مجلس الأمة

NATIONAL ASSEMBLY

KNA- RFP

TECHNICAL SPECIFICATIONS FOR VIRTUALIZATION, BACKUP SOLUTION AND DISASTER RECOVERY UPGRADE

2016

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1. INTRODUCTION

Kuwait National Assembly (hereafter referenced as KNA) is seeking to virtualize the environment, install & implement a new Backup solution and Plan a Disaster Recovery for the entire KNA Operations Infrastructure. KNA is looking forward for a secure, stable and a continuing integrated backup system where it covers all the boundaries of the ever changing and ever expanding IT infrastructure to match the latest trends and state of the art technologies so it can bring performance, scalability, redundancy and reliability.

The required specifications mentioned herewith are considered minimal and essential and all the bidders are obliged to minimally satisfy these requirements. It is the commitment of the bidder to guarantee that the proposed equipment and professional services delivered will guarantee that all the systems function in full operations state in terms of hardware and software at Kuwait National Assembly.

2. NATURE AND SCOPE OF PROJECT

2.1 SCOPE OF WORK

The primary objective of this project is to have a new SAN Storage in main site and replicate its data to another SAN Storage to be added in the DR site, virtualize the entire environment for the Main site and implement an enterprise backup solution at the production site, as well as move physical hardware from the training building to the old server room in the main building. This solution is aimed at providing a very high degree of disaster recovery, data protection and recovery, server high availability and to introduce sophistication in all levels of operations, including its daily business functions.

2.2 CRITERIA FOR SUCCESS OF THE PROJECT

The project must be completed within ***four months*** *from the date the contract is awarded to the service provider. This includes* design, delivery period and *testing, live implementation period.*

By bidding for this RFP, it is understood that *service provider* has agreed on all the terms & conditions mentioned in the RFP.

2.3 KEY PROJECT MILESONES

2.3.1 Low level design for the implementation to be completed after one month from the day the contract is signed.

2.3.2 Hardware delivery to be completed within two months from signing the contract.

2.3.3 Hardware installation, configuration, testing & migration to be completed after two months from Hardware delivery.

2.3.4 Going live and project handover to be completed.

3. PROJECT DETAILS

3.1 CURRENT ENVIRONMENT STATUS

IT in KNA consists of a primary new data center in the Information building which is under construction and a Disaster Recovery center, which is located in the training building within the same complex. Both the data centers are connected to each other using direct fiber links. Another site which will become a new disaster recovery site (DR) will be located in the basement of the main building. All the services are running on the physical as well as virtual servers; exist in the main KNA building. Currently there are no fully redundant systems in the current main building nor in the training building for the existing physical and virtual systems.

Below are the current hardware items in KNA:

3.1.1 HP P6000 Storage with 16 TB usable capacity (Main Site)

3.1.2 HP P6000 Storage with 3.5 usable capacity (DR site)

3.1.3 HP tape library i.e. MSL 4048 (48 slots)

3.1.4 2x DS300B Brocade SAN switches with full ports occupied and only 8 ports free in each switch

3.1.5 HP Data Protection (backup solution)

3.1.6 HP Blade Chassis (HP ProLiant BL460c**)**

Current Servers as of May 2016 *(List to be re-evaluated by vendor before designing the solution proposal since the server list will differ)*

Server	Qty
Virtual servers (Hyper-V)	12
Other Physical servers (to be virtualized)	15

***Bidder is expected to conduct a complete site survey to meet KNA's requirements and prepare a low level design.

3.2 DESIRED SOLUTION DETAILS

KNA intends to:

3.2.1 Move current physical hardware from the old DR center in the training building to the new DR center in the basement of the main KNA building.

3.2.2 Procure two SAN Storage system, one to be placed in new Datacenter in the information building and the other in new DR center in the main building.

3.2.3 Implement Storage replication between new datacenter and the new DR site.

3.2.4 Install and Implement SAN Switches in the new datacenter and the new DR site

3.2.5 Install and Implement New Backup Appliance solution in the new datacenter

3.2.6 Physical to Virtual (P2V) conversion for entire physical servers at the new datacenter

3.2.7 Implement a clustered and highly available virtual environment across the multiple virtual servers in the new datacenter and the new DR site.

3.3 SCOPE OF WORK

The following section shall describe the Contractors Scope of Work and required technical specifications and Hardware and Software configuration, customization requirements.

The Contractor's scope of work shall include, but not be limited to, the following:

3.3.1 To supply, install and configure the below **New Storage System** in the **New Datacenter**:

3.3.1.1 Storage to be SAN-Based Solution that supports both block and file level.

3.3.1.2 Storage to be Redundant and highly available

3.3.1.3 Storage to provide at least **32TB of useable Capacity**

3.3.1.4 Storage to provide extended usable cache of **400GB SSD**

3.3.1.5 Storage to have FC cards for block connectivity.

3.3.1.6 Storage to be have replication with similar model in DR.

3.3.2 To supply, install and configure the **New Storage System** in the **New DR site.**

3.3.2.1 Storage to be SAN-Based Solution that supports both block and file level.

3.3.2.2 Storage to be Redundant and highly available

3.3.2.3 Storage to provide at least **16TB of useable Capacity**

3.3.2.4 Storage to provide extended usable cache of **400GB SSD**

3.3.2.5 Storage to have FC cards for block connectivity.

3.3.2.6 Storage to be have replication with similar model in DR.

3.3.3 To supply, install and configure the following **SAN Switches** in in the **New Datacenter**:

3.3.3.1 Two Brocade SAN switches for new datacenter site, each switch scalable up to 48 ports.

3.3.3.2 Each Switch Initial configuration to have 24 active 8Gbps FC SFPs out of the 48 ports.

3.3.4 To supply, install and configure the following **SAN Switches** in the in the **New DR site**:

3.3.4.1 Two Brocade SAN switches for new DR site, each switch scalable up to 48 ports.

3.3.4.2 Each Switch Initial configuration to have 24 active 8Gbps FC SFPs out of the 48 ports.

3.3.5 P2V conversion for remaining physical server to Virtual:

3.3.5.1 Upgrade memory of All the HP ProLiant blade servers to 128GB each.

3.3.5.2 Migrate the VM from local HD to the shared storage on new datacenter in the Information building as well as in new DR center in the main building.

3.3.5.3 All the storage data must be synchronized in an active/ passive state.

3.3.5.4 All the environment for virtualization will be running on a Hyper-V as KNA's current infrastructure platform is.

3.3.5.5 All the virtual environment will be in a cluster which will have hot-spare servers for blade failovers.

3.3.5.6 All the cluster VM's should be able to perform live migrations without any downtimes.

3.3.5.7 Some of the main core systems will still continue to exist in physical environment as well. This will be decided by KNA team.

3.3.5.8 Provide all the remaining blade servers with datacenter **licenses** as more blades will be added to the cluster environment as well as will be kept as hot spare servers in case of any host failure. Apart from that more separate clusters will be created. WinSvr**DataCtr** ALNG LicSAPk MVL 2Proc
(**Data Center**)

3.3.6 To have a solution which should not only keep the data synchronized in both the locations (new datacenter & new DR sites) but also provide a method to utilize the new DR site in case of a sudden failure or a planned/ unplanned shutdown. The bidder should provide a complete solution to meet the KNA requirements.

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3.3.7 To supply, install and configure the below **Enterprise Backup Appliance** in the **New Datacenter**:

3.3.7.1 Backup Software capacity license of 5TB.

3.3.7.2 Appliance purpose built to have 40TB of usable capacity.

3.3.7.3 Appliance to be a backup to disk appliance.

3.3.7.4 Appliance to support deduplication.

3.3.7.5 Appliance to support Disk-to-Disk-to-Tape architecture.

3.3.8 Existing Physical Tape library will be used for cloning purpose if required.

3.3.9 The Contractor shall submit detailed solution design and Project Implementation plan describing the execution schedule, detailed installation & configuration activities and project deliverables along with the proposal in standard format.

3.3.10 The Contractor shall perform Acceptance Tests for the implemented solution and provide comprehensive documentation as per the Acceptance Test requirements.

4. HARDWARE AND SOFTWARE SPECIFICATIONS

The following section shall describe the required technical specifications for Hardware and Software configuration, customization requirements.

The Contractor's scope of work shall include, but not be limited to, the following:

4.1 To supply, install and configure the below **New Storage System** in the **New Datacenter**:

4.1.1 Storage to be SAN-Based Solution

4.1.2 Supports multi-protocol (file-NAS, block, object)

4.1.3 Storage must be equipped with at least Dual controllers for Block data processing

4.1.4 Storage must be equipped with at least Dual File Sharing servers for File sharing configured in (Active/Standby) mode

4.1.5 Storage to provide at least 32TB of useable Capacity, divided as below:

(52 x 900GB 10K SAS Hard disks)

4.1.6 To be included: Licenses of remote replication to similar type of storage system

4.1.7 To be included: Licenses of local replication (snapshots) within same storage system

4.1.8 Storage Array to have 32GB of built-in memory

4.1.9 Storage to provide extended usable cache of 400GB SSD (5 x 200GB SSD disks)

4.1.10 Five-nines availability

4.1.11 Multicore optimization which combines functionality including multicore RAID, multicore Cache, and multicore FAST Cache, and active/active data access

4.1.12 Supports cache management and back-end RAID management processes take full advantage of multicore CPUs

4.1.13 Out-of-band block-based deduplication

4.1.14 support controller-based encryption (CBE)

4.1.15 Unified storage management platform

4.1.16 Single sign-on

4.1.17 Supports Integration with Microsoft and VMware virtual environments

4.1.18 Supports Online file migrations technology which performs automated, high-speed file-system migrations between systems

4.1.19 single-screen dashboard for at-a-glance management

4.1.20 Supports local/remote and application protection solutions, including point-in-time recovery features

4.1.21 Each Controller to have an Intel Xeon E5-2600 4-core 1.8 GHz processor

4.1.22 The storage can support up to 1TB of additional cache

4.1.23 Storage to support up to 250 disk drives

4.1.24 Storage to support up to 1,000 TB of raw capacity

4.1.25 Each File Sharing server to have an Intel Xeon 5600 and 6GB of memory

4.1.26 Includes 1Gb network cards for file sharing

4.1.27 Includes 8Gb Fiber channel cards for Block storage connectivity

4.2 To supply, install and configure the **New Storage System** in in the **New DR site**:

4.2.1 Storage to be SAN-Based Solution

4.2.2 Supports multi-protocol (file-NAS, block, object)

4.2.3 Storage must be equipped with at least Dual controllers for Block data processing

4.2.4 Storage must be equipped with at least Dual File Sharing servers for File sharing configured in (Active/Standby) mode

4.2.5 Storage to provide at least 16TB of useable Capacity, divided as below:

(26 x 900GB 10K SAS Hard disks)

4.2.6 To be included: Licenses of remote replication to similar type of storage system

4.2.7 To be included: Licenses of local replication (snapshots) within same storage system

4.2.8 Storage Array to have 32GB of built-in memory

4.2.9 Storage to provide extended usable cache of 400GB SSD (5 x 200GB SSD disks)

4.2.10 Five-nines availability

4.2.11 Multicore optimization which combines functionality including multicore RAID, multicore Cache, and multicore FAST Cache, and active/active data access

4.2.12 Supports cache management and back-end RAID management processes take full advantage of multicore CPUs

4.2.13 Out-of-band block-based deduplication

4.2.14 support controller-based encryption (CBE)

4.2.15 Unified storage management platform

4.2.16 Single sign-on

4.2.17 Supports Integration with Microsoft and VMware virtual environments

4.2.18 Supports Online file migrations technology which performs automated, high-speed file-system migrations between systems

4.2.19 Single-screen dashboard for at-a-glance management

4.2.20 Supports local/remote and application protection solutions, including point-in-time recovery features

4.2.22 Each Controller to have an Intel Xeon E5-2600 4-core 1.8 GHz processor

4.2.23 The storage can support up to 1TB of additional cache

4.2.24 Storage to support up to 250 disk drives

4.2.25 Storage to support up to 1,000 TB of raw capacity

4.2.26 Each File Sharing server to have an Intel Xeon 5600 and 6GB of memory

4.2.27 Includes 1Gb network cards for file sharing

4.3.28 Includes 8Gb Fiber channel cards for Block storage connectivity

4.3 To supply, install and configure the following **<u>SAN Switches</u>** in the **New Datacenter**:

4.3.1 Two Brocade SAN switches for new datacenter site, each switch scalable up to **48 ports**.

4.3.2 Each Switch Initial configuration to have **24 active 8Gbps FC SFPs** out of the **48 ports**.

4.3.3 Switch to have dual, hot-swappable redundant power supplies with integrated system cooling fans

4.3.4 Switch Scalability of full fabric architecture with a maximum of 239 switches

4.3.5 Switch can support up to 6,000 active nodes; 56 switches, 19 hops

4.3.6 Switch can support full duplex; auto-sensing of 2, 4, 8, and 16 Gaps port speeds; 10 Gaps optionally programmable to fixed port speed

4.3.7 Switch can support aggregate bandwidth up to 768 Gaps end-to-end full duplex

4.3.8 Switch to support following port types: D_Port, E_Port, EX_Port, F_Port, M_Port

4.3.9 Switch to support the following management softwares: HTTP, SNMP v1/v3 (FE MIB, FC Management MIB), SSH; Auditing, Syslog; Command Line Interface (CLI); SMI-S compliant; Administrative Domains

4.3.10 Switch to support the following security protocols: AES-GCM-256 encryption on ISLs; DH-CHAP (between switches and end devices), FCAP switch authentication; FIPS 140-2 L2-compliant, HTTPS, IPsec, IP filtering, LDAP with IPv6, OpenLDAP, Port Binding, RADIUS, TACACS+, User-defined Role-Based Access Control (RBAC), Secure Copy (SCP), Secure RPC, SFTP, SSH v2, SSL, Switch Binding, Trusted Switch

4.4 To supply, install and configure the following **SAN Switches** in the **New DR center**:

4.4.1 Two Brocade SAN switches for the new DR site, each switch scalable up to **48 ports**.
4.4.2 Each Switch Initial configuration to have **24 active 8Gbps FC SFPs** out of the **48 ports**.
4.4.3 Switch to have dual, hot-swappable redundant power supplies with integrated system cooling fans
4.4.4 Switch Scalability of full fabric architecture with a maximum of 239 switches
4.4.5 Switch can support up to 6,000 active nodes; 56 switches, 19 hops
4.4.6 Switch can support full duplex; auto-sensing of 2, 4, 8, and 16 Gbps port speeds; 10 Gbps optionally programmable to fixed port speed
4.4.7 Switch can support aggregate bandwidth up to 768 Gbps end-to-end full duplex
4.4.8 Switch to support following port types: D_Port, E_Port, EX_Port, F_Port, M_Port
4.4.9 Switch to support the following management softwares: HTTP, SNMP v1/v3 (FE MIB, FC Management MIB), SSH; Auditing, Syslog; Command Line Interface (CLI); SMI-S compliant; Administrative Domains
4.4.10 Switch to support the following security protocols : AES-GCM-256 encryption on ISLs; DH-CHAP (between switches and end devices), FCAP switch authentication; FIPS 140-2 L2-compliant, HTTPS, IPsec, IP filtering, LDAP with IPv6, OpenLDAP, Port Binding, RADIUS, TACACS+, User-defined Role-Based Access Control (RBAC), Secure Copy (SCP), Secure RPC, SFTP, SSH v2, SSL, Switch Binding, Trusted Switch

4.5 **P2V conversion** for remaining physical server to Virtual at the **New Datacenter**:

4.5.1 Upgrade memory of All the HP ProLiant blade servers to 128GB each.
4.5.2 Migrate the VM from local HD to the shared storage on new datacenter in the Information building as well as in new DR site in the main building.
4.5.3 All the storage data must be synchronized in an active/ passive state.
4.5.4 All the environment for virtualization will be running on a Hyper-V platform.
4.5.5 All the virtual environment will be in a cluster which will have hot-spare servers for blade failovers.
4.5.6 All the cluster VM's should be able to perform live migrations without any downtimes.
4.5.7 Some of the main core systems will still continue to exist in physical environment as well.

4.6 To supply, install and configure the below **Enterprise Backup Appliance** at the **New Datacenter**:

4.6.1 Backup Appliance to support:
4.6.1.1 Disk-to-Disk-to-Tape architecture.
4.6.1.2 De-duplication.
4.6.1.3 Heterogeneous OS environment.
4.6.1.4 Unlimited Client agents including Windows, Linux, UNIX/AIX, SQL, Oracle Databases and Tape Libraries.
4.6.1.5 DR backup replication without any additional software license

4.6.2 Production site should have purpose built Data Protection Appliance with **40TB Usable space**

4.6.3 Purpose Built Backup Application Should Provide Unlimited Agents to protect **5TB Size Backup**.

4.6.4 The solution must restore files, emails and other granular items from Microsoft Exchange, SharePoint, and Active Directory and for hypervisors such as Microsoft Hyper-V from a single-pass backup.

4.6.5 If solution justifies having a separate hardware to be used as a media server, should be provided by the bidder. If Virtual machines needed would be provided by KNA.

4.6.6 The solution should have the cloud enabled feature

4.6.7 Single Solution with Hardware and Software.

4.6.8 Simple, Scalable, Flexible, Reliable Enterprise Class Backup Solution.

4.6.9 Backup solution should have compatibility with Microsoft Windows and Non-Windows i.e. Linux / UNIX systems.

4.6.10 Required Intelligent De-duplication at source, at server or at target

4.6.11 Should be able to achieves demanding recovery time and recovery point objectives by delivering full backups at the cost and speed of incremental backups

4.6.12 Minimum 4x1Gbps NIC, 4x 10Gbps NIC and 8x8Gbps Fiber Connectivity

4.6.13 Self-Protection against Zero Day attack and Malicious Insider Threats

4.6.14 Automatic Image Replication Capability

4.6.15 Snapshot Replication & Granular Recovery

4.6.16 WAN Optimization Capability

4.6.17 Backup Acceleration Capability

4.6.18 Intelligent End to End Deduplication

4.6.19 Backup software to support Databases and applications, to preserve transactional consistency and manage log truncation during hot backup, integrates with leading relational database, messaging, application, and big data platforms, including IBM DB2®, IBM Informix, IBM Lotus Domino®, Microsoft Active Directory®, Microsoft® Exchange Server, Microsoft Office SharePoint® Server, Microsoft SQL Server®, Oracle, SAP HANA, SAP R/3, SAP Sybase®, and others

4.6.20 Backup software to support Copilot for Oracle, to protect and manage Oracle database data.

4.6.21 Backup software to provide Intelligent Policy for Microsoft Hyper-V and SQL Server

4.6.22 Backup software to offer Console plug-ins for Hyper-V and VMware.

4.7 Existing Physical Tape library will be used for cloning purpose if required.

4.8 Contractor shall include the service to physically move IT equipment from the training building which is the old DR site to new DR site in the main building.

4.9 The bidder will hold full responsibility for all the migrations taking place along with all the equipment's at the old DR site and the new DR site through the contract period.

4.10 The Contractor shall submit detailed solution design and Project Implementation plan describing the execution schedule, detailed installation & configuration activities along with the proposal in standard format.

4.11 Periodic meetings to be conducted and progress report to be submitted to the KNA management by email or fax.

4.12 The project must be completed without delay and penalty will be applied for any delay as per the contractual terms.

4.13: The Contractor shall perform Acceptance Tests for the implemented solution and provide comprehensive documentation as per the Acceptance Test requirements.

4.14 The Contractor shall perform knowledge transfer of the implemented solution the KNA IT team.

5. BIDDER QUALIFICATION REQUIREMENTS

In order to ensure a successful implementation and execution for the project, KNA requires that the successful bidder has the required qualifications and experience. This section summarizes the required qualifications which are mandatory for the company selection. Failure to meet any of these requirements May lead to bidder disqualification.

5.1: Bidder must be ISO 9001 Certified.

5.2: Bidder should be authorized and certified Gold partner of the vendor by which the solution will be provided.

5.3: Bidder must submit a supporting letter from each vendor addressed to the National Assembly of Kuwait (KNA) stating the bidder authorization as a partner in Kuwait for support and maintenance.

5.4: Bidder must be a well know company as a system integrator/ implementer for at least 5 years.

5.5: Bidder should provide at least 5 references with regards to the installations of similar projects in the State of Kuwait including specification type and the quantity of hardware installed.

5.6: Bidder should provide technical documentation of the products from the manufacturer.

5.7: Bidder should submit the original proposal and electronic copy.

5.8: Bidder should have a vendor competency of being an Expert in Enterprise Backup and Recovery.

5.9: Bidder should be authorized to implement and provide onsite support.

5.10: Detailed Curriculum-vitae and certifications implementation specialists shall be shared along with their CIVIL-ID copies during the bidding phase.

5.11: Offers without original broachers from original manufacturer will not be accepted.

6. Costs and Contract Conditions

All prices should be in Kuwaiti Dinar. On a separate page, the bidder must specify.

6.1: Total cost of contract in details.

6.2: Detailed pricing table (Bill of Quantities and Bill of Materials).

6.3: Miscellaneous cost covered by the contract if any.

7. SUPPORT, WARRANTY & MAINTENANCE SERVICES

Bidder to provide software, hardware and maintenance support for 3 years 24/7 basis for provided solution, as well as back to back support with provided vendor for the same period.

7.1: Online & Onsite Support:

7.1.1 Provide a 24 x 7 unified channel (reachable via web, phone and email) to log all tickets related to KNA's IT infrastructure, systems and applications and handle the calls with vendors on KNA's behalf, follow up, conduct the required escalations, report performance of each vendor.

7.1.2 Troubleshoot, remediate, resolve and/or redirect the ticket to spare parts owner (if required), vendor or onsite support.

7.1.3 Dispatch technical expert(s) to KNA's premise to Troubleshoot, remediate, carry out the spare replacement, resolve and/or redirect the ticket to spare parts owner (if required) or vendor.

7.2: Quarterly Health Check:

7.2.1 Conduct (Quarterly) health check for the installed base within scope as per vendors' standards and Contractor predefined scenarios. Produce a health check report addressing the issues with recommendation to be carried out by the KNA – if any – and work jointly with KNA to implement the recommended actions.

7.2.2 Provide KNA with vendors' release/module based updates (Quarterly), and help in deploying the recommended updates (patches, fixes, new firmware, software version upgrades ...etc.) based on KNA approval under the KNA administration team supervision.

7.2.3 Nominate a Service Account Manager (SAM) to work as a Focal Point to KNA to follow all issues and escalations and hold quarterly service review meetings).

7.3: Spare Management:

7.3.1 Manage the spare parts with vendors/suppliers, in addition to handling logistics to assure spares availability onsite (either from KNA's depot or vendor's depot) when needed.

APPENDIX

The BOQ must be stamped and signed by an authorised official. If there is a difference between the quote on this page and the detailed pricing, the quote will be treated as final.

Description		QTY.	PRICE
1.	SAN Storage 32TB New Datacentre	1	
2.	SAN Storage 16TB New DR	1	
3.	SAN Switches New Datacentre	2	
4.	SAN Switches New DR	2	
5.	Enterprise Backup Appliance 40TB New Datacentre	1	
6.	Backup Software License 5TB New Datacentre	1	
7.	Blade Servers Memory Upgrade 128GB each	-----	
8.	P2V conversion of the entire environment	-----	
9.	Warranty & Support 24x7 Onsite. (Years)	-----	