

SCHEDULE OF REQUIREMENTS

TENDER FOR THE HARDWARE UPGRADE AND MAINTENANCE OF “IBM FILENET & DATACAP” DOCUMENT MANAGEMENT SYSTEM OF EPF DEPARTMENT OF THE CENTRAL BANK OF SRI LANKA

1 Instructions:

The Bidder shall critically assess their ability to meet each requirement in the list and respond by inserting a C for Comply (to indicate that the requirement is met by the offered approach/product exactly as stated) or NC for Not-Compliance (to indicate that the requirement is not compliant) under the appropriate column “C/NC”.

In addition, the Bidder MUST provide cross references to the relevant supporting information, if any, included in the proposal. The cross references shall specifically identify the relevant document(s), page number(s), and paragraph(s) to the specific requirement without referring to a document or report in general.

The Technical Responsiveness Check List does not supersede the rest of the Technical Requirements (or any other part of the proposal documents). If a requirement is not mentioned in the Check List, that will not relieve the Bidder from the responsibility of including supporting evidence of compliance with the other requirement in its Technical Proposal.

The Service Provider (SP) in this tender shall mean the successful bidder of this procurement.

2 Requirements:

Requirements for the supply, delivery, installation, commissioning & maintenance of hardware for the “IBM FileNet & DataCap” Document Management System at the Production & Disaster Recovery Sites with relevant system software and utility software is given below.

Technical Responsiveness Check List

#	Requirements		
1.	General Requirements	C/NC	Reference
1.1.	The Bidder shall propose an Enterprise Level solution		
1.2.	During the installation/deployment period, the SP shall pay special attention to the protection of the existing IT Infrastructure from damage or interference.		
1.3.	The Bidder shall provide a mandatory “Manufacturer Authorization Letter” issued by the Principal for each		

	hardware item. Specifically guaranteeing the following (<i>Note: Original letter required</i>). 1. Ensure the Product Life and manufacturer's support, provided minimum of 5 years. i.e., EoSL/EoL/EoS should be greater than 5 years from the date of issuance of this Bidding Document 2. Supplying of spare parts from the principal vendor directly to EPFD of CBSL 3. Providing remote/onsite technical support by the principal directly to EPFD of CBSL			
1.4.	Once the deployment is completed, all the cables should be properly neat and labelled in-line with the CBSL HO DATACENTER labelling schema.			
2.	Service Levels		C/NC	Reference
2.1.	Should provide service help desk hotline number of the SP which should be accessible 24x7x365			
2.2.	Escalation path of Bidder with designations should be provided, if a service call is not responded with as per the SLA specified below			
2.2.1.	On-Call / Remote Technical Support SP must make qualified personnel available to the Purchaser by telephone, email and/or web access for the reporting and resolution of non-conformities or other problems with the System within the Response Time mentioned in the 2.2.3 . Dedicated telephone numbers, email or URLs should be available for reporting issues.	24x7 5 years		
2.2.2.	On-Site Technical Support If remote technical assistance failed to correct within the two (2) hours of the initial contact, the SP shall send qualified maintenance personnel to the Purchaser's site to update, correct, repair or replace the affected hardware/software.	24x7 5 years		
2.2.3.	Response Time For all the calls logged in the Service Help Desk	Less than 30 Minutes		
2.2.4.	Downtime Downtime shall be measured from the time Purchaser makes a bona fide attempt to notify Supplier either orally or in writing, of a problem, and shall continue until the			

	affected component is fully operational in accordance with the Detailed Technical Specifications.		
2.3.	Support History Status should be available.		
2.4.	On-line access to Principal/SP IT Service Portal should be available.		
2.5.	Providing the root cause analysis using tools, logs and core dumps.		
2.6.	Unit and Component level replacements within the stipulated time frames in the SLA.		
2.7.	The SP shall perform preventive maintenance activities twice a year and provide a detailed Health Check Report (Softcopy) on system performance statistics and health status and recommend EPFD of CBSL the changes needed for optimal operation of the hardware and system software including IBM FileNet and DataCap software with the consultation of the Principal.		
2.8.	The SP shall provide technical support/clarifications requested by other contractually obligated vendors in carrying out their support services on behalf of the purchaser on the relevant environment.		
2.9.	The SP shall provide hardware related documentations for switching and activating of primary and secondary sites.		
3.	Firmware, Microcode, Patch Updates and Bug Fixes	C/NC	Reference
3.1.	Any microcode/firmware and any other relevant patch releases shall be immediately notified to EPFD of CBSL by means of an email to sepf@cbsl.lk and dit@cbsl.lk		
3.2.	All microcode/firmware and any other relevant patch upgrades must be free of charge (Binaries & Deployment)		
3.3.	Any upgrades of the microcode/firmware (major/minor) shall be online and non-disruptive to live operations. Any deviations from above shall be clearly communicated well in advance before performing any such activity.		
3.4.	Any Vulnerabilities, bugs or issues identified during Audits, Really Simple Syndication (RSS) feeds, Common Vulnerability Scoring System (CVSS) Ratings, Quarterly Vulnerability Assessments (VAs) or Penetration Tests (PTs) carried out by CBSL or any other third-party auditing entity, shall be fixed by the SP and it shall be free of charge (Binaries, Deployment and upgrade)		
4.	Training Requirements	C/NC	Reference
4.1.	SP shall provide a formal solution specific onsite training on the features, operability, fault monitoring, configuration, report generation, checking of health status,		

	etc. for designated staff of CBSL at the premises of EPFD prior to performing the User Acceptance Test (UAT).		
5.	Configurations	C/NC	Reference
5.1.	The SP shall complete the deployment of hardware and installation of OS with latest patches are in-line with their recommendations. Once installed, baseline security settings should be applied which CBSL will provide beforehand. Basic redundancy configurations to be deployed as per the industry best practices.		
5.2.	After OS installation, assist CBSL to carry out the Vulnerability Assessment (VA) and all the vulnerabilities with CVSS rating 7 and above to be fixed.		
5.3.	The SP shall perform the UAT with a presence of staff member(s) designated by EPFD of CBSL and the UAT shall be signed off prior to the going live.		
6.	Warranty	C/NC	Reference
6.1.	A comprehensive 5-year warranty on servers and SAN storage and comprehensive 3-year warranty on all other Hardware and other components/accessories.		
6.2.	SP shall provide Annual Maintenance Contract (AMC) for the years after the expiry of warranty period for Hardware and other components/accessories.		
6.3.	During AMC period, the SP shall provide all new versions, releases, updates, patches, fixes, etc. for all system software purchased at no additional cost to EPFD.		
7.	Deliverables	C/NC	Reference
7.1.	SP shall provide detailed Project Plan indicating the times, deliverables, and milestones after awarding the contract with the consent of purchaser.		
7.2.	Prior to the commencement of the UAT, SP shall provide detailed UAT test cases covering the following but not limited to: installation and configuration; performance testing; compatibility testing; reliability and stability testing; backup restoration and failover testing; scalability testing; and security testing.		

3 Detailed Technical Specifications

Detailed technical specifications for hardware and software (system software and utility software) for the Production site and Disaster Recovery site is given below.

For all the software and hardware, a complete Bill of Material (BOM) document is required with Original Equipment Manufacturer (OEM) Part Numbers.

3.1 Solution Deployment Diagram

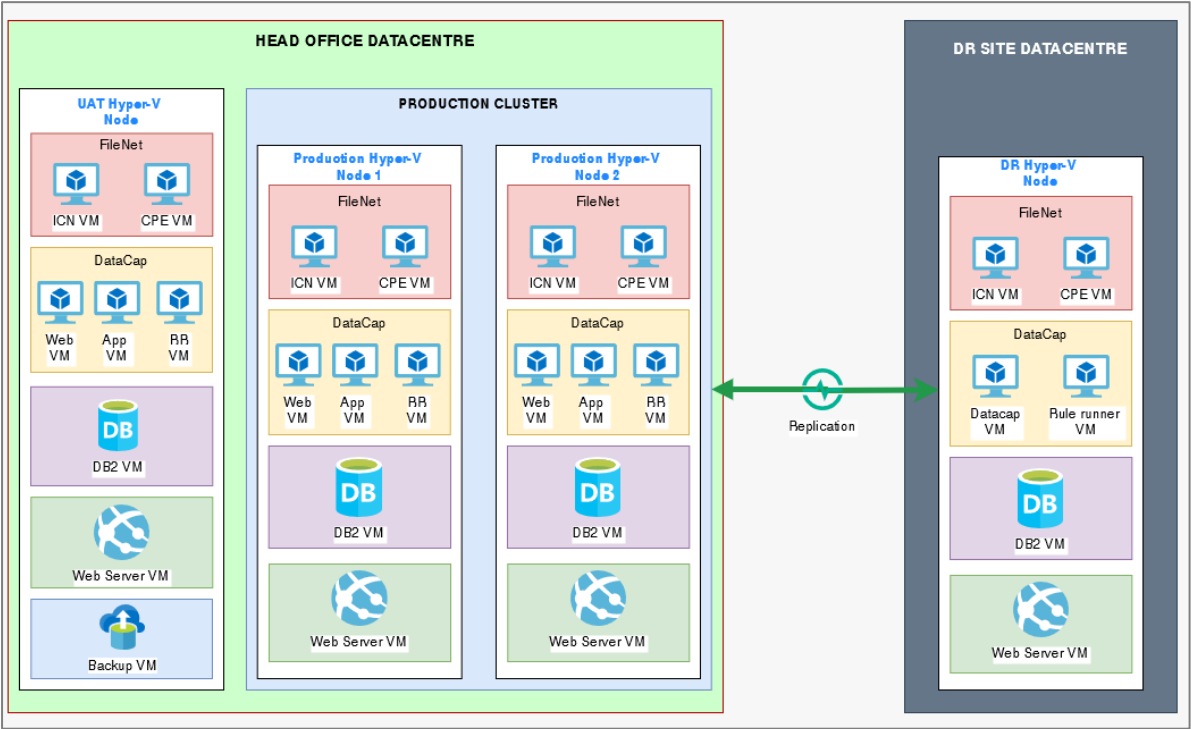


Figure 1: Solution Deployment Diagram

3.2 Servers for Virtualization (04 Nos)

Make				
Country of Origin				
Model		Name		
		OEM End of Life Date (EOL)		
		OEM End of Service Life Date (EOSL)		
		OEM End of Sale Date (EOS)		
#	Description	Minimum Requirement	Compliance (Yes/No)	Remarks
1	Processor	Intel® Xeon® Gold 6526Y Processor, 37.5M Cache, 16 Core, 32 Treads x 2 Nos		
2	Speed	2.8 GHz - 3.9 GHz		
3	Memory	256 GB - DDR4-4800 MHz		
4	Boot Storage	2 x 800GB NVMe SSD (RAID1)		
5	Network	2 x 10GbE BASE-T		
	Ports	2 x 10/25GbE SFP28 with transceivers		
6	Fiber Channel	2 independent FC ports 16Gbps with transceivers		
7	Ports	1 Serial, 4 USB (Front & back), Monitor (Front & back)		
8	Chassis and power supply	230 V, 50 Hz Hot Swap Dual Power Supplies with C13 - C14 power cords (3 meter)		
		Cable management arms required		
9	Form Factor	Rack Mountable		
10	Certification	Windows Server 2022, Red Hat Linux, VMware		
11	Warranty	5 Years comprehensive on-site manufactures authorized warranty (Labor & Parts) * the quoted models must not reach EOL or EOSL during the warranty period.		
12	Remote administration	Server Management Ethernet Port		
		Remote server administration software must be provided facilitating remote server console, power on/off, hardware monitoring etc.		

3.3 SAN Storage (02 Nos)

Make			
Model			
OEM End of Sale Date			
OEM End of Service Date			
OEM End of Support Date			
Requirement	Description	Compliance (Yes/No)	Remarks
Form Factor	Rack Mountable		
Storage Controllers	Dual Redundant Active/Active Storage Controllers		
Supported RAID Levels	Specify (Must withstand multi disk failures.)		
Drives Supported	SAS, SATA, SSD/Flash		
	All drives must be hot pluggable		
Storage	100TB (Usable)		
Drive Composition	10 x 3.84TB 12 Gb SAS Flash Drive		
	14 x 8TB 7.2K NL-SAS HDD (or any higher speed disk)		
Maximum Storage	Expandable to 300TB or higher		
Throughput	5TB/hr		
Protocols	Specify		
Cache	64GB Flash per storage controller		
Direct Attach support	Specify		
Supported modes	Block (SAN) required		
Enterprise storage management software features	Device Clustering, Data replication, Thin Provisioning, Deduplication, Tiering, Backup Software Integration, Global compression, Data Encryption		
	Complete web management console for administration		
Host Interface	16Gb/s FC (Minimum of 4 per controller with transceivers)		
	GigE/ 10GbE (Minimum of 2 per controller)		
Host Platforms Supported	Linux, MacOS, Windows, Hyper-V, VMWare		
Power	230 V, 50 Hz Hot Swap Dual Power Supplies with C13 - C14 power cords (3 meter)		
Warranty	5 Years comprehensive on-site manufactures authorized warranty (Labour & Parts) Product must not reach end of support during the warranty period		

3.4 System Software Licenses

Item	Qty
Windows Server 2022 Standard core licenses with software assurance for three (03) years	384
Computation of OS licenses quantities is given below.	
No of Cores per processor	16
No of Processors per server	2
No of cores per server	$16 \times 2 = 32$
No of VMs per server	7 -> 8 (nearest multiple of 2)
No of VMs per license	2
No of licenses for 1 core server	$8 \div 2 = 4$
No of licenses for a 32 cores server	$32 \times 4 = 128$
No of license for (4 - 1 = 3) servers	$128 \times 3 = 384$

3.5 SAN Switch (04 Nos)

Make			
Model			
OEM End of Sale Date			
OEM End of Service Date			
OEM End of Support Date			
Item	Minimum Specifications	Compliance Yes/No	Remarks
Compatibility	Proposed Switch must be validated to work with proposed SAN storage devices as well as Windows Servers		
Ports	Required minimum of 12 x 16Gb/s Ports		
	All activated ports should support autosensing 4, 8 and 16Gb/s.		
	8 ports must be activated with appropriate 16Gb/s transceivers.		
Modes of operation	Fibre Channel Class 2, Class 3, Class F		
Power	230 V, 50 Hz Dual Power Supplies Preferred with C13 - C14 power cords (3 meter)		
Redundancy	Redundant switch architecture must be proposed to provide uninterrupted service even in the event of the complete switch failure.		
Accessories	All required Accessories should be quoted		
Warranty and Maintenance	The bidder should provide 3-Year comprehensive warranty for all equipment and software included in the proposed solution.		
	Product must not reach end of support during the warranty period		
Spare Parts Availability	Hardware vendor should have spares in their inventory for all the components for proposed items.		

3.6 Backup Software

Item	Minimum Specifications	Compliance Yes/No	Remarks
Commvault Backup Software	Commvault Backup server software		
	VM Licenses to backup 14 Hyper-V VMs spread across 2 Physical hosts		
	Operating instance licenses to backup 2 DB2 Database servers		
	Five years subscription required		

3.7 Tape Loader (02 Nos)

Minimum Requirement	Compliance Yes/No	Remarks
Fibre tape drive support		
Recording formats LTO Ultrium 8 LTO Ultrium 7 (for 6TB tape)		
LTO 8 HH Fibre channel drive		
230 V, 50 Hz Hot Swap Dual Power Supplies preferred		
Rack Mount Kit		
Attached to Windows System		
Integration with Hyper-V Virtual Machine		
Rack to PDU line power cords (C13-C14)		
10 meter OM3 Fiber Cable (LC)		
3 Years comprehensive on-site manufactures authorized warranty		
Post warranty maintenance for 4 th and 5 th year		
Product must not reach end of support before 2029		

3.8 Tape Media

Minimum Requirement	Compliance Yes/No	Remarks
LTO Cleaning Cartridge (2 Nos)		
Ultrium 8 Data Cartridge (10 Nos)		

3.9 Fiber Patch Cords (24 Nos)

Minimum Requirement	Compliance Yes/No	Remarks
10 Meter OM4 LC-LC Fiber Patch cord		

3.10 Ethernet Switches

Two (02) number of ethernet switches are required. The minimum specifications are given in the table below and bidder is required to indicate the compliance to the requirements.

Minimum Technical Specifications	Compliance (Yes/No)	Remarks
Make		
Model		
Country of Origin		
Released Date		
End-of-Support		
Minimum Technical Specifications		
Hardware Features:		
Switch must be Enterprise Grade		
Switch should be rack mountable and should be provided with mounting brackets, and support side rails if required.		
Switch should have 2 GB System Memory, 2 GB Flash		
The switch should have Redundant Power Supplies and be bundled with power cables featuring IEC13-IEC14 connectors (C13-C14 Connectors),		
The Switch Power Supply should feature with Rated AC Voltage Range between 100V to 240V and 50Hz to 60Hz AC Frequency.		
Switch should support stacking technology for scalability, redundancy, and management. Necessary Stack Cables and Related Accessories Should be provided with the Switch.		
Stack Cable of Length 0.5m - Stack Wise Cable, Direct Attached Cable (DAC), or Active Optical Cables (AOC)		
Interface: Ports with Transceivers		
Minimum GE Ports (100/1000 Base-T), for Category 5/6 Copper – 40 Nos		
Minimum 10GE Ports (SFP / SFP+) with Transceiver Modules – 4 Nos		
Minimum 40/100GE Ports (QSFP28) with Transceiver Modules – 2 Nos		
Management Interface / Out of Band Management Port (RJ-45 Port)		
Console Port (RJ-45 or RS-232 serial port)		
USB Port		
Performance:		
Switch shall have minimum switching capacity of 176G		
Switch shall have minimum switch forwarding rate of 130Mpps		

Switch should handle minimum of 16K MAC Addresses and 4K active VLANs.		
Switch should support broadcast, Unicast and multicast storm control		
The switch should support IPv4/IPv6 multicast routing features with IGMP v1, v2 and IGMP snooping.		
Switch should support 9K byte Jumbo Ethernet frames		
Functionality:		
IEEE 802.1D (STP) Spanning Tree Protocol		
IEEE 802.1w (RSTP) Rapid Spanning Tree Protocol		
IEEE 802.1s (MSTP) Multiple Spanning Tree Protocol		
IEEE 802.1x (NAC) Network Access Control		
IEEE 802.1x-Rev (Port-Based Network Access Control - Revision)		
IEEE 802.1p (QoS prioritization)		
IEEE 802.1Q (VLAN Tagging)		
IEEE 802.3ad (LACP) Link Aggregation Control Protocol		
IEEE 802.1ab (LLDP) Link Layer Discovery Protocol		
IEEE 802.3ae (MAC Parameters, Physical Layer, and Management Parameters for 10 Gb/s Operation)		
IEEE 802.3x (flow control in full-duplex Ethernet LANs)		
IEEE 802.3 (10BASE-T specification)		
IEEE 802.3u (100BASE-TX specification)		
IEEE 802.3ab (1000BASE-T specification)		
IEEE 802.3az (Energy Efficient Ethernet)		
IEEE 802.3z (1000BASE-X specification)		
Features:		
Tagging or Trunking VLANs (Tagged VLAN)		
Grouping VLANs (VLAN Group)		
Limiting maximum number of VLAN to 4094 (4K VLAN)		
Port-based VLAN assignment (802.1Q)		
MAC-based VLAN assignment		
Multiple VLAN registration (MVRP 802.1Q)		
STP, RSTP, and MSTP to prevent and manage network loops		
BPDU protection, Root protection, and Loop protection		
LACP for Network reliability and Bandwidth increase		
Loopback Detection (LBD) and Configurable Recover Time for network ports		
Configurable MAC-IP bindings		
Type of Service (TOS) and Differentiated Services Code Point (DSCP) marking (802.1p)		

Dynamic Host Configuration Protocol (DHCP) client, DHCP server, and DHCP snooping		
LLDP for interoperability and neighbor discovery		
Analyzer port configuration for traffic monitoring of a single port and group of ports.		
Proposed switch should have capability to disable per-VLAN MAC learning to manage MAC address table space by controlling which interfaces or VLANs learn MAC addresses		
Proposed switch should support 802.1X features to control access to the network, including flexible authentication, 802.1X monitor mode, and RADIUS change of authorization		
Management:		
The switch is configurable via SSH, Telnet or Console Port		
Parameters of the switch should be configurable using WEB based GUI.		
The switch should have an IP address (default) for initial configuration using either GUI or SSH.		
The switch should be SNMP manageable as per the standard SNMP ver1, ver2 and/or ver3.		
SNMP parameters should be configurable.		
Software Installation, Configuration, Backup, and Monitoring:		
The switch should be supplied with the latest firmware		
The switch should support TFTP / FTP for switch image upgrade, configuration, and configuration backup.		
The switch should support monitoring through console port, management port, or through Ethernet port.		
Licensing, Warranty, and Maintenance Support:		
Licensing model of the proposed switches should be Perpetual.		
The switch should be covered with 3-year comprehensive Warranty for hardware and software including maintenance, support, and updates.		
The Warranty period of the switch should be renewable for 4th, and 5th Year		
Proposed product should be supported by the OEM not less than next 5 years		
The tenderer must allocate a product certified Engineer to perform the maintenance and support activities.		
Regulatory Standards and Safety Compliance:		
Safety Standards: UL 60950-1, EN 60950-1, IEC 60950-1, EN 62368-1 or equivalent		
Environmental Compliance: RoHS Directive (2011/65/EU) EN 50581 or Equivalent		