

Annex 1.

## Technical Specifications

### Procurement of Host Servers(s), Storage Server, Software Licenses and Hardware for the UNDP Cyprus on behalf of the

<i>Item no</i>	<i>Quantity</i>	<i>Hardware/software</i>
<b>1</b>	<b>2</b>	<b>Host Server</b>
<b>2</b>	<b>1</b>	<b>Storage Server</b>
<b>3</b>	<b>10</b>	<b>Software and Licenses</b>
<b>4</b>	<b>7</b>	<b>Other Hardware(s)</b>
<b>total</b>	<b>20</b>	

The new server infrastructure CMP wants to accomplish, is a set of 2 host machines and a storage server that act as a failover cluster. For the setup to act as a failover cluster, certain specification must be met in terms of hardware and wiring. In the next pages is the list of hardware specifications to be met. Please see other pages for necessary wiring between host servers and the storage server. All servers will be in 2U cabin.

- 1.All hardware must be compatible with each other and provided by the same vendor.
2. All necessary cables should be provided by the vendor.
3. Connections between the host servers and storage server must be of 10G or more and redundant.
- 4.Prior to delivery on CMP's site, hardware must be fully upgraded to their latest firmware version by the winning vendor.
- 5.Prior to delivery to CMP's site, storage server must be configured from the winning vendor to be attached with the volumes created to the host servers.
6. Host servers must not have any 3rd party applications or services on them (e.g Chrome, 7zip, etc)
- 7.Vendor must hard connect the hardware onsite in an existing 2U server cabin.
- 8.All server hardware must come with a 3-year proactive and reactive care service with next business day support with on-site coverage

**Please see the other sheets for the detailed specifications.**

item no	Quantity	Host Server(s)	Specifications							
1	2	Hardware Specification	Front Panel	Drive support label						
				Quick removal access panel						
				USB 3.0 port						
				Service Port						
				Max up to 10 NVMe drives (PCIe direct attached) or 8 SAS/SATA/NVMe + 2 NVMe						
			Rear Panel	Slot 2 PCIe 3.0						
				Dual Power Supply						
				VGA port						
				Embedded 4x 1GbE Adapter						
				Management Port						
				USB 3.0 Ports						
		Platform information	Form factor	1U Rack Chassis	Rail Kit	8 SFF				
			Fans	1 CPU with 5 fans	2 CPU with 7 fans	Single rotor hot plug				
			Memory type	DDR4 Registered	24 Available Slots (CPU/12)	3TB maximum capacity				
			Graphics	Integrated 32 MB Flash	System Managed by Vendor Port	16 MB Video Memory	Video modes up to 1920 x 1200 @ 60 Hz (32 bpp)	4 Gbit DDR3 with ECC protection		
		Custom configuration per each Host Server	Raid Controller	Supporting 12 Gb/s SAS and PCIe 3.0	RAID 0, 1, 5, 10	Legacy and UEFI boot operation				
			CPU	1 x Intel® Xeon® Silver 4216 Processor						
			Memory	128GB DDR4 (1 CPU)						
			Storage	2 x 300GB SAS 10K SFF						
			Ethernet	8 Gigabit Ethernet Ports						
			Other Interface	Management Port	SCSI or FIREWIRE or FIBER	Storage Server Redundant Connections				
			Power Supply	Dual Power Supplied						

The host server will act as a failover cluster using Windows 2019 Hyper-V technology. The host server will be redundant in their connection to the storage server using a minimum of 10G connection leads. Hardware and wiring of the connection interface between the host servers and storage server is outlined in Annex 1 and expected to be included by winning vendor on their proposal.

Item no	Quantity	Storage Server	Specifications			
2	1	Hardware Specifications	Form Factor	2U - Small Form Factor		
			Number of Controllers	2 in active-active mode		
			Pool Capacity	562TB		
			RAID Supported Levels	1,5,6,10		
			Number of drives	24		
			Power Supply	Dual – Redundant 220Vac		
			Max Read Cache / Array	8TB		
			Thin Technologies	Thin Provisioning – Space Reclamation – Thin Rebuild		
			replication	Snapshots – Volume Copy – Remote Snaps		
			tiering	Performance – Standard - Archive		
			rack mountable	YES		
			LDAP Support	YES		
			FC Host Connectivity	8/16 Gb		
			ISCSI Host Connectivity	10Gb		
			SAS Host Connectivity	6 or 12Gb		
			Hot Plug	Yes		
			Depth	Max 50cm		
			Heat Dissipation	1622BTU/hr		
			Non-Operation Humidity	>93% RH @ 40 °C		
			Web GUI	Yes		
		Certificate		CE		
		Custom Configurations	RAID Configuration Type	Hybrid (Using RAID1 on SSD Cache)	RAID 10	One Disk Group
			LUNs	16TB + 4TB + 4TB (3 LUNs)		
			Minimum Host Connection	10Gb		
			Storage	22 x 2.4 TB SFF 10k on RAID 10 (Hybrid Mode Read Cache)		
			CACHING	2 x 3.2TB SSD on RAID 1		
			OTHER INTERFACE	Management Port	SCSI FIREWIRE FIBER	Storage Server Redundant Connections
			POWER SUPPLY	Dual Power Supplied		

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Item no	Quantity	Software	Software Licenses
3	3		Windows Server 2019 Standard (Vendor Specific)
	4		Windows 10 Pro 64bit
	1		Microsoft SQL Standard (2 Core)
	2		Proprietary Vendor Specific Embedded Server Management (e.g - iLO, iDRAC, etc)
item no	Quantity	Hardware	
4	3		6 GANG UK PDU – Rack Mounted
	2		60cm depth Rack Shelve
	2		Cordless Keyboard + Trackpad (Small)

