

**Annex 1 to RFQ-23-029**

**TECHNICAL REQUIREMENTS**

**Delivery of the hardware equipment and related services for the Information and Communication System «Political Finance Portal» in Ukraine**

## I. General Information

Purpose	Supply of server equipment
Customer	National Agency on Corruption Prevention
Country	Ukraine

## II. Objective and Desired Results

The main result of the assignment is to supply server equipment to the National Agency on Corruption Prevention.

Delivery address: Kyiv, Ukraine. The exact address for delivering the server equipment will be provided to the Supplier at the stage of execution of the Agreement (taking into account the presence of several physical locations of data processing centers and the state of war in Ukraine).

## III. Description of Tasks, Methodology, Coordination

**Tasks:** supply of computer equipment for the National Agency on Corruption Prevention:

### A. List of goods and related services to be procured

#	Description of Equipment / Services	Quantity	Timeline
	Server Bastion node	1	Not later than 3.5 months from signing the agreement
	Server Master node	3	
	Server Infrastructure node	3	
	All-Flash Unified Storage	1	
	Cable 25GBASE Active Optical SFP28, 10M [SFP-25G-AOC10M=]	4	
	Red Hat OpenShift Platform Plus with Red Hat OpenShift Data Foundation Advanced (Bare Metal Node), Standard (1-2 sockets up to 64 cores)	3	
	Red Hat OpenShift Container Platform (Bare Metal Node), Standard (1-2 sockets up to 64 cores)	4	
	Installation services	1	Not later than 2 months from the delivery of the equipment
	Technical support (12 months)	1	For 12 months after the completion of the installation services
	Warranty support (36 months)	1	For 36 months after the delivery of the equipment

### B. Technical Specifications

#### 1. General requirements

The proposed equipment and software, including their components, with which or on which the solution is implemented, should not be subject to restrictive measures (sanctions) introduced in accordance with the Decrees of the President of Ukraine and other legislative acts.

All goods and materials included into the goods shall be brand new, unused, of the most recent or current models and incorporate all recent improvements in design and materials. The date of manufacturing shall be not earlier than Q4 2022 for all the goods.

All hardware should be from the same manufacturer or have single manufacturer support line if manufacturer has Original Equipment Manufacturer hardware in product line. The OEM Partnership should be indicated on manufacturer website.

All hardware should be from manufacturer with official representation in Ukraine or an official service center in Ukraine. The Official service center(s) should be indicated on manufacturer's website.

All connectivity elements to provide redundant network connectivity for all supplied systems and all software licenses to provide functional requirements must be included in the cost of the equipment.

Components should not be adjusted/overclocked to the frequency higher than the base frequency as intended by the manufacturer. The components shall be standard as manufactured by the manufacturer, without alterations/modifications/customisations.

## **2. Dates**

All information technology should be capable to provide the correct imaging, computing and transferring of dates, including but not limited to the dates of XXI century.

## **3. Power supply**

Unless otherwise is provided in the specification, any active equipment whatsoever should operate when connected to power supply network 220V +/-20V, 50 Hz +/- 1Hz.

## **4. Environment**

All the equipment shall operate at +15 - +35 Celsius and normal indoor relative humidity.

## **5. Software licensing**

The Vendor shall grant to the Customer licenses to access and use the Software, including all inventions, designs, and marks embodied in the software.

The software shall be licensed for use by the Customer. The Intellectual Property Rights shall remain vested in the owner of such rights.

Such license to access and use the software shall:

- (a) be:
  - i. nonexclusive;
  - ii. fully paid up and irrevocable;
  - iii. take into account special preferential prices for licenses provided by some producers to government bodies in Ukraine;
  - iv. valid throughout the territory of the Customer's Country
  - v. do not include any time limitations for the software access and use and
  
- (b) permit the Software to be:
  - i. used or copied for use on or with the computer(s) for which it was acquired (if specified in the Technical Requirements and/or the vendor's bid), plus a backup computer(s) of the same or similar capacity, if the primary is(are) inoperative, and during a reasonable transitional period when use is being transferred between primary and backup;
  - ii. used or copied for use on or transferred to a replacement computer(s), (and use on the original and replacement computer(s) may be simultaneous during a reasonable transitional period);

- iii. if the nature of the System is such as to permit such access, accessed from other computers connected to the primary and/or backup computer(s) by means of a local or wide-area network or similar arrangement, and used on or copied for use on those other computers to the extent necessary to that access;
- iv. reproduced for safekeeping or backup purposes;
- v. customised, adapted, or combined with other computer software for use, provided that derivative software incorporating any substantial part of the delivered, restricted Software shall be subject to same restrictions as are set forth in this Document;
- vi. disclosed to, and reproduced for use by, support service suppliers and their subcontractors, (and the Customer may sublicense such persons to use and copy for use the Software) to the extent reasonably necessary to the performance of their support service contracts, subject to the same restrictions as are set forth in this Document.

## 6. Documents

Each hardware and software unit shall be accompanied with technical documents and user manual (printed or electronic) in English + optionally in Ukrainian.

## 7. Fonts

The system components shall support Cyrillic fonts (Ukrainian and Russian) for text processing and file naming.

## 8. Detailed technical requirements

The technical parameters below are minimal. The parameters of actual proposed equipment should be of same or better values.

Note: In the event that a trade mark is indicated in the technical characteristics, the Vendor may offer an "analogue" of equipment with a mandatory requirement to confirm compatibility with the equipment and software already used by the NACP and which is planned in the construction of the optimal solution architecture.

### 8.1 Technical requirements for Server Bastion node

Quantity	SKU	Description
1	[210-AYJZ]	Dell PowerEdge R650 server
1	[379-BEID]	10x2.5 Front Storage
1	[379-BDSW]	SAS/SATA/NVMe Capable backplane
1	[321-BGHI]	2.5" Chassis with up to 10 HDDs (SAS/SATA) including max of 4 Universal Drives, 3 PCIe Slots, 2 CPU
1	[338-CBCJ]	Intel® Xeon® Gold 6338 2G, 32C/64T, 11.2GT/s, 48M Cache, Turbo, HT (205W) DDR4-3200
1	[338-CBCJ], [379-BDCO]	Intel® Xeon® Gold 6338 2G, 32C/64T, 11.2GT/s, 48M Cache, Turbo, HT (205W) DDR4-3200
1	[412-AAVM]	Heatsink for 2 CPU configuration (CPU more than 165W)
1	[370-AEVR]	3200MT/s RDIMMs
16	[370-AEVQ]	16 GB RDIMM, 3200MT/s, Dual Rank
1	[405-AAZB], [750-ACFQ]	Front PERC H755 Rear Load
1	[450-AIQZ]	Dual, Hot-plug, Fully Redundant Power Supply (1+1), 1400W, Mixed Mode
1	[528-CRVW], [528-CTZH]	iDRAC9 Datacenter 15G with OpenManage Enterprise Advance Plus
1	[540-BCOF]	Mellanox ConnectX-5 Dual Port 10/25GbE SFP28, OCP NIC 3.0
1	[540-BCMQ]	Mellanox ConnectX-5 Dual Port 10/25GbE SFP28 Adapter, PCIe Low Profile
1	[406-BBMO]	Emulex LPE 35002 Dual Port 32 Gb Fibre Channel HBA, PCIe Low Profile
1	[403-BCMB], [403-BCNP]	BOSS-S2 controller card + with 2 M.2 480GB (RAID 1)
4	[470-ACEW]	Dell Networking, Cable, SFP28 to SFP28, 25GbE, Passive Copper Twinax Direct Attach Cable, 5 Meter

## 8.2 Technical requirements for Server Master node

Quantity	SKU	Description
1	[210-AYJZ]	Dell PowerEdge R650 server
1	[379-BEID]	10x2.5 Front Storage
1	[379-BDSW]	SAS/SATA/NVMe Capable backplane
1	[321-BGHI]	2.5" Chassis with up to 10 HDDs (SAS/SATA) including max of 4 Universal Drives, 3 PCIe Slots, 2 CPU
1	[338-CBCJ]	Intel® Xeon® Gold 6338 2G, 32C/64T, 11.2GT/s, 48M Cache, Turbo, HT (205W) DDR4-3200
1	[338-CBCJ], [379-BDCO]	Intel® Xeon® Gold 6338 2G, 32C/64T, 11.2GT/s, 48M Cache, Turbo, HT (205W) DDR4-3200
1	[412-AAVM]	Heatsink for 2 CPU configuration (CPU more than 165W)
1	[370-AEVR]	3200MT/s RDIMMs
16	[370-AEVQ]	16 GB RDIMM, 3200MT/s, Dual Rank
1	[405-AAZB], [750-ACFQ]	Front PERC H755 Rear Load
2	[400-AZOY]	1.6 TB SSD SAS Mix Use 12 Gbps 512e 2.5in Hot-plug AG Drive, 3 DWPD,
2	[400-BLKD]	1.6TB, Enterprise, NVMe, Mixed Use, U2, G4, P5600 with carrier
1	[450-AIQZ]	Dual, Hot-plug, Fully Redundant Power Supply (1+1), 1400W, Mixed Mode
1	[528-CRVW], [528-CTZH]	iDRAC9 Datacenter 15G with OpenManage Enterprise Advance Plus
1	[540-BCOF]	Mellanox ConnectX-5 Dual Port 10/25GbE SFP28, OCP NIC 3.0
1	[540-BCMQ]	Mellanox ConnectX-5 Dual Port 10/25GbE SFP28 Adapter, PCIe Low Profile
1	[406-BBMO]	Emulex LPE 35002 Dual Port 32 Gb Fibre Channel HBA, PCIe Low Profile
1	[403-BCMB], [403-BCNP]	BOSS-S2 controller card + with 2 M.2 480GB (RAID 1)
4	[470-ACEW]	Dell Networking, Cable, SFP28 to SFP28, 25GbE, Passive Copper Twinax Direct Attach Cable, 5 Meter

## 8.3 Technical requirements for Server Infrastructure node

Quantity	SKU	Description
1	[210-AYJZ]	Dell PowerEdge R650 server
1	[379-BEID]	10x2.5 Front Storage
1	[379-BDSW]	SAS/SATA/NVMe Capable backplane
1	[321-BGHI]	2.5" Chassis with up to 10 HDDs (SAS/SATA) including max of 4 Universal Drives, 3 PCIe Slots, 2 CPU
1	[338-CBCJ]	Intel® Xeon® Gold 6338 2G, 32C/64T, 11.2GT/s, 48M Cache, Turbo, HT (205W) DDR4-3200
1	[338-CBCJ], [379-BDCO]	Intel® Xeon® Gold 6338 2G, 32C/64T, 11.2GT/s, 48M Cache, Turbo, HT (205W) DDR4-3200
1	[412-AAVM]	Heatsink for 2 CPU configuration (CPU more than 165W)
1	[370-AEVR]	3200MT/s RDIMMs
16	[370-AEVQ]	16 GB RDIMM, 3200MT/s, Dual Rank
1	[405-AAZB], [750-ACFQ]	Front PERC H755 Rear Load
4	[400-AZOY]	1.6 TB SSD SAS Mix Use 12 Gbps 512e 2.5in Hot-plug AG Drive, 3 DWPD,
2	[400-BLKD]	1.6TB, Enterprise, NVMe, Mixed Use, U2, G4, P5600 with carrier

1	[450-AIQZ]	Dual, Hot-plug, Fully Redundant Power Supply (1+1), 1400W, Mixed Mode
1	[528-CRVW], [528-CTZH]	iDRAC9 Datacenter 15G with OpenManage Enterprise Advance Plus
1	[540-BCOF]	Mellanox ConnectX-5 Dual Port 10/25GbE SFP28, OCP NIC 3.0
1	[540-BCMQR]	Mellanox ConnectX-5 Dual Port 10/25GbE SFP28 Adapter, PCIe Low Profile
1	[406-BBMO]	Emulex LPE 35002 Dual Port 32 Gb Fibre Channel HBA, PCIe Low Profile
1	[403-BCMB], [403-BCNP]	BOSS-S2 controller card + with 2 M.2 480GB (RAID 1)
4	[470-ACEW]	Dell Networking, Cable, SFP28 to SFP28, 25GbE, Passive Copper Twinax Direct Attach Cable, 5 Meter

#### 8.4 All-Flash Unified Storage

Module Name	Option Name	Qty
[210-ASLP]	Dell Unity XT 380F DPE 25x2.5 Customer Supplied Rack (High Line Power 200V-240V)	1
[800-BBQV]	Non TLA Order	1
[400-BFUP]	Unity F 3.84TB ALL FLASH 25X2.5 SSD	6
[406-BBNI]	Unity CNA 4x16Gb FC SFPs AF	1
[565-BBHU]	Unity 2X4 Port IO 25GbE Twinax AF	1
[470-AEFS]	3M SFP+ to SFP+ 25G Passive Twinax Cable AF QTY 2	4
[379-BDOI]	Pair of C13/C14 cables (Highline Power) or C19/C20 cables (480/680 Lowline Power) included with DPE	1
[343-BBMQR]	Unity XT 380F Field Install Kit	1
[709-BDLX]	Parts Only Warranty 36Months, 36 Month(s)	1
[199-BJNF]	ProSupport and Next Business Day Onsite Service, 36 Month(s)	1
[683-11930]	No Installation Service Selected (Contact Sales rep for more details)	1
[210-BEES]	Unity XT AFA Software Only Virtual Base - SWAAA	1
[149-BBOO], [149-BBOQ], [149-BBOR], [149-BBOS], [149-BBOU], [149-BBOV], [149-BBPC], [149-BBPF], [149-BBPG], [149-BBPL], [149-BBPM], [149-BBPN], [149-BBPO], [149-BBPR], [149-BBPU], [149-BBPW], [149-BBPX], [149-BBPZ], [149-BBQB], [149-BBQG]	Unity AFA Base Software+ D@RE=IC	1
[487-BJWY]	ProSupport Next Business Day Unity All-Flash Sftwr Spt-Maint, 36 Month(s)	1
[800-BBQV]	Non TLA Order	1

#### C. Terms of delivery.

All Goods shall be delivered on DDP terms.

The Vendor has the right to independently choose the place of customs clearance in the customs territory of Ukraine.

The Vendor is additionally responsible for the proper drawing up of all documentation that shall accompany goods imported into the customs territory of Ukraine, any costs for the goods transportation through territory of other countries, as well as for the goods loading, unloading and entering the target premises.

The Vendor will be responsible for customs formalities when importing goods to the Customer's country.

The vendor must include in the price of the offer the price of transportation of goods on the territory of Ukraine, insurance and other local costs related to the delivery of goods to the destination for the provision of all related services, including the deployment of Goods and Installation services and Technical support (12 months) and Warranty support (36 months).

The Payer (and the Customer) is not responsible for the payment of all customs and import duties imposed on the goods, as well as other local taxes, including value added tax (VAT), which are levied on goods and services in accordance with the current legislation of Ukraine.

When delivering the equipment, the Vendor is required to provide related services related to the transportation of goods, i.e. loading, unloading and delivery of goods to the target premises (note: services on the territory of the NACP are provided only on working days from 9:30 a.m. to 4:30 p.m.). Therefore, the cost of these services must be included in the price of the offer.

**D. Inspections and Tests**

No testing shall be required.

During delivery of the goods to the Final Destination Site, the authorised representative of the site shall check completeness and compliance of technical characteristics of the goods supplied to the technical specifications provided in the Section B. Technical Specifications.

In case of any discrepancies in completeness and/or technical characteristics of delivered Goods revealed during the checking, such Goods will not be accepted by the Final Destination Site, i.e. the Delivery Note will not be signed.

In case of any discrepancies revealed during the checking of Goods, the Vendor shall eliminate such discrepancies at its own expense.

**E. Installation services for the equipment**

Installation service is required.

The following services should be provided:

- Deployment and configuration the Data Center;
- Configuration of software infrastructure;
- Stress test load;
- Testing of virtual environment.

The following requirements (including, but not limited to) must be met:

#	Requirement
1.	<p>Deployment and configuration the Data Center to be ready to create virtualmachines and deploy operating systems, including but not limited:</p> <ul style="list-style-type: none"> <li>● installation of equipment, connecting power and interfaces;</li> <li>● updating firmware and software to the latest current version;</li> <li>● Installing and configuring the virtualization system RedHat Openshift Platform;</li> <li>● configuring storage system according to the requirements;</li> <li>● setting up interaction with the existing infrastructure;</li> <li>● creation of conditions for data migration to the new infrastructure;</li> <li>● creating test VMs;</li> <li>● configure backup for VM;</li> <li>● configure and activate virtual firewall services in cluster virtual networks;</li> <li>● creating VM test groups and setting up micro segmentation in cluster virtual networks;</li> <li>● activating vendor support services;</li> </ul>

	<ul style="list-style-type: none"> <li>● cluster testing for fault tolerance and storage system security with reporting;</li> <li>● reporting on the state of the cluster and its integrated security.</li> </ul>
2.	Configuration of software infrastructure, including but not limited: <ul style="list-style-type: none"> <li>● creating basic server OS deployment images;</li> <li>● deploying a set of virtual servers for system;</li> <li>● installation and configuration of the basic set of server system software.</li> </ul>
3.	Stress test load with a large amount of data shall include performance testing, load test, volume test.
4.	Testing of virtual environment: <ul style="list-style-type: none"> <li>● checking the performance of clustered components and the functioning of the virtualization environment;</li> <li>● verifying that all required servers are deployed and that the basic system configuration is complete;</li> <li>● checking the operation with VMs:</li> <li>● manual migration VMs between hardware hosts;</li> <li>● automatic migration VMs between hardware host;</li> <li>● deployment new VM from previously created templates.</li> </ul>

The price of installation and commissioning with all necessary consumables in the Customer's existing server cabinets has to be included in the price of the goods/services and to be covered by the bid price.

#### F. After-sales services for the equipment

After sales service is required: technical support and warranty support.

##### Technical support

The following requirements (including, but not limited to) must be met:

#	Requirement
1	The Technical support shall be provided for a period of 12 months, starting with the operation of the IT Infrastructure without any additional costs for Payer or Customer.
2	Any costs of moving and accommodating Vendor's technical specialists related to work on the Customer's locations shall be paid by the Vendor.
3	Technical support MUST be provided through the following channels: <ul style="list-style-type: none"> <li>● self-service via WEB resources available online - 24 hours a day, 7 days a week;</li> <li>● e-mail support – 8 hours a day, business days only;</li> <li>● phone support for questions regarding application usage – 8 hours a day, business days only.</li> </ul>
4	<u>Technical support of the IT Infrastructure by the Vendor shall consist of the following services:</u> <ul style="list-style-type: none"> <li>● periodic testing, detection of failures and malfunctions, ensuring smooth operation IT Infrastructure;</li> <li>● monitoring functionality of IT Infrastructure and Software infrastructure;</li> <li>● troubleshooting of problems related to CPC, Network &amp; Security infrastructure, Software infrastructure;</li> <li>● providing a disaster and/or failure recovery service;</li> <li>● delivery of services for the installation of the updated firmware and software;</li> <li>● incident and fault restoration;</li> <li>● providing a consultancy and advisory service for Customer's IT staff;</li> <li>● cooperation with the Customer's IT staff for implementing any changes that may be required towards installation of OS, Application Software, Database Software and etc. in</li> </ul>



	<p>the existing CPC;</p> <ul style="list-style-type: none"> <li>● communication with third-party suppliers to solve any problems and issues related to warranty service of equipment.</li> </ul>
5	Supply of the System's updates, released in connection with the changes in the legal framework, enhancement of functionality, changes in functionality after correction shall be subject to separate time-based Contract.
6	<p>The accidents MUST be classified as follows:</p> <ul style="list-style-type: none"> <li>● Critical – a full service outage or an incident which completely impacts the user's ability to do work or an issue that partially impacts a real time operations.</li> <li>● Medium – an incident that partially impacts the user's ability to do work or one for which a workaround exists, as some service interruptions, problems with application response times.</li> <li>● Non critical – an incident that has no impact on the user's ability to do work.</li> </ul> <p>In general the response time and restoration period MUST be as specified in <b>Table A2</b>.</p>
7	<p>Service Level Agreement (SLA) shall be signed before operational acceptance and includes:</p> <ul style="list-style-type: none"> <li>● assignment of a Customer Care Manager, who will be the main contact person for managing the support service.</li> <li>● preparation and submission of monthly support reports;</li> <li>● assist to Customer in managing requests for support on critical issues, prioritizing;</li> <li>● solving unlimited amount of technical support requests during the contract.</li> </ul> <p>The draft of the SLA to be provided by the Vendor at the bidding stage</p>
8	Support requests shall be documented, registered and submitted for reporting and assessment by the Payer (or Customer) and the Vendor.

**Table A2. Summary Time-Schedule for Incident and Fault Restoration**

Type of accident	Response time	Restoration period
Critical	within 1 (one) hour	within 8 (eight) business hours – workaround solution
		within 16 (sixteen) business hours – complete restoration
Medium	within 8 business hours	within 1 (one) business day – workaround solution;
		within 5 (five) business days – complete restoration
Non-critical	within 8 business hours	within 1 (one) business day - workaround solution
		within 10 (ten) business days – complete restoration

### Warranty support

Technical support (within the warranty period) for Red Hat OpenShift Container Platform (Bare Metal Node) should not depend on the equipment manufacturer and on the availability of support for the equipment on which the software products will be installed and will work.

Technical support provided by the manufacturer (developer) of Red Hat OpenShift Container Platform (Bare Metal Node) must be provided for a period of at least 12 months and must include the following service:

- the guaranteed initial response time to an appeal regarding a critical problem is no more than 4 hours Standard 8x5 support SLA;
- consultations by specialists of the software product manufacturer (developer) by phone or e-mail around the clock;
- round-the-clock reception of applications through a personal office on the official website of the company of the producer (developer) of software products;
- provision of new versions of Red Hat OpenShift Container Platform (Bare Metal Node) and updates to them.

The price of the Technical support (within the warranty period) for Red Hat OpenShift Container Platform (Bare Metal Node) has to be included in the price of the goods and to be covered by the bid price.

All hardware should have 36 months 24x7 next business day support.

Special requirements for warranty support:

- The warranty period of the equipment must be at least 36 months.
- It should be possible to access microcode updates for 36 months.
- All components of the system must be guaranteed for a period of 36 months from the date of delivery of the Goods or replacement of components in the event of a warranty event. Replacement is carried out by specialists of warranty support on the Final Destination Site not later than on the next working day from the moment of occurrence of a warranty case.
- The cost of Goods should include technical support:
  - Applications for technical support should be accepted 24 hours 7 days a week by phone and via website or email.
  - Response time to treatment within 2 hours of treatment, 7 days a week and 24 hours a day.
- Maintenance is provided by the arrival of technical support specialists, if necessary.
- There should be round-the-clock access to the knowledge base and self-service tools on the equipment manufacturer's website.
- In case of warranty replacement of data storage systems disks, the failed disks remain with the Final Destination Site.

For the purposes of the guarantee, there is a service center (s) of the Vendor in Kyiv, Ukraine for servicing the computer equipment to be supplied or the official service center (s) in Kyiv, Ukraine (subject to the signed agreement (- i) with the Vendor).

In the absence of an appropriate service center in Kyiv, Ukraine all transportation costs are charged to the Vendor.

The price of the warranty servicing has to be included in the price of the goods and to be covered by the bid price.

#### **IV. Documentation requirements**

Details of Shipping and other Documents to be furnished by the Vendor are:

Supply must comply with normal commonly recognised trade practice for such Goods.

The Goods shall be supplied to the places of final destination and handed over to an authorised representative of the Customer having a Power of Attorney to accept the Goods. The Vendor must notify the Customer in writing about readiness to supply the Goods. The supply must be done no later than seven (7) calendar days from the date of the Customer's written confirmation of readiness to accept the Goods.

The fact of supply shall be certified by delivery note signed by the Vendor and Payer (or Customer). The Vendor shall submit to the Payer the following documents:

- (i) an original of the Vendor's invoice showing identification number of the Contract, description of the Goods, quantity of the Goods, unit prices and total amount. The invoice must fully denominate the Payer and must be signed by the authorised representative of the Vendor;
- (ii) an original of the Manufacturer or Vendor Warranty Certificate;
- (iii) other documents that may be additionally determined by the Payer.

The above documents shall be received by the Payer no later than the date of the supply. If the above documents are not received or provided in a wrong form, the Vendor will be responsible for any consequent expenses.

All documents submitted must be drafted in professional Ukrainian, be of high quality, clear, comprehensive and understandable to a non-specialist reader.

At the Payer's request, if necessary, the Vendor will provide a duly certified translation of the documents into English.