**PRIESTLEY COLLEGE - TENDER FOR SAN / VMWARE HOST PROJECT**

**Current SAN / VMware environment Summary**

* Priestley College currently uses a fault-tolerant Fujitsu SAN comprising of a Primary SAN and Secondary SAN located in two physically separate buildings.
* Uses Storage Cluster for DX200 which automates the failover process, meaning no manual intervention is required and uptime is optimised.
* 4 Physical VMWare Host Servers
* Uses VMWare 6.7 Enterprise Plus

**CURRENT HARDWARE**

**SAN SPECIFICATION (PRIMARY)**

* 1x Fujitsu DX200 S3 SAN Base Enclosure (24 x 2.5")
* 1x Fujitsu DX200 S3 SAN Expansion Shelf (24 x 2.5") with 2x IO Modules to connect to base
* 2x Fujitsu DX200 S3 SAN SSD SAS 400GB 12G (2.5”) – SSD Front End Cache
* 46 x DX200 HD 2.5" 1.2TB 10krpm
* 1x Storage Cruiser management software needed to run ETERNUS stack
* Advanced remote copy manager software

**SAN SPECIFICATION (SECONDARY)**

* 1x Fujitsu DX200 S3 SAN Base Enclosure (24 x 2.5")
* 1x Fujitsu DX200 S3 SAN Expansion Shelf (24 x 2.5") with 2x IO Modules to connect to base
* 2x Fujitsu DX200 S3 SAN SSD SAS 400GB 12G (2.5”) – SSD Front End Cache
* 46 x DX200 HD 2.5" 1.2TB 10krpm

**SAN SWITCH SPECIFICATION**

* 2 x Brocade 300 Fibre Channel Switch Units
* 16 x 8GB ports, 24 x Available slots
* Full Fabric factory activation Licence 24 Ports

**VMWare Physical Host Specification**

**4 x 2U Rack Mounted Servers**

* 2x Intel Xeon E5-2620v4 8C/16T 2.10 GHz
* 16x 32GB (1x32GB) 2Rx4 DDR4-2400 R ECC
* 1x DVD-RW super multi ultra slim SATA
* 1x Dual Channel 8Gb/s Fibre Channel Controller
* 1x 4x1Gb T OCl14000-LOM interface
* 1x 2x1Gbit Cu Intel I350-T2 LP
* 1x 4x1Gbit Cu Intel I350-T4 LP
* 1x VMware vSphere Embed Device
* 2x Modular PSU 800W platinum

**Fibre Connections**

* Each controller has multiple fibre connections, with one connection from each controller into an 8GBps Brocade fibre channel switch on its own site and an 8GBps Brocade fibre channel switch on the remote site. This allows for multiple path resiliencies for both data connection and replication.
Should a disaster situation occur whereby the primary SAN fails; the replication can be broken, and the second SAN is used with the exact same data.

**Replication**

* A 1U Server running Eternus SF Express Copy Control Management replicates all the Primary SAN data to the Secondary SAN.

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**TENDER SPECIFICATION FOR NEW SAN SOLUTION**

* A new SAN infrastructure solution that will provide futureproofing for at least 5 years.
* We require a new SAN Infrastructure comprising utilising either 10GB iSCSI or 16GB Fibre channel-based solution using the latest version of VMWare 7. We must license the VMWare 7 Enterprise Plus.
* A backup solution is already in place using Veeam Backup and Replication and this will provide backups for the VMWare infrastructure to a disk-based array, LTO Tape Library, and Cloud Backup Solution.
* We require 5 Year warranties on all network hardware. Options for (24 x 7 x 4r) and (9 x 5 x 4hr)
* All hardware must be Tier 1, Hardware vendors.

**VMWare SAN Physical Hosts x 4 (Each Require the following hardware)**

* Intel® Xeon® Gold 6330 Processor
* 42M Cache, 2.00 GHz x 2
* 512MB RAM
* Redundant Fans / Power Supply
* 400GB SSD x 3 Mirror with 1 hot spare disk
* Rack Mount Kits & Rails
* No operating licensing required
* 10GB Dual Port SFP+ x 2 per host (Core connectivity)
* Storage connectivity with redundancy
* 4 x 1GB NICs

**SWITCHES REQUIREMENTS4** x 1GB Mana

* Supply the redundant iSCSI / Fibre Channel switches for the SAN solution.

**SAN HARDWARE**

* Tier 1 SAN Manufacturer.
* High available fault-tolerant solution with built-in redundancy features.
* SSD Front End Cache Solution.
* SAS Disk Storage configured in level RAID 6 or above for required performance.
* SAS Disks (Raw Disk Capacity – Options for 40TB, 50 TB and 60 TB)
* De-duplication and compression capabilities.
* Easily Expandable Solution.

**UPS HARDWARE**

* APC Smart-UPS 5000 Rack Mount UPS x 2 to ensure all new SAN infrastructure is fully protected.

**Cables / Leads**

* Supply all relevant leads required for connectivity.

**Professional Services for SAN Work**

* Install and configure SAN storage including setting up volumes / RAID groups / LUNS etc. on all arrays.
* Install alongside existing SAN unit’s so Virtual Machines can be easily migrated over to new SAN units.
* Migration of all Virtual Machines from existing SAN to new SAN infrastructure.
* Installations of VMWare including vSphere and 4 x Physical Host Installation.
* Physically install all supplied network hardware equipment into cabinets including cabling for LAN, SAN & UPSs.
* Connect all components of the SAN.
* Install new SAN switches.
* Configure SAN replication as required.
* Amend existing VMware configuration for integration into new SANs.
* Install new VMware Software 7 onto the new host servers and configure VMotion.
* Install UPS devices and configure safe shutdown features etc.
* Documentation and handover.

**Tender & Delivery Deadline**

Please indicate on the tender the time to deliver the hardware.

You must be able to guarantee delivery of all hardware by Monday 4th July 2022 otherwise you will not meet the tender requirements.

**RETURN OF THE TENDER**

Please return completed tenders via e-mail to tenders@priestley.ac.uk by 9am on Thursday 21st April 2022