ANNEX II + III: TECHNICAL SPECIFICATIONS + TECHNICAL OFFER

Contract title: Supply of IT equipment and software for the establishment of a single "National centralized criminal intelligence system" (NCIS)

Publication reference: EuropeAid/139498/DH/SUP/RS

LOT 3 – Supply for licenses and hardware environment for KOS/NCIS system

Columns 1-2 should be completed by the Contracting Authority
Columns 3-4 should be completed by the tenderer
Column 5 is reserved for the evaluation committee

Annex III - the Contractor's technical offer

The tenderers are requested to complete the template on the next pages:

- Column 2 is completed by the Contracting Authority shows the required specifications (not to be modified by the tenderer),
- Column 3 is to be filled in by the tenderer and must detail what is offered (for example the words “compliant” or “yes” are not sufficient)
- Column 4 allows the tenderer to make comments on its proposed supply and to make eventual references to the documentation

The eventual documentation supplied should clearly indicate (highlight, mark) the models offered and the options included, if any, so that the evaluators can see the exact configuration. Offers that do not permit to identify precisely the models and the specifications may be rejected by the evaluation committee.

The offer must be clear enough to allow the evaluators to make an easy comparison between the requested specifications and the offered specifications.

Unless otherwise specified, the requirements in these Technical Specifications are presented as a minimum standard which the offered goods must meet in order to be compliant. Tenderers may not submit a variant solution for the items required in these Technical Specifications. The tenderer is expected to submit documentary evidence (brochures, technical data sheets etc.) of the technical compliance of his offer.

Provided documentation must be tidy organized, and all items in respective documentation must be clearly identified (highlighted and indicated by "Item Number").

The documentation's page numbers where the information could be found must be clearly stated in the "Notes, remarks, ref to documentation" column of the offer.

EU Visibility: All supplies shall comply with the visibility Manual for EU External Actions (https://ec.europa.eu/europeaid/communication-and-visibility-manual-eu-external-actions_en) as well as the EU Visibility Manual produced by the EU Delegation to Serbia.

Stickers should be placed on the supplies with a clearly visible EU flag and the phrase “Provided with the support of the EU” in the operational language of the EU programme and in the Serbian language.

A visibility event should be foreseen and financed by the contractor and organised in conjunction with the Contracting Authority.

Abbreviations

The following abbreviations are used consistently throughout the document:

AC	Alternating current
CAT5 cables	Category 5 cabling
CE	Conformité Européenne
CEE	Euro plug
CPU	Central Processor Unit
DC	Direct current
DMZ	Demilitarized Zone
FAC	Final Acceptance Certificate
HDD	Hard Disk Drive
HW	Hardware
ICT	Information-communication Technologies
IEC	International Electrotechnical Commission
IP	Internet Protocol
iSCSI	Internet Small Computer System Interface
ISO	International Organization for Standardization
KVM	Keyboard Video Mouse
LAN	Local Area Network
LDAP	Lightweight Directory Access Protocol
LV power cables	Low Voltage
NAT/PAT	Network Address Translation/Port Address Translation

OCR	Optical character recognition
RAID	Redundant Array of Inexpensive Disks
RDBMS	Relational database management system
RoHS	Restriction of Hazardous Substances
SAS	Serial Attached SCSI
SATA	Serial Advanced Technology Attachment
SHA-1	Secure Hash Algorithm
SLA	Service Level Agreement
SSL	Secure Socket Layer
SW	Software
TCO	Total Cost Owner
UPS	Uniform Power Supply
VPN	Virtual Private Network
XML	Extended Markup Language

Project scope:

The delivery includes psychical installation of the hardware and installation of the appropriate system and application software in order to be provided all prerequisites for the further project deliveries:

- Installation and configuration of equipment
- Make equipment available for KOS, Extranet and MoI network
- Maintenance and support during the warranty period (12 months).

Prerequisites:

The delivery of new separated environment for planned KOS system is required because of:

- Already developed in-house specific software for running KOS/Extranet applications at MoI. The MoI has developed the system that is running on this environment. The system is based on licenses, existing currently at MoI premises. The system contains not only the data bases model but also number of storage procedures and application software used at application servers
- Need to split physically two systems (KOS and Extranet) due to security requirements (internal system, separated from the external)

The specific requests below are based on existence of Extranet system and it needs extension as future KOS system. Extranet is existing internal system at MoI and the new KOS system will be based on it. The Extranet system is fully developed and operational. It is heavily used, being proven to be stable and reliable. The development of the system was completed by MoI IT department in-house within 3 years. The system is maintained by MoI staff on daily basis. For its systems, MoI is using Oracle 12c as database and application servers. The full list of licenses is provided below in Table 1. The most of the licenses are maintained on annual basis. Since 2015 Extranet is running successfully inside and outside MoI for registered number of users, providing more than 10000 requests per month to various public authorities.

KOS system is expecting to be further developed in-house with less external users, restricting them to law enforcement bodies only, but it will increase the list of the provided type of data, following protection of personal information. The current functionality of Extranet will be kept while the data model will be extended. MoI invest in Extranet system own experts' time and significant financial resource. The financial investment at MoI is purchasing licenses, training of staff, maintenance of licenses, maintenance of the live system, help desk, salaries of the involved experts.

Therefore complete compatibility on development level of the offered software with existing extranet system is required.

The Beneficiary owns all server and client licenses, data models and source code for the developed application software that is used for performing of the already completed tasks, and could be used by new redesigned models. The completed list of all licenses is provided in Table 1. Adoption of these particular software licenses is however not compulsory.

The Bidder may decide to reuse in its proposal these licenses. If the reuse of existing licenses is selected, then in the offer these licenses shall be delivered in its last version with option to downgrade to existing one accordingly.

The Bidder may choose also to use different licenses. In this case the Bidder shall deliver in addition to requested also replacement of existing licenses for KOS system, and shall assure and deliver full redesign and redevelopment of existing applications and data models, triggers and stored procedures that are currently in use on the existing KOS system, assuring with it full compatibility with existing systems and applications.

Delivery summary

Lot 3: Supply for licenses and hardware environment for KOS/NCIS system		
No.	**Item(s)**	**Quantity**
1.	Java Web Server software	4
2.	Database software	4
3.	Rack Server	1
4.	Data Storage	1

5.	Fibre Channel Switch	2
6.	L3 switch	2
7.	Rack 42U	1

General requirements for hardware and system software:

Regarding safety requirements, equipment must have necessary operational warnings as well as mechanical interlocks on the equipment operating/generating more than 30 Volts AC or DC, in accordance with current IEC and EU standards.

Software must be licensed to the Beneficiary in order to allow trained personnel of the Beneficiary to perform software installation, update/upgrade, repair/debug and/or diagnosis/report activities without Tenderer assistance.

Equipment allowing capacity upgrading must be provided in a way that upgrades can be performed by installing additional capacity, without discarding the already installed capacities.

Equipment delivery, including final installation must include all miscellaneous but needed items for equipment delivery and installation in order that the supplies are left in place fully operational and ready for use. Consumables used during delivery, installation and during testing time before provisional acceptance, must be anticipated and calculated in the offer. It shall be the sole responsibility of the Tenderer to check all site dimensions for completeness of equipment delivery before the commencement of delivery.

The Tenderer must provide necessary measures to prevent any damage during any/all delivery and installation stage(s). If damage occurs it must be rectified in an appropriate way by the Tenderer, which must keep the work site clean and safe against fire and/or other hazards during any/all delivery and installation stage(s) until formal acceptance.

Equipment must conform and/or be compatible with any standards, or with the commonly accepted best production practices currently in force, including any ISO, IEC or other relevant standards that may apply to each specific category of equipment. The Tenderer must deliver a certificate of conformity (issued by a quality control independent regulatory agency of recognized competence) for each equipment item or group of items.

Equipment must conform to the relevant CE regulation; all equipment must be CE compliant and fully authorised for use in Europe.

Mains power supply should operate on 220V – 20V, 50Hz - 60Hz, and be suitable for direct connection to the standard power outlets in Beneficiary country.

Items to be delivered

1. Item Number	2. Specifications Required		3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	Manufacturer's name:				
1.	**Java Web Server Software**	**Quantity: 4**			
	Manufacturer's name:				
	Product type, model:				
1.1.	Minimum of 4 (four) Processor Perpetual licenses for Java Web Server Software				
1.2.	Must support all features of Java EE platform (Enterprise Java Beans, JPA)				
1.3.	Must support Active-Active cluster				
1.4.	Must fully support offered database software in section 2				
1.5.	Must have web management interface for management of application server and deploying java[1] applications				

[1] See at https://en.wikipedia.org/wiki/Java_(programming_language)

1. Item Number	2. Specifications Required		3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
1.6.	Must support Windows, Linux and Unix[2] like operating systems				
1.7.	Must support creation and deployment of Web services				
1.8.	All software components must have 12 months of support with access to new versions, features and patches.				
2.	**Database Software**	**Quantity: 4**			
	Manufacturer's name:				
	Product type, model:				
2.1.	Minimum of 4 (four) Processor Perpetual licenses for Relational Database				
2.2.	Must support Active-Active deployment configuration				
2.3.	Must be ACID complaint				
2.4.	Must mechanism to prevent Dirty Reads				
2.5.	Must support table partitioning technology as mechanism to optimize data access				

[2] See at https://en.wikipedia.org/wiki/Unix

1. Item Number	2. Specifications Required		3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
2.6.	Must support transparent encryption for data inside database				
2.7.	Must have integrated backup and recovery mechanism				
2.8.	All software components must have 12 months of support with access to new versions, features and patches.				
3.	**Rack Server**	**Quantity: 1**			
	Manufacturer's name:				
	Product type, model:				
3.0	Application and database server in active/passive mode with RISC architecture 64bit CPU and UNIX like operating system that supports creating virtual machines without Hypervisor and allow assignment of hardware IO components to virtual machines, no less than 128 Virtual machines to be created.				
3.1	Server need to have minimum of 16 CPU cores with RISC architecture with no less than 4.2GHz frequency per core.				
3.2	Server need to have minimum 512 GB of RAM				
3.3	Server need to have at least 8 x 1.2TB SAS HDD				
3.4	4x16 Gbps port FC network adapters (dual or single port adapters) with optical connectors (LC);				

1. Item Number	2. Specifications Required		3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
3.5	8x1 Gbps ports of Ethernet network adapters (quad port adapters) with copper connectors (RJ45); 4x10 Gbps ports of Ethernet network adapters (minimum two dual port adapters) with optical ports (SFP+) for 10Gbps;				
3.6	Server need to have redundant power supply				
3.7	Server, operating system and virtualization need to have 24x7 Support offered for period of one year.				
3.8	UNIX like operating system and Virtualization need to be offered with full feature enabled (enterprise edition) for full server capacity (no capacity license).				
3.9	Offer need to include central management software (monitoring, administration and can manage multiple hosts) for hardware components, virtualization platform and virtual machines and operating systems. Solution need to support for Service Request automatic creation.				
4.	**Data Storage**	**Quantity: 1**			
	Manufacturer's name:				
	Product type, model:				
4.1.	The data storage system must have at least two controllers in the active-active configuration.				

1. Item Number	2. Specifications Required	3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
4.2.	The operating system of the controller must be located on the controller itself, on redundant internal disks or on separate medium			
4.3.	Minimum 256 GB DRAM cache per offered system.			
4.4.	Minimum 32 CPU cores per offered system.			
4.5.	Must have a minimum of 4 x 10GBps T-Base port for connection to clients per offered system.			
4.6.	Must have a minimum of 8x 16 GBps ports with associated SFP + short-range optical modules with an LC connector to connect to the SAN infrastructure of the user per offered system.			
4.7.	Must support the following at least levels of data protection in technology Double-parity.			
4.8.	Must include Thin Provisioning.			
4.9.	Must include the following File level protocols: NFS v4, SMB 2.1.			
4.10.	Must include the following Block-Level protocols: iSCSI, Fiber Channel.			
4.11.	Must include deduplication and compression.			
4.12.	Must include the option to create a copy of copies.			

1. Item Number	2. Specifications Required	3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
4.13.	Must support the following functionalities: remote replication, clones, encryption.			
4.14.	Remote control via the intuitive browser user interface (BUI) or command-line interface (CLI)			
4.15.	"Call home" functionality for automatic opening of cases with the manufacturer			
4.16.	NDMP interface for serverless backup software.			
4.17.	Minimum 2 shelves each with: o 24 x 1200GB SAS 2,5".			
4.18.	To be expandable to a minimum of 16 disk shelves that can contain no less than 24 disks.			
4.19.	Power cords: 2 x minimum lengths 1.2m with connectors C13 on one side and C14 on the other side of the controller.			
4.20.	Licenses with supported system features must be offered up to the maximum system extensions.			
4.21.	Must support the following operating systems (and multi-path functionality): RHEL / Enterprise Linux, IBM AIX, Microsoft Windows Server, Oracle Solaris.			
4.22.	System needs to have 24x7 Support offered for period of one year.			

1. Item Number	2. Specifications Required		3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
5.	**Fibre Channel Switch 24 port**	**Quantity: 2**			
	Manufacturer's name:				
	Product type, model:				
5.1.	Minimum 24 ports with supported speeds 4, 8, 16 Gbps.				
5.2.	Minimum 12 ports need to be enabled for use and configured with SFP+ adapters with LC connectors Short range.				
5.3.	Maximum rack size need to be 1Rack Unit with appropriate tools for mounting to 19" industry rack.				
5.4.	Possibility to aggregate 24 ports for achieving 384 Gbps full-duplex bandwidth.				
5.5.	Switch need to support following port modes: E, F, M, D.				
5.6.	Switch need to support Access Gateway mode: F_Port and NPIV-enabled N_Port.				
5.7.	Switch need to have minimum one 10/100 Mb/sec RJ45 Ethernet port for remote management, one serial port for console access and one USB port for firmware upload.				
5.8.	Power cables need to be minimum 2 meters with C13 C14 connectors.				

1. Item Number	2. Specifications Required		3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
5.9.	For remote management switch need to support SSH, HTTP, SNMP v1/v3 protocols.				
5.10.	FC cables need to be offered to connect all SAN clients to network.				
5.11.	Hardware support included need to be at least 1 year from manufacture vendor.				
6.	**L3 Switch**	**Quantity: 2**			
	Manufacturer's name:				
	Product type, model:				
6.1.	Maximum rack size needs to be 1Rack Unit with appropriate tools for mounting to 19" industry rack.				
6.2.	The device must be equipped with redundant AC power.				
6.3.	At least 24 x 10/100/1000 Gigabit Ethernet interface.				
6.4.	At least 8x TenGigabit Ethernet (10GE) SFP + ports.				
6.5.	The ability to stack (create one logical device) of two or more devices of this type using dedicated ports and / or using the Ethernet ports interface.				
6.6.	Support for forwarding Jumbo Ethernet frames.				

1. Item Number	2. Specifications Required		3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
6.7.	Support for OSPF, ISIS and BGP routing protocols.				
6.8.	Support for multicast routing through protocols: Internet Group Management Protocol Version 2 and 3 (IGMPv2 and IGMPv3), Protocol Independent Multicast Sparse Mode (PIM SM), PIM Source-Specific Multicast (SSM).				
6.9.	Support for L2 protocols (STP, MSTP, 802.1Q).				
6.10.	TenGigabit Ethernet active optical twinax cable with embedded SFP + transceiver, 8 pieces per each L3 switch.				
6.11.	Gigabit Ethernet optical SFP transceiver for multimode fiber, 2 pieces per each L3 switch.				
7.	**Rack 42U**	**Quantity: 1**			
	Manufacturer's name:				
	Product type, model:				
7.1	42U Rack cabinet				
7.2	Standard equipment: minimum Rack casters kit, rack levelling feet, side panels, front door, adjustable vertical mounting rails, roof, keys, split perforated rear door				
7.3	Features: Adjustable depth, integrated cable management, roof fans				

1. Item Number	2. Specifications Required	3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	installed			
7.4	PDU: minimum 2 x Rack PDU with 24 Output Connector(s)			
7.5	KVM Switch with minimum 8 ports, Support for 1 local and 1 IP User			
7.6	KVM console: minimum LED 18.5" 1366 x 768 WXGA screen, Dual USB 2.0 Ports, 1U, International English Keyboard			

1 Annex 1 - Delivery Locations

No.	Location	Address	Contact person	Contact e-mail	Contact phone
1	Ministry of Interior	Kneza Miloša 101, 11000 Beograd			

Table 1 List of software licenses at the Beneficiary's premise

#	Short description	Q-ty	Notes
1	Oracle DB EE perpetual	4	Maintained annually
2	Oracle Exadata Storage Server SW Disk Drive perpetual	18	Maintained annually
3	Oracle RAC 1 Node perpetual	4	Maintained annually

4	Oracle WebLogic Suite perpetual	6	Maintained annually
5	Oracle Partitioning perpetual	12	Maintained annually
6	Oracle DB EE perpetual	8	Maintained annually
7	Oracle SOA Suite for Oracle Middleware perpetual	6	Maintained annually
8	Oracle BI Publisher perpetual	2	Maintained annually
9	Oracle WebLogic Server EE perpetual	6	Maintained annually
10	IBM Cognos 8	20	Not maintained
11	ESRI ArcGIS Server 10.3, unlimited clients, web based	1	Maintained annually
12	ESRI ArcGIS Editor 10.3 Desktop	1	Maintained annually
13	IBM DataPower Gateway with HSM Card Appliance - D1AT1LL	1	Maintained annually
14	IBM DataPower Operations Dashboard Single Gateway Application Instance - D1NAWLL	1	Maintained annually