CORRIGENDUM No. 1

to the

TENDER DOSSIER

Ref: EuropeAid/140-758/ID/SUP/ME

Subject: **Supply of hardware equipment with server licenses for functioning of the new System for the centralized calculation of earnings and new Budget planning information system**

Location: **Montenegro**

The Instructions to Tenderers is modified as follows:

Instead of:

1. Supplies to be provided

1.1 The subject of the contract shall be the supply, delivery, unloading, and, where requested, the installation, training, commissioning, and maintenance, of the following supplies:

Item	Description	Quantity
1	Hyper-converged system	3
2	Servers system	1

The place of acceptance of the supplies shall be specified in Annex II+III: Technical Specification + Technical offer and the Incoterm applicable shall be DDP[1]. The implementation period of tasks shall be 3 months starting from the date stipulated in the Commencement Order and ending on the date of issuance of Provisional Acceptance Certificate.

Read:

1. Supplies to be provided

1.1 The subject of the contract shall be the supply, delivery, unloading, and, where requested, the installation, training, commissioning, and maintenance, of the following supplies:

Item	Description	Quantity
1	Hyper-converged system	1
2	Servers system	1

The place of acceptance of the supplies shall be specified in Annex II+III: Technical Specification + Technical offer and the Incoterm applicable shall be DDP[2]. The implementation period of tasks shall be 3 months starting from the date stipulated in the Commencement Order and ending on the date of issuance of Provisional Acceptance Certificate.

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[1] DDP (Delivered Duty Paid) - Incoterms 2010 International Chamber of Commerce - http://www.iccwbo.org/incoterms/

[2] DDP (Delivered Duty Paid) - Incoterms 2010 International Chamber of Commerce - http://www.iccwbo.org/incoterms/

The draft Contract Agreement is modified as follows:

Instead of:

Article 1 Subject

1.1 The subject of the contract shall be the supply, delivery, unloading, and, where requested, the installation, training, commissioning, and maintenance of the following supplies:

Item	Description	Quantity
1	Hyper-converged system	3
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The place of acceptance of the supplies shall be specified in Annex II+III: Technical Specification + Technical offer and the Incoterm applicable shall be DDP[3]. The implementation period of tasks shall be 3 months starting from the date stipulated in the Commencement Order and ending on the date of issuance of Provisional Acceptance Certificate.

Read:

Article 1 Subject

1.1 The subject of the contract shall be the supply, delivery, unloading, and, where requested, the installation, training, commissioning, and maintenance of the following supplies:

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1	Hyper-converged system	1
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The place of acceptance of the supplies shall be specified in Annex II+III: Technical Specification + Technical offer and the Incoterm applicable shall be DDP[4]. The implementation period of tasks shall be 3 months starting from the date stipulated in the Commencement Order and ending on the date of issuance of Provisional Acceptance Certificate.

The Technical specifications is modified as follows:

Instead of:

1. GENERAL REQUIREMENTS

1.2 General Software Specifications

1.2.1 All software versions should be English.

1.2.2 All proposed software licenses must have at least 3 years' upgrade without any additional costs.

Read:

[3]DDP (Delivered Duty Paid)- Incoterms 2010 International Chamber of Commerce - http://www.iccwbo.org/incoterms/

[4]DDP (Delivered Duty Paid)- Incoterms 2010 International Chamber of Commerce - http://www.iccwbo.org/incoterms/

1. GENERAL REQUIREMENTS

1.3 General Software Specifications

1.2.3 All software versions should be English.

1.2.4 All proposed software licenses must have at least 1-year upgrade without any additional costs.

Instead of:

Table 1		
Item number	**Product Description**	**Qty**
1.	Nodes included Characteristics: **HCI:** • Proposed solution must be based on converged IT infrastructure platform that integrates storage, compute, networking, hypervisor, real-time de-duplication, compression, and optimization along with powerful data management, data protection, and disaster recovery capabilities in a standard x86 server building block. **Hardware Specifications:** •Each node must provide min 2 x Processor Each Processor must provide: min Processor Base Frequency 2.1 GHz min 12 core, min 22 MB Cache, min Processor Max Turbo Frequency 3.0 GHz •Each node must provide min 24 cores •Each node must provide min 576 GB usable RAM • Each node must include controller high-performance to connect to externally attached drives. Every controller must have more than 5 external SAS lanes, must support mixed-mode operations of RAID and HBA simultaneously, must offer encryption for data-at-rest on any drive, must support 12 Gb/s SAS and PCI 3.0 •Each node must include min 5 x 960GB SSD drives •Each node must have embedded 4 x 1GbE Ethernet ports •Each node must include 2 x 10GbE SFP+ Ethernet ports with option to select Fiber optic, Copper DAC or RJ45 connectivity •Each node must have embedded 1 x out-of-band management to simplify remote management •Each node must have one or more 12G RAID controllers to manage internal SSD and hard drives for availability •Each node must have at least 3 PCI slots available •Each node must include min 2 x redundant non shared Power Supplies •Each node must have redundant fans to provide reliable optimum cooling **Rack:** Size: 42 U Rack, 600mm width, min 1075mm depth PDUs: Min 2 x 7.3kVA PDUs with 60309 3-wire 32A/230V input and 20 x C13 Outlets	**3**

	Accessories: Front and rear door, side panels, stabilizer and ballast kit **Functionality:** •Proposed hardware must be capable to De-duplicate, Compress & Optimize ALL data inline, in real-time, across all storage tiers •Vendor shall ensure that in-line real-time de-duplication and compression shall not put any additional load on the CPU of the node. In case de-duplication and compression is being handled by the CPU of the node / controller then vendor shall provide additional node / controller for performance optimization. •Hyper-converged solution must support VMware vSphere or Microsoft Hyper-V Type-1 hypervisors or equivalent •Hyper-converged solution should support addition of compute/access nodes to provide additional compute resources **Resiliency:** • Proposed solution must be able to support multiple points of failure across multiple nodes, with no loss of function or data. • During a single component failure (of any type) production services are not affected / degraded in anyway • Each node should have dedicated non-shared dual-PSUs and should be able to sustain single power supply failure. Solution should not utilize micro-server architecture with shared PSU's and other components. • Must be able to sustain minimum of simultaneous 1-HDD failure in each node of a cluster and across all nodes in the cluster without data loss • Must be able to sustain one node failure in the cluster - N+1 HA **SOFTWARE AND FUNCTIONALITY REQUIREMENTS** **Common Features Included:** • Global de-dupe, compression and optimization with minimum impact to production workloads and guaranteed CPU and RAM available to production applications • Hyper-converged solution should have a guaranteed data efficiency rating of 10:1 when managing local VM data and backups • Offered Hyper-converge platform shall support individual VM-centric policy-based backup, recovery and DR. All necessary software like backup software, if required, shall be supplied. 1. Offered Hyper-converged platform shall support WAN-optimized data protection for VM mobility. Only and only unique information shall flow across WAN after enabling de-duplication and compression. All required accessories for enablement of de-duplication and compression over WAN shall be included as part of solution. 2. Data shall not be re-hydrated before being transferred to target data centre. • Offered Hyper-converge solution shall be supplied with licenses of real-time compression and de-duplication licenses. • Offered Hyper-converged solution shall be supplied with licenses with remote backup to DR location for maximum numbers of VMs supported on offered solution. • Should include licenses for multi-site deployments	

	Global Unified Management: • Offered Hyper-converged solution shall support VM-centric management through a single pane of glass via the virtualization manager of given hypervisor. • Offered Hyper-converged shall have programmatic interface for enabling automated tasks like failover / failback • Offered hyper-converged appliance shall have the ability to manage all aspects of the Hyper-convergence for all sites through Virtualization Manager of a given Hyper-Converge. • Offered Hyper-converged shall be able to expose / connect to existing customer servers for hosting VMs and applications while taking advantage of the functionality of the solution • Offered Hyper-converged shall be able to globally manage Backup Policies per Data store or per VM and shall be able to define: 1. Number of backup copies needs to be created locally and globally 2. Retention period required for a backup copy locally and globally • Hyper-converged solution should have single deployment management console to simplify deployment of 1 to many nodes in parallel to reduce deployment time • Hyper-converged solution should have single upgrade management console to simplify upgrade of: 1. Hyper-converged software 2. Hypervisor 3. Provide ability to roll-back upgrades **Virtualizations software** • Virtualisation software for 16 servers – licence* **VM-Centricity and Mobility:** • Offered Hyper-converged solution shall provide the complete flexibility for selecting individual VMs for Backups. • Offered Hyper-converged solution shall provide the complete ability to Move specific VMs between data centres • Offered Hyper-converged solution shall provide the complete flexibility for Cloning specific VMs • Offered Hyper-converged solution shall provide the complete flexibility for VM-level backup instead of forcing protection at the data store or protection domain level **Data Protection:** • Backup functionality shall be a integral feature of Hyper-Converged instead of a separate server / software license • Backup must be an independent copy of source Virtual Server and must allow restore of deleted or corrupted source Virtual Server • The ability to carry simultaneous out bi-directional replication between two data centres • The ability to replicate Any-to-Any in a Mesh Data Centre deployment of more than 3 DC's • The ability to define backup policy per data store, a group of VMs or specific VM	

	• Data Protection should have a minimum RPO of 10 minutes for local backups • Hyper-converge solution must be able to retain backup data matching compliance requirements • The ability to execute backup tasks during office hours without impacting to production workloads • Data loss protection against a minimum of 1 simultaneous local hard disc failures in all nodes of the cluster • Data loss protection against single node failure in cluster • The proposed solution must be able to provide backup reports for audit purpose • Hyper-converged solution should have a guaranteed local cluster backup time of 1 minute • The proposed solution should be able to provide Data-At Rest-Encryption for additional data security **Data Recovery:** • Data recovery should be independent of source Virtual Server • Hyper-Converged solution should provide a backup catalogue to allow any Virtual Server to be recovered to any specific point-in-time • Any VM can be recovered to any other hyper-converged managed cluster with minimum impact to compute and network bandwidth • Data recovery process should be simple with an RTO in minutes • Hyper-converged solution should have a guaranteed local cluster recovery time of 1 minute **Disaster Recovery:** • The solution must provide a simple failover operation • The solution must allow creation of a Runbook to automate recovery of Virtual Servers **System security and Remote Support:** • Should maintain repository for firmware and driver's recipes in the flash drive associated to management port. This is to aid rollback or patching of compromised firmware. Should also store Factory Recovery recipe preloaded to rollback to factory tested secured firmware • Hyper-Converged System remote management should support browser based graphical remote console along with Virtual Power button, remote boot using USB/CD/DVD Drive. It should be capable of offering upgrade of software and patches from a remote client using Media/image/folder; it should support server power capping and historical reporting and should have support for multifactor authentication. • Hyper-Converged system should support agentless management using the out-of-band remote management port **Support:** • 1year support 24x7, 4 hours' response time **Support Tier:** • Provide L3 support for hyper-converged product that can provide resolution support from hypervisor to hardware	

	Delivery and installation • Delivery and installation of HW in server room on address specified above • Commissioning of equipment • Installation of SW for virtualization according to the specification • 1Installation of operating system on physical computers according to specification • Installation of the operating system on virtual machines according to the specification • Installation of MS SQL Server Standard Edition according to the specification • Installation of Cristal Report as per specification • On-site education (3 days for 2 persons) **Has to include 2 network switches with following c**haracteristics for each: • 24 RJ-45 autosensing 10/100/1000 (IEEE 802.3 Type 10BASE-T, IEEE 802 .3U Type 100BASE-TX, IEEE 802.3 Type ab 1000BASE-T Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T • 4 SFP + 1/10 Gbe Ports • Each of the switches must be equipped with the connection cable for direct connection to another device 10Gbe • Each device must be equipped with a power supply cord for tying on the PDU supporter in the rack • Switching capacity of a minimum of 128 Gbps • Throughput rate minimum 95 Mbps • Support for minimum 7.120 MAC address • Each of the switches must be connected with other equipment in the rack, and have to be in full functionality (must be tested approach form state network in Montenegro, and approach from the Internet during the state network) **Uninterruptible Power System - UPS** • Hold-up time: minimum 30 min for the offered equipment • Input voltage range: 230V (-20% / +20%); • Smart microprocessor control; • Hot-swappable battery; • Automatic battery test and protection against deep discharges; • Event log for easy fault detection; • 1GbE Network Management Module • Intelligent Power Manager (IPM) software, remote monitoring and management of UPS system • All cables and elements necessary for connecting to the equipment	
All components in the rack have to be integrated into a single, easy-to-manage, software-defined compute, storage and networking platform		

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Item number	**Product Description**	**Qty**
1.	3 Nodes included Characteristics: **HCI:** • Proposed solution must be based on converged IT infrastructure platform that integrates storage, compute, networking, hypervisor, real-time de-duplication, compression, and optimization along with powerful data management, data protection, and disaster recovery capabilities in a standard x86 server building block. **Hardware Specifications:** •Each node must provide min 2 x Processor Each Processor must provide: min Processor Base Frequency 2.1 GHz min 12 core, min 22 MB Cache, min Processor Max Turbo Frequency 3.0 GHz •Each node must provide min 24 cores •Each node must provide min 576 GB usable RAM • Each node must include controller high-performance to connect to externally attached drives. Every controller must have more than 5 external SAS lanes, must support mixed-mode operations of RAID and HBA simultaneously, must offer encryption for data-at-rest on any drive, must support 12 Gb/s SAS and PCI 3.0 •Each node must include min 5 x 960GB SSD drives •Each node must have embedded 4 x 1GbE Ethernet ports •Each node must include 2 x 10GbE SFP+ Ethernet ports with option to select Fiber optic, Copper DAC or RJ45 connectivity •Each node must have embedded 1 x out-of-band management to simplify remote management •Each node must have one or more 12G RAID controllers to manage internal SSD and hard drives for availability •Each node must have at least 3 PCI slots available •Each node must include min 2 x redundant non shared Power Supplies •Each node must have redundant fans to provide reliable optimum cooling **Rack:** Size: 42 U Rack, 600mm width, min 1075mm depth PDUs: Min 2 x 7.3kVA PDUs with 60309 3-wire 32A/230V input and 20 x C13 Outlets Accessories: Front and rear door, side panels, stabilizer and ballast kit **Functionality:** •Proposed hardware must be capable to De-duplicate, Compress & Optimize ALL data inline, in real-time, across all storage tiers •Vendor shall ensure that in-line real-time de-duplication and compression shall not put any additional load on the CPU of the node. In case de-duplication and compression is being handled by the CPU of the node / controller then vendor shall provide additional node / controller for performance optimization. •Hyper-converged solution must support VMware vSphere or Microsoft	**1**

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All components in the rack have to be integrated into a single, easy-to-manage, software-defined compute, storage and networking platform		

<u>The Annex IV: Budget breakdown (Model financial offer) is modified as follows:</u>

<u>Instead of:</u>

A		C	D	E
ITEM NUMBER	**QUANTITY**	**SPECIFICATIONS OFFERED (INCL. BRAND/MODEL)**	**UNIT COSTS WITH**	**TOTAL EUR**

			DELIVERY DDP5 EUR	
1	3			
2	1			
			Total	

Read:

A		**C**	**D**	**E**
ITEM NUMBER	**QUANTITY**	**SPECIFICATIONS OFFERED (INCL. BRAND/MODEL)**	**UNIT COSTS WITH DELIVERY DDP6 EUR**	**TOTAL EUR**
1	1			
2	1			
			Total	

All other terms and conditions of the Tender Dossier remain unchanged. The above modifications are integral part of the Tender Dossier.

[5] DDP (Delivered Duty Paid) — Incoterms 2010 International Chamber of Commerce http://www.iccwbo.org/products-and-services/trade-facilitation/incoterms-2010/the-incoterms-rules/.

[6] DDP (Delivered Duty Paid) — Incoterms 2010 International Chamber of Commerce http://www.iccwbo.org/products-and-services/trade-facilitation/incoterms-2010/the-incoterms-rules/.