Annex 1 – List of Equipment & Detailed Specifications

Lot 1 – Network Attached Storage Chassis

Required Item #1: Network Attached Storage
Required Quantity: 01 (One) Piece

CPU	Intel® Xeon® D-1622 4-core 2.60 GHz processor, up to 3.2 GHz
System Memory	32 GB UDIMM DDR4 ECC (2 x 16GB)
Flash Memory	5GB (Dual boot OS protection)
Drive Bay	Front: 12 x 3.5-inch SATA 6Gb/s, 3Gb/s Rear: 6 x 2.5-inch SATA 6Gb/s, 3Gb/s
Drive Compatibility	3.5-inch bays: 3.5-inch SATA hard disk drives 2.5-inch SATA hard disk drives 2.5-inch SATA solid state drives 2.5-inch bays: 2.5-inch SATA solid state drives
Hot-swappable	Yes
SSD Cache Acceleration Support	Yes
SR-IOV	Yes
Form Factor	Rackmount
Raid	RAID 0, 1, 10, 5, 50, 6, 60
2.5G Network Ports	4 x 2.5GbE
10G Network Ports	2 x 10 GbE SFP+ SmartNIC Port
USB Port	1 x USB3.2
Link Aggregation and Failover Support	Yes
PCI Expansion	1 x PCIe 2.0 x4 (x8 Electrical) 1 x PCIe 3.0 x4 1 x PCIe 3.0 x8 (x8 Electrical, Occupied)
iSCSI Target	256
Max Concurrent Connections	10000
Max Folders	256
Max Sync Tasks	400
Max Groups	512
Max User Accounts	16,000
Supported File Systems	Internal: ZFS External: EXT3, EXT4, FAT32, HFS+, NTFS, exFAT
Encryption	256-Bit AES
Input Power	100 to 240 VAC, 50 / 60 Hz
Status Monitoring	LED Indicator
Audible Alarm	Yes
Cooling	3 x 60 mm Fans

*Reference Product: QNAP TS-h1886XU-RP R2 ***
Warranty: Supplier to provide 01 (One) year parts and service warranty

Required Item #2: 10TB Internal NAS HDD (SATA III 3.5")
Required Quantity: 06 (Six) Pieces

Storage Capacity	10 TB SATA III (6 Gb/s) 3.5" HDD (7200 rpm)
Read Speed	Maximum: 229 MB/s
Buffer	256 MB
Latency	4.2 ms
Mean Time Between Failures (MTBF)	1.2 Million Hours
Non-Recoverable Read Errors per Bits Read	1 in 1015

Reference Product: *Seagate 10TB IronWolf Pro 7200 rpm SATA III 3.5" Internal NAS HDD**
Warranty: Supplier to provide 01 (One) year parts and service warranty

Required Item #3 : 4TB Internal NAS SSD (SATA III 2.5")
Required Quantity: 02 (Two) Pieces

Storage Capacity	4 TB SATA III (6 Gb/s) 2.5" (7 mm) SSD
Read Speed	Random: 95,000 IOPS 4 kB Files Sequential: 560 MB/s 128 kB Files
Write Speed	Random: 90,000 IOPS 4 kB Files Sequential: 540 MB/s 128 kB Files
Flash Memory Type	Tri-Level Cell (TLC)
Endurance (Total Bytes Written)	5600 TB
Mean Time Between Failures (MTBF)	1.8 Million Hours
Non-Recoverable Read Errors per Bits Read	1 in 1017

Reference Product: *Seagate 4TB IronWolf 125 SATA III 2.5" Internal SSD**
Warranty: Supplier to provide 01 (One) year parts and service warranty

Lot 2 – Network Switch

Required Item #1: 8 Port Enterprise PoE Switch
Required Quantity: 01 (One) Piece

Total non-blocking throughput	40 Gbps
Switching capacity	80 Gbps
Forwarding rate	59.52 Mpps
Max PoE power	120W
Power method	(1) 100—240V AC, 2A Max., 50/60 Hz, Universal Input
Power supply	AC/DC, Internal, 150W
Management interface	Ethernet n-Band
Networking interface	(8) 1/2.5 GbE RJ45
SFP+ interface	(2) 1/10 Gbps SFP+
PoE interface	(8) PoE/PoE+ (Pins 1, 2+; 3, 6-)
Max. PoE+ wattage per port by PSE	32W
Voltage range PoE mode	44—57V
Voltage range PoE+ mode	50—57V
LCM display	(1) 1.3" Touchscreen Bootup animation: Bootup in progress Firmware upgrade icon: Firmware upgrading. Steady White: Factory Defaults, Awaiting Adoption Steady Blue: Device is Adopted
ESD/EMP protection	Air: ± 16 kV Contact: ± 12 kV
Operating temperature	-5 to 45° C (23 to 113° F)
Certifications	CE, FCC, IC

Reference Product: *USW-Enterprise-8-PoE**
Warranty: Supplier to provide 01 (One) year parts and service warranty

Lot 3 – High Performance Video Server

Required Item #1: High Performance Video Server
Required Quantity: 01 (One) Piece

Processor	12th Gen Intel Core i7 12 Core (20 Threads)
Motherboard	ATX LGA1700 Motherboard - with support for (DDR4 RAM, PCIe 4.0 Ports)
Memory	DDR4 3600 (2x 32GB)
Storage	M.2 2280 500GB PCI-Express 4.0 x4 3D TLC Internal Solid State Drive (SSD) M.2 2280 2TB PCIe Gen 4.0 x4, NVMe 1.3c V-NAND Internal Solid State Drive
Network	1x Integrated 2.5Gbps LAN
Graphics	RTX 3070 Ti 8GB GDDR6X PCI Express 4.0
Video Output Card	DeckLink Duo 2 (SD/HD/3G-SDI Input/Output)
Live Switcher	Blackmagic Design ATEM SDI Extreme ISO Switcher (8 x 3G-SDI and 4 x 3G-SDI)
Audio	integrated High-Definition Audio
I/O Ports	1x Flash BIOS button 1x PS/2 port 4x USB 2.0 Type-A ports (From Z790 chipset) 1x DisplayPort 1x HDMI port 1x LAN (RJ45) jack 2x USB 3.2 Gen 1 5Gbps Type-A ports (From Z790 chipset) 1x USB 3.2 Gen 2 10Gbps Type-A port (From Z790 chipset) 1x USB 3.2 Gen 2x2 20Gbps Type-C port (From Z790 chipset) 2x Wi-Fi Antenna connectors 6x Audio jacks
Power Supply	Fully Modular Low-Noise ATX Power Supply - 80 PLUS Gold Efficiency
CPU Cooler	High-Performance CPU Cooler, Dual-Tower Design
Keyboard and Mouse	Wireless Scissor Keyboard and Mouse
Operating System	N/A

*Reference Product: Customized PC**
Warranty: Supplier to provide 01 (One) year parts and service warranty

* *Provided References for Products are For Reference Purposes Only*