UNIVERSITY OF KERALA
KARIAVATTOM CAMPUS, TRIVANDRUM 695 581
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PURSE PROGRAMME

Quotation Notice

QTN No. UOK/PURSE/12-03/2012   17-02-2012

Sealed competitive quotations are invited from the manufacturers/suppliers, for the supply of following hardware items for the use in the PURSE central facility, University of Kerala, Kariavattom.

Sl. No	Details of Hardware	Qty	Specifications
1	Master Server IBM x3550	1	As per detailed specification as attached
2	Servers IBM x3550	4	As per detailed specification as attached
3	Switch	1	As per detailed specification as attached
4	UPS	1	As per detailed specification as attached
5	Rack Cabinet	1	**Standard 42 U Rack cabinet must be provided to contain all the components asked for in the tender.**

Terms and conditions

- Implementation charges must be quoted as a separate line item in the quotation
- The price quoted should be that applicable for the educational purpose.
- The price quoted should be for supply, installation, demonstration and testing at the University campus, Kariavattom.
- The hardwares should have a warranty for 3years.
- Immediate service should be provided, which in no way should not exceed 24 hours.
- The quotations, complete in all respects should reach the "Co-Ordinator-PURSE, University of Kerala, Kariavattom, Thiruvananthapuram – 695 581" before 4pm on 12 03 2012.

Co-Ordinator-PURSE
University of Kerala
Kariavattom Campus

Specifications of Master Server IBM x3550	
Parameter	**Specifications**
Processor	Dual Hexa Core Processor Intel Xeon E5645 @ 2.40 Ghz
L3 Cache	12 MB
Chipset	Intel Chipset/ OEM Chipset / Or Equivalent
Memory	Server should be configured with 24 GB memory (2 * 4GB **) and (2 * 8 GB)** PC3-10600 1066MHz LP 240-pin Registered ECC DIMMs
DIMM Slots	Server should support 18 DIMM Slots
Memory Property	DDR3 Registered Memory with Active Memory Protection
Hard Disk Drives	2* 300GB 10K SAS 6Gbps 2.5in Slim-HS HDD. Server should support up to 8 2.5" SAS/SATA hard disk or Solid state drives
RAID Controller	Integrated 6Gbps SAS hardware RAID 0, 1 and 10 . Raid controller should support on line Raid level migration, on line capacity expansion and data scrubbing as well.
Optical Drive (Optional)	DVD-RW
Graphics Controller	16MB DDR2-SDRAM
Gigabit Ethernet Ports	Two Gigabit Ethernet ports with full duplex / **TCP/IP Offload Engine (TOE).**
PCI Slots	3 PCIe slots
Redundant Power Supply	Server to be configured with Redundant Power Supplies
Form Factor	1U
Server Management	Server should support Management features as :
	Latest OS failure screen capture, Graphical console redirection over LAN, Support for IPMI v2.0 compliant management software, SSL (Secure Socket Layer) and LDAP (Lightweight Directory Access Protocol) support
	IPMI over LAN, Serial Over LAN, Highly secure remote power on/off, NMI/SMI detection and generation, System reset control, Monitoring of system and battery voltage, system temperature, fans, power supplies,processor and DIMM status, NMI/SMI detection and generation
Server Management	Should be able to discover systems and other resources in a heterogeneous environment and Collect inventory data about hardware and software that is currently installed on systems
	Should be able to view and manage the status, problems and events for discovered systems
	Should be able to determine the health, compliance, and performance of managed systems by viewing detailed information about the problems by inspecting the event log
	Capable of automatically send the notifications for hardware events or when thresholds are exceeded
	Capable of doing configuration management of other systems by Initially configuring one or more systems (hardware and operating systems). Automatically configure newly discovered systems
	Should have feature like update manager for detecting and viewing out-of-date systems and also get a notification when systems are in need of updates and which updates are needed. Download, distribute and install available and requisite updates
	Should e able to do the graphical remote control tools including VNC, RDP, and web-based remote control for AMM, ILO, IMM, and RSA
	Able to discover and Work with virtualized environments including Microsoft Virtual Server, VMware, and Xen. Capable of viewing topology that shows the connections between physical and virtual resources
	Create automation plans based on events from virtual and physical resources and automation actions such as relocating a virtual server based on critical hardware alerts
	Create, delete and manage virtual servers and virtual farms for several virtualization technologies
	Relocate virtual servers to alternate physical hosts
	Ability to discover network devices and review network device inventory . Able to Monitor the health and status of network devices. View network device configuration settings, and apply templates to configure devices
	Management software should have upward integration with HP OpenView , Microsoft System Center Operations Manager , CA Unicenter , Tivoli Enterprise

SPECIFICATION OF SERVERS IBM x3550	
Parameter	**Specifications**
Processor	Dual Hexa Core Processor Intel Xeon E5645 @ 2.40 Ghz
L3 Cache	12 MB
Chipset	Intel Chipset/ OEM Chipset / Or Equivalent
Memory	Server should be configured with 8 GB memory (2 * 4GB **)** PC3-10600 1066MHz LP 240-pin Registered ECC DIMMs
DIMM Slots	Server should support 18 DIMM Slots
Memory Property	DDR3 Registered Memory with Active Memory Protection
Hard Disk Drives	1* 300GB 10K SAS 6Gbps 2.5in Slim-HS HDD. Server should support up to 8 2.5" SAS/SATA hard disk or Solid state drives
RAID Controller	Integrated 6Gbps SAS hardware RAID 0, 1, and 10 . Raid controller should support on line Raid level migration, on line capacity expansion and data scrubbing as well.
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Specifications of Switch (1 Gb) :

Sr. No.	Description
A. Hardware Features	
Interface Options	• Minimum 44*10/100/1000 T Ethernet Ports + 4*1G SFP Ports + 2 Expansion Slots. Expansion Slots should provide minimum 4 * 10G SFP+ Ports or higher. • SFP+ Supported include SR, LR, ER • SFP Supported include T, SX, LX • 1 fixed mini USB console port for management
B. Redundancy	Switch should support both Redundant AC & DC power supplies and fans.
C. Latency	Latency upto 4.6 microseconds or lower
D. Performance	100% Line-Rate Performance, 480 Gbps (Full Duplex) Non-Blocking Switching throughput
E. Software Features	
Security	802.1x with VLAN assignment, Private VLAN edge
	RADIUS, TACACS+, Wire Speed Filtering
	Flexible ACL combinations—L2-L4 criteria
	Source and Destination MAC, IP, TCP/UDP Ports. SSH v1, v3
	HTTPS Secure BBI, MAC Address move notification
	SCP, Shift B Boot menu (Password Recovery/ Factory Default)
VLANs	Port-based VLAN, 4096 VLAN IDs supported
	1024 Active VLANs (802.1Q), 802.1x with Dynamic VLAN assignment
	Private VLAN Edge
Trunking	LACP, Static Trunks, Configurable Trunk Hash algorithm,
	Cross Stack Trunks, Trunk Hashing support (RTAG 7)
Spanning Tree	Multiple Spanning Tree (802.1s), Rapid Spanning Tree (802.1w)
	Fast Uplink Convergence, PVRST+
Quality of Service	QoS 802.1p, DSCP, Weighted Round Robin
	Metering, 4MB buffers for queuing
Routing Protocols	128 Static Routes, Layer 2/3 Static Routes
	RIP v1/v2, OSPF v3, BGP, IPv6
High Availability	Uplink Failure Detection, HotLinks or equivalent
	Virtual Router Redundancy support (VRRP), Layer 2 failover
Multicast	IGMP v1, v2, v3 Snooping with 2K IGMP groups Monitoring
	Port Mirroring, ACL-based mirroring, sFlow version 5
Virtualization	VMready VI API support
	Virtual switch stacking with up to minimum 6 switches
	vNIC MIB support for SNMP, Netboot
F. Management Features:	
Clients	CLI, Browser-based client, SSH, or Telnet
Standard Protocols	SNMP v1, v2c, v3, RMON, Secondary NTP Support, Accept DHCP
	LLDP, 16K MAC Table, 9K Jumbo Frames, 802.3X Flow Control
G. Environmental Specifications	Temperature - Ambient operating: 0º C to +40º C
	Altitude - Operating 3,050 m (10,000 feet)
	Acoustic - Noise - Less than 65 dB
	Heat Dissipation - 520 BTU/hour
H. MTBF	195,000 hrs with ambient operating temperature of 40º C

Specifications of UPS

Online UPS - 5 KVA - 1 No		
Spec No.	**Particulars**	**Specifications**
1	UPS brand	Any standard brand which meets the requirements and quality
2	Phase	Single
3	Power factor	0.9 / Above
4	AH of battery	130 AH
5	Battery type	Tubular
6	Number of batteries	10 / above
7	Battery warranty	3 years
8	Technology used	IGBT
9	Nature of output	True sine wave
10	Backup time	2 Hrs / above
11	UPS warranty	3 Years