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**Memorandum For General Proposal Configurations and/or Additions**

**To:** Vendors with a current valid proposal for RFP #3301 for Windows/Apple Hardware/Software

**From:** David L. Litchliter

**Date:** April 2, 2003

**Subject:** Configuration assistance for Storage Area Network equipment for Project #34312 for the Mississippi Public Service Commission

**Contact Name:** Shey Williams

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The Mississippi Department of Information Technology Services (*ITS*) is seeking the hardware, software and services described below for purchase by the Mississippi Public Service Commission (PSC). Our records indicate that your company currently has a valid proposal on file at ITS in response to RFP#3301 for Windows/Apple Hardware/Software. We are requesting your configuration assistance for the information described below. Due to the extremely competitive pricing of network components and services, and to insure that every necessary component is included in each vendor's proposal, we are asking that you submit a written response for the requested equipment and/or services.

**1. BACKGROUND**

The Mississippi Public Service Commission (PSC) requires a scalable storage infrastructure that will allow for rapid expansion and allocation of capacity on an as-needed basis. The solution should provide a mechanism that will allow systems to simultaneously access the storage subsystem via Fibre Channel in a secure manner and Internet Small Computer System Interface (iSCSI) protocol in a secure manner. This will allow the PSC to utilize its existing Gigabit Ethernet IP network to access the information residing on the storage subsystem being proposed.

The PSC requires a storage infrastructure that will provide a consolidated storage solution supporting Windows NT/2000 and IBM AIX servers. Servers will be connected to the Storage Area Network (SAN) via Fibre Channel and over the existing IP network using iSCSI. The PSC has twelve (12) servers with the following characteristics.

Server Make/Model	OS/Service Pack	Function
Compaq ML570	Win2K/SP3	File Server (100 users)
Compaq DL380	Win2K/SP3	Active Directory Domain Controller, DNS Server, DHCP
Compaq DL380	Win2K/SP3	Active Directory Domain Controller, DNS Server
Compaq DL380	Win2K/SP3	Exchange 2000 email server (125 users)
Compaq DL380	Win2K/SP3	Intranet IIS Web Server, Document Imaging Application
Compaq DL380	Win2K/SP3	Public IIS Web Server
Compaq DL380	Win2K/SP3	Oracle Application Server (5 users)
Compaq Proliant 5000	Win 2K/SP3	Backup (Veritas Backup Exec. 8.6)/Fax Server
Compaq Proliant 5000	Win2K/SP3	Test Server
Compaq SFF D51S	Win2K/SP3	Optical Jukebox Server (Imaging System)
IBM RS6000 7025-F50	AIX 4.3.3.0	Database (Sybase) Server – Production
IBM RS6000 7025-F50	AIX 4.3.3.0	Database (Sybase) Server – Test Server

## 2. EQUIPMENT SPECIFICATIONS

Please provide pricing for the equipment listed below. Vendors are required to propose new equipment. Also, vendor must be aware that the specifications detailed below are minimum requirements. Should vendor choose to propose equipment that exceeds the requirements, it is the vendor's responsibility to specify in what manner the proposed equipment exceeds the requirements.

- 2.1 Fibre Channel storage array with dual active controllers, each with two (2) FC ports supporting 2 gigabit per second host connections and two (2) 2 gigabit per second Fibre Channel Arbitrated Loops (FC-AL), supporting disk drives
- 2.2 Redundant, hot-swappable components
- 2.3 Must provide a minimum of 700GB useable storage
- 2.4 Must support high throughput 10,000rpm and 15,000rpm 2 gigabit per second Fibre Channel disk drives
- 2.5 Expandable up to 100 disk drives using a combination of 36GB, 72GB and 146GB capacities
- 2.6 Global dynamic hot sparing of disk drives

- 2.7 Mirrored write cache with battery backup
- 2.8 Non-disruptive microcode upgrades
- 2.9 Must support RAID 0, RAID 1, RAID 1+0 and RAID 5
- 2.10 Preventive maintenance service feature that can “call-home” to a central service center via an analog phone line. The analog phone line will be provided by the PSC. Vendor must provide requirements for this feature. The call home feature will be used to notify the PSC of impending problems with the SAN. If Vendor is proposing utilizing the call home feature to notify of problem, establish a connection and then allow a technician to work on the system through that connection, vendor must be aware that the use of a VPN will be required.
- 2.11 Host failover and alternative path support (including support for Veritas Dynamic Multi-Path)
- 2.12 Heterogeneous open systems connectivity with virtual ports and host storage domains
- 2.13 Non-disruptive expansion to a minimum of 30TB
- 2.14 Must support the ability to lock logical unit numbers (LUNS) into cache as an option, for performance acceleration of frequently accessed data
- 2.15 Sub-system must support 2GB Read/Write Cache
- 2.16 Two (2) Fibre Channel/iSCSI storage routers providing a minimum of eight (8) FC and iSCSI drivers to support IBM AIX and Windows NT/2000
- 2.17 Fibre Channel Host Bus Adapters (HBAs) for connectivity to the SAN from two of the Windows 2000 servers. Redundant connectivity will be provided via iSCSI. Therefore dual HBAs are unnecessary.
- 2.18 Fibre Channel Host Bus Adapters (HBAs) for connectivity to the SAN from one (1) of the IBM AIX servers. Redundant connectivity will be provided via iSCSI. Therefore dual HBAs are unnecessary.
- 2.19 Rack-mounted, automated, robotic fiber-channel attached tape library including the following:
  - 2.19.1 Two (2) SDLT220 tape drives
  - 2.19.2 Slots for up to 21 SDLT220 tape cartridges
  - 2.19.3 2.3TB native capacity
  - 2.19.4 11MB per second Native sustained transfer rate
  - 2.19.5 20 SDLT Tape 1 cartridges
  - 2.19.6 All required cables
  - 2.19.7 Compatibility with Veritas Netbackup 4.5

### **3. SOFTWARE REQUIREMENTS**

- 3.1 Open, extensible, modular storage management software based on the following industry standards
  - 3.1.1 Common Information Model (CIM)
  - 3.1.2 Simple Object Access Protocol (SOAP)
  - 3.1.3 Storage Network Industry Association's (SNIA) Bluefin Storage Management Initiative
- 3.2 Storage array hardware must include software that will allow central management of all storage arrays from a single host system.
- 3.3 Storage array must include array-based point-in-time volume image replication software (**Snapshot or pointer based copy solutions will not be acceptable**).
- 3.4 One (1) Veritas Netbackup DataCenter for Windows 2000 Server Version 4.5, Standard License, Tier 2 with the following.
  - 3.4.1 Two (2) Netbackup, Datacenter, Unix client license, version 4.5, standard license, tier 2
  - 3.4.2 One (1) Netbackup, Datacenter, Windows NT/2000, Oracle Agent, version 4.5, standard license, tier 2
  - 3.4.3 One (1) Netbackup, Datacenter, Unix, Sybase Agent, version 4.5, standard license, tier 1
  - 3.4.4 One (1) Netbackup, Datacenter, Windows NT/2000, Microsoft Exchange Agent, version 4.5, standard license, tier 2
  - 3.4.5 Eight (8) Netbackup, Datacenter, Windows NT/2000, Client License, version 4.5, standard license, tier 2
  - 3.4.6 Two (2) Netbackup, Datacenter, Library-based Tape Drive Support, version 4.5, standard license, tier 2

#### **4. SERVICE REQUIREMENTS**

- 4.1 Vendor will be responsible for installation. We anticipate, at a minimum, the following items will be required for the successful installation of the SAN equipment and software. If vendor sees that additional services are required, these services must be detailed in vendor's proposal. Vendor must include the maximum number of hours required for the installation and an hourly rate for installation.
  - 4.1.1 Unpack and inventory storage array equipment and software
  - 4.1.2 Verify and record serial numbers
  - 4.1.3 Install storage array hardware
  - 4.1.4 Perform a power-on self-test on the storage array
  - 4.1.5 Connect host to management interface on storage array
  - 4.1.6 Install storage array management software on host
  - 4.1.7 Configure storage array through management software
  - 4.1.8 Check firmware revision on the storage array processors
  - 4.1.9 Configure RAID groups and format disks
  - 4.1.10 Configure small tests LUNs
  - 4.1.11 Install and configure additional array-based software including LUN masking, Snapshot
  - 4.1.12 Test array-based software with test LUNs

- 4.1.13 Install Fibre Channel HBAs and driver in servers that will connect to storage array
  - 4.1.14 Reboot servers and test that HBAs are installed correctly
  - 4.1.15 Unpack and inventory Fibre Channel (FC)/iSCSI storage routers
  - 4.1.16 Perform a power-on self-test on the storage routers
  - 4.1.17 Set TCP/IP address of management interface on storage routers
  - 4.1.18 Connect through management interfaces and configure storage routers to provide LUN security
  - 4.1.19 Check firmware revisions of storage routers
  - 4.1.20 Configure zoning if required on storage routers
  - 4.1.21 Install Gigabit Interface Converters (GBICs) and rack-mount storage routers
  - 4.1.22 Install MM fiber-optic cabling from storage routers to storage array
  - 4.1.23 Install MM fiber-optic cabling from HBAs in servers to the storage routers
  - 4.1.24 Verify proper operation of all SAN components
  - 4.1.25 Test backup/restore process with snapshot copy of data
  - 4.1.26 Document storage network configuration
  - 4.1.27 Perform user training with specified network storage manager(s)
  - 4.1.28 On-site the day after implementation to verify system functionality and handle any problems that may arise
  - 4.1.29 Perform final configuration and post installation signoff
- 4.2 Installation and configuration of tape library. Vendor must fully describe what will be included in the installation and configuration of the tape library. Vendor must include the maximum number of hours required for the installation and an hourly rate for installation.
- 4.3 Installation and configuration of Netbackup disaster recovery solution. Vendor must configure the Veritas Netbackup software to provide a disaster recovery solution according to the backup requirements of the PSC. The PSC will provide the backup requirements for its network to the awarded vendor. Vendor must include the maximum number of hours required for the installation and an hourly rate for installation.
- 4.4 Installation will be performed on-site, during normal business hours (Monday through Friday between the hours of 8:00 a.m. and 5:00 p.m.).
- 4.5 PSC personnel will participate in the installation of all hardware and software.
- 4.6 Vendor will be responsible for replacing, restoring, or bringing to at least original condition any damage to floors, ceilings, walls, furniture, grounds, pavements, sidewalks, etc. caused by its personnel and operations during the installation of the SAN solution, subject to final approval by PSC. All repair work must be performed by technicians skilled in the various trades involved using materials and workmanship to match those of the original construction in type and quality.
- 4.7 Vendor must provide all costs associated with conducting training/knowledge transfer for the design, implementation, configuration and administration of the SAN for two to three PSC employees. All training will be performed on-site at PSC. Vendor must include a detailed training solution in their proposal. Training must include, at a minimum, conceptual lecture-type instruction and practical hands-on instruction that is specifically focused on the PSC SAN.

## **5. WARRANTY/MAINTENANCE**

- 5.1 Vendor must specify the warranty and state the warranty period for the items (including hardware and software) proposed, during which time the maintenance need not be paid.
- 5.2 If the warranty period is less than three (3) years, vendor must provide cost to extend the warranty to three (3) years. Specify annual cost, if any, period of extension, days and hours or coverage and response time.
- 5.3 Minimum telephone response time is one (1) hour and the minimum on-site response time is four (4) hours.
- 5.4 Vendor must identify the location of their nearest service center that will provide maintenance for this equipment.
- 5.5 Vendor must identify the number of employees located at the service center referenced in 5.4.
- 5.6 Vendor must provide in their proposal details on how support personnel will be dispatched to provide support for this equipment.
- 5.7 Vendor must state the percentage increase, if any, of Vendor's proposed pricing for years two, three, four and five. In no event should the annual increase exceed 7%.
- 5.8 Vendor must provide details and costs for all associated software licenses and maintenance fees.

## **6. ADDITIONAL REQUIREMENTS**

- 6.1 Vendor must be an authorized reseller of the manufacturer storage system being proposed.
- 6.2 Vendor must have the following certifications
  - 6.2.1 Silver or Gold Partner – if applicable to manufacturer rating
  - 6.2.2 Cisco Storage Advanced Technology Partner (ATP) for Storage Solutions – if vendor is proposing a Cisco solution. If vendor is proposing a solution other than Cisco, vendor must indicate certifications held pertaining to the proposed solution.
  - 6.2.3 Cisco CCIE Certification
- 6.3 Vendor must have at least one individual on staff with the following experience that will be assigned to this project. This individual must be available during the installation, implementation, and maintenance of the SAN.
  - 6.3.1 Minimum three (3) years experience with internetworking
  - 6.3.2 Minimum three (3) ears experience with IPX and TC/IP protocols
- 6.4 Vendor must at least one individual on staff with the following experience that will be assigned to this project. This individual must be available during the installation, implementation, and maintenance of the SAN.

- 6.4.1 Minimum of two (2) years experience with project configuration, troubleshooting, and networking on Vendor's proposed storage area network solution.
- 6.5 Vendor must specify the delivery interval proposed by his/her company.
- 6.6 Vendor must specify the discounted price for each item. Freight is FOB destination. All required costs, including freight and insurance, as necessary, must be specified.
- 6.7 If any component necessary for operation of the requested systems is omitted from vendor's proposal, vendor must be willing to provide that component at no additional cost. This includes, but is not limited to, all connectors and interfaces to render the configuration fully operational.
- 6.8 Vendor must provide all technical specifications and manuals (documentation) at the point of sale.
- 6.9 If vendor proposes more than one alternative (no more than two), vendor is responsible for identifying which alternative he/she believes is the best fit to meet the requirements.
- 6.10 Vendor must provide a minimum of two references for projects in which they have completed the installation of a SAN. Reference information must include the following items:
  - 6.10.1 Entity
  - 6.10.2 Supervisor's name
  - 6.10.3 Supervisor's telephone number
  - 6.10.4 Supervisor's email address
  - 6.10.5 Length of Project
  - 6.10.6 Brief Description of Project
- 6.11 The State will use the following items to evaluate the lowest and best responder.
  - 6.11.1 Cost
  - 6.11.2 Exceeds Specifications
  - 6.11.3 Warranty
  - 6.11.4 References
  - 6.11.5 Added Value
- 6.12 The winning vendor may be required to sign a Purchase Agreement. A copy has been attached for reference.

**7. ADDED VALUE**

ITS & the PSC are requesting the vendors to propose any additional value-added features, products and/or services that may distinguish your company from the group and facilitate our

selection process of the lowest and best proposal. ITS and PSC will make the sole assessment of the relative merits of each added-value proposal to the agency.

## **8. INSTRUCTIONS TO SUBMIT PRODUCT AND COST INFORMATION**

- 8.1 Vendors must provide a fixed price for the equipment.
- 8.2 Please use the attached cost information summary form to provide cost. Follow the instructions on the form. Incomplete forms will not be processed.

## **9. PROPOSAL REQUIREMENTS**

- 9.1 Respond to each point in all sections and exhibits with the information requested. Label and respond to each outline point in each section and exhibit as it is labeled in the Letter of configuration (LOC).
- 9.2 The vendor must respond with 'ACKNOWLEDGED', 'WILL COMPLY' or 'AGREED' to each point in each section within this LOC with which the vendor can comply.
- 9.3 If vendor cannot respond with 'ACKNOWLEDGED', 'WILL COMPLY', or 'AGREED', then vendor must respond with 'EXCEPTION'. If vendor responds with 'EXCEPTION', vendor must provide detailed information related to that response.
- 9.4 Where an outline point asks a question or requests information, vendor must respond with the specific answer or information requested.
- 9.5 Vendor must deliver this quotation to Shey Williams at ITS by Wednesday, April 16, 2003, at 3:00 P.M. Quotations may be delivered by hand, via mail or by fax. Fax number is (601) 354-6016. **ITS WILL NOT BE RESPONSIBLE FOR DELAYS IN THE DELIVERY OF QUOTES.** It is solely the responsibility of the vendor that quotes reach ITS on time. Vendors should contact Shey Williams to verify the receipt of their quotes. Quotes received after the deadline will be rejected.

If you have any questions concerning this request, please email Shey Williams of ITS at [shwilliams@its.state.ms.us](mailto:shwilliams@its.state.ms.us). **Any questions concerning the specifications detailed in this LOC must be received by Wednesday, April 9, 2003, by 3:00 P.M. (Central Time).**

Enclosure: Cost Information Summary Form

### COST INFORMATION SUMMARY FORM

Please submit the ITS requested information response under your general proposal #3301 for project #34312 using the following format. Fax your completed form back to 601-354-6016 addressed to the Technology Consultant listed on the fax cover sheet. If the necessary information is not included, your response cannot be considered.

**ITS Technology Consultant Name:** Technology Consultant who contacted you

**RFP#** 3301

**Company Name:** XYZ Company

**Date:** June 2, 2001

**Contact Name:** Your Name

**Phone Number:** 601-555-3737

Product #	Product Description	Qty	List Price	Disc %	Extended Price
<b>Equipment</b>					
	SAN Hardware				
	Tape Library				
<b>Equipment</b>					
	SAN Hardware				
	Tape Library				
<b>Services</b>					
	SAN Hardware Installation				
	Tape Library Installation				
	Backup Software Installation				
	Training				
<b>Warranty/Maintenance</b>					