

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 1 – Supply of IT equipment for strengthening IT capacities within Home Affairs Sector for the fight against organized crime for implementation of: Intelligence Led Policing, National Criminal Intelligence System and Advanced Analytical Platform

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
ACL	Access Control List
ADF	Automatic Document Feeder
CD	Compact disc
CE	Conformité Européenne
CEE	Euro plug
CMYK	Colour model cyan, magenta, yellow, and key
CPU	Central Processor Unit
DC	Direct current
DVD RW	digital video disc rewritable
FAC	Final Acceptance Certificate
HDD	Hard Disk Drive
HDMI	High-Definition Multimedia Interface
HW	Hardware
ICT	Information-communication Technologies
IEC	International Electrotechnical Commission
IGMP	Internet Group Management Protocol
IP	Internet Protocol
iSCSI	Internet Small Computer System Interface

ISO	International Organization for Standardization
KVM	Keyboard Video Mouse
LAN	Local Area Network
LED	light-emitting diode
LV power cables	Low Voltage
NAT/PAT	Network Address Translation/Port Address Translation
OCR	Optical character recognition
PIM	Protocol Independent Multicast
PoE	Power over Ethernet
RAID	Redundant Array of Inexpensive Disks
RAM	Random Accessed Memory
RoHS	Restriction of Hazardous Substances
SAS	Serial Attached SCSI
SATA	Serial Advanced Technology Attachment
SAN	Storage Area Network
SFP	Small form-factor pluggable transceiver
SHA-1	Secure Hash Algorithm
SLA	Service Level Agreement
SNMP	Simple Network Management Protocol
SSL	Secure Socket Layer
SW	Software
TCO	Total Cost Owner
TFT	Thin Film Transistor
UPS	Uniform Power Supply
UTP	unshielded twisted pair
USB	Universal Serial Bus

VGA	Video Graphics Array
VPN	Virtual Private Network
WAN	Wide Area Network
XML	Extended Markup Language

Project scope:

The delivery includes physical 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 (PC, mobile workstation, printers, scanners, servers, networking)
- Operation system installation and server virtualization
- Maintenance and support during the warranty period (12 months)
- In addition to the 12 months' warranty period, the Contractor will provide the Beneficiary with the Manufacturer's commercial warranty of at least:
 - for items 1, 2, 6, 7, 8, 9 and 10 - further 2 years.
 - for items 3, 4 and 5 - further 4 years.

Delivery summary

Lot 1: Supply of IT equipment for strengthening IT capacities within Home Affairs Sector for the fight against organized crime for implementation of: Intelligence Led Policing, National Criminal Intelligence System and Advanced Analytical Platform		
No.	Item(s)	Quantity
1.	PC workstation with Smart Card reader no OS	1000
2.	Monitor	1000

3.	Mobile PC workstation	10
4.	Printer multifunction Colour A3, high speed	25
5.	Printer multifunction Colour A4, high speed	25
6.	Scanner with A4 ADF	60
7.	PoE L2 Gigabit switch 12 port manageable	25
8.	PoE L2 Gigabit switch 24 port manageable	25
9.	PoE L2 Gigabit switch 48 port manageable	8
10.	L3 central switch	1
11.	Application Firewall	2
12.	Rack Server Type I	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
1.	PC workstation with Smart Card reader no OS	Quantity: 1000			
	Manufacturer's name:				
	Product type, model:				
1.1.	Micro Form Factor PC (Dimensions H x W x D max 20 x 4 x 20 (cm))				
1.2.	CPU: minimum 2 cores, 64-bit technology compatible, Passmark Average CPU mark min 4150				
1.3.	RAM memory: minimum 4GB DDR4 2400 MHz, allowing further expansion without removing already installed memory modules (minimum 1 free memory slot)				
1.4.	Hard disk drive: 500GB 7200rpm SATA III (6 Gb/s)				
1.5.	Graphic adapter: integrated on-board				
1.6.	Sound card: integrated, on-board				
1.7.	Network adapter: 10/100/1000Mbps onboard				
1.8.	Mainboard Interfaces, minimum: 4 x USB 3.1 and 2 x USB				

1. Item Number	2. Specifications Required		3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	2.0 (of those minimum 2 USB ports located on front side of the workstation case), 1 x HDM, 1 x DVI /Display port, 1xRJ-45				
1.9.	Free expansion slots: 1 x M.2				
1.10.	Input devices: keyboard with Serbian layout, standard optical mouse with scroll function (both USB or PS/2 type), Smart Card Reader				
1.11.	Compliant standards: CE and/or TUV GS, RoHS, EPEAT Gold, Energy Star				
2.	Monitor	Quantity: 1000			
	Manufacturer's name:				
	Product type, model:				
2.1.	Compliant standards: CE, EnergyStar				
2.2.	Backlight technology: LED				
2.3.	Diagonal size: minimum 21, maximum 24", antiglare				
2.4.	Screen type: wide				
2.5.	Resolution: minimum 1920 x 1080				

1. Item Number	2. Specifications Required		3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
2.6.	Contrast (native, static): minimum 3000:1				
2.7.	Brightness (native, typical): minimum 250 cd/m2				
2.8.	Response time (typical): maximum 5ms (without software adjustments)				
2.9.	Viewing Angle: Vertical 178, horizontal 178				
2.10.	Video input: 1x VGA, 1x HDMI, 1x DVI or Display Port				
2.11.	Audio: 1x audio-in, 1x audio out				
2.12.	Speakers: minimum 2x1W integrated speakers or sound bar connected to the monitor				
2.13.	Security: Kensington security lock				
2.14.	Delivered with connection cables for both (analogue and digital) interfaces.				
3.	Mobile PC workstation	Quantity: 10			
	Manufacturer's name:				
	Product type, model:				

1. Item Number	2. Specifications Required		3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
3.1	Processor: minimum 2 cores, 64-bit technology compatible, Passmark Average CPU mark min 3130				
3.2	Display: minimum 15.6" (1366x768)				
3.3	Operational memory: minimum 4GB DDR4 2400Mhz installed, upgradeable up to 16GB				
3.4	Hard disks: SSD: 120GB				
3.5	Optical Drive: DVD RW				
3.6	Webcam				
3.7	Battery: min. 40Whr				
3.8	Carrying Case				
3.9	Connectivity: Gigabit LAN, Wireless LAN (g,n), Bluetooth				
3.10	Ports & Expansions: 2xUSB 3.0, 1xUSB 2.0, VGA, HDMI, memory card slot				
3.11	USB optical mouse				
4.	Printer multifunction Colour A3, high speed	Quantity: 25			

1. Item Number	2. Specifications Required	3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	Manufacturer's name:			
	Product type, model:			
4.1	Print Technology: Laser Colour			
4.2	Duplex printing standard			
4.3	Paper size: Up to A3			
4.4	Memory: minimum 4 GB, Hard drive minimum 300 GB			
4.5	Resolution: minimum 1200 x 1200 dpi			
4.6	Print speed: minimum 40/20 A4/A3 ppm			
4.7	Paper trays: 150-sheet multipurpose tray, 60-300g/m ² , 2 x 500-sheet universal paper cassette, 60-300g/m ²			
4.8	Network adapter: Built in Gigabit Ethernet (1 Gigabit Ethernet 10/100/1000 Base-T)			
4.9	Duplex Automatic Document Feeder minimum 140 pages, 60-150g/m ²			
4.10	User friendly interface with touch LCD screen			

1. Item Number	2. Specifications Required		3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
4.11	Metal cabinet				
4.12	Along with the device is necessary to deliver the toners (CMYK) for printing a minimum of 3.000 pages with 5% coverage				
5.	Printer multifunction Colour A4, high speed	Quantity: 25			
	Manufacturer's name:				
	Product type, model:				
5.1.	Print Technology: Laser Colour				
5.2.	Duplex printing standard				
5.3.	Paper size: Up to A4				
5.4.	Memory: minimum 2 GB, Hard drive minimum 300 GB				
5.5.	Resolution: minimum 1200 x 1200 dpi				
5.6.	Print speed: minimum 40 A4 ppm				
5.7.	Paper trays: minimum 100-sheet multipurpose tray, 60-220g/m ² , 1 x 500-sheet universal paper cassette, 60-220g/m ²				

1. Item Number	2. Specifications Required		3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
5.8.	Network adapter: Built in Gigabit Ethernet (1 Gigabit Ethernet 10/100/1000 Base-T)				
5.9.	Duplex Automatic Document Feeder minimum 75 pages, 60-120g/m ²				
5.10.	User friendly interface with touch LCD screen				
5.11.	Metal cabinet				
5.12.	Along with the device is necessary to deliver the toners (CMYK) for printing a minimum of 3.000 pages with 5% coverage.				
6.	Scanner with A4 ADF	Quantity: 60			
	Manufacturer's name:				
	Product type, model:				
6.1.	Scanner type: Flatbed, ADF, duplex scan				
6.2.	Optical resolution: minimum 600 x 600 dpi				
6.3.	Scanning resolution: minimum 1200 x 1200 dpi				
6.4.	Recommended daily duty cycle: minimum 1500 pages				

1. Item Number	2. Specifications Required	3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
6.5.	Scanning speed (mono/colour): minimum 25 ppm (at 200dpi)			
6.6.	Automatic Document Feeder Capacity: minimum 50 Sheets(A4)			
6.7.	Document size: minimum A6, up to A4			
6.8.	Connectivity: Wi-Fi, USB 3.0, 1xRJ-45 (10/100/1000 Mbps)			
6.9.	Scan formats: JPEG, PDF, searchable PDF, TIFF			
6.10.	Protocol support: DNS, SNMP, SLP , TCP/IP, DHCP			
7.	PoE L2 Gigabit switch 16 port manageable	Quantity: 25		
	Manufacturer's name:			
	Product type, model:			
7.1	The height of the device must be up to 1U.			
7.2	The unit must be equipped with AC power.			
7.3	At least 16 x 10/100/1000 Gigabit Ethernet interface.			

1. Item Number	2. Specifications Required		3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
7.4	At least 2x Gigabit Ethernet SFP ports.				
7.5	Support for forwarding Jumbo Ethernet frames.				
7.6	Support for PoE and PoE + on Ethernet ports (up to 30W per port) and support for a minimum of 120W total on all 16 ports.				
7.7	Support for L2 protocols (STP, MSTP, IGMP, 802.1Q).				
7.8	Support for IP routing using static routes.				
8.	PoE L2 Gigabit switch 24 port manageable	Quantity: 25			
	Manufacturer's name:				
	Product type, model:				
8.1	The offered device should be rack mounted with the height of the device must be up to 1U.				
8.2	The unit must be equipped with AC power.				
8.3	At least 24 x 10/100/1000 Gigabit Ethernet interface.				
8.4	At least 4x Gigabit Ethernet SFP ports.				

1. Item Number	2. Specifications Required		3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
8.5	Support for forwarding Jumbo Ethernet frames.				
8.6	Support for PoE and PoE + on Ethernet ports (up to 30W per port) and support for a minimum 370W total on all 24 ports.				
8.7	Support for L2 protocols (STP, MSTP, IGMP, 802.1Q).				
8.8	Support for IP routing using static routes.				
9.	PoE L2 Gigabit switch 48 port manageable	Quantity: 8			
	Manufacturer's name:				
	Product type, model:				
9.1	The offered device should be rack mounted with the height of the device must be up to 1U.				
9.2	The unit must be equipped with AC power.				
9.3	At least 48 x 10/100/1000 Gigabit Ethernet interface.				
9.4	At least 4x Gigabit Ethernet SFP ports.				
9.5	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
9.6	Support for PoE and PoE + on Ethernet ports (up to 30W per port) and support for a minimum 370W total on all 48 ports.				
9.7	Support for L2 protocols (STP, MSTP, IGMP, 802.1Q).				
9.8	Support for IP routing using static routes.				
10.	L3 central switch	Quantity: 1			
	Manufacturer's name:				
	Product type, model:				
10.1	Modular router with at least six slots for modules (cards) with interfaces.				
10.2	The router should be equipped with a redundant processor board with a minimum of 8 GB Flash memory, with a minimum of 8 GB DRAM memory per processor and 100 GB of storage memory, and which provides a minimum capacity of 100 Gbps.				
10.3	The air flow through the router should be forward-facing.				
10.4	Possibility of mounting in a 19 "rack.				
10.5	It is necessary to offer redundant AC power supply.				

1. Item Number	2. Specifications Required	3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
10.6	It is necessary to offer interface cards with minimum 90 Gigabit Ethernet SFP ports and 10 TenGigabit Ethernet SFP + ports on all offered interface cards.			
10.7	Each of the offered interface cards should support forwarding of minimum 100Gbps.			
10.8	At least 64 pieces of Gigabit Ethernet copper transceivers (GLC-TE) must be offered, which support a range of up to 100m on UTP copper cables and which are compatible with the offered router / interface cards.			
10.9	At least 26 pieces of Gigabit Ethernet optical SFP transceivers for SX multi-mode fibre, which must be compatible with the offered router / interface cards.			
10.10	It is necessary to offer at least 10 pieces of TenGigabit Ethernet optical SFP + transceiver for multimode fibre type SR, which must be compatible with offered routers / interface cards.			
10.11	The need for expanding the router with additional interface cards with a minimum of additional 60 TenGigabit Ethernet optical SFP + ports.			
10.12	Support for IPv4 routing protocols: RIP v1 / v2, IS-IS, OSPF, BGP, PBR.			
10.13	Support for IPv6 routing protocols: RIP, OSPFv3, IS-IS, BGP, PBR.			

1. Item Number	2. Specifications Required	3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
10.14	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).			
10.15	Support for Quality of Services (QoS) and Hierarchical Quality of Service (HQoS).			
10.16	The ability to create the L2 bridge domain and the corresponding L3 virtual interfaces on a particular L2 bridge domain.			
10.17	Access control with support of at least 4000 ACL and total 400,000 ACE per system.			
10.18	Support for a minimum of 4,000,000 routes (IPv4 or IPv6 routes).			
10.19	Multicast support for 100,000 routes (PIM) and 44,000 multicast groups (IGMP).			
10.20	Support for IPSec through AES and 3DES crypto mechanisms.			
10.21	The ability to support the creation of a minimum of 8,000 IPsec tunnels.			
10.22	The possibility of crypto forwarding of minimum 29Gbps.			

1. Item Number	2. Specifications Required		3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
10.23	Support for GRE protocol and minimum 4000 GRE tunnels.				
10.24	Support for MPLS LDP protocol.				
10.25	Support for L2VPN functionality, including VPLS (through appropriate protocols).				
10.26	Support for minimum 8,000 Virtual Routing and Forwarding L3 VPN instances.				
10.27	Support for Bidirectional Forwarding Detection.				
10.28	Support for NAT functionality.				
11.	Application firewall	Quantity: 2			
	Manufacturer's name:				
	Product type, model:				
11.1	The device must be fitted into standard 19 "communication boards. Device height must be up to 1U.				
11.2	The unit must be equipped with an AC power supply, with an input voltage of 230V.				
11.3	Support for 16 Gigabit Ethernet interfaces, of which 12 1GB Ethernet (RJ45) interface and 4 1GB SFP slots.				

1. Item Number	2. Specifications Required	3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
11.4	Existence of a separate Gigabit Ethernet interface for Device Management only.			
11.5	At least one USB 2.0 interface.			
11.6	Console serial port.			
11.7	Bandwidth for firewall functionality and application control minimum 2 Gbps.			
11.8	The number of one-time sessions through the device minimum 1 million.			
11.9	Speed of setting up new sessions – minimum 12,000 new sessions per second.			
11.10	Support for logical link aggregation.			
11.11	RIP, OSPF and BGP dynamic routing protocols must be supported in the supplied software.			
11.12	Support for bridging functionality to connect multiple interfaces to a bridge group with routing capabilities to other Firewall interfaces.			
11.13	The SNMP v3 protocol with AES encryption must be supported.			

1. Item Number	2. Specifications Required		3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
11.14	IPv6 support.				
11.15	The device must support the installation in high availability mode, paired with the identical device.				
11.16	The device must be shipped with the latest version of the software.				
11.17	The device must support local management and monitoring software with support for event analysis.				
11.18	The ability to obtain a license that allows the use of IPS and Security Intelligence functionality and update the appropriate signatures.				
11.19	Ability to obtain a license that allows anti-malware file verification, including sandbox analysis.				
11.20	Ability to obtain a license that allows Web traffic control based on category and reputation.				
11.21	Possibility to purchase and implement a separate management console in the form of a virtual machine or a special device with which it is possible to manage Firewall devices and generate different kinds of analyses and reports.				
12.	Rack Server Type I	Quantity: 1			
	Manufacturer's name:				

1. Item Number	2. Specifications Required	3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	Product type, model:			
12.0	Application server with RISC architecture 64bit CPU and UNIX ¹ compatible 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.			
12.1	Server need to have minimum of 16 CPU cores with RISC architecture with no less than 4.2GHz frequency per core.			
12.2	Server need to have minimum 512 GB of RAM			
12.3	Server need to have at least 8 x 1.2TB SAS HDD			
12.4	4x16 Gbps port FC network adapters (dual or single port adapters) with optical connectors (LC);			
12.5	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;			

¹ See <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
12.6	Server need to have redundant power supply			
12.7	Server, operating system and virtualization need to have 24x7 Support offered for period of one year.			
12.8	UNIX compatible operating system and Virtualization need to be offered with full feature enabled (enterprise edition) for full server capacity (no capacity license).			
12.9	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.			

1 Annex 1 – Delivery Locations

No.	Location	Address	Contact person	Contact e-mail	Contact phone
1	Ministry of Interior (Item 10-12)	Kneza Miloša 101, 11000 Beograd			
2	Ministry of Interior (Item 1-9)	Central MoI Warehouse “Atex” Milorada Jovanovića 9, 11000			

		Belgrade			
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