

TECHNICAL SPECIFICATIONS

Project Title: Supply and Installation of One (1) Lot Network Monitoring System and User Activity Management Solution.

PROJECT DESCRIPTION:

Supply, installation and configuration of Network Management Software that would allow BTr to gain insight into the health of the whole BTr network infrastructure and devices that are live and operational in the agency's network and provision of network monitoring server and distribution switch.

PROJECT DURATION: 45 CALENDAR DAYS

Compose of the following:

1 lot Network Monitoring and User Activity Management Solution, 45 days delivery.

1. Supply, installation, configuration of Fifty (50) Network Utilization Monitoring System Licenses.
2. Supply, installation, configuration of Five Hundred (500) User Activity Management System Licenses.
3. Provision of SMS GSM Modem
4. Provision of 1U Rack Mount Server for Network Monitoring
5. Provision of Network Switch (Managed)
6. Technical/Escalation Support Services

APPROVED BUDGET FOR THE CONTRACT (ABC): P3,000,000.00

The minimum requirement specified in this Technical Specifications shall be complied with. Non-compliance with these requirements is a ground for disqualification.

PURCHASER'S SPECIFICATIONS	SUPPLIER'S SPECIFICATION
<p>PART I. TECHNICAL SPECIFICATION.</p> <p>A. NETWORK UTILIZATION MONITORING SOLUTION (50 stand alone licenses)</p> <p>1. No Grace Period / Lock-in Period</p> <p>a. License must be a Perpetual License – BTr can use the software for an unspecified period of time or does not have an expiration date. The license is paid for once and does not need to be renewed.</p>	

- b. The current version of the application can be upgraded within the software maintenance period for a minimum of One Year and the supplier must be responsible for the application of the firmware upgrade with the supervision of the Systems Administration Division's Network Administrator/s.
- c. Annual Technical Support Service shall be renewed upon the discretion of BTr.

2. Network Discovery

Capable of automatically discovering all network device connected to the network.

- a. Scanning method: ICMP, Windows Domains and Workgroup, Novell eDirectory and SNMP v1, v2 and v3
- b. Discovery filters (Device Class, Operating System, OS version, Manufacturer, Model, Computer name, Location, Contact info, Network services)
- c. 67 predefined discovered network services
- d. Automatic discovery of newly attached devices
- e. Rescan networks and Windows Domains
- f. Three identification methods: auto, IP address, or DNS name

3. Network Visualization

Capability of the network utilization monitoring software to create network maps to clearly visualize performance of all managed network devices

<p>within the network.</p> <ol style="list-style-type: none"> a. Automatic mapping of physical topology maps b. Automatic map creation of routing topology maps c. Views on monitoring policy d. Default Windows Domains and Workgroup views e. Default e-Directory Tree views f. Favorite maps section g. Customized filtered views –for the particular operating system type (Windows, NetWare, Mac OS X, BSD and Linux) h. Bar chart summary views (network services and node state) i. Create custom dynamic rule-based views (based on filtering conditions specified by the user) j. Create custom network views (manually) k. Switch port mapping l. Customizable network map layout m. Network maps can fit up to 10,000 nodes n. Simplified management by Drag & Drop o. Ability to open Status window for number of selected nodes p. Ability to import/export map definitions (including policies), used to create new ones, based on the same data <p>4. Real-time Monitoring</p> <p>Capability of the network utilization software to provide real-time</p>	
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monitoring using available network services and can provide real-time statistics on user monitored services as shown below:

- a. Basic TCP/UDP network services: DNS, FTP, HTTP, HTTPS, PING, POP3, SMTP, SSH, SNMP, WINS)
- b. Additional TCP/UDP network services (over 67 extra services are predefined)
- c. User experience monitoring of network services: POP3, DNS, FTP, SMTP, HTTP/HTTPS
- d. Monitoring application services (e.g. MS SQL, Exchange, Lotus Domino, GroupWise)
- e. Monitor bandwidth, hardware utilization, and can actively check performance counters, or passively receive SNMP Traps from network devices.
- f. Windows Event Log Monitor
- g. Monitoring Windows services
- h. Full support for SNMPv3
- i. Monitoring system-specific bandwidth performance counters (Windows, NetWare, Mac OS X, BSD and Linux)
- j. Monitoring over 100 performance parameters for Linux
- k. Real-time performance charts
- l. Smart Monitoring (limiting monitoring traffic for specific subnetworks)
- m. Configurable SNMP request timeout for each node
- n. Ability to gather the basic inventory information of Windows machines (i.e. mainboard, processor type,

memory), with options to schedule inventory audit to be performed

- o. Automatically view installed software

5. **Alert Configuration**

Capable of providing different configuration for alert policies.

- a. Configure alerts at node, map and global level
- b. Predefined monitoring policies dedicated to monitor various operating systems, hardware, applications, SNMP, Windows, Linux, Mac OSX, BSD, and NetWare performance thresholds
- c. Service availability thresholds
- d. Advanced alerting defined by the user, based on state of the threshold conditions: basic, unexpected change, state, existence or value change.
- e. Set time delay for alerts (to avoid acting on temporary problems)
- f. Time policies for each user/group notification profile

6. **Alerting Actions**

- a. Send alert messages in HTML or plain text format
- b. Notify via Email, Pager, ICQ, SMS via email, SMS via GSM phone
- c. Show desktop notification, play sound
- d. Execute program or script locally/remotely
- e. Control Windows service (start, stop, pause, restart, and continue)

<ul style="list-style-type: none"> f. Restart/shutdown computer g. Set node monitoring state (enable/disable) <p>7. Performance Trend Reporting</p> <p>Capable of providing performance trend reports from different applications and devices.</p> <ul style="list-style-type: none"> a. Can provide predefined report templates b. Network services performance reports c. Node availability reports d. Windows, Linux, Mac OSX, BSD and NetWare performance reports e. Can be export as PDF f. Schedule automatic report distribution by email for annual reports g. Trend history viewing/analysis h. Manual export of performance trends data to external database (MS SQL Server, MS Access, Oracle, MySQL, DBISAM, Interbase, or ODBC) <p>8. Management Console</p> <ul style="list-style-type: none"> a. Network Utilization Monitoring Software must support window base management console as well as web-base management console. <p>9. Supported Operating System</p> <p>Network Utilization Monitoring Software must at least be able to run on Microsoft Windows Operating System:</p> <ul style="list-style-type: none"> a. Windows Server 2008, Windows Server 2003 	
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B. USER ACTIVITY MONITORING SOLUTION (500 STAND ALONE LICENSES)

1. No Grace Period / Lock-in Period

- a. License must be a Perpetual License – BTr can use the software for an unspecified period of time or does not have an expiration date. The license is paid for once and does not need to be renewed.
- b. The current version of the application can be upgraded within the software maintenance period for a minimum of One Year and the supplier must be responsible for the application of the firmware upgrade with the supervision of the Systems Administration Division's Network Administrator/s.
- c. Annual Technical Support Service shall be renewed upon the discretion of BTr.

2. Management

Should be able to provide central management console for all monitored devices discovered in the network.

- a. **Central Management Console**
- b. **Windows-based management-** must have a central management console installed through Windows OS.
- c. **Web-based management Console-** must have central management console through web-base.

3. Network Discovery

Capable of discovering all IP based network devices automatically and

<p>manually</p> <ul style="list-style-type: none"> a. Manual Network Discovery- capable of customized and specified network discovery. b. Automatic Network Discovery- capable of discovering new network devices automatically and can also discover services running on the discovered device. c. Automatic Network Mapping- capable of automatically creating a routing map of different discovered networks <p>4. Database</p> <p>Must use a database for historical event repository</p> <ul style="list-style-type: none"> a. Embedded Application Database- must have a NMS database for central repository of all events and information gathered on all network devices monitored. <p>5. Supported Operating System</p> <p>Capable of monitoring performance on different Operating Systems</p> <ul style="list-style-type: none"> a. Windows (all with WMI capability). b. Unix (Sun Solaris) c. Linux (all Linux) d. Mac OS <p>6. Common Protocols Monitored</p> <p>Capable of monitoring common TCP protocols.</p> <ul style="list-style-type: none"> a. FTP- Capable of monitoring File Transfer Protocol b. HTTP- Capable of monitoring Hypertext Transfer Protocol c. SNMP- Capable of monitoring Simple Network Management 	
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<p>Protocol.</p> <ul style="list-style-type: none"> d. POP3- Capable of monitoring Post Office Protocol e. SMTP- Capable of monitoring Simple Mail Transfer Protocol <p>7. SNMP Version Supported</p> <p>Capable of monitoring different versions of SNMP</p> <ul style="list-style-type: none"> a. SNMP Version 1- capable of monitoring devices that use SNMP V1 b. SNMP Version 2- capable of monitoring devices that use SNMP V2 c. SNMP Version 3- capable of monitoring devices that use SNMP V3 <p>8. Monitoring of SNMP Devices</p> <p>Should monitor SNMP enabled devices for performance monitoring</p> <ul style="list-style-type: none"> a. Network Routers- Capable of monitoring performance of network routers b. VOIP equipment- Capable of monitoring status of VoIP equipment c. Network Switches- Capable of monitoring performance of network switches d. User Workstations- Capable of monitoring user workstation status e. Application Servers- Capable of monitoring application server performance f. Security Door Access Devices- Capable of monitoring security access devices installed in the network g. Network Firewall Appliance- Capable of monitoring performance of network firewall 	
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9. **Routers and Switches Management**

Capable of *monitoring interface status changes and network in/out traffic performance.*

- a. **Network Switch/Router Port Mapper-** should have the capability of automatically map all switch/router ports on what devices are connected.
- b. **Network Switch/Router Interface Performance-** should be able to monitor switch/router interface performance.

10. **Asset Inventory**

Capable of software and hardware inventory of monitored workstations and servers

- a. **Installed Hardware-** capable of gathering all installed hardware in the monitored servers and workstations
- b. **Installed Software-** capable of gathering installed applications in the monitored servers and workstations

11. **Application/Systems Performance Monitoring**

Capable of monitoring system performance and availability of application servers on the entire IT infrastructure.

- a. **Systems Performance-** should be able to monitor system performance for Windows, Linux, Unix, Mac servers
- b. **Database Server-** should be able to monitor database system performance.
- c. **Mail Server-** should monitor system performance of incoming

<p>and outgoing email services</p> <p>d. Web Server- should be able to monitor web server page load and content changes</p> <p>12. User Activity monitoring</p> <p>Capable of monitoring user activities for each specific workstation and server</p> <p>a. User login and activity/inactivity time- should be able to monitor user activity and inactivity login time.</p> <p>b. Application usage- should be able to monitor user workstation application usage</p> <p>c. Visited Web pages- should be able to monitor web pages visited by every user workstations</p> <p>d. User bandwidth usage- should monitor user bandwidth usage</p> <p>e. User Activity Reporting- should have activity reporting for each user</p> <p>f. Performance Alerting- should have performance alerting for each monitored workstations</p> <p>g. Printing Monitoring- should be able to monitor printing activity</p> <p>h. E-mail monitor- should be able to monitor emails sessions for users</p> <p>i. Helpdesk (remote connection + screenshots)- should have remote control capability for technical support on workstations users</p> <p>13. Workstation Data Security</p> <p>a. Management for access policies of all I/O ports and physical devices</p> <p>b. Blocking Media and Ports</p> <p>c. Block Physical Devices and</p>	
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Interfaces (USB, SD Sockets, Portable Hard Disks, Firewire)

- d. Manage Users/Groups permissions to access/copy files

14. **Other Features:**

- a. Software/Hardware Audit
 - i. Capable of monitoring *software/hardware audit and configuration changes for each specific workstations and servers*
 - ii. **Software Audit-** should be able to monitor software verification and usage
 - iii. **Hardware Audit-** should be able to monitor hardware changes
 - iv. **Software/Hardware configuration changes-** should be able to monitor software/hardware configuration changes

15. **Supported Operating System**

User Activity Management Software must at least be able to run on Microsoft Windows Operating System:

- a. Windows Server 2008, Windows Server 2003

1. NETWORK EQUIPMENT

16. **SMS GSM Modem**

- a. **GSM Modem must be capable of the following Features:**
 - i. Must support Data service on EDGE/GPRS
 - ii. Capable of EDGE data up to 237 Kbps DL and 118Kbps

<ul style="list-style-type: none"> UL, 3GPP Release4, class 12 iii. Capable of GPRS data up to 85.6 Kbps DL and 42.8 Kbps UL iv. Auto-installation v. Capable to automatically detect and select network vi. Must have SMS service vii. Must have phonebook function viii. Must have support for SMS and Data service simultaneously <p>b. GSM Modem must have the following specifications:</p> <ul style="list-style-type: none"> i. Network: EDGE/GPRS/GSM ii. Frequency: 850/900/1800/1900 MHz iii. SIM Card: Compatible with 3.0V/1.8V Standard 6 PIN iv. SIM card interface v. SMS operation: New/send/reply/forward/delete SMS, save vi. SMS storage: SMS save in SIM or in host computer vii. Phonebook: New /edit/delete contact, import from SIM to PC viii. Must have SMS Software <p>c. GSM MODEM Management Software</p> <ul style="list-style-type: none"> i. SMS Auditing ii. SMS Campaign Manager iii. SMS History iv. Phonebook v. Phonebook Manager vi. OS Support: Windows 98, Me, 2000, XP <p>d. Warranty: 1 yr parts and labor</p> <p>17. Network Monitoring Server</p>	
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NMS server must have the following specifications:

- a. **Processor:**
- b. 1 x Quad-Core Intel Xeon 2.0 GHz
- c. **Memory:** 4 GB
- d. **Network Controller:** Dual Gigabit Network Adapters
- e. **Hard Drive:** SATA 720 GB
- f. **Optical Drive:** 1 DVD/RW optical drive (same brand as the server)
- g. **Hardware Warranty:** 3 years parts, 3 years on-site (standard business hours, next business day response), and 3 years labor

18. **Network Switch (Managed)**

One (1) Unit 24 auto-sensing 10/100/1000 ports

- a. **Ports:** 20 auto-sensing 10/100/1000 ports with 4 dual personality ports
- b. **Specifications:**
 - i. IEEE 802.1w Rapid Reconfiguration of Spanning Tree
 - ii. IEEE 802.1Q VLANs
 - iii. IEEE 802.3x Flow Control
 - iv. 802.1p: Traffic prioritization
 - v. 802.1ab: LLDP discovery
 - vi. 802.1D: Bridging
 - vii. 802.3ad: Link Aggregation Protocol
 - viii. IEEE 802.1s Multiple Spanning Tree
- c. **Warranty:** True Lifetime Warranty

C. TECHNICAL/ESCALATION SUPPORT SERVICES
(For a period of one year)

- 1. Provide 8 x 5 email and phone support
- 2. Provide once a month visit on client for

- system health check
- a. The Bidder must have Technical Support Engineer to personally check the health, performance, availability and effectiveness of the proposed solution to ensure that the system is running in good operating conditions.
 - b. The Bidder shall submit, on a monthly basis, the following Report Requirements
 - i. Systems report consolidation and analysis
 - ii. Consolidation and inventory of rules and policies deployed.
3. Provide detailed escalation procedure specially designed for BTr for proper isolation of issues encountered during the One (1) year maintenance period.
4. Monitoring Rules and Policy Hardening
- a. Provide evaluation reports and recommendations to continuously ensure reliable and secured management of the entire network.

PART II. OTHER VENDOR REQUIREMENTS

A. STATEMENT UNDER OATH OF BIDDER’S BUSINESS EXISTENCE AND EXPERTISE

1. The Bidder must be an ICT company with multi-disciplinary expertise and/or experience in different fields of ICT, Network Management, Security Management Solution Software, Network Design, Systems Architecture and Application Development, with experience in the Data Center Design, Installation, and Configuration of data center components.
2. The Bidder must be operating in the Philippines for the past fifteen (15) years.
3. The Bidder must have completed projects that are similar to the project to be bid in an amount equivalent to 50% of the ABC.
(submit proof)

Note: Similar projects are those Management Software such as Physical Layer Management Software (OSI Layer1) and Internet Security Management Software.

4. The Bidder must have completed consultancy project involving network assessment and design enhancement, network asset inventory, network health and performance, network monitoring and management of end-to-end LAN and WAN status for the past 5 years. (submit proof)
5. The Bidder must have installed at least 500 licenses of related management software. (submit proof)
6. The Bidder must have developed an Escalation Procedure that was accepted and used by the Client. (submit proof)

B. BIDDER'S CERTIFICATIONS REQUIRED

1. Certificate from the manufacturer that the product and model to be bid is being manufactured by the concern manufacturer.
2. Certification issued by the Manufacturer of the proposed NMS software that the bidder is the authorized reseller and support provider in the Philippines.
3. Certification from the Distributor of the proposed NMS software that the Distributor is willing to extend its support to the Bureau of the Treasury for the product being offered by the bidder.
4. Certificate that the Bidder has, in its regular employ, at least for the past two (2) years, technical personnel trained in:
 - a. Network Management Software, Security related Management Software, Intelligent Surveillance Monitoring Software, Physical Layer Connectivity Management Software (OSI Layer1) and Open Source operating system administration.
5. Certificate from the Bidder that the Key Personnel herein required in item D shall be made available to BTr once project is awarded.

C. CLIENTELE

1. List of clients
2. The Bidder must submit at least five (5) Certificates of Satisfactory Performance/Completion from previous clients

D. KEY PERSONNEL QUALIFICATIONS FOR THE IMPLEMENTATION OF THE PROJECT AS BIDDERS COMPETENCY REQUIREMENT

Minimum required experience of key personnel under regular employ of the Bidder. (*Submit copy of curriculum vitae, company ID and training certificates*).

1. **One (1) Project Manager or equivalent:**
 - a. Preferably a Computer Engineering degree holder with an aggregate experience of at least ten (10) years with extensive knowledge and experience in network design, systems integration and IT project implementation.
 - b. With training and experience in the design, deployment, integration and implementation of OSI Layer1 Physical Layer Connectivity Management solution.
 - c. With training in Security Information Management Software Administration and Management or equivalent.
2. **One (1) Certified Administrator or equivalent**
 - a. Trained and Certified in Network System Management by an OEM
 - b. Certified Administrator of Physical Layer Connectivity Management Software (OSI Layer 1) or equivalent.
 - c. Certified in Security Management Software and Intelligent Surveillance Monitoring Software installation and configuration by an Original Software Manufacturer (OSM)
 - d. Formal training in Linux Systems Administration
3. **One (1) Systems Engineer or equivalent**
 - a. Certified in Implementing MS Windows 2000 Professional and Server.
 - b. Trained and certified in Back-up Management Software
 - c. Certified in Security Information Management Software Administration and Management or its equivalent.

<p>4. One (1) Network Engineer or equivalent</p> <p>a. Certified Wireless Broadband Technical Engineer by an industry-known broadband wireless manufacturer.</p> <p>b. Certified as Internet Security Specialist by an OSM</p> <p>E. Mode of Payment</p> <p>1. Within 30 days upon completion of delivery and issuance of certificate of acceptance by BTR through the Systems Administration Divisions.</p> <p>2. One-time payment of the contract shall be made upon completion of supply, delivery, installation of the Network Monitoring System, GSM Modem, Network Server, and Distribution Switch, and issuance of certificate of acceptance by the end-user.</p> <p>3. Technical/Escalation Support component shall not form part of the requirements for the payment of the contract.</p> <p>4. For failure to completely deliver any portion of the goods, a penalty equivalent to one-tenth of one percent (0.1%) of the total cost of the unperformed portion of the goods and services shall be imposed for everyday of delay.</p>	
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