Annex A: Specification of the Hyperconverged Solution

The Winning Bidder will provide the ERC with a Hyperconverged Solution which will be installed in the ERC Data Center premises with the following specifications:

- ✓ Single Management Console for all hyperconverged servers and storage.
- ✓ The solution must be able to provide a single management platform in managing all infrastructures (Virtual Machine (VM), Servers, Storage and Backup). Any administrator from anywhere can view/access/manage their respective resources.
- ✓ The solution must be able to provide role-based access to be able to compartmentalize each user from each other and secure the servers of being illegally accessed by other users.
- ✓ The platform technology must be able to automatically provision needed computing, memory, storage, and network connectivity solution when the need arises.
- ✓ It must utilize a hypervisor, bare-metal virtualization solution with centralized management that support core data services such as storage creation, backup, restore, clone, and move for multiple locations as its capabilities for future requirements.
- ✓ It must be able to provision needed resources in minutes (locally and remotely)
- ✓ It must be able to augment its resources by providing additional compute, memory, and storage needs in minutes.
- ✓ It must be able to reuse existing servers of ERC as compute modules or as an extension device where it can still be controlled and managed by the platform.
- ✓ It must be able to provide a very fast Cloning system that can be done within minutes.
- ✓ VM can be considered for cloning, copying or moving
- ✓ It must be able to do live clone a running VM without shutdown in less than 10 minutes (minimum VM size must be 500GB).
- ✓ Must have the ability to move remotely a VM with a size of at least 500GB size in less than 10 minutes.
- ✓ It must utilize SSD for cache and highly used data
- ✓ It must utilize x86 platform and must be able to run in single or dual physical processor
- ✓ With at least two (2) physical processors per hardware
- ✓ With at least a total of 10-Core Processor and with at least 128GB of RAM
- ✓ With at least 15TB HDD usable storage
- ✓ The storage must be configured with hardware RAID.
- ✓ It must provide more value in terms of consuming less space, less power & cooling needs.
- ✓ It must be able to provide VM level backup.
- ✓ It must be able to provide a very fast backup system that can be done within minutes.
- ✓ At least five (5) minutes for one (1) terabyte of data.

- ✓ Customizable scheduled backup that can be triggered in every minute, hour, day, week or months. With the data efficiency of 10:1, backup should not take a lot of storage space.
- ✓ VM can be considered for cloning, copying, or moving to any remote site as long as they are IP reachable.
- ✓ It must be able to execute concurrent backup and restoration processes within 1 hour.
- ✓ It must be able to cater for capacity to perform up to at least one full back up a week and daily incremental backup.
- ✓ It must be able to ensure that the backup is 100% restorable.
- ✓ It must be able to execute remote full backup.
- ✓ It must be able to back up on the VM level and not just a snapshot.
- ✓ It must be able to restore a backup within 10 minutes.
- ✓ Software Licenses (Enterprise Edition for Operating System and Database Application)
- ✓ Virtualization Training of ICT Personnel
- ✓ Must provide storage rack for Hyperconverged Infrastructure.
- ✓ Must provide uninterruptible power supply (UPS) that can support the Hyperconverged Infrastructure requirements.
- ✓ HCI Switch
- ✓ Server Specification:
- ✓ Total of 2 nodes.

	HARDWARE
	Each node/server SET of specifications should be HIGHER or EQUIVALENT to:
HEIGHT	2U
CPU	2 x Intel Xeon Silver 2.4GHz, 10 cores 20 threads
Memory	4 x 32GB 2666MHz DDR4 RDIMM ECC, can be delivered in 16GB
Hard Drive	2*1.9TB SSD Intel S4600 3D NAND TLC SSD 2.5", SATA 3.0 6Gbps.
	at least 15TB HDD (Usable)
NIC Ports	6*GE + 2*10GE
Transceiver	2*SFP+ 10GE Multimode Optical transceiver, for short distance transmission
	2*LC-LC, Multi-mode
Power Supply	1+1 Platinum 800W [100-240VAC] [240VDC]
	Support and Services
	1 year Repair and maintenance within warranty with 8X5 Next Business Day service
	Software license subscription and upgrade for at least a year
	1 year 24/7 technical support service
	SOFTWARE
	Software per node set of specifications should be EQUIVALENT to:
	2 Server Virtualization, HA, DRS, Automated Hot-add
	2 Network Virtualization with drawable technology
	2 Storage Virtualization