

Specificaţii tehnice

[Acest tabel va fi completat de către ofertant în coloanele 2, 3, 4, 6, 7, iar de către autoritatea contractantă – în coloanele 1, 5,]

Numărul procedurii de achiziție ocds-b3wdp1-MD-1663329662780 din 26.09.2022

Obiectul achiziției: Echipament informatic

Denumirea bunurilor/serviciilo r	Denumirea modelului bunului/serviciului	Țara de origine	Produ- cătorul	Specificarea tehnică deplină solicitată de către autoritatea contractantă	Specificarea tehnică deplină propusă de către ofertant	Standard e de referință
1	2	3	4	5	6	7
Bunuri						
Lotul 1 – Server						
Server	PowerEdge R640 Server	SUA	Dell Technologi es	Server parameters: Number of CPU Sockets: 2 Form factor (fully configured): 1U Form factor chassis: Rack Power supply type supported: 2 x 800W Flex Slot Platinum Hot Plug Power Power supply installed: 2 Installed CPU qty: 2 Expansion slots: 2xPCIe 3.0 Memory: Installed Size: 4x32 Gb (two modules for every CPU) RDIMM module Total Memory slots: 24 DIMM slots	Server name: Dell PowerEdge R640 Number of CPU Sockets: 2 Form factor (fully configured): 1U Form factor chassis: Rack Power supply type supported: Dual, Hot-plug, Redundant Power Supply (1+1), 750W Power supply installed: 2 Installed CPU qty: 2 Expansion slots: 3 x Gen3 slots, all x16 Memory: 4x (32GB RDIMM, 3200MT/s, Dual Rank 16Gb BASE x8) Total Memory slots: 24 DIMM slots	-

Memory type: DDR4 SmartMemory, Advanced ECC ECC Memory Form Factor: RDIMM and LRDIMM **Memory Form Factor**: RDIMM **Hard Drive Supported:** 8xSFF drives SSD max 12TB **Dimensions:** Form factor: Rack (1U) **Dimensions:** 4.29 x 43.46 x 70.7 cm (31.8")Weight: 13.04 kg minimum, 16.27 kg maximum Weight 21.9kg (48.3 lbs.) Server remote management module Server remote management module specifications: specifications: Embedded ARM processor core operating at 800 MHz 800 MHz PCI express based health and remote management ASIC management ASIC Firmware upgradeable VIA flash ROM Firmware upgradeable VIA flash ROM Video support: 1920 x 1200 (32 bp) Video support: 1920 x 1200 (32 bp) 10/100/1000 Mb/s network interface 10/100/1000 Mb/s network interface HTML5 remote console (No dependency on JAVA or .NET) JAVA or .NET) Native browser support for Chrome, Firefox, Edge, Internet Explorer, Safari Keyboard, video, mouse redirection Kevboard, video, mouse redirection Virtual media support (VIA URLs) Virtual media support (VIA URLs) Support for Online Certificate Status Protocol Protocol (OCSP) for (OCSP) for CAC/SmartCard/Certificate based authentication authentication Support for RSA-PSS certificate signatures The management processor must obtain its power from the auxiliary power plane of the server, so it must be always ON when the server is plugged into a power source. If the

server provides Redundant Power Supplies

(RPS) then the management processor will use

Memory type: DDR4 SmartMemory, Advanced

Hard Drive Supported: Front drive bays: Up to 10 x 2.5" SAS/SATA (HDD/SSD) with up to 8 NVMe SSD max 58TB or up to 4 x 3.5 SAS/SATA HDD max 40TB Rear drive bays: Up to 2 x 2.5" SAS/SATA (HDD/SSD), NVMe

42.8mm (1.69") × 482.0mm (18.98") × 808.5mm

- Embedded ARM processor core operating at
- PCI express based health and remote

- HTML5 remote console (No dependency on
- Native browser support for Chrome, Firefox, Edge, Internet Explorer, Safari

- Support for Online Certificate Status CAC/SmartCard/Certificate based
- Support for RSA-PSS certificate signatures
- The management processor must obtain its power from the auxiliary power plane of the server, so it must be always ON when the server is plugged into a power source. If the server provides Redundant Power Supplies (RPS) then the management processor will

redundant power and will continue operation in the event of a power supply failure. • Monitor and alerting on key internal server components: CPUs, memory, temperatures, fans, Smart Array controllers, hard drives (Including cache modules) and power supplies without installing any driver. • Ability to put harden management processor module for specific security requirements. • Possibility to prevent any possibility of tampering of security signatures throughout the supply-chain. • The system must give users preview of the system health summary and sub-system details. • Diagnostics tools/scanners wrapped into one; always on, continuous monitoring; Rich configuration history; health and service alerts; Easy export and upload to service and support.	use redundant power and will continue operation in the event of a power supply failure. • Monitor and alerting on key internal server components: CPUs, memory, temperatures, fans, Smart Array controllers, hard drives (Including cache modules) and power supplies without installing any driver. • Ability to put harden management processor module for specific security requirements. • Possibility to prevent any possibility of tampering of security signatures throughout the supply-chain. • The system must give users preview of the system health summary and sub-system details. • Diagnostics tools/scanners wrapped into one; always on, continuous monitoring; Rich configuration history; health and service alerts; Easy export and upload to service and support.
 or CDs). Command line support: SSHv2, RESTful API and Serial port. RESTful API options supported: get full inventory, control power and reset, configure BIOS and Smart Array settings, status of server health, fetch event logs. Security: runtime firmware validation, CNSA support, security modes, encrypted virtual media. Active directory support. Management protocols supported: SNMP, IPMI V2.0. Possibility to connect to the remote management module trough a USB to ethernet 	 or CDs). Command line support: SSHv2, RESTful API and Serial port. RESTful API options supported: get full inventory, control power and reset, configure BIOS and Smart Array settings, status of server health, fetch event logs. Security: runtime firmware validation, CNSA support, security modes, encrypted virtual media. Active directory support. Management protocols supported: SNMP, IPMI V2.0. Possibility to connect to the remote management module trough a USB to
cable.	ethernet cable.

Some of the features may require additional license.

USB3.0 support: 1 front port, 2 x rear ports and 2 x internal ports

Power On/Standby button and system power LED

UID button/LED
MicroSD Card slot

Warranty: 3/3/3 - Server Warranty includes three years of parts, three years of labor, three years of onsite support coverage.

Not refurbished (Certificat/document care ar confirma că echipamentul nu este refurbished)

Non End of Sales or End of Support

Networking:

2x10Gbps Base-T adapters 802.1Q VLAN support Jumbo Frames: 9000KB Network adapter teaming

CPU Parameters:
CPU Cache: 35 MB
CPU Clock Speed: 3 GHz
CPU socket: FCLGA3647
Max Turbo Speed: 4 GHz
Number of Cores: 24-core
Number of Threads: 48 threads
Thermal Design Power: 205 W

Lithography: 14nm Max Memory Size: 1TB Memory Type: DDR4-2933

Instruction Set Extensions: Intel® SSE4.2, Intel® AVX, Intel® AVX2, Intel® AVX-512

Hyper-Threading Technology: Yes

Execute Disable Bit: Yes

USB3.0 support: 2 x USB 3.0, dedicated iDRAC network port

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Non End of Sales or End of Support

Networking:

Broadcom 57416 Dual Port 10GbE BASE-T & 5720 Dual Port 1GbE BASE-T, rNDC Emulex LPe31002 Dual Port 16Gb Fibre Channel HBA, PCIe Low Profile, V2

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Hyper-Threading Technology: Yes

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Security:

- UEFI Secure Boot and Secure Start support
- Immutable Silicon Root of Trust
- FIPS 140-2 validation
- Common Criteria certification
- Configurable for PCI DSS compliance
- Advanced Encryption Standard (AES) and Triple Data Encryption Standard (3DES) on browser
- Smart card (PIV/CAC) and Kerberos based 2-factor Authentication
- Secure Recovery recover critical firmware to known good state on detection of compromised FW
- Ability to rollback firmware
- Secure erase of NAND
- TPM (Trusted Platform Module) 1.2 option
- TPM (Trusted Platform Module) 2.0 option
- Bezel Locking Kit
- Chassis Intrusion detection option

Industry Standard Compliance:

- ACPI 6.1 Compliant
- PCIe 3.0 Compliant
- WOL Support
- Microsoft® Logo certifications
- PXE Support
- USB 3.0 Compliant
- USB 2.0 Compliant (only on optional Universal Media Bay)
- SMBIOS 3.1
- UEFI 2.6 (Unified Extensible Firmware Interface Forum)
- Secure Digital 4.0
- TPM 1.2 and 2.0 support
- Advanced Encryption Standard (AES)
- Triple Data Encryption Standard (3DES)

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- Secure Digital 4.0
- TPM 1.2 and 2.0 support
- Advanced Encryption Standard (AES)

	• SNMP v3	Triple Data Encryption Standard
	• TLS 1.2	(3DES)
	 ASHRAE A3/A4 	• SNMP v3
		• TLS 1.2
		ASHRAE A3/A4
	UEFI Capabilities:	UEFI Capabilities:
	 Secure Boot and Secure Start enable for 	Secure Boot and Secure Start enable for
	enhanced security	enhanced security
	 Operating system specific functionality 	Operating system specific functionality
	 Support for > 2.2 TB (using GPT) boot 	• Support for > 2.2 TB (using GPT) boot
	drives	drives
	• USB 3.0 Stack	USB 3.0 Stack
	Embedded UEFI Shell	Embedded UEFI Shell
	 PXE boot support for IPv6 networks 	PXE boot support for IPv6 networks
	 Workload Profiles for simple 	 Workload Profiles for simple
	performance optimization	performance optimization
	UEFI Boot mode only:	UEFI Boot mode only:
	TPM 2.0 Support	TPM 2.0 Support
	NVMe Boot Support	NVMe Boot Support
	Platform Trust Technology (PTT) can be	Platform Trust Technology (PTT) can be
	enabled	enabled
	iSCSI Software Initiator Support.	iSCSI Software Initiator Support.
	HTTP/HTTPs Boot support as a PXE	HTTP/HTTPs Boot support as a PXE
	alternative	alternative
	Boot support for option cards that only	Boot support for option cards that only
	support a UEFI option ROM	support a UEFI option ROM
	Supported Operating Systems:	Supported Operating Systems:
	• Windows Server 2019: Essentials, Standard,	Windows Server 2019: Essentials, Standard,
	Datacenter	Datacenter
	• Windows Server 2016: Essentials, Standard,	Windows Server 2016: Essentials, Standard,
	Datacenter Windows Samuer 2012 B2: Essentials	Datacenter Windows Samon 2012 B2: Fessetials
	• Windows Server 2012 R2: Essentials,	Windows Server 2012 R2: Essentials, Standard Determinent
	Standard, Datacenter Microsoft Hymor V Sorrom 2012 B2 2016 &	Standard, Datacenter Migrosoft Hymor V Somrom 2012 B2 2016
	Microsoft Hyper-V Server: 2012 R2, 2016 & 2019	Microsoft Hyper-V Server: 2012 R2, 2016 & 2019
	• VMware vSphere: 6.0 U3, 6.5 U2 through	• VMware vSphere: 6.0 U3, 6.5 U2 through
	U.3 & 6.7 U1 through U3, 7.0	U.3 & 6.7 U1 through U3, 7.0
	• ClearOS: 7.6; ClearVM: 2.0	• ClearOS: 7.6; ClearVM: 2.0
	• Red Hat Enterprise Linux (RHEL): 7.6 w/	Red Hat Enterprise Linux (RHEL): 7.6 w/
	Kbase **, 8.0	Kbase **, 8.0
	Nuise, o.u	Rudol , 0.0

	SUSE Linux Enterprise Server (SLES): 12	SUSE Linux Enterprise Server (SLES): 12	
	SP3, 15 (includes Xen)	SP3, 15 (includes Xen)	
	• Ubuntu: 18.04 LTS (4.15.0)	• Ubuntu: 18.04 LTS (4.15.0)	
	Oracle Linux: Oracle Linux 7.6 UEK Release	Oracle Linux: Oracle Linux 7.6 UEK	
	5 Update 2; Oracle VM 3.4.6 (UEK Release 4	Release 5 Update 2; Oracle VM 3.4.6 (UEK	
	Update 7)	Release 4 Update 7)	
	• Citrix: Hypervisor: 8,0, 8.1, 8.2; XenServer	• Citrix: Hypervisor: 8,0, 8.1, 8.2; XenServer	
	7.1, 7.4, 7.5, 7.6	7.1, 7.4, 7.5, 7.6	
	HDD:	HDD:	
	2x300 Gb SAS 12G Enterprise 10K SFF(2.5 in)	2x 600GB 10K RPM SAS 12Gbps 512n 2.5in	
	hot swap.	Hot-plug Hard Drive	
	HBA Parameters:	HBA Parameters:	
	16 Gb Dual Port Fibre Channel Host Bus Adapter	Emulex LPe31002 Dual Port 16Gb Fibre	
	Backward compatible with 8 and 4Gb FC	Channel HBA, PCIe Low Profile, V2	
	environment.		
	SFPs and optical cables included		
	Raid Controller parameters:	Raid Controller parameters:	
	Storage interface (SAS/SATA):	Storage interface (SAS/SATA):	
	 8 SAS lanes across 2x4 internal Mini- 	8 SAS lanes across 2x4 internal Mini-	
	SAS ports	SAS ports	
	• 12 Gb/s SAS, 6 Gb/s SATA technology	• 12 Gb/s SAS, 6 Gb/s SATA technology	
	Mix-and-match SAS and SATA drives to	Mix-and-match SAS and SATA drives	
	the same controller	to the same controller	
	 Support for SAS tape drives 	Support for SAS tape drives	
	2GB FBWC	2GB FBWC	
	PCI Express 3.0 x8 link	PCI Express 3.0 x8 link	
	RAID 0, 1, 5, 6, 10, 50, 60, 1 Advanced Data Mirroring (ADM), 10 ADM	RAID 0, 1, 5, 6, 10, 50, 60, 1 Advanced Data Mirroring (ADM), 10 ADM	
	Mixed mode (RAID logic drives and HBA	Mixed mode (RAID logic drives and HBA	
	physical drives simultaneously)	physical drives simultaneously)	
	Legacy and UEFI boot operation	Legacy and UEFI boot operation	
	UEFI System Utilities (Storage configuration)	UEFI System Utilities (Storage configuration)	
	Up to 238 physical drives	Up to 238 physical drives	
	Up to 64 logical drives	Up to 64 logical drives	
	Smart Array SR SmartCache (Optional license)	Smart Array SR SmartCache (Optional license)	

Smart Array SR Secure Encryption (Optional license)	Smart Array SR Secure Encryption (Optional license)
SSD Smart Path	SSD Smart Path
Rapid Parity Initialization (RPI)	Rapid Parity Initialization (RPI)
Rapid rebuild	Rapid rebuild
Drive sanitize	Drive sanitize
Performance optimization degraded reads and read coalescing	Performance optimization degraded reads and read coalescing
Raid controller Performance:	Raid controller Performance:
12 Gb/s SAS (1200 MB/s theoretical bandwidth per SAS lane)	12 Gb/s SAS (1200 MB/s theoretical bandwidth per SAS lane)
6 Gb/s SATA (600 MB/s theoretical bandwidth per SAS lane)	6 Gb/s SATA (600 MB/s theoretical bandwidth per SAS lane)
PCI Express 3.0 x8 link width	PCI Express 3.0 x8 link width
2GB 72-bit wide DDR4-2100 FBWC provides up to 16.8 GB/s maximum cache bandwidth	2GB 72-bit wide DDR4-2100 FBWC provides up to 16.8 GB/s maximum cache bandwidth
Read ahead caching	Read ahead caching
Write-back caching	Write-back caching
Array configuration features:	Array configuration features:
Expand Array	Expand Array
Heal Array	Heal Array
Move Drives	Move Drives
Re-Mirror Array	Re-Mirror Array
Shrink Array	Shrink Array
Spare Management	Spare Management
Split Mirrored Array	Split Mirrored Array
Logical drive configuration features:	Logical drive configuration features:
Extend Logical Drive	Extend Logical Drive

Instant Secure Erase

Migrate RAID/Stripe Size

Modifying Cache Write Policy

Move Logical Drive

Re-enable Failed Logical Drive

Fault prevention features:

Predictive drive failure detects possible drive failure before it occurs, allowing replacement of the component before failure occurs

Background surface scan checks drives during inactive periods and automatically remaps badsectors, ensuring data integrity

Smart SSD Wear Gauge reports the amount of lifetime remaining on users SSDs

Fault recovery:

- Recovery ROM: This feature protects the user from a firmware image corruption by storing aredundant copy of the firmware image. If the active firmware image becomes corrupt, the controller will use the redundant firmware image and continue operating.
- On-Line Spares: There is no limit to the number of spare drives that can be installed prior todrive failure. If a failure occurs, recovery begins with an On-Line Spare and data is reconstructed automatically
- DRAM ECC detects and corrects data bit errors.

SSD Smart Path feature included in the Smart Array software stack improves Solid State Disk (SSD) read performance by up to 4x. Smart Path chooses the optimum path to the SSD and Instant Secure Erase

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SSD Smart Path feature included in the Smart Array software stack improves Solid State Disk (SSD) read performance by up to 4x. Smart Path chooses the optimum path to the SSD and

accelerates reads for all RAID levels and RAID 0 writes. Operating systems support: • Microsoft Windows Server • Microsoft Windows Hyper-V Server • VMware vSphere ESXi	accelerates reads for all RAID levels and RAID 0 writes. Operating systems support: • Microsoft Windows Server • Microsoft Windows Hyper-V Server • VMware vSphere ESXi
 Red Hat Enterprise Linux (RHEL) SUSE Linux Enterprise Server (SLES) Oracle Solaris Oracle Linux Clear OS Cent OS Citrix XenServer 	 Red Hat Enterprise Linux (RHEL) SUSE Linux Enterprise Server (SLES) Oracle Solaris Oracle Linux Clear OS Cent OS Citrix XenServer
Raid controller management software available Sau echivalent: HPE ProLiant DL360 Gen10 (SKU # P24743-B21)	Raid controller management software available

Numele, Prenumele: Vitalie Bîrsan

În calitate de: Administrator

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