco-labels)
ENERGY STAR
EPEAT Registered
TCO Certified

Others
Bag, other accessories

**PRINTER:**

Function(s)
Print

Print speed
At least 27 ppm

Two-sided printing
Automatic duplex print option

Paper trays/paper handling
With at least 50-sheet multipurpose tray; at least 250-sheet input tray

Print Technology
Laser
Printer Management
- GUI management access or application
Connectivity/Network capability
- Hi-speed USB port; built-in gigabit ethernet 10/100/1000 base-ix port; auto-
crossover ethernet; wireless 802.11 b/g/n/2.4GHz wi-fi radio; 802.1x
authentication;
Mobile printing capability
- Apple airprint; google cloud print; smart app and other mobile app; wi-fi direct
printing
Wireless capability
- Built-in dual-band wi-fi; wep/wpa/wpa2/wpa enterprise; encryption; wps;
bluetooth
Memory
- 512 MB NAND flash, 512 mb dram
Processor speed
- 1200 MHz
Media sizes custom
- Tray 1: 76 x 127 to 216 x 356 mm; tray 2: 100 x 148 to 216 x 356 mm
Compatible operating system
- Windows Client OS (32/64 bit), Win10, Win8.1, Win 8 Basic, Win8 Pro, Win8
Enterprise, Win8 Enterprise N, Win7 Starter Edition SP1, UPD Win7 Ultimate, Mobile
OS, IOS, Android, Mac, Apple@ macOS Sierra v10.12, Apple@ macOS High Sierra
v10.13, Apple@ macOS Mojave v10.14, Discrete PCL6 Printer Driver
Security management
- Secure Boot; Secure Firmware Integrity; Runtime Code Integrity; password
protected EWS; secure browsing via SSL/TLS 1.0; TLS 1.1; TLS 1.2; IPP over TLS;
Network: enable/disable network ports and features; unused protocol and
service disablement; SNMPv1; SNMPv2c and SNMPv3; community password
change; HTTPS with certificate validation; HTTP Basic Access Authentication; SASL
authentication; Firewall and ACL control panel lock; certificates configuration;
UPD PIN printing; Syslog: signed firmware; administrator settings; 802.1x
authentication (EAP-TLS, and PEAP); authentication via WEP; WPA/WPA2
Personal; WPA2-enterprise; encryption via AES or TKIP; Encrypted data storage;
Secure data erase; Automatic firmware updates; Secure Encrypted Print via
optional job storage;
Fonts and typefaces
- 84 scalable TrueType fonts
Control panel
- With intuitive touchscreen panel
Regulatory
- Environmental Standards (eco-labels)
- ENERGY STAR
- EPEAT Registered
- CECP
Power
- Internal built-in power supply; auto volt 110 – 240 VAC (+/- 10%) 50/60Hz (+/-3 Hz)
Acoustics
- Acoustic power emissions: 6.2 B(A); Acoustic power emissions (ready): 3.4B(A);
Acoustic pressure emissions bystander (active, printing): 48 dB(A); Acoustic
pressure emissions bystander (ready): 14 dB(A)

SCANNER:
Scanning Speed
- 40 ppm
Document Size - Multiple Papers
- Length 51 mm to 355.6 mm
- Width 51 mm to 215.9 mm
Document Size - Single Paper
- Length 51 mm to 5,000 mm
- Width 51 mm to 215.9 mm
Duplex Scan
- Yes
Colour / Black
Yes / Yes
Color Depth - Input
30-bit colour processing
Color Depth - Output
24-bit colour processing
Resolution - Optical
Max. 600 dpi x 600 dpi
Resolution - Interpolated
Max. 1,200 dpi x 1,200 dpi
Scanning Width
Max. 215 mm
Grayscale
256 levels
ADF (Automatic Document Feeder)
Up to 50 pages (Paper: 80 g/m²)
Touchscreen LCD (Liquid Crystal Display)
3.7 inches (93.4 mm), TFT color LCD screen
Power Source
AC: 220 - 240 V, 50/60 Hz
TWAIN Compliant - Windows®
TWAIN Compliant - Mac OS
OS X 10.6.8, 10.9.x, 10.10.x
WIA Compliant - Windows®
Windows® 7 / 8 / 8.1 / 10
ICA Compliant - Mac OS
OS X 10.6.8, 10.9.x, 10.10.x
ISIS™ Compliant - Windows
Windows® 7 / 8 / 8.1 / 10
USB
SuperSpeed USB 3.0
Use a USB 3.0 cable (Type B) no more than 1.8 meters long
LAN
10Base-T/100Base-TX/1000Base-T
Wireless LAN
IEEE 802.11b/g/n (Infrastructure/Ad-hoc Mode)
IEEE 802.11g/n (Wi-Fi Direct)
Wireless Network Security
WEP 64/128-bit, WPA-PSK (TKIP/AES), WPA2-PSK (AES), Enterprise WPA/WPA-PSK
(AES), EAP, EAP RAST, PEAP, EAP-TLS, EAP-TLS
Setup Support Utility
WPS
WLAN Assistant

UNINTERRUPTIBLE POWER SUPPLY:

Output
Output power capacity
390Watts / 620VA
Max Configurable Power (Watts)
390Watts / 620VA
Nominal Output Voltage
230V
Output Frequency (sync to mains)
50/60Hz +/- 3 Hz
Topology
Line Interactive
Waveform type
Stepped approximation to a sinewave
Output Connections
(2) IEC Jumpers (Battery Backup)
(1) IEC 320 C13 (Surge Protection)
(3) IEC 320 C.13 [Battery Backup]
Transfer Time
2ms typical

Input
Nominal Input Voltage
230V
Input frequency
50/60 Hz +/- 3 Hz (auto sensing)
Input Connections
IEC-320-C14 inlet
Input voltage range for main operations
195 - 265V

Batteries & Runtime
Battery type
Maintenance-free sealed Lead-Acid battery with suspended electrolyte: leakproof
Typical recharge time
5 oure(s)
Replacement Battery
RBC4
Expected Battery Life (years)
3 - 5
RBC Quantity
1
Battery Volt-Amp-Hour Capacity
138

Communications & Management
Interface Port(s)
DB-9 RS-232
Control panel
LED status display with On Line: On Battery: Replace Battery and Overload indicators
Audible Alarm
Alarm when on battery: distinctive low battery alarm: overload continuous tone alarm

Surge Protection and Filtering
Surge energy rating
320 Joules
Data Line Protection
RJ-45 Modem/Fax/DSL/10-100 Base-T protection

Filtering
Full time multi-pole noise filtering: 0.7% EEE surge let-through: zero clamping response time: meets UL 1449

Physical
Maximum Height
168MM, 16.8CM
Maximum Width
119MM, 11.9CM
Maximum Depth
375MM, 37.5CM
Net Weight
12.27KG
Color
Grey

Environmental
Operating Temperature
0 - 40 °C
Operating Relative Humidity
0 - 95 %
Operating Elevation
0-3000meters
Storage Temperature
-15 - 45 °C
Storage Relative Humidity
0 - 95%
- Storage Elevation
- 0-15000meters
- Audible noise at 1 meter from surface of unit
  - 45.0dBA
- Online thermal dissipation
  - 70.0BTU/hr

Conformance:
- Approvals
  - CE, GOST, VCCI, VDE
- Standard warranty
  - 2 years repair or replace
- Sustainable Offer Status
- RoHS
  - Compliant
- REACH
  - REACH: Contains No SVHCs
- PEP
  - Available in Documentation tab
- EOLI
  - Available in Documentation tab

MULTIMEDIA PROJECTOR:
- 3-LCD Technology
- White and Colour Brightness
  - White Light Output (Normal/Eco):
    - 4,200lm / 2,410lm
  - White Light Output:
    - 4,200lm / 4,200lm
- WUXGA Resolution
- 12000 hours lamp life in eco-mode
- MHL-enabled
- Multi-PC Projection
- Horizontal Keystone Slider
- Miracast®
- Connectivity:
  - Network:
    - Wired LAN: 1
    - Wireless LAN: Built-in
  - Analog RGB Input:
    - D-Sub 15Pin: 2 (Blue Molding)
  - Analog Input:
    - RCA x 1 (Yellow)
    - Composite: RCA x 1 (Yellow)
  - Digital Input:
    - HDMI: 2 (1 with MHL support)
  - Audio Input:
    - RCA (White/Red): 1
    - Stereo Mini Jack: 2
  - Audio Output:
    - Stereo Mini Jack: 1
  - Mic I/O:
    - Stereo Mini Jack: 1
  - Control I/O:
    - RS-232C: 1
  - USB Input:
    - USB Type A: 1 (For USB Memory, USB Document Camera and Firmware Update)
    - USB Type B: 1 (For USB Display, Mouse, K/B, Control and Firmware Update)
  - Power Cable: 1.8m
  - Computer Cable (VGA Cable): 1.8m
  - Remote Control with Alkaline AA Battery
- Soft Carrying Case
- Cover for ELPAP10

**Other Accessories:**
- Spotlight Presentation Remote
  - Connection Type: Bluetooth and 2.4GHz wireless connection
  - Wireless range: 30 m
  - Indicator Lights [LED]: Battery and Connectivity LED
  - Battery Details: Rechargeable Lithium Polymer, 85mAh
  - Battery Life (rechargeable): 3 months
  - Cable Length: 140 mm
- Sensor: 3D accelerometer and Gyroscope
- Sensor technology: Motion sensor
- Presentation remote Dimensions:
  - Height x Width x Depth: 131.3 mm x 28.1 mm x 12.1 mm
  - Weight: 49.2 g included Battery
- Receiver Dimensions:
  - Height x Width x Depth: 40.4 mm x 17.2 mm x 6.8 mm
  - Weight: 3.3 g
- Charging cable length:
  - 140 mm
- Portable Tripod Screen
- 100° Diagonal
- 16:9 Ratio

### Network Components – Managed Switch with PoE+

<table>
<thead>
<tr>
<th>Item No. 2</th>
<th>8 port</th>
<th>16 port</th>
<th>24 port (1/10G uplinks)</th>
<th>48 port (1/10G uplinks)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Console ports</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RJ45 Ethernet</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>USB mini-B</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>USB-A port for storage and Bluetooth console</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Memory and processor</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPU</td>
<td>ARMv7 800 MHz</td>
<td>ARMv7 800 MHz</td>
<td>ARMv7 800 MHz</td>
<td>ARMv7 800 MHz</td>
</tr>
<tr>
<td>DRAM</td>
<td>512 MB</td>
<td>512 MB</td>
<td>512 MB</td>
<td>512 MB</td>
</tr>
<tr>
<td>Flash memory</td>
<td>256 MB</td>
<td>256 MB</td>
<td>256 MB</td>
<td>256 MB</td>
</tr>
<tr>
<td><strong>Performance</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forwarding bandwidth</td>
<td>10 Gbps</td>
<td>18 Gbps</td>
<td>1G: 28 Gbps 10G: 64 Gbps</td>
<td>1G: 52 Gbps 10G: 88Gbps</td>
</tr>
<tr>
<td>Unicast MAC addresses</td>
<td>16000</td>
<td>16000</td>
<td>16000</td>
<td>16000</td>
</tr>
<tr>
<td>IPv4 unicast direct routes</td>
<td>512</td>
<td>512</td>
<td>512</td>
<td>512</td>
</tr>
<tr>
<td>IPv4 unicast indirect routes</td>
<td>256</td>
<td>256</td>
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<tr>
<td>Feature</td>
<td>414</td>
<td>414</td>
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<td>---------------------------------------------</td>
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<tr>
<td>IPv6 unicast direct routes</td>
<td>128</td>
<td>128</td>
<td>128</td>
<td>128</td>
</tr>
<tr>
<td>IPv6 unicast indirect routes</td>
<td>1024</td>
<td>1024</td>
<td>1024</td>
<td>1024</td>
</tr>
<tr>
<td>IPv4 multicast routes and IGMP groups</td>
<td>1024</td>
<td>1024</td>
<td>1024</td>
<td>1024</td>
</tr>
<tr>
<td>IPv6 multicast groups</td>
<td>384</td>
<td>384</td>
<td>384</td>
<td>384</td>
</tr>
<tr>
<td>IPv4/MAC security ACEs</td>
<td>256</td>
<td>256</td>
<td>256</td>
<td>256</td>
</tr>
<tr>
<td>Maximum active VLANs</td>
<td>4094</td>
<td>4094</td>
<td>4094</td>
<td>4094</td>
</tr>
<tr>
<td>VLAN IDs available</td>
<td>64</td>
<td>64</td>
<td>64</td>
<td>64</td>
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<tr>
<td>Maximum STP instances</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Maximum SPAN sessions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jumbo Ethernet frame</td>
<td>10,240 bytes</td>
<td>10,240 bytes</td>
<td>10,240 bytes</td>
<td>10,240 bytes</td>
</tr>
<tr>
<td>MTFB in hours (data)</td>
<td>2,448,133</td>
<td>2,416,689</td>
<td>2,412,947</td>
<td>1,370,769</td>
</tr>
<tr>
<td>MTFB in hours (PoE)</td>
<td>315,044</td>
<td>313,496</td>
<td>909,838</td>
<td>437,970</td>
</tr>
</tbody>
</table>

**Environment**

<table>
<thead>
<tr>
<th>Operating temperature</th>
<th>23°F to 113°F (−5°C to 45°C)</th>
<th>23°F to 113°F (−5°C to 45°C)</th>
<th>23°F to 113°F (−5°C to 45°C)</th>
<th>23°F to 113°F (−5°C to 45°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 5,000 ft (1500 m)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Up to 10,000 ft (3000 m)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating altitude</td>
<td>10,000 ft (3000 m)</td>
<td>10,000 ft (3000 m)</td>
<td>10,000 ft (3000 m)</td>
<td>10,000 ft (3000 m)</td>
</tr>
<tr>
<td>Operating relative humidity</td>
<td>5% to 90% at 40°C</td>
<td>5% to 90% at 40°C</td>
<td>5% to 90% at 40°C</td>
<td>5% to 90% at 40°C</td>
</tr>
<tr>
<td>Storage temperature</td>
<td>−13°F to 158°F (−25°C to 70°C)</td>
<td>−13°F to 158°F (−25°C to 70°C)</td>
<td>−13°F to 158°F (−25°C to 70°C)</td>
<td>−13°F to 158°F (−25°C to 70°C)</td>
</tr>
<tr>
<td>Storage altitude</td>
<td>15,000 ft (4500 m)</td>
<td>15,000 ft (4500 m)</td>
<td>15,000 ft (4500 m)</td>
<td>15,000 ft (4500 m)</td>
</tr>
<tr>
<td>Storage relative humidity</td>
<td>5% to 95% at 65°C</td>
<td>5% to 95% at 65°C</td>
<td>5% to 95% at 65°C</td>
<td>5% to 95% at 65°C</td>
</tr>
</tbody>
</table>

Note: Minimum ambient temperature for cold start is 0°C (32°F).
<table>
<thead>
<tr>
<th>Electrical</th>
<th>Data</th>
<th>PoE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage (auto ranging)</td>
<td>110 to 220V AC In</td>
<td>110 to 220V AC In</td>
</tr>
<tr>
<td>Frequency</td>
<td>50 to 60 Hz</td>
<td>50 to 60 Hz</td>
</tr>
<tr>
<td>Current</td>
<td>0.13 A to 0.22 A</td>
<td>0.16 A to 0.26 A</td>
</tr>
<tr>
<td>Power rating (maximum consumption)</td>
<td>0.04 kVA</td>
<td>0.11 kVA</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Power consumption (watts)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0% traffic</td>
</tr>
<tr>
<td>10% traffic</td>
</tr>
<tr>
<td>100% traffic</td>
</tr>
</tbody>
</table>

| Weighted average | 14.2 | 21.3 | 17.8 | 25.4 | 1G: 21.06 | 1G: 21.84 | 1G: 30.32 | 1G: 35.6 |

<table>
<thead>
<tr>
<th>Acoustic noise (48-port PoE only)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sound pressure</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Sound power</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

**Note:** Bystander positions operating mode at 77°F (25°C) ambient.

<table>
<thead>
<tr>
<th>Safety and compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMC: immunity</td>
</tr>
<tr>
<td>Environmental</td>
</tr>
<tr>
<td>Telco</td>
</tr>
<tr>
<td>U.S. government certification</td>
</tr>
</tbody>
</table>

**Connectors and interfaces**
| Ethernet interfaces | 10BASE-T ports: RJ-45 connectors, 2-pair Category 3, 4, or 5 Unshielded Twisted Pair (UTP) cabling  
|                     | 100BASE-TX ports: RJ-45 connectors, 2-pair Category 5 UTP cabling  
|                     | 1000BASE-T ports: RJ-45 connectors, 4-pair Category 5 UTP cabling  
|                     | 1000BASE-T SFP-based ports: RJ-45 connectors, 4-pair Category 5 UTP cabling  
| Indicator LEDs | Per-port status: link integrity, disabled, activity, speed, and full duplex  
|                  | System status: system, PoE, and link speed  
| Console cables | CAB-CONSOLE-RJ45 Console cable 6 ft. with RJ-45  
|                 | CAB-CONSOLE-USB Console cable 6 ft. with USB Type A and mini-B connectors  
| Power | Use the supplied AC power cord to connect the AC power connector to an AC power outlet  
| Standards | IEEE 802.1D  
|           | Spanning Tree Protocol  
|           | IEEE 802.1p CoS Prioritization  
|           | IEEE 802.1Q VLAN  
|           | IEEE 802.1s  
|           | IEEE 802.1w  
|           | IEEE 802.1X  
|           | IEEE 802.1ab (LLDP)  
|           | Bluetooth Ver 4.0  
|           | IEEE 802.3ad  
|           | IEEE 802.3af and IEEE 802.3at  
|           | IEEE 802.3ah (100BASE-X single/multimode fiber only)  
|           | IEEE 802.3x full duplex on 10BASE-T, 100BASE-TX, and 1000BASE-T ports  
|           | IEEE 802.3t  
|           | IEEE 802.3u  
| RFC compliance | RFC 768 - UDP  
|              | RFC 783 - FTP  
|              | RFC 791 - IP  
|              | RFC 792 - ICMP  
|              | RFC 793 - TCP  
|              | RFC 826 - ARP  
|              | RFC 854 - Telnet  
|              | RFC 951 - Bootstrap Protocol (BOOTP)  
|              | RFC 959 - FTP  
|              | RFC 1112 - IP  
|              | RFC 1157 - SNMP v1  
|              | RFC 1166 - IP Addresses  
|              | RFC 1256 - Internet Control Message Protocol (ICMP)  
|              | RFC 1305 - NTP  
|              | RFC 1492 - TACACS+  
|              | RFC 1493 - Bridge MIB extensions  
|              | RFC 1901 - SNMP v2c  
|              | RFC 1902-1907 - SNMP v2  
|              | RFC 1981 - Maximum Transmission Unit (MTU)  
|              | RFC 2068 - HTTP  
|              | RFC 2131 - DHCP  
|              | RFC 2138 - RADIUS  
|              | RFC 2233 - IF MIB v3  
| Accessories | CAB-CONSOLE-RJ45  
|             | Console Cable 6 Feet with RJ-45  
|             | CAB-CONSOLE-USB  
|             | Console Cable 6 Feet with USB Type A and mini-B Connectors  
|             | PWR-CLP  
|             | Power Cable Restraining Clip  
|             | RCKMNT-TRU-2KX  
|             | 1RU Rack Mount Kit  
|             | CMPCT-MGMT-TRAY  
|             | Magnetic Mounting Tray  
| Part numbers | CAB-CONSOLE-RJ45  
| Description | All models  
| Part numbers | CAB-CONSOLE-USB  
| Description | All models  
| Part numbers | PWR-CLP  
| Description | All models  
| Part numbers | RCKMNT-TRU-2KX  
| Description | 24-port and 48-port models only  
| Part numbers | CMPCT-MGMT-TRAY  
| Description | 8-port and 16-port models only  

<table>
<thead>
<tr>
<th>Item No. 3</th>
<th>MICROSOFT OFFICE and ANTI-VIRUS SYSTEM</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MICROSOFT OFFICE USER LICENSE</td>
</tr>
<tr>
<td></td>
<td>• Home and Business 2019</td>
</tr>
<tr>
<td></td>
<td>Includes Word, Excel, PowerPoint, OneNote, Outlook Perpetual User License</td>
</tr>
<tr>
<td></td>
<td>50 users license</td>
</tr>
<tr>
<td></td>
<td>ANTI-VIRUS SYSTEM – 1 Lot</td>
</tr>
<tr>
<td>NSC Datacenter:</td>
<td>100 users</td>
</tr>
<tr>
<td>• Network Security endpoint</td>
<td>100 users</td>
</tr>
<tr>
<td>• Network Security Hardware Sensor</td>
<td>1 unit</td>
</tr>
<tr>
<td>• Endpoint Security</td>
<td>100 users</td>
</tr>
<tr>
<td>• Endpoint Security Essentials (cloud edition)</td>
<td>100 users</td>
</tr>
<tr>
<td>PSR Datacenter:</td>
<td>100 users</td>
</tr>
<tr>
<td>• Network Security endpoint</td>
<td>100 users</td>
</tr>
<tr>
<td>• Network Security Hardware Sensor</td>
<td>1 unit</td>
</tr>
</tbody>
</table>

**Hardware Requirement:**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>OS Supported</td>
<td>Microsoft Windows, Mac OS X</td>
</tr>
<tr>
<td>Performance</td>
<td>Up to 50 Mbps or more</td>
</tr>
<tr>
<td>Network Monitoring Ports</td>
<td>4x 10/100/1000 BASE-T Ports or more</td>
</tr>
<tr>
<td>Network Ports Mode of Operation</td>
<td>In-line Monitor, Fail-Close or Tap</td>
</tr>
<tr>
<td>Management Ports</td>
<td>2x 10/100/1000 BASE-T Ports [at least]</td>
</tr>
<tr>
<td>USB Ports</td>
<td>2x Type A USB Ports [at least]</td>
</tr>
<tr>
<td>Serial Port</td>
<td>115,200 bps, No Parity, 8 bits, 1 Stop Bit (RJ45 connector: RJ45-to-Dsub adapter cable is included) [at least]</td>
</tr>
<tr>
<td>Drive Capacity</td>
<td>Single 500GB 2.5 inch SATA HDD, internal, fixed [at least]</td>
</tr>
<tr>
<td>AC Power Supply</td>
<td>External 60 Watt 12V@30A Output AC Adapter, 90-264 VAC, 50-60 Hz, IEC60320-C14, Inlet, FRU</td>
</tr>
<tr>
<td>Regulatory Compliance Safety</td>
<td>IEC 60950</td>
</tr>
<tr>
<td></td>
<td>EN 60950-1</td>
</tr>
<tr>
<td></td>
<td>UL 60950</td>
</tr>
<tr>
<td></td>
<td>CSA/CAN-C22.2</td>
</tr>
<tr>
<td>Security Certifications</td>
<td>IPS 140-2 Level 1</td>
</tr>
<tr>
<td></td>
<td>CC NDDP v1.1</td>
</tr>
<tr>
<td>Regulatory Compliance EMC</td>
<td>FCC Part 15</td>
</tr>
<tr>
<td></td>
<td>ICES-003 Class A</td>
</tr>
<tr>
<td></td>
<td>AS/NZS CISPR 22</td>
</tr>
<tr>
<td></td>
<td>CISPR 32</td>
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<tr>
<td></td>
<td>EN 55032</td>
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<tr>
<td></td>
<td>EN 55024</td>
</tr>
<tr>
<td></td>
<td>IEC/EN 61000-3-2</td>
</tr>
<tr>
<td></td>
<td>IEC/EN 61000-3-3</td>
</tr>
<tr>
<td></td>
<td>IEC/EN 61000-4-2</td>
</tr>
<tr>
<td></td>
<td>V-2/2015 &amp; V-3/2015</td>
</tr>
<tr>
<td>Environmental Compliance</td>
<td>RoHS Directive 2011/65/EU</td>
</tr>
<tr>
<td></td>
<td>REACH</td>
</tr>
<tr>
<td></td>
<td>WEEE Directive 2012/19/EU</td>
</tr>
<tr>
<td>Max IPS performance</td>
<td>Up to 50 Mbps or more</td>
</tr>
<tr>
<td>Max IPS concurrent connections</td>
<td>15K at least</td>
</tr>
<tr>
<td>IPS new connections/second</td>
<td>750/sec or more</td>
</tr>
<tr>
<td>Other capabilities:</td>
<td>With search tool investigation for endpoints:</td>
</tr>
</tbody>
</table>
• Single agent with detection engines to minimize configuration and maximize detection and blocking;
• Endpoint protection with signature-base analysis, signature-less or machine learning detection, with behavior-based analytics, and real-time indicators of compromise or detection of hidden threats;
• with a signature-less, dynamic analysis engine that inspects suspicious network traffic to identify attacks that evade traditional signature- and policy-based defenses;
• Use a single small-footprint agent for minimal end-user impact;
• Single integrated workflow to analyze and respond to threats with Endpoint security;
• Fully integrated malware protection with antivirus (AV) defenses, remediation, behavior analysis, intelligence and endpoint visibility;
• Triage Summary and Audit Viewer for exhaustive inspection and analysis of threats;
• Enterprise Security Search to rapidly find and illuminate suspicious activity and threats:
• It should have a contextual dynamic rules engine that detects and blocks malicious activity in real-time and retroactively, based on the latest machine-, attacker- and victim-intelligence;
• It should also have intrusion prevention system (IPS) technology to detect common attacks using conventional signature matching;
• Should be able to analyze different file types, including portable executables, web content, archives, images, Java, Microsoft and Adobe applications and multimedia and others;
• Should have SSL intercept to examine encrypted traffic to detect threats (such as CnC traffic and data exfiltration) that attackers may hide in encrypted streams;
• Data Acquisition to conduct detailed in-depth endpoint inspection and analysis over a specific time frame;
• End-to-end visibility that allows security teams to rapidly search for, identify and discern the level of threats;
• Detection and response capabilities to quickly detect, investigate and contain endpoints to expedite response;
• Easy-to-understand interface for fast interpretation and response to any suspicious endpoint activity;
• Supported Operating Systems and Environments:
  o Windows - XP SP3, 2003 SP2, Vista SP1 and up, 2008, Win7, 2012, 8, 8.1, 10, Server 2016;
  o Mac - OS X
  o Linux
• Deployment Options: Onsite physical appliance (virtual and cloud service supported);
• Should have a proven track record and received different industry and government recognitions and certifications;
D. BIDDER’S ELIGIBILITY REQUIREMENT

D.1. Bidder must be Certified Sales Partner/Reseller of the product offered to ensure of its technical expertise on the offered solution/product.

D.2. Bidder should provide certificate that has 8x5 technical support capabilities. Bidder should identify the person responsible and provide his/her contact details i.e. name, position, contact numbers and email address.

E. WARRANTY AND MAINTENANCE

The Bidder shall provide warranty coverage of three (3) years on parts and labour for the delivered ICT equipment and shall provide a support service of not more than 3 hours of response time after receipt of call from client during the warranty period. In case that a delivered ICT equipment cannot be repaired on-site, service units are provided in good working condition.

F. SCHEDULE OF DELIVERABLES

The delivery of the items for the Supply and Delivery of Various ICT Equipment shall be within thirty (30) calendar days upon receipt by the supplier of corresponding Notice to Proceed (NTP).

G. INSTITUTIONAL REQUIREMENTS

a. The winning bidder shall coordinate with concerned personnel of the Information and Communication Technology Division (ICTID) for the conduct of any activity related to the fulfillment of their obligations to the NSC.

b. The bidder shall warrant that it shall conform strictly to the terms and conditions of this Terms of Reference.

c. The bidder must be an authorized distributor, reseller or partner of the manufacturer, as attested by a notarized original copy of certification to be submitted to the Chairman, NSC Bids and Awards Committee. The certification should be on stationery bearing the letterhead of the manufacturer and signed by the authorized person representing said manufacturer.

d. The bidder must submit a copy of manufacturer’s product brochures, specifications sheet, manuals etc., as appropriate of all the required equipment and/or systems. Any of these evidences should be downloadable from product or manufacturer’s website or otherwise verifiable by any means reasonable and acceptable to the Bids and Awards Committee.

J. REMUNERATION AND TERMS OF PAYMENT

The winning bidder shall be paid following this schedule:

| 100% of Total Contract Price | Upon completion of the delivery, inspection and acceptance of NSC - Inspection Committee |

K. PENALTY CLAUSE

In case of failure to complete the project within the time specified, a penalty of one-tenth of one percent (1/10 of 1%) of the total contract price for every day of delay shall be
imposed. It is construed that the ICT Equipment Project shall be made and completed within thirty (30) calendar days from the date of the issuance of the Notice to Proceed.

PREPARED BY:

Dr. Francis Jude S. Lauengco  
End-user Representative

Eduardo G. Pillora  
End-user Representative

Maricris Nicole S. Adalem  
End-user Representative

Annabelle C. Ragsac  
BAC-TWG

Federico Heriberto C. de la Llana  
BAC-TWG

Edwin A. Servigon  
End-user Representative

Katherine M. Acierda  
End-user Representative

Riana Victoria D. Santos  
End-user Representative

Raymund Fulge M. Angat  
BAC-TWG

Rizalino C. Nasayao III  
BAC-TWG

APPROVED BY:

Filonila D. Ballaan  
Assistant Director General, GASO  
Chair, Bids and Awards Committee