

# WEBEL TECHNOLOGY LIMITED

## CORRIGENDUM – I

**TENDER NO. WTL/WBDC/CE/21-22/027 DATED 06.12.2021**

### **SECTION - R TECHNICAL COMPLIANCE WBDC CAPACITY AUGMENTATION**

#### **STORAGE AUGMENTATION BOQ FOR DC**

<b>Sl. No.</b>	<b>Description</b>	<b>Make / Model Applicable – by the bidder)</b>	<b>Complied (Yes / No)</b>
1	Existing HPE Primera 650 Storage upgrade at DC - 450TB upgrade to 650 TB . Out of 200TB additional capacity to be procured, 100TB should be SSD & 100 TB should be on SAS Discs. Warranty co-terminus with existing storage warranty.		
2	Existing Netapp Storage <b>AFF- A700</b> at DC upgrade - 170TB upgrade to 430TB. All 260 TB additional capacity should be with SSD Disc only. Warranty co-terminus with existing storage warranty		

#### **IT Hardware**

<b>Sl. No.</b>	<b>Description</b>	<b>Make / Model Applicable – by the bidder)</b>	<b>Complied (Yes / No)</b>
3	Blade with 2 x Intel processor minm 2.0 GHz /165W 32C/48 MB, 1536 GB DDR4 2933MHz mem, 2x960GB 12G SAS 10K RPM SFF HDD, 12G SAS RAID controller with Drive bays		
4	Blade Chassis with converged network connectivity for 4x32GB FC, 4x10G FCOE and 2x40G connectivity, Redundant 2500W Platinum AC Hot Plug Power Supply		
5	Rack Server with 2 x Intel latest generation Xeon® Gold Ice Lake Processors with minimum 2.0 Ghz& 32Core per socket and 48 MB Cache., 768GB DDR4 2933MHz mem, 4x1.2TB 12G SAS 10K RPM SFF HDD.		

#### **Detail Spec for Sr no 3: Blade Server**

<b>Sr. No.</b>	<b>Item</b>	<b>Specification</b>	<b>Make / Model Applicable – by the bidder)</b>	<b>Complied (Yes / No)</b>
1	CPU	Each blade shall have two numbers of latest Intel Xeon Scalable Processors (Intel® Xeon® processor family or higher) with Min. 32 cores per processor each having Min. 2.0 GHz processor speed with 48 MB Cache		
2	Motherboard	Intel chipset compatible with the offered processors.		
3	Memory	Min. 32 DIMM slots, should be provided with 24 GB RAM per core using DDR4 DIMM's operating at 2933 MT/s (depending on processor model). Server should be configured with 1536 GB RAM from day one.		
4	Memory Protection	Advanced ECC protection, online mirror memory		

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5	Hard disk drive with carrier	2 X 960 GB 12G SSD Drives		
6	Storage Controller	SAS Raid Controller with RAID 0/1 with 4GB cache		
7	Networking features	The server should provide a minimum of 100 Gbps of bandwidth with Converged network adapter ports across two or more cards.		
		Each Blade should have redundant network Connectivity to all the Chassis Interconnect modules.		
		Server must be populated with all internal mLOM, PCI-e slots with Connectivity cards to offer maximum throughput to the overall Network on Day 1.		
8	Redundancy	The blade server to be provided with card level redundancy		
9	Interfaces	Minimum of 1* internal USB 3.0 port , 1* internal SD card slot		
10	Operating System and Virtualization Support	Microsoft Windows Server,		
		Red Hat Enterprise Linux (RHEL),		
		VMware,		
		SUSE Linux Enterprise Server (SLES)		

### Detail Spec for Sr no 4: Blade Chassis

Sr.No.	Item	Specification	Make / Model Applicable – by the bidder)	Complied (Yes / No)
1	Enclosure	Blade chassis shall be 19" rack mountable		
		The enclosure Should support minimum 8 nos. of latest generation INTEL Dual socket servers occupying a max of 10RU rack height		
	Power	The enclosure should be populated fully with power supplies of the highest capacity & should be energy efficient.		
The power subsystem should support N + N / N+1 power redundancy (where N is greater than 1) for a fully populated chassis				
	Cooling	Each blade enclosure should have a cooling subsystem consisting of redundant hot pluggable fans or blowers		
2	Chassis connectivity	The chassis should be provided with redundant modules for connectivity		
	Converged Module	Chassis should have sufficient number of redundant converged modules to provide a minimum FCoE uplink bandwidth of 50Gbps per blade server and 25Gbps sustained per blade server ( with 1 module failure) for a fully populated chassis for converged Traffic.		
		Chassis should support aggregation of multiple enclosures. the interconnects (internal or external) should be provided in redundancy along with all modules/switches for chassis interconnectivity should be in redundancy. internal interconnect switches all the switches in the chassis should be fully populated for maximum throughput & redundancy from day 1.		
		All Network and management modules/solution should be populated from day 1 to ensure redundancy		
3	Chassis Management software	Blade chassis management solution may be provided internal / external to the chassis and must provide single console for managing all associated components like Blade Servers, raid settings, NIC/HBA cards, IO Modules, Power supplies, Fans.		

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		Licenses to support the features to be supplied for fully populated chassis.		
		The management software should be used to create resource pools and have the blade resources assigned to the respective resource pools & re-assign resources to effectively utilize infrastructure		
		Should be able to provide Single Pane of Glass view management for both Rack Servers and Blade Servers together in a given location with customizable dashboard to show overall faults / health / inventory for all managed infrastructure. With option to create unique dashboards for individual users. The user should have flexibility to select names for dashboards and widgets (ex:- health, utilization etc.). These licenses should be included on day 1.		
		The proposed solution should use AI/ML technology for infrastructure firmware updates & upgrades for the proposed system		
		The management solution should be open & programmable should provide Rest API's, SDK for programming languages ex:- Python, power shell scripting etc.		
		The management tool should be able to provide global resource pooling and policy management to enable policy-based automation		
		Zero-touch auto configuration to auto deploy a baseline server configuration profile Automated hardware configuration and Operating System deployment to multiple servers		
4	Configuration & Management	<p>System should support multiple management interface like Web UI, CLI and XML API. Management solution should be able to manage different form factor hardware and provide single console.</p> <ul style="list-style-type: none"> <li>* Real-time out-of-band hardware performance monitoring &amp; alerting.</li> <li>* Remote Power On, Off and reset from Web UI, XML API and KVM.</li> <li>* The management tool should be able to provide global resource pooling and policy management to enable policy based automation and capacity planning</li> <li>* Zero-touch repository manager and self-updating firmware system, Automated hardware configuration and Operating System deployment to multiple servers</li> </ul>		

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5	Application Resource Management	<p>The solution should provide a workload automation solution that dynamically defines and controls the environment based on real time analytics to assure application performance at maximum efficiency by ensuring underlying infrastructure is at optimal state.</p> <p>The solution should be an agentless architecture which should provide full stack visibility &amp; control being Application, network, storage, cloud aware.</p> <p>* The solution should provide dynamic resource allocation to ensure demand of applications is matched with available resources in real time.</p> <p>The solution should provide vertical and horizontal scaling of workloads and automate provisioning of infrastructure resources.</p> <p>*The proposed solution should be application aware (Oracle WebLogic, IBM WebSphere, apache, tomcat etc.), the solution should manages the resources used by application servers, including heap, threads, transactions, and response time in the server process, and VMem and VCPU in the VM that hosts the application server.</p> <p>The solution should collect information from network switches and load balancers to ensure minimal application latency, it should ensure chatty VMs are often placed together to maximize resource utilization and minimize noisy neighbor effect.</p>		
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### Detail Spec for Sr no 5: Rack Server

SN	Parameters	Specification for Rack Server	Make / Model Applicable - by the bidder)	Complied (Yes / No)
1	Processors	Rack Server shall have a minimum of two (2) Intel latest generation Xeon® Gold Ice Lake Processors with minimum 2.0 Ghz & 32Core per socket and 48 MB Cache.		
2	Chipset	Intel chipset compatible with the offered processors.		
3	Internal Storage	The server should Support upto 8 hot-swappable SAS, NL-SAS and SSD drives.		
		Server should be configured with 4 Nos 1.2TB 12G SAS 10K RPM		
		The Server RAID controller should support the following configurations RAID 0, 1, 5, 6, 10, 50, and 60		
		Server should be configured minimum with 4GB of cache module.		
4	Memory	Should have at least 32 DIMM slots per server and support minimum up to 2 TB of DDR4 2933 MHz memory.		
		The Server should be configured with minimum 768 GB of DDR4 Memory from day one		
		Support for advanced memory redundant technologies like Advanced error-correcting code (ECC) and memory mirroring.		
5	Network	Should have 2 * 10 GbE (embedded) LAN ports & 2*10G SFP+ GbE network cards for LAN connectivity		
6	SAN Connectivity	Should support Dual port 16Gbps FC HBA.		
7	PCIe Slots	Up to 6 PCIe Generation 3.0 slots		
8	Configuration & Management	Should support out of band upgrades, Agentless out-of-band management, integrated diagnostics and Power monitoring and reporting.		

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		The server should support industry standard management protocols like IPMI v2 and SNMP v3		
		One 1-Gbps RJ-45 management port		
		The server should support multiple management interfaces including web user interface and command line interface.		
		Should be provided with anti-counterfeit to lockdown the system in case the hardware is not genuine		
		System should support multiple management interface like Web UI, CLI and XML API. Management solution should be able to manage different form factor hardware and provide single console. * Real-time out-of-band hardware performance monitoring & alerting. * Remote Power On, Off and reset from Web UI, XML API and KVM. *		
		The management tool should be able to provide global resource pooling and policy management to enable policy based automation and capacity planning * Zero-touch repository manager and self-updating firmware system, Automated hardware configuration and Operating System deployment to multiple servers		
		The system should have hardware root of trust		
		The system should provide bios recovery & firmware update should be cryptographically signed		
9	Application Resource Management	<p>The solution should provide a workload automation solution that dynamically defines and controls the environment based on real time analytics to assure application performance at maximum efficiency by ensuring underlying infrastructure is at optimal state.</p> <p>The solution should be an agent less architecture which should provide full stack visibility &amp; control being Application, network, storage, cloud aware.</p> <p>* The solution should provide dynamic resource allocation to ensure demand of applications is matched with available resources in real time.</p> <p>The solution should provide vertical and horizontal scaling of workloads and automate provisioning of infrastructure resources.</p> <p>*The proposed solution should be application aware (Oracle WebLogic, IBM WebSphere, apache, tomcat etc.), the solution should manages the resources used by application servers, including heap, threads, transactions, and response time in the server process, and VMem and VCPU in the VM that hosts the application server.</p> <p>The solution should collect information from network switches and load balancers to ensure minimal application latency, it should ensure chatty VMs are often placed together to maximize resource utilization and minimize noisy neighbor effect.</p>		

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10	Server Security	<p>Should have a cyber resilient architecture for a hardened server design for protection, detection &amp; recovery from cyber attacks Should protect against firmware which executes before the OS boots</p> <ul style="list-style-type: none"> <li>- Hardware based Root of Trust</li> <li>- Signed firmware updates</li> <li>- Secure default passwords</li> <li>- Secure alerting</li> <li>- Automatic BIOS recovery</li> <li>- Rapid OS recovery</li> <li>- Chassis Intrusion Detection</li> <li>- System Lockdown</li> <li>- System Drift Detection</li> <li>- Configuration upgrades should be only with cryptographically signed firmware and software"</li> </ul>		
11	Ports	<p>Should have the following ports for server connectivity</p> <ul style="list-style-type: none"> <li>● 1 serial port</li> <li>● 4 USB 3.0/2.0 ports</li> <li>● 1 VGA video port</li> </ul>		
12	Others	<p>Supports hot swappable redundant fans</p> <p>Supports hot swappable redundant power supplies</p> <p>Rail Kit and cable management arm to be provided along with the server</p>		
13	Form Factor	Maximum 2 RU		

### Software Licenses

Sr. No.	Description	Make / Model Applicable - by the bidder)	Complied (Yes / No)																
6	<p>Red Hat Cloud Infrastructure, Premium (2-sockets) with support for 3 years :</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">PART #</th> <th style="text-align: center;">PRODUCT DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">MCT2979</td> <td>Red Hat OpenStack Platform with Smart Management, Premium (2-sockets)</td> </tr> </tbody> </table>	PART #	PRODUCT DESCRIPTION	MCT2979	Red Hat OpenStack Platform with Smart Management, Premium (2-sockets)														
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8	<p>DCO, Capacity &amp; ITO Software License for DCIM :</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Platform</th> <th style="text-align: center;">Item Description</th> <th style="text-align: center;">Uom</th> <th style="text-align: center;">Qty</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Schneider/APC</td> <td>DCIM DCO License</td> <td style="text-align: center;">Nos</td> <td style="text-align: center;">20</td> </tr> <tr> <td style="text-align: center;">Schneider/APC</td> <td>DCIM Capacity License</td> <td style="text-align: center;">Nos</td> <td style="text-align: center;">20</td> </tr> <tr> <td style="text-align: center;">Schneider/APC</td> <td>DCIM IT Optimize License</td> <td style="text-align: center;">Nos</td> <td style="text-align: center;">20</td> </tr> </tbody> </table>	Platform	Item Description	Uom	Qty	Schneider/APC	DCIM DCO License	Nos	20	Schneider/APC	DCIM Capacity License	Nos	20	Schneider/APC	DCIM IT Optimize License	Nos	20		
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Schneider/APC	DCIM IT Optimize License	Nos	20																
9	EDB Postgres Enterprise Unicore per year license - Production DB Support Plan for 3 years																		
10	EDB Postgres Enterprise Unicore per year license - Replica DB Support Plan for 3 years																		
11	EMS Software per device for 3 years																		

**Detail Spec for EMS for sl no. 11**

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Centralised Monitoring Software (EMS) Solutions			
1	General Requirement	Make / Model Applicable – by the bidder)	Complied (Yes / No)
1	The proposed EMS solution should be an integrated, modular, and scalable solution from single OEM family (i.e., all Network Monitoring, server Monitoring including application, database monitoring and Service Management tools should be from single OEM) to provide comprehensive fault management, performance management, Traffic Analysis, IT service desk\ help desk \trouble ticketing system & SLA monitoring functionality.		
2	The system should be accessible via a Web based GUI console/portal from intranet as well as from internet.		
3	It should have a secured single sign-on and unified console for all functions of components offered for seamless cross-functional navigation & launch for single pane of glass visibility across multiple areas of monitoring & management.		
4	The proposed EMS solution deployment must support latest version of both Windows and Linux Operating Systems and should be 64-bit application to fully utilize the server resources on which it is installed.		
5	Proposed EMS solution MUST have at least 3 deployments in Indian Government/ Public Sector, monitoring & managing 10,000+ devices (including IT assets - Network devices, etc.; Non-IT Assets - UPS, KVM, PDU, etc.; Surveillance system - Cameras, Sensors, etc. in each of such deployments. Customer names, solution details and OEM undertaking needs to be provided at the time of bidding.		
6	Any additional components (hardware, software, database, licenses, accessories, etc.) if required for implementation and execution of project, for providing the total solution as mentioned in the rfp document should be provided by the bidder.		
7	The proposed solution should have the capability to support the deployment on either on-premises data centre platform or the public/private cloud platform like AWS, Azure etc.		
8	The proposed EMS solution should be built on modern container technologies and have an option to deploy on classic mode (non-containerized) as well as containerized (like Docker, Kubernetes) mode. The solution should either support built-in Kubernetes technology or Bring Your Own Kubernetes (BYOK) platform provided by the bidder.		
9	The proposed EMS solution should be an integrated, modular, and scalable solution, accessible from a single pane of glass for KPI insights across the entire IT environment. This dashboard will provide service status, performance view, response-time data etc based on role-based access. Since the operations manager solution provides a single framework for streaming metrics across Systems, applications, networks, topology & event data, the operations manager must be FIPS 140-2 compliant, which ensures that cryptographic-based security Systems are to be used to provide protection for sensitive or valuable data.		
10	To ensure the mature security standard of proposed EMS solution, SI must ensure that the proposed EMS solution OEM is ISO 27034 certified from one of the following certification agencies like; Schellman/ KPMG/ PwC/ Ernst & Young/ Deloitte. Documentary proof must be provided at the time of submission.		
2	Server, Database & Application Fault, Performance Monitoring Management		
1	The proposed Enterprise Management tools must be able to monitor end to end performance of Server Operating Systems & Databases and Should be able to manage distributed, heterogeneous Systems – Windows, UNIX & LINUX from a single management station.		

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2	There should be a single agent on the managed node that provides the system performance data, and for event management it should be able to prioritize events, do correlation & duplicate suppression ability to buffer alarms and provide automatic actions with capability to add necessary annotations		
3	The system must support multiple built in discovery mechanisms for e.g., Active Directory, Windows Browser, DNS with capability to discover and services discovery		
4	Each operator should be provided with user roles that should include operational service views enabling operators to quickly determine impact and root cause associated with events.		
5	The system should integrate with Helpdesk / Service desk tool for automated incident logging and notify alerts or events via e-mail or SMS.		
6	Solution should provide alarm correlation and facilitate reduction of total number of alarms displayed by means of intelligent alarm correlation, suppression and root cause analysis techniques built into the system. The system must ensure reduction in MTTR by means of advanced event correlation, filtering, and root cause analysis.		
7	The proposed Alarm Correlation and Root Cause Analysis system shall integrate network, server and database performance information and alarms in a single console and provide a unified reporting interface for network components. The current performance state of the entire network & system infrastructure shall be visible in an integrated console.		
8	It should have capability to perform cross domain correlation with alarm correlation from Network Monitoring tool, Systems monitoring tool and other domain monitoring tools.		
9	The proposed solution should provide out of the box root cause analysis with multiple root cause algorithms inbuilt for root cause analysis.		
10	Alarms should be mapped to the live topology views and real time updates to topology based on alarm occurrences.		
<b>Network Management System (NMS)</b>			
<b>1)</b>	<b>Network Fault Monitoring &amp; Performance Management with Reporting</b>	<b>Make / Model Applicable – by the bidder)</b>	<b>Complied (Yes / No)</b>
1	The Network Management function must monitor performance across heterogeneous networks from one end of the enterprise to the other.		
2	The solution should allow for discovery to be run on a continuous basis which tracks dynamic changes near real-time; to keep the topology always up to date. This discovery should run at a low overhead, incrementally discovering devices and interfaces.		
3	NMS should provide integrated fault, performance Monitoring, Configuration & compliance Management together in one tool.		
4	NMS should support Industry-leading support for physical, virtual, and SDN-enabled devices like Cisco ACI, VMWare NSX, Viptela, Big Switch Networks, etc.		
5	NMS should provide network Trap Analytics out of the box.		
6	NMS should support out of the box monitoring of at least 5000+ devices from at least 150+ vendors.		
7	Diagnostic Analytics providing change-Related Performance Views and should show the difference either in either a side-by-side, or line-by-line presentation		
8	NMS should have built-in audit and compliance policies for industry best practices/ Gov. regulations like PCI, HIPAA, NERC others...		
9	NMS should support 3-Dimensional Compliance Model - Configuration, Software, Running State		
10	The tool should automatically discover different type of heterogeneous devices (all SNMP supported devices i.e., Router, Switches, LAN Extender, Servers, Terminal Servers, Thin-Client and UPS etc.) and map the		



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	connectivity between them with granular visibility up to individual ports level. The tool shall be able to assign different icons/ symbols to different type of discovered elements. It should show live interface connections between discovered network devices		
11	It should support various discovery protocols to perform automatic discovery of all L2, L3 Network devices across SWAN and any further Network connectivity's planned in future.		
12	The tool shall be able to discover IPv4 only, IPv6 only as well as devices in dual stack. In case of dual stack devices, the system shall be able to discover and show both IPv4 and IPv6 IP addresses.		
13	The tool shall be able to work on SNMP V-1, V-2c & V-3 based on the SNMP version supported by the device. It shall provide an option to discover and manage the devices/elements based on SNMP as well as ICMP.		
14	The proposed Network Fault Management solution must support extensive discovery mechanisms and must easily discover new devices using mechanisms such as SNMP Trap based discovery. It must also allow for inclusion and exclusion list of IP address or devices from such discovery mechanisms		
15	The proposed solution must provide a detailed asset report, organized by vendor name, device type, listing all ports for all devices. The Solution must provide reports to identify unused/dormant Network ports in order to facilitate capacity planning		
<b>2)</b>	<b>Network Configuration Automation</b>		
1	The system should be able to clearly identify configuration changes / policy violations / inventory changes across multi-vendor network tool.		
2	The system should support secure device configuration capture and upload and thereby detect inconsistent "running" and "start-up" configurations and alert the administrators.		
3	The proposed system should be able to administer configuration changes to network elements by providing toolkits to automate the following administrative tasks of effecting configuration changes to network elements: a) Capture running configuration; b) Capture start-up configuration; c) Upload configuration; d) Write start-up configuration; e) Upload firmware		
4	The proposed fault management solution must be able to perform "load & merge" configuration changes to multiple network devices.		
5	The proposed fault management solution must be able to perform real-time or scheduled capture of device configurations.		
<b>3)</b>	<b>Network Traffic Flow Analysis System</b>		
1	It shall be able to capture, track & analyse traffic flowing over the network via different industry standard traffic capturing methodologies viz. NetFlow, jflow, sFlow, IPFIX etc.		
2	It shall provide key performance monitoring capabilities by giving detailed insight into the application traffic flowing over the network.		
3	It shall be able to monitor network traffic utilization, packet size distribution, protocol distribution, application distribution, top talkers etc. for network traffic.		
4	It shall collect the real-time network flow data from devices across the network and provide reports on traffic based on standard TCP/IP packet metrics such as Flow Rate, Utilization, Byte Count, Flow Count, TOS fields etc.		
<b>4)</b>	<b>Reporting</b>		
1	Reporting solution should be able to report on Service Level status of configured business service.		
2	It should be able to collect and collate information regarding relationship between IT elements and business service, clearly showing how infrastructure impacts business service levels.		
3	The solution must be built on big data platform and should be user configurable for building additional reports.		

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4	Solution should be able to collect Key performance measurements and statistics from all network domains and store it. This data is to be used for evaluation of performance of the end-to-end network infrastructure/services.		
5	The performance management system shall be able to collect and report data like: a. Packet delay and packet loss; b. User bandwidth usage rate; d. Network availability rate; e. CPU usage rate; f. Input/output traffic through physical ports; g. Input/output traffic through logical ports		
6	<b>The Performance Management shall have user defined set of reports like:</b> <b>a. Summary Reports for specific groups:</b> Reports displaying per group of resources the group aggregations for a set of metrics (for example, per City, the maximum traffic or the total traffic). <b>b. Summary Reports for specific Resources:</b> Reports displaying for a set of resources the period aggregations for the same set of metrics (for example, per interface, the maximum traffic over the day). <b>c. Detailed chart Reports:</b> Reports displaying for one resource and the same set of metrics the values over the period (for example, the raw collected values for the day).		
<b>Helpdesk and IT Service Management</b>			
<b>1)</b>	<b>General Requirement of IT Service/ Helpdesk</b>		
1	Should be able to support and handle large volume of incident, service requests, changes, etc. and be able to integrate with third party IVR or CTI.		
2	The solution should have IT Service Management documentation/ guidelines in-built based on ITIL best practices and must be ITIL 2011 certified on at least 7 processes by Pink Elephant. The certification copies to be submitted.		
3	The solution should have a single CMDB across ITSM and Asset Management system.		
4	IT Service Management OEM must be an industry standard, enterprise grade solution and shall be in the present in Leaders Quadrant of Forrester / Gartner / IDC report for ITSM for the last two years.		
5	The solution should have a Single Architecture and leverage a single application instance across ITIL processes, including unique data and workflows segregated by business unit, cost centre, and user role for Incident, Problem, Change, Release, Knowledge Management, Asset Management and CMDB.		
6	Solution should support multi-tenancy with complete data isolation as well as with ability for analysts based on access rights to view data for one, two or more organizational units.		
7	Solution should support multi-tenancy with complete data isolation as well as with ability for analysts based on access rights to view data for one, two or more organizational units.		
8	The solution should provide to browse through CMDB which should offer powerful search capabilities for configuration items and services, enabling to quickly find CIs as well as their relationships to other CIs.		
9	Provide option for approval engine so that any customized applications developed could incorporate the hierarchy, role based, level-based ad-hoc approval structure. Include notification and escalation capability if approval is not performed.		
10	The support person can interact with the end users through chat in built and add those chat transcripts in the ticket.		
11	A virtual bot should be available, which can respond to user requests, immediate via portal, email or mobile interfaces.		
12	Beyond mobile iOS and Android apps, Self Service App should be available on any device with an HTML5 browser.		
13	Should provide out-of-the-box categorization, as well as routing and escalation workflows that can be triggered based on criteria such as SLA,		

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	impact, urgency, CI, location, or customer.		
14	Should provide modern data analysis methods for insight and value to service desk by leveraging unstructured as well as structured data.		
15	Tool Analytics should be completely configurable in terms of source data and results, enabling Process Managers and other IT Users to proactively identify trends that can be used to drive action. Multiple instances shall be allowed to be configured in different ways in different modules for different outcomes - for example one should be able to identify trends in one set of data and subsequently develop linkages with other data, or Analytics can run on top of reporting results to provide further insights from unstructured data.		
16	The tool should allow the user to take a screenshot of the error message and sends it to the service desk. The user can type in a couple of text lines to describe the error in simple language. The service desk agent then can pick up the ticket with the information already filled in (category, impact, and assignment).		
17	The tool should have the knowledge management OOB – knowledge databases to support investigations, diagnoses, root cause analysis techniques, and creating / updating workarounds, temporary fixes and resolutions.		
18	Self Service App should provide a snapshot of your day, displaying your activities feed with upcoming appointments, pending requests, unresolved issues, and alerts from systems you use in your daily work.		
19	Integrates with any underlying service management including Service Desk, Change Management, Service Level Management and CMDB for request fulfilment.		
20	The solution should have the ability to operate all functionality available in the incident, problem, change, assets etc. via a mobile app on iPhone or Android phone.		
<b>2)</b>	<b>Service Level Management</b>		
1	SI's must proposed a full fledges Service Level Management Solution that allows for tracking of various service level performances of IT Infrastructure and vendor performance.		
2	Solution should support comprehensive SLA management platform and must allow creating and applying various operational level parameters to Incidents, Requests, Changes, and Release management modules.		
3	The tool should provide an audit trail, tracking & monitoring for record information and updates from opening through fulfilment to closure for example: IDs of individuals or groups opening, updating & closing records; dates / times of status & activities updates, etc.		
4	The solution should support SLA violations alerts during the tracking period and should support managing and maintaining a full history of an SLA.		
5	The solution must provide a flexible framework for collecting and managing service level templates including Service Definition, Service Level Metrics, Penalties, and other performance indicators measured across infrastructure and vendors.		
<b>3)</b>	<b>Auto-Discovery and Inventory</b>		
1	Discovery should work without requiring agent installation (that is, agent-less discovery) while discovery Layers 2 through Layers 7 of OSI model.		
2	Should use Industry-standard protocols such as WMI, SNMP, JMX, SSH to perform discovery without requiring the installation of an agent.		
3	Discovery system should have the ability to capture configuration files for the purposes of comparison and change tracking.		
4	Discovery system should be capable of supporting role-based access to various aspects of CMDB administration.		
5	Discovery should be object-oriented, allowing specific CIs and relationships to be discovered using a library of discovery patterns.		
6	Discovery engine should gather detailed asset and configuration item (CI)		

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	information for specific servers and the applications running on them.		
7	Solution should dynamically discover and continuously map IT hardware inventory and service dependencies.		
8	Discovery system should have ability to modify out-of-box discovery scripts, create customized discovery scripts.		

	Description	Make / Model Applicable - by the bidder)	Complied (Yes / No)				
12	Red hat Enterprise Linux Standard for virtual Datacenters with 1 Yr Standard Subscription for 3 years :						
	<table border="1" style="width: 100%;"> <thead> <tr> <th style="width: 20%;">PART #</th> <th>PRODUCT DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>RH00002</td> <td>Red Hat Enterprise Linux for Virtual Datacenters, Standard</td> </tr> </tbody> </table>			PART #	PRODUCT DESCRIPTION	RH00002	Red Hat Enterprise Linux for Virtual Datacenters, Standard
	PART #			PRODUCT DESCRIPTION			
RH00002	Red Hat Enterprise Linux for Virtual Datacenters, Standard						
Red hat Openshift Container Platform (Bare Metal Node) with run time, Premium, 1-2 Nodes upto 64 Cores for 3 years :							
13	Red hat Openshift Container Platform (Bare Metal Node) with run time, Premium, 1-2 Nodes upto 64 Cores for 3 years :						
	<table border="1" style="width: 100%;"> <thead> <tr> <th style="width: 20%;">PART #</th> <th>PRODUCT DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>MW01501</td> <td>Red Hat OpenShift Container Platform (Bare Metal Node), Premium (1-2 sockets up to 64 cores)</td> </tr> </tbody> </table>			PART #	PRODUCT DESCRIPTION	MW01501	Red Hat OpenShift Container Platform (Bare Metal Node), Premium (1-2 sockets up to 64 cores)
	PART #			PRODUCT DESCRIPTION			
MW01501	Red Hat OpenShift Container Platform (Bare Metal Node), Premium (1-2 sockets up to 64 cores)						
Version Control Software with Functional test automation - 10 Concurrent User, Load runner professional foundation - qty 1 (500 virtual users) and Application Life Cycle Manager - 10 concurrent user license with support for 2 years							
14	Version Control Software with Functional test automation - 10 Concurrent User, Load runner professional foundation - qty 1 (500 virtual users) and Application Life Cycle Manager - 10 concurrent user license with support for 2 years						

### Detail Spec for Sr no 14 : Version Control Software & ADM

Sl. No.	Technical Specifications of Version Control Software Solutions ( Software Change and Configuration Management):	Make / Model Applicable - by the bidder)	Complied (Yes / No)
1	SCCM should preserves the integrity of known baseline configurations.		
2	SCCM solution should simplify rollback and recovery, streamlines approval, and maintains integrity when automating builds and deployments.		
3	SCCM solution should Hardened Enterprise Repository features integration with developer friendly repositories and IDEs(suchasGit,IntelliJ,EclipseandMicrosoft.net),detailed auditing and logging, and immutable versioning and history.		
4	SCCM solution should provide optimized developer experience allows for collaborative parallel development to minimize rework, visualize and reduce conflict, and lower risk while improving team velocity and throughput.		
5	SCCM solution should support Shift-left.		
6	SCCM solution should support security, audit and compliance.		
7	SCCM solution should support peer code review.		
8	SCCM solution should support No Touch Compliance to minimizes the preparation and effort required for audits and regulatory compliance with comprehensive and tamper proof history and audit trails.		

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9	SCCM solution should have enterprise scalability.		
10	SCCM solution should have integrated access controls, detailed auditing and logging, integrated collaborative peer review, and immutable versioning and history.		
11	SCCM solution should have Integrated Software Change and Configuration Management.		
12	The Proposed SCCM Software , Application Testing Software and Enterprise Management Software should be from single OEM for seamless integration,betterperformance and single pane of glass availability and accessibility.		

### Application Delivery Management :

	<b>Make / Model Applicable - by the bidder)</b>	<b>Complied (Yes / No)</b>
<b>Functional Test Automation (UFT One):</b>		
Automation solution should support different application technologies to insure modern web application can be integrated with existing Web/windows based applications including legacy software's.		
Automation solution should have different scripting options record/replay, Descriptive programming to create robust scripts and frameworks		
Automation solution should also have AI capabilities to reduce the script creation and maintenance.		
Automation tool should also support automating application with same tool		
Single tool should support testing GUI/API/WEB and mobile application to ensure same resource can automate any of the AUT		
Automation tool has to be available in Gartner/Forester reports		
Automation tool ownership should be procured on name of Customer only and licenses need to be handed over to customer on completion of project		
Should support multi-layer test scenarios with a single solution. i.eGUI,API,Mobile and different technologies.		
<b>Test Management and Governance (ALM):</b>		
Should allow role based activity for different users in the application lifecycle - Business analysts can define application requirements and testing objectives, test managers can design test plans and test cases, automation engineers can automate scripts and store them in the central repository, testers can run manual and automated tests, report execution results, and enter defects, developers can review and fix defects logged into defect tracking database.		
Should provide Dashboards to see overall project status and should provide realtime reports for various testing activities within the projects		
Should allow for test execution to be linked with the corresponding release of the application for tracking of requirements coverage and defect trends for different releases of the application and different cycles of testing.		
Should provide an integrated defect management system to automatically link defects with test runs and associated release and cycle.		
Should align testing process by gathering all available documentation on the application under test, such as marketing and business requirements documents, system requirements specifications, and design documents.		
Should allow requirements definitions to include traceability between the requirements. When analyzing the impact of a change proposed in a specific requirement, traceability should show the other requirements that the change		

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might affect.		
Should allow versioning of key assets like requirements, tests and defects to maintain data integrity and prevent accidental loss of data.		
Support baselines to allows capture of requirements and tests at key points, compare baselines to assess changes and reflect signoffs and contracts as baselines.		
Should allow sharing of tests, requirements and defects across projects to promote reuse		
Should support process enablement by configuring and maintaining templates centrally with workflows and user defined fields, propagate template changes across multiple projects, therefore enforcing consistent workflows and customizations across projects.		
Should enable out of the box integration with different category of testing tools like Functional testing, Performance testing, Web application security and Web Services testing tools.		
Should have out of the box plugins for Microsoft Excel/Microsoft Word for importing and exporting of test cases/requirements		
Should have out of the box plugin for Microsoft Excel for reporting purpose so that data can be automatically and directly extracted within excel by connecting to the ALM tool via the API interface		
Should be an industry standard solution listed in Gartner/Foresster.		
<b>Performance Testing (LoadRunner):</b>		
Proposed solution should support tesing a wide range of application technologies and should be able to simulate lacks of users and provide the results and analysis		
Proposed solution should be a industry standard/leading tool and should be listed in either World quality report or Gigaom Radar		
Performance testing solution should be capable to test GUI/Web/API and mobile applications.		
Should allow selection of different network bandwidth, emulating analog modems, ISDN, DSL, or custom bandwidth.		
Performance tesing tool should also provide a report to finetune the applications on mobile networks to ensure mobile user do not impact wother connected users on servers.		
Performance testing solution should have integrations with AWS/AZZURE/Google cloud to test application on geo locations and run heavy user loads as well		
Performance testing solution should have capability to test IoT		
Should have out of the box (OOTB) integration to APM Tools(like Dynatrace, AppDynamics,New Relic)		
Performance testing tool should support execution of scripts created in jmeter/selenium/silk test would be an added avantage		
Should support IP Spoofing of Virtual Users to test load balancing algorithms		
Should provide flexibility to allow user to perform custom correlation between test result metrics		
Should be able to access results of multiple test runs the same time, to display correlation between different test runs		
Should provide Virtual User Rendezvous capability to emulate true concurrent transactions.		
should have option to capture client download time as well to validate real user experience		
All solutions should be in leaders in any one leading reports Gartner/Forrester/GigaOm/World Quality report.		

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<b>General Requirements:</b>		
All solutions should provide integration with other required solutions.		
All solutions should be COTS products and should be from single OEM.		
The proposed Application testing Software solutions should be either perpetual/SaaS based software model in nature.		

Softwares:

15	MS SQL Standard Latest version		
16	My SQL enterprise latest version (3 years)		
17	Lotus Domino Email software latest version with 500 user mail box		

**DDOS :**

18	DDOS First 2 Years - BOQ - DDoS Protector appliance with SME Dual Power Supply DC		
19	10Gbps Pluggable Optics (XFP) Multimode SR		
20	Deployment of DDoS Protector in basic configuration at the customer site, including configuration, testing and tuning		
21	DDoS Management VA2 Virtual Appliance for management of 2 DDoS Protector physical devices for 2Y		

**Details Specification for DDOS ( Sr no 18-21)**

Sl.no	Specifications	Make / Model Applicable – by the bidder)	Complied (Yes / No)
<b>DDoS Solution</b>			
<b>OEM Eligibility Criteria</b>			
1	OEM should be present in the "LEADER" quadrant in the Latest published Forrester wave Report OR IDC Report for DDoS.		
2	DDoS OEM should have TAC based in INDIA.		
3	OEM should have DDoS Cloud Scrubbing Centre in INDIA.		
4	OEM must have atleast 5 DDoS References in Government / PSU /BFSI in last 3 Years		
<b>Technical Specifications</b>			
1	DDoS mitigation solution should be a Dedicated appliance (NOT a part of Router,UTM, Application Delivery Controller,Proxy based architecture or any StateFul Device) with 20Gbps attack mitigation and 8Gbps legitimate throughput.		
2	Support DDoS Flood Attack Prevention Rate: upto 10 MPPS (In addition to Legitimate throughput) Inspection Ports supported : 8 X 1G RJ45 and 4 x 10G SFP+ Latency should be less than 60 microseconds. The appliance should have dual power supply and dedicated 2 x PORTS10/100/1000 Copper Ethernet Out-of-band Management Port.		
<b>Behavioral DoS Protection</b>			

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3	<p>Behavioral DoS (Behavioral Denial of Service) Protection should defend against zero-day network-flood attacks, detect traffic anomalies and prevent zero-day, unknown, flood attacks by identifying the footprint of the anomalous traffic.</p> <p>Solution must have auto-learning and behavioral-analysis algorithms to establish legitimate-traffic baselines and automatically detect and block non-conforming traffic.</p> <p><b>Network-flood protection should include:</b></p> <ul style="list-style-type: none"> <li>• TCP floods—which include SYN Flood, TCP Fin + ACK Flood, TCP Reset Flood, TCP SYN + ACK Flood, and TCP Fragmentation Flood</li> <li>• UDP flood</li> <li>• ICMP flood</li> <li>• IGMP flood</li> </ul>		
	<b>Security Protections:</b>		
4	<p>BEHAVIORAL ANALYSIS using behavioral algorithms and automation to defend against IoT botnet threats, including Mirai DNS Water Torture, Burst and Randomized attacks. The solution should utilize behavioral algorithms and stateless solution to detect and defend against IoT Botnet threats at L3-7.</p>		
5	<p>ZERO DAY ATTACK PROTECTION should be provided using behavior based technology. The device should generate Automatic Real Time Signature within 30 seconds, without any manual intervention for protection against Zero Day DDoS Attacks.</p>		
6	<p>CUSTOM TAILORED HARDWARE must be proposed using dedicated DoS Mitigation platform which off-loads high volume attacks, inspecting without impacting user experience.</p>		
7	<p><b>Deployment Modes:</b></p> <ol style="list-style-type: none"> <li>1) Inline</li> <li>2) SPAN / Copy port monitoring</li> </ol>		
8	<p><b>Tunneling Protocols:</b></p> <p>VLAN Tagging, L2TP, MPLS, GRE, GTP, IPinIP</p>		
9	<ul style="list-style-type: none"> <li>• Server-based vulnerabilities: <ul style="list-style-type: none"> <li>— Web vulnerabilities</li> <li>— Mail server vulnerabilities</li> <li>— FTP server vulnerabilities</li> <li>— SQL server vulnerabilities</li> <li>— DNS server vulnerabilities</li> <li>— SIP server vulnerabilities</li> </ul> </li> <li>• Worms and viruses</li> <li>• Trojans and backdoors</li> <li>• Client-side vulnerabilities</li> <li>• IRC bots</li> <li>• Spyware</li> <li>• Phishing</li> <li>• Anonymizers</li> </ul>		
10	<p>The appliance should have below Security Protection Profiles:</p> <ol style="list-style-type: none"> <li>1. BDOS Protection.</li> <li>2. DNS Protections..</li> <li>3. SYN-Flood Protection.</li> <li>4. Traffic Filters.</li> <li>5. Anti-Scanning Profile.</li> </ol>		



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	<b>The proposed Device should use the following Block Actions :</b>		
11	1) Drop packet, 2) Reset (source, destination, both), 3) Suspend (source IP address, source port, destination IP address, destination port or any combination), 4) Challenge-Response for TCP, HTTP and DNS suspicious traffic		
12	For future Scalability, The proposed solution should support Integration with OEM Cloud based Scrubbing Centers, in case of Bandwidth Saturation attacks, using the same technology. DDoS Scrubbing Centre must be in INDIA.		
13	For future Scalability, The proposed solution should support REAL-TIME attacker intelligence feeds , pertaining to a active attack sources recently involved in DDoS attacks. The feed should support real-time and ongoing validated and actionable threat intelligence from multiple sources for preemptive protection.		
14	For future Scalability, DDoS OEM should support 24x7 (SLA defined), REAL TIME Emergency Response Services for the network facing denial-of-service (DoS) attack in order to restore network and service operational status.		
15	Bidder should propose Separate Centralized Management & Reporting Solution from Day 1 integated with NGFW logging and management solution.		
16	Bidder to propose 24x7 Support for 2 Years.		

SOAR :

22	Security Orchestration Automation Response - Simplify Platform Base Package Premium. Includes: 2 years License for Platform, 3 analyst seats, 5 Advanced Reporting Users, 24x7 Premium support including implementation & training		
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### Detail specification of sl no. 22 - SOAR

Sl.no	Specifications	Make / Model Applicable – by the bidder)	Complied (Yes / No)
	<b>SOAR Solution</b>		
	<b>Functional Specifications</b>		
1	The Solution should be able to achieve security orchestration, automation and response (SOAR) through and unified platform integrated with the security contols and SOC in SDC. The solution should be vendor-agnostic security operations platform.		
2	The solution should automate contextual grouping of alerts to clean up your queue and streamline cross-product triage		
3	The proposed solution should run use cases that automate away false positives and consistently reduce response times		
4	The solution should be able to collaborate on cases with internal and external teams directly from the platform		
	<b>Technical Specifications</b>		

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5	The Security Operations Platform should be able to continuously analyzes each alert as it comes into the system, looking for contextual relationships. If a relationship is identified, the alert should get automatically grouped with the related alerts into a case. Then, the platform should be able to initiate the relevant playbook to automatically block an attack on the firewall and/or disable a compromised user in the enterprise.		
6	Use case scenario running inside the Security Operations Platform should be able to integrate with NGFW and should have the capability to run at set intervals for firewall policy management. Operators should be able to automate auditing and remediation, such as activating a firewall rule, and workflows can tie into ticketing systems to notify administrators and track efforts.		
7	The user must be able to create “use cases” (scenarios) from a graphical user interface without using programming languages.		
8	The platform Should allow creation of use cases in visual use case editor		
9	The platform must be able to enroll the following products (without being limited to): o Endpoint Protection Antivirus o NGFW o SIEM		
10	The platform must allow writing of own integrations by the end user for products not supported out of the box		
11	The solution must offer out of the box use cases.		
12	The SOAR platform should be able to handle objects like (without being limited to): hash signatures, URLs / domains, IP addresses, file names, email addresses, user names, hostnames. This object should be later subjected to enrichment and processing.		
13	The solution must be able to include in use cases the following: automated tasks, manual tasks, filters, sub-use cases, data enrichment tasks, conditional tasks		
14	The platform must permit interaction between different actors on the same use case		
15	It must offer the possibility to specify different SLAs for different tasks in a use case and must permit task delegation		
16	The platform must be able to detect redundant alerts and must use aggregation of duplicates under one single ticket		
17	Every incident handled by the platform must be properly documented in all aspects: changes to the use case, interactive commands, evidences, tasks, timestamp, all user activity etc		

### Deep Security Software

SL. No	Description	Make / Model Applicable – by the bidder)	Complied (Yes / No)
23	Trend Micro Deep Security - Enterprise - per Server (VM)		
24	DDAN-Deep Discovery Analyzer		

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VTL Upgrade :

25	VTL SYSTEM,DD4200,CTL,NFS,CIFS - CAPACITY UPGRADE to 75TB		
26	Integration of VTL with Commvault Tape Library		

### Detail Specification of Sl. No. 25 VTL Upgrade

SL.No	Description	Make / Model Applicable – by the bidder)	Complied (Yes / No)
1	SYSTEM,DD4200,C'TL,NFS,CIFS		
2	SYSTEM,DD4200+1ES30,3TB SAS HDD,NFS,CIFS		
3	LICENSE,BOOST,DD4200		
4	LICENSE BASE DD OE DD4200=IA		
5	LICENSE DD OE PER TB MID CAPACITY ACT=CB		
6	LICENSE,REPLICATOR,DD4200		
7	LICENSE,VTL,OPEN SYSTEMS,DD4200		
8	OPTION,ES30 SHELF,15X2TB SAS HDD		
9	OPTION,ES30 SHELF,15X3TB SAS HDD		

### New UPS for DC Active Tiles

SL.No	Description	Make / Model Applicable – by the bidder)	Complied (Yes / No)
27	UPS 80 KVA with 30 mins battery backup for uninterrupted power supply to active tiles with necessary electrical cabling		

Detail Spec for Sr no 27: UPS

### TECHNICAL SPECIFICATIONS FOR 80 KVA UPS SYSTEMS

PARAMETER	REQUIRED SPECIFICATIONS	Make / Model Applicable – by the bidder)	Complied (Yes / No)
<b>PARAMETER</b>	<b>REQUIRED SPECIFICATIONS</b>		
<b>Rating</b>	<b>80 KVA (80 KVA / 64 KW)</b>		
<b>Technology</b>	Online, double-conversion topology with IGBT based Technology with DSP (Digital Signal Processing) controls and static bypass switch		
<b>Scalability &amp; Redundancy</b>	There should be provision to add 2 nos. or more UPS in N+1 parallel redundant (load sharing) mode. The parallel system shall have intelligence to automatically recognize the need for capacity and/or redundancy.		
<b>Input Parameters</b>			
Nominal input voltage(VAC)	380/400/415 VAC three-phase		
Input voltage range	-20%, +20% from nominal at 100% load		

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Input Operating frequency	50 Hz		
Input frequency range	45 to 55 Hz		
<b>Isolation Transformer</b>	Isolation Transformer of <b>Suitable</b> Rating with each UPS module for providing galvanic isolation between input & output.		
<b>Output Parameters</b>			
Nominal output voltage	380/400/415 VAC three- phase		
Output voltage regulation	±1 % static		
	±5% dynamic at 100% load change with <20 ms response time		
Output Frequency	50/60 Hz; ±1 or ±2 Hz selectable, synchronisation to mains, ± 0.05 Hz free-running (single module)		
Overload capacity	125% for 10 minutes, 150% for 60 seconds		
Voltage distortion	<2% THD on linear load; <5% THD on nonlinear load		
Overall Efficiency (AC-AC)	>92% in Double Conversion mode		
<b>User interface</b>			
LCD display	The UPS control panel shall be a digital front panel display that features a backlit LCD display. The LCD shall display UPS status, metering, battery status, alarm/event queue, active alarms and other necessary parameters.		
<b>LED indicators</b>	UPS on, On battery, On bypass, Alarm		
<b>Interface panel</b>	The UPS shall be equipped with an interface panel which provides the followingsignals and communication features		
Alarm contact	A dry contact for annunciating a summary alarm shall be provided for customer use.		
Serial (RS-232) Communication Interface:	A 9-pin sub-D or USB connector shall provide capability for communicating with manufacturer's servicing software package. The UPS shall also provide plug-in communication options to provide signals for remote indication of UPS alarm status.		
<b>Communications</b>	The UPS shall be equipped with WEB/SNMP communication support as optional. The UPS shall have Power Management feature to provide UPS monitoring, notification, management, and emergency computer shutdown capabilities		
<b>Battery</b>			
<b>Type</b>	VRLA Sealed Maintenance Free, lead-acid batteries		
<b>Backup time</b>	<b>The system must be capable of providing 30 minutes of battery back-up time with each UPS module, 72,000 VAH for 30 minutes' back-up with each UPS</b> (Total number of batteries, Voltage of each battery, Ampere-Hour rating and Total Volt-Ampere-Hour rating of the Battery Bank Offered should be clearly mentioned.)		
<b>Environmental</b>			
Operating temperature	0°C to +40°C		
Storage temperature	-25°C to +50°C		
Altitude	< 1000 m		
Audible noise at 1 metre	65 dB		
Humidity	15-95 % RH Non-condensing		
<b>COMPLIANCE WITH STANDARDS</b>			
Quality	ISO 9001, ISO 14001, ISO 45001, ISO 50001		
Safety	IEC 62040-1		
EMC	IEC 62040-2		

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E-Waste	EPR authorisation from CPCB, Govt of India		
<b>OEM CRITERIA:</b>	1.UPS OEM should have registered office in Kolkata, WB for at least 05 years and should also have minimum 10 years of experience in Supply, installation & commissioning of On-Line UPS with Govt. / PSU undertakings in West Bengal.		
	2.UPS OEM should have previous experience of having successfully <b>supplied, installed &amp; commissioned at least 02 units of 80 KVA or higher capacity UPS System</b> in any Govt. or PSU Data Centre/Server Room/Computer Centre Site in WB/Eastern India. Documentary evidence such as details of Contract, Client Details to be furnished		
	3.UPS OEM should have proper after sales service facilities in Kolkata, WB and should not have been blacklisted or debarred from business, at any point of time by any Govt./PSU undertaking. Service set-up Details with details on manpower and infrastructure available to be provided. Affidavit with Undertaking on non-blacklisting to be provided		
	4.The bidder should submit documentary evidence in support of 100% compliance to the tender specifications. The bidder should submit the Datasheet and user/operation manual of the UPS system offered.		
	5. The bidder should submit documentary evidence in support of 100% compliance to the tender specifications. The bidder should submit the Datasheet and user/operation manual of the UPS system offered.		

### LTO 7 Tape Library for Data Backup

SL.No	Description	Make / Model Applicable – by the bidder)	Complied (Yes / No)
28	LTO 7 Tapes for Data Backup		

### Rack Containment Zone

Sl. No.	Description	Make / Model Applicable – by the bidder)	Complied (Yes / No)
	Net Work and Server Racks		
29	Rack Containment Zone Net Work and Server Racks - Supply, Installation, Testing & Commissioning of 42U Server Cabinet with Extruded Aluminium Profile based frame with top panel; having Static load bearing capacity of 1300 Kg as per Tender specifications. . Dimensions: 2100mm x 750mm x 1200mm all complete as required and as per detailed specifications. Racks, PDUs, containment should be from same OEM.		
30	Active tiles for 2nd,3rd & 4th containment		

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31	Perforated tiles for 3rd & 4th containment		
32	Supply, Installation, Integration with existing infra, Testing & Commissioning of 42U Server Cabinet Extruded Aluminium Profile frame with top panel; having static load bearing capacity of 1300 Kg as per Tender specifications. . Dimensions: 2200mm x 800mm x 1200mm all complete as required and as per detailed specifications. Racks, PDUs, containment should be from same OEM		
33	Supply, Installation, testing and integration with existing infra, Commissioning & Integration of Single Phase 32 A , 7 kW Zero U Vertical Rack IPDU with combination of C 13 and C 19 sockets of total 36 Nos. VDE Certified & ROHS Compliant as per technical specifications		
34	Supply, Installation, Testing and integration with existing infra, Commissioning of Universal Cold Aisle Containment including wall beams, end-of-row frames, dual sliding doors with provision for CCTV Cameras , FAS detectors (Width - 1200mm), necessary passive cabling, all complete as required and as per detailed specifications. ( for existing and new containment)		
35	Supply, Installation, Testing and integration with existing infra, Commissioning of CCTV camera near BMS corridor, 4kl UG Fuel tank, First floor entry, Landing room		

### WBSDC DR Site Implementation

#### Site Preparation Work at Disaster Recovery Site:

S.No	Description	Make / Model Applicable – by the bidder)	Complied (Yes / No)
	<b>False Ceiling Work</b>		
36	<b>Dismantling of existing false ceiling and existing electrical wiring, DBs, Firefighting system and Modification of AC duct and opening of Exit Door</b>		
37	<b>Mineral Fiber Ceiling</b> False Ceiling of Mineral fiber board at appropriate height should be installed concealing any cabling tray and electrical lighting wiring in all areas except server/network room. The False Ceiling tile should be Dust free type and of Noncombustible material. 1200 mm cross tee at every 600 mm c/c and 600mm cross tee at every 1200mm c/c max and wall angle all around the wall to form a grid of 600 mm x 600 mm and suspending the grid using 2mm GI rod and 6 mm raw plug at every 1200 mm intervals at the main tee and laying the Ceiling tiles of size 595 mm x 595 mm x 15 mm over the formed grid having fire rating of 60 minutes as per BS 476/23 of 1987, Noise reduction Coefficient (NRC) of 0.50-0.60, to resist temperature and humidity conditions up to 40degree (104deg. F) and humidity of 99% RH should be installed. All overhead cable trays will be secured to a rigid frame that carries the load either to the roof structure or to the floor slab.		

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38	<p><b>Metal Ceiling for Server Room</b> False Ceiling of Metal board at appropriate height should be installed concealing any cabling tray and electrical lighting wiring in all areas except server/network room. The False Ceiling tile should be Dust free type and of Noncombustible material. 1200 mm cross tee at every 600 mm c/c and 600mm cross tee at every 1200mm c/c max and wall angle all around the wall to form a grid of 600 mm x 600 mm and suspending the grid using 2mm GI rod and 6 mm raw plug at every 1200 mm intervals at the main tee and laying the Ceiling tiles of size 595 mm x 595 mm x 15 mm over the formed grid having fire rating of 60 minutes as per BS 476/23 of 1987, Noise reduction Coefficient (NRC) of 0.50-0.60, to resist temperature and humidity conditions up to 40degree (104deg. F) and humidity of 99% RH should be installed. All overhead cable trays will be secured to a rigid frame that carries the load either to the roof structure or to the floor slab.</p>		
	<b>Flooring</b>		
39	<p><b>Raised Floor-</b> Supply &amp; Installation of stepped raised floor. The floor panels shall be of size 600mm x 600mm fabricated entirely from non-combustible component which shall be 100% interchangeable and shall consist of flat steel top sheet, resistance welded to steel bottom section finished with anti-corrosive and conductive paint. Pedestal assembling: Consisting of 100x100x2 mm thick galvanized MS base plate die-pressed fully welded to 1.6mm thick galvanized MS pipe to engage the Pedestal head assembly. The Pedestal head shall be 90x90mm, 4mm thk assembly consisting of an embossed steel plate having 4 holes with 6mm thk tapping for fastening of stringer and locating of Tile. Care to be taken to achieve the zero levelling.</p>		
40	Double Cup Tile Puller		
41	<p><b>Ramp:</b> Its sub floor elements must be sufficient to support fully loaded heavy equipment weighing at least 1600 kilograms. Ramp will be having lines with non-skid type mats on lining. The angle of inclination for ramp should not be more than 10 degree.</p>		
42	<p><b>Steps:</b> Providing steps at the location shown in layout to match raised floor level to true floor level. The steps will be having lines with non-skid type mats on lining. The height of single step should not be more than 250 mm and width should not be less than 250 mm.</p>		
43	Thermal insulation with 19 mm Nitrel rubber		
	<b>Painting &amp; Putty</b>		

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44	Providing and Applying approved Emulsion Low VOC paint in three or more coats of approved brand and shade to internal surfaces (walls / partitions/ ceiling or any other location as directed),to give an even shade to the approval of the engineer, including Putty & thoroughly brushing the surface free from foreign matter, sand papering smooth, filling in all holes and cracks , applying lambi / palti and rubbing down the surface, lambi/palti sandwiched with two coats of approved primer, rate to include all tools, labour, scaffolding, primer as required completed as directed by the engineer.		
45	Fire Rated Paint with putty work for Server Room and Electrical Room		
46	<b>Fire Rated Partition</b> : Providing and fixing in position full height partition wall of 100 mm thick fire line gyp-board partition using 12.5 mm thick double fire line gypboard on both sides with GI steel metal vertical stud frame of size 50 mm fixed in the floor and ceiling channels of 50 mm wide to provide a strong partition. Glass wool insulation inside shall be provided as required. Fixing is by self-tapping screw with vertical studs being at 610 mm intervals. The same should be inclusive of making cut-outs for switch board, sockets, grill etc. It shall also include preparing the surface smoothly and all as per manufacture's specification etc. finally finishing with one coat of approved brand of fire resistant coating. ( Server Room and Electrical Room )		
47	<b>Non Fire Rated Partition</b> : Providing and fixing in position full height partition wall of 100 mm thick gyp-board partition using 12.5 mm thick double fire line gypboard on both sides with GI steel metal vertical stud frame of size 50 mm fixed in the floor and ceiling channels of 50 mm wide to provide a strong partition. Glass wool insulation inside shall be provided as required. Fixing is by self-tapping screw with vertical studs being at 610 mm intervals. The same should be inclusive of making cut-outs for switch board, sockets, grill etc. It shall also include preparing the surface smoothly and all as per manufacture's specification etc. finally finishing with one coat of approved brand of fire resistant coating.		
	<b>Doors</b>		
48	Fire rated door 2400 x 1500 double leaf in equal door		
49	Panic bar for fire exit door		
50	Fire rated door 2400 x 1000 single leaf		
51	Main Flash Door at Data Centre Entrance double leaf 1500 x 2400		
52	BMS and Manager Room Flash Door single leaf 1000 x 2400 mm		
53	Liner work station		
54	Hydrolic low back chair		
55	Cleaning & house keeping till hand over the project including deb rise cleaning and out from site.		
56	Sinages as required considering all rooms, Danger plat, Push, Pull, Fire exit, Emergency exit,		
57	Drawing & Design cost		
58	Structural Steel with Stair case		



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### Electrical Work at Disaster Recovery Site:

Sr. NO.	Description	Make / Model Applicable – by the bidder)	Complied (Yes / No)
59	<b>Main Power Distribution Panel</b> : Supply Installation testing commissioning for Main Data Centre Panel. making of CRCA powder coated sheet, Having Incommer 200 A 4 pole MCCB with 36 KA. Out Going : 100 A 4 pole MCCB 3 nos, 63 A 4 pole MCCB 4 Nos, 32 A 4 pole MCB 6 nos, with multifunction meter with communication port ( RS 485) & R,Y, B, ON, OFF, Trip Indication LED lamps & 500 A rated Aluminium bus bar.		
60	<b>UPS Output Panel</b> : Incomer 2 Nos 100A 4 Pole MCCB with Metering ( MFM with RS 485 Port , Indication lamp and control MCBs ) Outgoing 32A DP 18 Nos		
61	Lighting DBs, BMS DBs and Raw Power DBs		
62	4 Run X 25 sq.mm. copper flexible cable for 40 KVA UPS Input and Output cable		
63	4 Core 240 sq.mm. AL. Armured cable Incomer Supply		
64	4 Run X 10 sq.mm. copper flexible cable for Lighting DB, Power DB , BMS DBs and PAC		
65	50 sq.mm. copper flexible cable for earthing.		
66	3 Core X 4 sq.mm. copper flexible cable for server rack		
67	Supply laying and commissioning of power points by 25 mm PVC conduit and 2.5 sqmm copper wire for power points and 1.5 sq.mm copper wire for lights points including modular switch sockets & all accessories.		
68	Supply fixing and commissioning of power points for server racks including 32 A 3 pin industrial socket		
69	Supply Installation testing commissioning of chemical earthing with 17.5 sq.mm. copper bonded pipe for electrode, chemical compound as per ISI, Chamber High duty Polycarbonate cover etc.		
70	Supply and fixing of 25 x 6 mm G.I Strip for		
71	Earh Bus bar box with copper strip		
72	10 sqmm single core cable for DGs earthing, UPS earthing and server Rack earthing		
73	Light Point wiring with 3 x 1.5 sqmm copper flexible wire and PVC conduit with modular switch & accessories		
74	Light fixture 36W 2ft x 2 Ft LED tupe		
75	Occupancy Sensor		
76	Cable tray and raceway (Lot as per below breakup)		
77	300 x 50 mm Ladder G.I cable tray with support arrangement		
78	200 x 50 mm G.I perforated cable tray with support arrangement (Power )		
79	200 x 50 mm G.I perforated cable tray with support arrangement (Data )		
80	MS structural Steel for cable tray support and Panel Base Frame		
81	Supply & Laying of Anti-static rubber mate 1.1 kv tested for electrical room as per ISI		
82	Shock Treatment chart		
83	First Aid Box		

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84	Cost for developing of all GFC & As built drawings as per recompensated size including design .		
12	3*20KVA Modular UPS with 30 minutes backup and extendible upto 80 KVA (4 x 20 KVA)		

### Detail Specification of sl no. 12 UPS

S. No.	TECHNICAL SPECIFICATIONS (20 KVA ON-LINE UPS: 03 NOS)	Make / Model Applicable - by the bidder)	Complied (Yes / No)
	<b>GENERAL FEATURES:</b>		
1	Supply, installation and commissioning of 3 x 20 KVA/20KW True On-Line Double Conversion, modular type UPS. The 3 x 20 KW UPS system will operate in parallel redundant mode, with 2 UPS to support the load and third UPS to provide redundancy in case of failure of any one UPS. Further, each 20 KVA/20KW UPS shall be configured as N+1 redundant within its frame. There shall be provision to scale up the configuration to 4 x 20KVA/20KW UPS in parallel.		
2	Each 20 KVA N+1 redundant UPS shall be with modular architecture with appropriate nos. of 20 KW Hot Swappable Power Modules of double conversion configuration, while ensuring 1 for redundancy, i.e. 2 nos modules of 20 KW Modules. The 20 KW UPS shall be scalable upto 80 KW within the same frame simply by inserting additional hot swappable power modules as and when necessary.		
3	The frame for Each 20 KVA UPS shall be in a space saving design, with standard 30~42U frame		
4	Each hot swappable UPM power module shall include a rectifier, battery converter, inverter and independent logic circuitry. There should be no common controller (either single or redundant) outside the modules.		
5	Each UPS shall also have an <ul style="list-style-type: none"> <li>a) STS Module comprising of a fully rated, continuous duty static bypass switch for high-speed transfers along with RS232 port, USB port, SNMP Slot, Dry contact ports</li> <li>b) Switch Unit comprising of Main Breaker, Maintenance Bypass and Output Breaker</li> </ul>		
6	The control panel comprising of an 8~10" colour graphical LCD DISPLAY, touch screen based, with LED status indicators for monitoring of all measured parameters, UPS and battery status and alarms.		
7	<b>BATTERIES:</b> Each 20 KW UPS shall have battery bank comprising of 20,000 VAH using 12V, VRLA Sealed Maintenance Free Batteries for 30 minutes backup time. The vendor has to supply the necessary battery rack and interconnecting cables (nyvin fire retardant type).		
8	<b>Isolation Transformer</b> of 40 KVA should be provided with each UPS for providing galvanic isolation between input & output. Isolation Transformer should be external to the UPS and placed inside a suitable enclosure with powder coated paint and provided with cast iron wheels at bottom and hooks for lifting the unit.		
9	<b>DETAILED SPECIFICATION SHEET</b>		
	MODEL RATING (1.0 p.f.)	20 KVA/KW N+1 Modular On-Line UPS	
	Make & Model	To be Specified	
	<b>ELECTRICAL CHARACTERISTICS INPUT</b>		
	Rated input voltage	380 V; 400 V; 415 V, 3 Phase	
	Voltage tolerance	305 ~ 478 VAC	
	Rated input frequency	50 or 60 Hz, user configurable	
	Frequency tolerance	45 to 55 Hz	
	Input power factor, double conversion @100% load	> 0.99	
	Input current distortion at rated input current	< 3%, 100% load	

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	<b>ELECTRICAL CHARACTERISTICS OUTPUT</b>			
	Crest factor	3:1		
	Rated output voltage	380 V; 400 V; 415 V, configurable		
	Output voltage variation, steady state	± 1% (balanced load); ± 2% (unbalanced load)		
	Total voltage harmonic distortion 100% linear load 100% non-linear load	< 1% < 5%		
	Rated output frequency Output frequency variation	50 or 60 Hz, configurable ± 0.1 Hz		
	Overload capability	1 hour: 110%, 10 mins: 125%, 1 min:150%		
	Efficiency in double-conversion, rated linear load	>95%		
	<b>BYPASS</b>			
	Type of bypass	Static		
	Bypassrating	80 KW		
	Bypassvoltage range	380V;400V;415V		
	<b>BATTERY CHARACTERISTICS</b>			
	Battery technology	12V, VRLA SMF Batteries		
	Nominal VAH capacity	20,000 VAH for 30 minutes Back-up		
	Battery start option	Yes		
	<b>COMMUNICATION CIRCUITS</b>			
	Standard connectivity ports	USB/RS-232, BMS/SNMP card		
	System Display	Touch based graphical LCD display		
	Centralized UPS Monitoring & Management System	The proposed UPS shall have Centralized UPS Monitoring & Management system comprising of hardware and software, for real-time device monitoring and notification		
	<b>ENVIRONMENTAL</b>			
	Acoustic noise at 1 m, in 25 °C ambient temperature	< 75 dBA		
	Ambient service temperature range	0°C to + 40°C without output power derating		
	<b>COMPLIANCE WITH STANDARDS</b>			
	Quality	ISO 9001, ISO 14001, ISO 45001, ISO 50001		
	Safety	IEC 62040-1		
	EMC	IEC 62040-2		
	E-Waste	EPR authorisation from CPCB, Govt of India		
<b>10</b>	<b>OEM CRITERIA:</b>			
	1. UPS OEM should have registered office in Kolkata, WB for at least 05 years and should also have minimum 10 years of experience in Supply, installation & commissioning of On-Line UPS with Govt. / PSU undertakings in West Bengal.			
	2. UPS OEM should have previous experience of having successfully <b>supplied, installed &amp; commissioned at least 05 units of 20 KVA or higher capacity Modular UPS System</b> in any Govt. or PSU Data Centre/Server Room/Computer Centre Site in WB/Eastern India. Documentary evidence such as details of Contract, Client Details to be furnished			
	3. UPS OEM should have proper after sales service facilities in Kolkata, WB and should not have been blacklisted or debarred from business, at any point of time by any Govt./PSU undertaking. Service set-up Details with details on manpower and infrastructure available to be provided. Affidavit with Undertaking on non-blacklisting to be provided			

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	4.The bidder should submit documentary evidence in support of 100% compliance to the tender specifications. The bidder should submit the Datasheet and user/operation manual of the UPS system offered.		
	5. The bidder should submit documentary evidence in support of 100% compliance to the tender specifications. The bidder should submit the Datasheet and user/operation manual of the UPS system offered.		

### Precision Air Conditioning for DR Site:

Sr. No.	Description	Make / Model Applicable – by the bidder)	Complied (Yes / No)
	Precision AC for Server Room		
86	<p>10.5TR NET Sensible Capacity@ 7000 CFM at 25 Pa ESP ; based on Return air conditions: 35 +/-1 Deg. C, RH 25% and ambient temp of Asanol all complete as required and as per final direction and approval of the Consultants.</p> <p>Supply of Variable speed DC brushless Inverter compressor based Precision Air Conditioning Units; with totally Double skin side panels with min 15mm 32 Kg/ cum PU sheet internal insulation , Bottom discharge type complete with dynamically balanced fan driven by Electronically Commutated (EC) motor, hydrophilic coated slant/flat cooling coil. The unit shall be equipped with high efficiency filters(G4) of minimum 100mm thick, micro processor based programmable logic controller, Liquid receiver, Oil Separator, LLSV, NRV, SS drain tray with nitrile rubber insulation , AL strip Heater &amp; modulating Electrode steam Humidifier etc. Factory performance Testing (FAT) shall be carried in precence of Customer Representative &amp; Consultant. PAC should have provision for connecting separate input power of UPS power for fans and controller; Raw power for other components</p>		
87	GI hard drawn drain piping		
88	Supply, installation, testing & commissioning of GI class 'B' cut to required lengths and installed with all screwed joints, and providing and fixing in position with the necessary elbows, tees and reducers as per specifications. It shall be insulated with 9 mm thk nitrile rubber insulation. Humidifier Piping (assumption of 40 RMT/unit) 25mm dia all complete as required and as per final direction and approval of the Consultants.		
89	Supply, Lifting, shifting, & Installation of MS Stands for indoor PAC units with rubber pads. The frame shall be painted with one coat of metal primer two coats rust proof Epoxy Paint. The stand shall be Height adjustable type $\pm$ 25mm for Server Room stands all complete as required and as per final direction and approval of the Consultants.		
90	REFRIGERANT PIPING: Hard copper piping (7/8" Liquid + 1 1/8" Gas) along with closed cell elastomeric nitrile rubber insulation. Refrigerant pipe cost shall include required necessary supporting arrangement of hanging , wall fixed type. cost of wall chasing/ breaking and finish, etc all complete as required and as per final direction and approval of the Consultants.		
91	Refrigerant gas R410A all complete as required and as per final direction and approval of the Consultants.		

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92	Refrigerant Oil all complete as required and as per final direction and approval of the Consultants.		
93	Supply, Laying, installation, Testing & Commissioning of Interconnection cable(3C X2.5 SQ MM, Armoured Cable) between Indoor & Outdoor units all complete as required and as per final direction and approval of the Consultants.		
94	Seq CAT6 cable for multiple Indoor units all complete as required and as per final direction and approval of the Consultants.		
95	Supply & Installation of MS Stands for outdoor PAC condenser units with rubber pads. The frame shall be painted with one coat of metal primer and two coats rust proof Epoxy Paint all complete as required and as per final direction and approval of the Consultants.		
96	Providing and Fixing of Fire Sealent to close the cutouts of Cables, refrigerant pipes and tray all complete as required and as per final direction and approval of the Consultants.		
97	Copper piping with electrical wirings for the above		

### IT Hardware Requirement at DR Site:

Sl. No.	Description	Make / Model Applicable – by the bidder)	Complied (Yes / No)
98	IT Hardware Requirement at DR Site: Blade Server AC2 Chassis with fans (As per details specification shared separately		
99	Blade With 02 CPU, <b>1TB</b> Memory, <b>2*960GB</b> SSD		
100	SAN Switch : 16G FC switch, w/ 48 active ports + 16G SW SFPs		
101	Certificate Server/Rack Server		
102	Desktop Computer set		
103	L3 Switch 48 port		
104	L2 Switch		
105	Router		

### Detail Spec for Sr no 98: Blade Chassis

Sr.No.	Item	Specification	Make / Model Applicable – by the bidder)	Complied (Yes / No)
1	Enclosure	Blade chassis shall be 19" rack mountable		
		The enclosure Should support minimum 8 nos. of latest generation INTEL Dual socket servers occupying a max of 10RU rack height		
	Power	The enclosure should be populated fully with power supplies of the highest capacity & should be energy efficient.		
		The power subsystem should support N + N / N+1 power redundancy (where N is greater than 1) for a fully populated chassis		
Cooling	Each blade enclosure should have a cooling subsystem consisting of redundant hot pluggable fans or blowers			

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2	Chassis connectivity	The chassis should be provided with redundant modules for connectivity		
	Converged Module	Chassis should have sufficient number of redundant converged modules to provide a minimum FCoE uplink bandwidth of 50Gbps per blade server and 25Gbps sustained per blade server ( with 1 module failure) for a fully populated chassis for converged Traffic.		
		Chassis should support aggregation of multiple enclosures. the interconnects (internal or external) should be provided in redundancy along with all modules/switches for chassis interconnectivity should be in redundancy. internal interconnect switches all the switches in the chassis should be fully populated for maximum throughput & redundancy from day 1.		
		All Network and management modules/solution should be populated from day 1 to ensure redundancy		
3	Chassis Management software	Blade chassis management solution may be provided internal / external to the chassis and must provide single console for managing all associated components like Blade Servers, raid settings, NIC/HBA cards, IO Modules, Power supplies, Fans. Licenses to support the features to be supplied for fully populated chassis.		
		The management software should be used to create resource pools and have the blade resources assigned to the respective resource pools & re-assign resources to effectively utilize infrastructure		
		Should be able to provide Single Pane of Glass view management for both Rack Servers and Blade Servers together in a given location with customizable dashboard to show overall faults / health / inventory for all managed infrastructure. With option to create unique dashboards for individual users. The user should have flexibility to select names for dashboards and widgets (ex:- health, utilization etc.). These licenses should be included on day 1.		
		The proposed solution should use AI/ML technology for infrastructure firmware updates & upgrades for the proposed system		
		The management solution should be open & programmable should provide Rest API's, SDK for programming languages ex:- Python, power shell scripting etc.		
		The management tool should be able to provide global resource pooling and policy management to enable policy-based automation		
		Zero-touch auto configuration to auto deploy a baseline server configuration profile Automated hardware configuration and Operating System deployment to multiple servers		
4	Configuration & Management	System should support multiple management interface like Web UI, CLI and XML API. Management solution should be able to manage different form factor hardware and provide single console. * Real-time out-of-band hardware performance		

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		<p>monitoring &amp; alerting.</p> <p>* Remote Power On, Off and reset from Web UI, XML API and KVM.</p> <p>* The management tool should be able to provide global resource pooling and policy management to enable policy based automation and capacity planning</p> <p>* Zero-touch repository manager and self-updating firmware system, Automated hardware configuration and Operating System deployment to multiple servers</p>		
5	Application Resource Management	<p>The solution should provide a workload automation solution that dynamically defines and controls the environment based on real time analytics to assure application performance at maximum efficiency by ensuring underlying infrastructure is at optimal state.</p> <p>The solution should be an agentless architecture which should provide full stack visibility &amp; control being Application, network, storage, cloud aware.</p> <p>* The solution should provide dynamic resource allocation to ensure demand of applications is matched with available resources in real time.</p> <p>The solution should provide vertical and horizontal scaling of workloads and automate provisioning of infrastructure resources.</p> <p>*The proposed solution should be application aware (Oracle WebLogic, IBM WebSphere, apache, tomcat etc.), the solution should manages the resources used by application servers, including heap, threads, transactions, and response time in the server process, and VMem and VCPU in the VM that hosts the application server.</p> <p>The solution should collect information from network switches and load balancers to ensure minimal application latency, it should ensure chatty VMs are often placed together to maximize resource utilization and minimize noisy neighbor effect.</p>		

### Detail Spec for Sr no 99: Blade Server

Sr.No.	Item	Specification	Make / Model Applicable – by the bidder)	Complied (Yes / No)
1	CPU	Each blade shall have two numbers of latest Intel Xeon Scalable Processors (Intel® Xeon® processor family or higher) with Min. 32 cores per processor each having Min. 2.0 GHz processor speed with 48 MB Cache		
2	Motherboard	Intel chipset compatible with the offered processors.		
3	Memory	Min. 32 DIMM slots, should be provided with 24 GB RAM per core using DDR4 DIMM's operating at 2933 MT/s (depending on processor model) Server should be populated with 1 TB RAM from day one.		
4	Memory Protection	Advanced ECC protection, online mirror memory		
5	Hard disk drive with carrier	2 X 960 GB 12G SSD Drives		

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6	Storage Controller	SAS Raid Controller with RAID 0/1 with 4GB cache		
7	Networking features	The server should provide a minimum of 100 Gbps of bandwidth with Converged network adapter ports across two or more cards.		
		Each Blade should have redundant network Connectivity to all the Chassis Interconnect modules.		
		Server must be populated with all internal mLOM, PCI-e slots with Connectivity cards to offer maximum throughput to the overall Network on Day 1.		
8	Redundancy	The blade server to be provided with card level redundancy		
9	Interfaces	Minimum of 1* internal USB 3.0 port , 1* internal SD card slot		
10	Operating System and Virtualization Support	Microsoft Windows Server,		
		Red Hat Enterprise Linux (RHEL),		
		VMware,		
		SUSE Linux Enterprise Server (SLES)		

### Detail Spec for Sr no 100: SAN SWITCH

S. No.	General Requirement	Make / Model Applicable – by the bidder)	Complied (Yes / No)
1	The switch should have complete non-blocking architecture with 48 ports in a single domain concurrently active 48 Port at 32 Gbps full duplex and with no oversubscription.		
2	The switch should support auto-sensing 8,16 and 32 Gbps capabilities.		
3	The switch should be rack mountable in 1 RU form factor		
4	All 48 autosensing Fibre Channel ports should be capable of speeds of 8,16 and 32 Gbps, with 32 Gbps of dedicated bandwidth for each port.		
5	FC buffer credits available for data frames should be up to min. 56 per port		
6	The switch should support non disruptive software upgrade and configuration file installation on newly deployed switches. Additionally, it provides intelligent diagnostics, protocol decoding, network analysis tools for added reliability, faster problem resolution, and reduced service costs.		
7	The switch should protect SAN and End devices from corrupted frames (inbuilt CRC and Slow Drain detection and Mitigation)		
8	The switch must be equipped with congestion control mechanisms such that it is able to throttle back traffic away from a congested link.		
9	The switch must be capable of creating multiple hardware-based isolated Virtual Fabric (ANSI T11) instances. Each Virtual Fabric instance within the switch should be capable of being zoned like a typical SAN and maintains its own fabric services, zoning database, Name Servers and FSPF processes etc. for added scalability and resilience		
10	Switch management, the management software must support both Fabric wide and Device level management without the additional purchase of software.		
11	The switch must be able to load balance traffic through an aggregated link with Source ID and Destination ID. The support for load balancing utilizing the Exchange ID must also be supported.		
12	Offered SAN switch shall support services such as Quality of Service (QoS) to help optimize application performance in consolidated, virtual environments. It should be possible to define high, medium and low		



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	priority QOS zones to expedite high-priority traffic		
13	The switch using FSPF protocol, the switch must be able to load balance up to 16 equal cost paths across the SAN network		
14	The switch should have USB port which should be able to provision the switch in addition to storing log files, firmware images and configuration		
15	The switch should offer fabric wide, per-VSAN role-based authentication, authorization, and accounting (AAA) services using RADIUS, Lightweight Directory Access Protocol (LDAP), Microsoft Active Directory (AD), and TACACS+.		
16	SAN Switch should provide end to end visibility of fibre channel SAN traffic. It should inspect I/O flow to bring out a unified view of the infrastructure irrespective of the architecture or vendor of storage arrays, servers or operating systems.		
17	Switch should provide proactive and predictive troubleshooting and capable of generating automated alarms. Switch should monitor flows between the compute and storage layers, including the read and the write transactions between a host and the backend storage.		

### Detail Spec for Sr no 101: Rack Server

SN	Parameters	Specification for Rack Server	Make / Model Applicable – by the bidder)	Complied (Yes / No)
1	Processors	Rack Server shall have a minimum of two (2) Intel latest generation Xeon® Gold Ice Lake Processors with minimum 2.0 Ghz & 32Core per socket and 48 MB Cache.		
2	Chipset	Intel chipset compatible with the offered processors.		
3	Internal Storage	The server should Support upto 8 hot-swappable SAS, NL-SAS and SSD drives.		
		Server should be configured with 4 Nos 1.2TB 12G SAS 10K RPM		
		The Server RAID controller should support the following configurations RAID 0, 1, 5, 6, 10, 50, and 60		
		Server should be configured minimum with 4GB of cache module.		
4	Memory	Should have at least 32 DIMM slots per server and support minimum up to 2 TB of DDR4 2933 MHz memory.		
		The Server should be configured with minimum 512 GB of DDR4 Memory from day one		
		Support for advanced memory redundant technologies like Advanced error-correcting code (ECC) and memory mirroring.		
5	Network	Should have 2 * 10 GbE (embedded) LAN ports & 2*10G SFP+ GbE network cards for LAN connectivity		
6	SAN Connectivity	Should support Dual port 16Gbps FC HBA.		
7	PCIe Slots	Up to 6 PCIe Generation 3.0 slots		
8	Configuration & Management	Should support out of band upgrades, Agentless out-of-band management, integrated diagnostics and Power monitoring and reporting.		
		The server should support industry standard management protocols like IPMI v2 and SNMP v3		
		One 1-Gbps RJ-45 management port		

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		The server should support multiple management interfaces including web user interface and command line interface.		
		Should be provided with anti-counterfeit to lockdown the system in case the hardware is not genuine		
		System should support multiple management interface like Web UI, CLI and XML API. Management solution should be able to manage different form factor hardware and provide single console. * Real-time out-of-band hardware performance monitoring & alerting. * Remote Power On, Off and reset from Web UI, XML API and KVM. * The management tool should be able to provide global resource pooling and policy management to enable policy based automation and capacity planning * Zero-touch repository manager and self-updating firmware system, Automated hardware configuration and Operating System deployment to multiple servers		
		The system should have hardware root of trust		
		The system should provide bios recovery & firmware update should be cryptographically signed		
9	Application Resource Management	<p>The solution should provide a workload automation solution that dynamically defines and controls the environment based on real time analytics to assure application performance at maximum efficiency by ensuring underlying infrastructure is at optimal state. The solution should be an agentless architecture which should provide full stack visibility &amp; control being Application, network, storage, cloud aware.</p> <p>* The solution should provide dynamic resource allocation to ensure demand of applications is matched with available resources in real time.</p> <p>The solution should provide vertical and horizontal scaling of workloads and automate provisioning of infrastructure resources.</p> <p>*The proposed solution should be application aware (Oracle WebLogic, IBM WebSphere, apache, tomcat etc.), the solution should manages the resources used by application servers, including heap, threads, transactions, and response time in the server process, and VMem and VCPU in the VM that hosts the application server.</p> <p>The solution should collect information from network switches and load balancers to ensure minimal application latency, it should ensure chatty VMs are often placed together to maximize resource utilization and minimize noisy neighbor effect.</p>		

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10	Server Security	<p>Should have a cyber resilient architecture for a hardened server design for protection, detection &amp; recovery from cyber attacks</p> <p>Should protect against firmware which executes before the OS boots</p> <ul style="list-style-type: none"> <li>- Hardware based Root of Trust</li> <li>- Signed firmware updates</li> <li>- Secure default passwords</li> <li>- Secure alerting</li> <li>- Automatic BIOS recovery</li> <li>- Rapid OS recovery</li> <li>- Chassis Intrusion Detection</li> <li>- System Lockdown</li> <li>- System Drift Detection</li> <li>- Configuration upgrades should be only with cryptographically signed firmware and software"</li> </ul>		
11	Ports	<p>Should have the following ports for server connectivity</p> <ul style="list-style-type: none"> <li>• 1 serial port</li> <li>• 4 USB 3.0/2.0 ports</li> <li>• 1 VGA video port</li> </ul>		
12	Others	<p>Supports hot swappable redundant fans</p> <p>Supports hot swappable redundant power supplies</p> <p>Rail Kit and cable management arm to be provided along with the server</p>		
13	Form Factor	Maximum 2 RU		

### Specification of Desktop computer Sr. No. 102

Sr No	Specification	Make / Model Applicable – by the bidder)	Complied (Yes / No)
102	Reputed Make Desktop computer with 8 GB RAM, 1 TB HDD, Min Intel i5 Processor with Windows 10 Pro along with monitor (17" LCD/ TFT), keyboard, Mouse, CD Drive, NIC Card (10/100/1000) and WiFi card, warranty 5 years onsite comprehensive.		

### Detail Spec for Sr no 103: L3 Switch 48port

Sr No	Specification	Make / Model Applicable – by the bidder)	Complied (Yes / No)
<b>1</b>	<b>Solution Requirement</b>		
1.1	The Switch should support non-blocking Layer 2 switching and Layer 3 routing		
1.2	Switch should support the complete STACK of IPv4 and IPv6 services.		
1.3	The proposed switches should be part of Gartner Leader Quadrant for DC Networking for last 2 years		
1.4	The Switch used have the capability to function in line rate for all ports		
<b>2</b>	<b>Hardware and Interface Requirement</b>		
2.1	Switch should have the following interfaces:		
2.1.1	Minimum 48 ports support 1/10/25 Gbps SFP ports for host connectivity and 6*100G ports for Fabric/Spine connectivity. The proposed switch should support native 25G and should be populated with 48*10G Multimode fiber transceivers for downlink connectivity & 6*100G ports with multimode 100G Trancievers, for		

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	uplink connectivity .		
2.1.2	Switch should have console port for local management & management interface for Out of band management		
2.2	1 RU fixed form factor		
2.3	Switch should be rack mountable and support side rails if required		
2.4	Switch should be provided with power redundancy		
<b>3</b>	<b>Performance Requirement</b>		
3.1	Modular OS with dedicated process for each routing protocol		
3.2	Switch should re-converge all dynamic routing protocol at the time of routing update changes i.e. Graceful restart for fast re-convergence of routing protocols ( OSPF, IS-IS, BGP)		
3.4	Switch should support minimum 1000 VRF instances with route leaking functionality		
3.5	The switch should support <b>400k</b> IPv4 LPM routes		
3.6	The Switch should support intelligent buffer management with a minimum buffer of <b>40MB</b> .		
3.7	The switch should have MAC Address table size of 90k		
3.8	The switch should support 8K multicast routes		
3.9	Switch should support 4000 VLANs		
3.1	Switch should support 64 nos of ECMP paths		
3.11	Switch should support minimum <b>3 Tbps (Keep as per selected leaf model)</b> of switching capacity (or as per specifications of the switch if quantity of switches are more, but should be non blocking capacity)		
<b>4</b>	<b>Network Virtualization Features</b>		
4.1	Switch should support Network Virtualisation using Virtual Over Lay Network using VXLAN		
4.2	Switch should support VXLAN and EVPN symmetric IRB for supporting Spine - Leaf architecture to optimise the east - west traffic flow inside the data center		
5.9	The Switch should support DC Bridging i.e. IEEE 802.1Qbb Priority Flow Control (PFC), Data Center Bridging Exchange (DCBX), IEEE 802.1Qaz Enhanced Transmission Selection (ETS), Explicit Congestion Notification (ECN).		
5.1	Maximum number of port channels should be 48		
5.11	Maximum no of ports in the port channel should be 32		
5.12	The switch should support BGP EVPN Route Type 2, Type 4 and Route Type 5 for the overlay control plane		
<b>6</b>	<b>Layer3 Features</b>		
6.1	Switch should support static and dynamic routing		
6.2	Switch should support segment routing and VRF route leaking functionality from day 1		
6.3	Switch should support Segment Routing and Layer3 VPN over Segment Routing		
6.4	Switch should support multi instance routing using VRF/ VRF Edge/ Virtual Router routing and should support VRF Route leaking functionality		
6.3	Switch should provide multicast traffic reachable using:		
6.3.1	a. PIM-SM		
6.3.2	b. PIM-SSM		
6.4	Support Multicast Source Discovery Protocol (MSDP)		
6.5	IGMP v1, v2 and v3		
<b>7</b>	<b>Quality of Service</b>		
7.1	Switch system should support 802.1P classification and marking of		

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	packet using:		
<b>7.2</b>	a. CoS (Class of Service)		
<b>7.3</b>	b. DSCP (Differentiated Services Code Point)		
<b>7.4</b>	Switch should support for different type of QoS features for real time traffic differential treatment using		
<b>7.4.1</b>	a. Weighted Random Early Detection		
<b>7.4.2</b>	b. Strict Priority Queuing		
<b>7.5</b>	Switch should support Rate Limiting - Policing and/or Shaping		
<b>7.6</b>	Switch should support to trust the QoS marking/priority settings of the end points as per the defined policy		
<b>8</b>	<b>Security</b>		
<b>8.1</b>	Switch should support control plane Protection from unnecessary or DoS traffic by control plane protection policy		
<b>8.2</b>	Switch should support for external database for AAA using:		
<b>8.2.1</b>	a. TACACS+		
<b>8.2.2</b>	b. RADIUS		
<b>8.3</b>	Switch should support to restrict end hosts in the network. Secures the access to an access or trunk port based on MAC address. It limits the number of learned MAC addresses to deny MAC address flooding		
<b>8.4</b>	Switch platform should support MAC Sec (802.1AE) encryption in hardware		
<b>8.5</b>	VXLAN and other tunnel encapsulation/decapsulation should be performed in <b>single pass in Hardware</b>		
<b>8.6</b>	Switch should support for Role Based access control (RBAC) for restricting host level network access as per policy defined		
<b>8.7</b>	Switch should support DHCP Snooping		
<b>8.8</b>	Switch should support Dynamic ARP Inspection to ensure host integrity by preventing malicious users from exploiting the insecure nature of the ARP protocol		
<b>8.9</b>	Switch should support IP Source Guard to prevents a malicious hosts from spoofing or taking over another host's IP address by creating a binding table between the client's IP and MAC address, port, and VLAN		
<b>8.1</b>	Switch should support unicast and/or multicast blocking on a switch port to suppress the flooding of frames destined for an unknown unicast or multicast MAC address out of that port		
<b>8.11</b>	Support for broadcast, multicast and unknown unicast storm control to prevent degradation of switch performance from storm due to network attacks and vulnerabilities		
<b>8.12</b>	The Switch should support LLDP.		
<b>8.13</b>	Switch should support Spanning tree BPDU protection		
<b>9</b>	<b>Manageability</b>		
<b>9.1</b>	Switch should support for sending logs to multiple centralised syslog server for monitoring and audit trail		
<b>9.2</b>	Switch should provide remote login for administration using:		
<b>9.3</b>	a. Telnet		
<b>9.4</b>	b. SSHv2		
<b>9.5</b>	Switch should support for capturing packets for identifying application performance using local and remote port mirroring for packet captures		
<b>9.7</b>	Switch should support for management and monitoring status using different type of Industry standard NMS using:		
<b>9.8</b>	a. SNMP v1 and v2, SNMP v3 with Encryption		

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9.9	Switch should provide different privilege for login in to the system for monitoring and management		
9.1	Should have Open APIs to manage the switch through remote-procedure calls (JavaScript Object Notation [JSON] or XML) over HTTPS after secure authentication for management and automation purpose.		
9.11	The Switch Should support monitor events and take corrective action like a script when the monitored events occurs.		
9.12	Should support hardware telemetry from ASIC-		
	• Flow path trace (ingress to egress switch)		
	• Per Flow Hop by Hop packet drop with reason of drop		
	• Per Flow latency (per switch and end to end)		
10	<b>AVAILABILITY</b>		
10.1	Switch should have provisioning for connecting to 1:1/N+1 power supply for usage and redundancy		
10.2	Switch should provide gateway level of redundancy Ip V.4 and IP V.6 using HSRP/VRRP		
10.3	Switch should support for BFD For Fast Failure Detection		
11	<b>MISCELLANEOUS POINTS</b>		
11.1	Console cable and power cable (As per Indian standards) as per customer requirement to be provided. All Cables shall be factory-terminated.		
11.2	All Functionalities of Switch shall be IPv6 compliant and it should work on IPv6 Platform without any additional hardware/ software.		
11.3	All the components should be from same OEM.		

### Detail Spec for Sr no 104: L2 Switch 24 port

S. No.	General Specifications	Make / Model Applicable – by the bidder)	Complied (Yes / No)
1.1	<b>General Features :</b>		
1.1.1	Switch should be 1U and rack mountable in standard 19" rack.		
1.1.2	Switch should support internal field replaceable unit redundant power supply from day 1.*		
1.1.3	Switch should have minimum 2 GB RAM and 2 GB Flash.		
1.1.4	Switch should have dedicated slot for modular stacking, in addition to asked uplink ports. Should support for minimum 48 Gbps of stacking throughput with 8 switch in single stack.		
1.2	<b>Performance :</b>		
1.2.1	Switch shall have minimum 128 Gbps of switching fabric and 95.23 Mpps of forwarding rate.*		
1.2.2	Switch shall have minimum 16K MAC Addresses and 250 active VLAN.		
1.2.3	Should support minimum 11K IPv4 routes or more		
1.2.4	Switch shall have 1K or more multicast routes.		
1.2.5	Switch should support atleast 16K flow entries		
1.2.6	Switch should support 128 or more STP Instances.		
1.2.7	Switch should have 6MB or more packet buffer.		
1.3	<b>Functionality :</b>		
1.3.1	Switch should support IEEE Standards of Ethernet: IEEE 802.1D, 802.1s, 802.1w, 802.1x, 802.3ad, 802.3x, 802.1p, 802.1Q, 802.3, 802.3u, 802.3ab, 802.3z.		
1.3.2	Switch must have functionality like static routing, RIP, PIM, OSPF, VRRP, PBR and QoS features from Day1		

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1.3.3	Switch should support network segmentation that overcomes the limitation of VLANs using VXLAN and VRFs.		
1.3.4	Switch shall have 802.1p class of service, marking, classification, policing and shaping and eight egress queues.		
1.3.5	Switch should support management features like SSHv2, SNMPv2c, SNMPv3, NTP, RADIUS and TACACS+ .		
1.3.6	Switch should support IPv6 Binding Integrity Guard, IPv6 Snooping, IPv6 RA Guard, IPv6 DHCP Guard, IPv6 Neighbor Discovery Inspection and IPv6 Source Guard.		
1.3.7	Switch should support 802.1x authentication and accounting, IPv4 and IPv6 ACLs and Dynamic VLAN assignment and MACSec-128 on hardware for all ports.		
1.3.8	Switch must have the capabilities to enable automatic configuration of switch ports as devices connect to the switch for the device type.		
1.3.9	During system boots, the system's software signatures should be checked for integrity. System should be capable to understand that system OS are authentic and unmodified, it should have cryptographically signed images to provide assurance that the firmware & BIOS are authentic.		
<b>1.4</b>	<b>Interfaces</b>		
1.4.1	Switch shall have 24 nos. 10/100/1000 Base-T ports and additional 4 nos. SFP+ uplinks ports.		
<b>1.5</b>	<b>Certification:</b>		
1.5.1	Switch shall conform to UL 60950 or IEC 60950 or CSA 60950 or EN 60950 Standards for Safety requirements of Information Technology Equipment.		
1.5.2	Switch shall conform to EN 55022 Class A/B or CISPR22 Class A/B or CE Class A/B or FCC Class A/B Standards for EMC (Electro Magnetic Compatibility) requirements.		
1.5.3	Switch / Switch's Operating System should be tested for EAL 2/NDPP or above under Common Criteria Certification.		
1.5.4	OEM should be listed in Gartner Leader Quadrant for Wired and Wireless LAN Infrastructure from last 3 years before releasing this RFP.		

### Detail Spec for Sr no 105 : ROUTER

Sl. No.	Minimum Specification	Make / Model Applicable – by the bidder)	Complied (Yes / No)
1	Router with minimum 200 Mbps of throughput from Day 1 which can be scalable up to 2 Gbps if needed in the future. It should have minimum 4 GB of RAM/ DRAM from Day 1 which can be extended to 16GB for future usage. It should also have flash memory of 4 GB with 100% expandability option		
2	Router supports management protocol: SNMP v1/v2/v3, CLI (Telnet/Console), TFTP update and configured file management		
3	Router must have inbuilt state full firewall, zone-based firewall and 3 DES capability technologies to support the access controller strategy-based source and destination IP protocol port and time parameters		
4	Router should have tunneling protocols like Ipsec VPN, GET VPN or equivalent, Multi Point VPN and encryption mechanisms like DES, 3DES, AES (128 and 256Bit). It should support minimum 300 Ipsec tunnels from day one.		
5	Router has support for the following routing /WAN protocols: PPP/MLPPP, HDLC		

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7	Router should be modular device with multicore processor and should accommodate a combination of high-density Gigabit Ethernet, Fast Ethernet interfaces		
8	Router should support protocols like RIP, OSPF, BGP, VRRP/HSRP, 802.1q, GRE, ACL's ,and NAT MPLS, traffic engineering, EoMPLS or VPLS or equivalent, L2 VPN from day one		
10	Shall support the RIPng & BGP for Ipv6, OSPFv3, MPLS, BGP from day one.		
11	The router supports state full packet inspection supporting H.323, SIP and other application level gateway support		
12	The state full firewall supports Ipsec pass through		
13	System shall support to provide the ability to filter and gather application information in a flexible manner from day one		
14	Router should support QoS Classification and marking policy-based routing, IP precedence, DSCP		
18	Time-based ACL for controlled forwarding based on time of day for offices		
19	Should have extensive support for SLA monitoring for metrics like delay latency, jitter, packet loss and MoS		
20	Provides QoS features like traffic prioritization, differentiated services, and committed, and committed access rate, QoS Support, RSVP/WFQ/MRED. Router should be able to take pre-configured action on these events like changing routes, changing routing metric		
21	Router supports for QoS Features for defining the QoS policies. Support for low latency queuing, Layer 2 and Layer 3 CoS/DSCP		
22	Router should have multicast routing protocols support: IGMPv1, v2 (RFC2236) PIM- SM (RFC2362) and PIM-DM/ Multicast VLAN Registration		
23	The following interface required from Day-1: 3*1GE interfaces with all required accessories		
24	The router should be Ipv6 ready		
25	The router should have the capability of acting as the IPEPABX in case of the actual EPABX failure and should also be able to work as a voice gateway and should be able to register at least 10 IP phones during the failure scenario. In case the router does not have this capability natively, then a separate device should be proposed along with the router to achieve the functionality		

### IT Software Requirement at DR Site:

Sr. No.	Description	Make / Model Applicable – by the bidder)	Complied (Yes / No)				
106	Red Hat Cloud Infrastructure, Premium (2-sockets with guest OS) open Stack with Smart Management :						
	<table border="1" style="width: 100%;"> <thead> <tr> <th style="width: 20%;">PART #</th> <th>PRODUCT DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>MCT2979</td> <td>Red Hat OpenStack Platform with Smart Management, Premium (2-sockets)</td> </tr> </tbody> </table>	PART #	PRODUCT DESCRIPTION	MCT2979	Red Hat OpenStack Platform with Smart Management, Premium (2-sockets)		
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MCT2979	Red Hat OpenStack Platform with Smart Management, Premium (2-sockets)						
High Availability for Unlimited Guests ;							
107	High Availability for Unlimited Guests ;						
	<table border="1" style="width: 100%;"> <thead> <tr> <th style="width: 20%;">PART #</th> <th>PRODUCT DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>RH00059</td> <td>High Availability for Unlimited Guests</td> </tr> </tbody> </table>	PART #	PRODUCT DESCRIPTION	RH00059	High Availability for Unlimited Guests		
	PART #	PRODUCT DESCRIPTION					
RH00059	High Availability for Unlimited Guests						
VMware vCloud Suite Subscription- per CPU per year Commitment Plan - 60 month Prepaid + Vcentre 1 no							
108							



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### EMS Software License Requirement at DR Site:

Sl. No.	Product	Make / Model Applicable – by the bidder)	Complied (Yes / No)
109	EMS Software per device/VM for 5 years		
110	Trend Micro Deep Security - Enterprise - per Server (VM) for 5 years		
111	Redhat Enterprise Linux Standard for virtual Datacentres with 1 Yr Standard Subscription for 5 years :		
	PART #	PRODUCT DESCRIPTION	
	RH00002	Red Hat Enterprise Linux for Virtual Datacenters, Standard	

### Detail Spec for Sr no 109 (EMS Software):

1	General Requirement	Make / Model Applicable – by the bidder)	Complied (Yes / No)
1	The proposed EMS solution should be an integrated, modular, and scalable solution from single OEM family (i.e., all Network Monitoring, server Monitoring including application, database monitoring and Service Management tools should be from single OEM) to provide comprehensive fault management, performance management, Traffic Analysis, IT service desk\ help desk \trouble ticketing system & SLA monitoring functionality.		
2	The system should be accessible via a Web based GUI console/portal from intranet as well as from internet.		
3	It should have a secured single sign-on and unified console for all functions of components offered for seamless cross-functional navigation & launch for single pane of glass visibility across multiple areas of monitoring & management.		
4	The proposed EMS solution deployment must support latest version of both Windows and Linux Operating Systems and should be 64-bit application to fully utilize the server resources on which it is installed.		
5	Proposed EMS solution MUST have at least 3 deployments in Indian Government/ Public Sector, monitoring & managing 10,000+ devices (including IT assets - Network devices, etc.; Non-IT Assets - UPS, KVM, PDU, etc.; Surveillance system - Cameras, Sensors, etc. in each of such deployments. Customer names, solution details and OEM undertaking needs to be provided at the time of bidding.		
6	Any additional components (hardware, software, database, licenses, accessories, etc.) if required for implementation and execution of project, for providing the total solution as mentioned in the rfp document should be provided by the bidder.		
7	The proposed solution should have the capability to support the deployment on either on-premises data centre platform or the public/private cloud platform like AWS, Azure etc.		
8	The proposed EMS solution should be built on modern container technologies and have an option to deploy on classic mode (non-containerized) as well as containerized (like Docker, Kubernetes) mode. The solution should either support built-in Kubernetes technology or Bring Your Own Kubernetes (BYOK) platform provided by the bidder.		
9	The proposed EMS solution should be an integrated, modular, and scalable solution, accessible from a single pane of glass for KPI insights across the entire IT environment. This dashboard will provide service status, performance view, response-time data etc based on role-based access. Since the operations manager solution provides a single		

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	framework for streaming metrics across Systems, applications, networks, topology & event data, the operations manager must be FIPS 140-2 compliant, which ensures that cryptographic-based security Systems are to be used to provide protection for sensitive or valuable data.		
10	To ensure the mature security standard of proposed EMS solution, SI must ensure that the proposed EMS solution OEM is ISO 27034 certified from one of the following certification agencies like; Schellman/ KPMG/ PwC/ Ernst & Young/ Deloitte. Documentary proof must be provided at the time of submission.		
<b>2</b>	<b>Server, Database &amp; Application Fault, Performance Monitoring Management</b>		
1	The proposed Enterprise Management tools must be able to monitor end to end performance of Server Operating Systems & Databases and Should be able to manage distributed, heterogeneous Systems – Windows, UNIX & LINUX from a single management station.		
2	There should be a single agent on the managed node that provides the system performance data, and for event management it should be able to prioritize events, do correlation & duplicate suppression ability to buffer alarms and provide automatic actions with capability to add necessary annotations		
3	The system must support multiple built in discovery mechanisms for e.g., Active Directory, Windows Browser, DNS with capability to discover and services discovery		
4	Each operator should be provided with user roles that should include operational service views enabling operators to quickly determine impact and root cause associated with events.		
5	The system should integrate with Helpdesk / Service desk tool for automated incident logging and notify alerts or events via e-mail or SMS.		
6	Solution should provide alarm correlation and facilitate reduction of total number of alarms displayed by means of intelligent alarm correlation, suppression and root cause analysis techniques built into the system. The system must ensure reduction in MTTR by means of advanced event correlation, filtering, and root cause analysis.		
7	The proposed Alarm Correlation and Root Cause Analysis system shall integrate network, server and database performance information and alarms in a single console and provide a unified reporting interface for network components. The current performance state of the entire network & system infrastructure shall be visible in an integrated console.		
8	It should have capability to perform cross domain correlation with alarm correlation from Network Monitoring tool, Systems monitoring tool and other domain monitoring tools.		
9	The proposed solution should provide out of the box root cause analysis with multiple root cause algorithms inbuilt for root cause analysis.		
10	Alarms should be mapped to the live topology views and real time updates to topology based on alarm occurrences.		
<b>Network Management System (NMS)</b>			
<b>1)</b>	<b>Network Fault Monitoring &amp; Performance Management with Reporting</b>		
1	The Network Management function must monitor performance across heterogeneous networks from one end of the enterprise to the other.		
2	The solution should allow for discovery to be run on a continuous basis which tracks dynamic changes near real-time; to keep the topology always up to date. This discovery should run at a low overhead, incrementally discovering devices and interfaces.		
3	NMS should provide integrated fault, performance Monitoring, Configuration & compliance Management together in one tool.		
4	NMS should support Industry-leading support for physical, virtual, and SDN-enabled devices like Cisco ACI, VMWare NSX, Viptela, Big Switch Networks, etc.		
5	NMS should provide network Trap Analytics out of the box.		

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6	NMS should support out of the box monitoring of at least 5000+ devices from at least 150+ vendors.		
7	Diagnostic Analytics providing change-Correlated Performance Views and should show the difference either in either a side-by-side, or line-by-line presentation		
8	NMS should have built-in audit and compliance policies for industry best practices/ Gov. regulations like PCI, HIPAA, NERC others...		
9	NMS should support 3-Dimensional Compliance Model - Configuration, Software, Running State		
10	The tool should automatically discover different type of heterogeneous devices (all SNMP supported devices i.e., Router, Switches, LAN Extender, Servers, Terminal Servers, Thin-Client and UPS etc.) and map the connectivity between them with granular visibility up to individual ports level. The tool shall be able to assign different icons/ symbols to different type of discovered elements. It should show live interface connections between discovered network devices		
11	It should support various discovery protocols to perform automatic discovery of all L2, L3 Network devices across SWAN and any further Network connectivity's planned in future.		
12	The tool shall be able to discover IPv4 only, IPv6 only as well as devices in dual stack. In case of dual stack devices, the system shall be able to discover and show both IPv4 and IPv6 IP addresses.		
13	The tool shall be able to work on SNMP V-1, V-2c & V-3 based on the SNMP version supported by the device. It shall provide an option to discover and manage the devices/elements based on SNMP as well as ICMP.		
14	The proposed Network Fault Management solution must support extensive discovery mechanisms and must easily discover new devices using mechanisms such as SNMP Trap based discovery. It must also allow for inclusion and exclusion list of IP address or devices from such discovery mechanisms		
15	The proposed solution must provide a detailed asset report, organized by vendor name, device type, listing all ports for all devices. The Solution must provide reports to identify unused/dormant Network ports in order to facilitate capacity planning		
<b>2)</b>	<b>Network Configuration Automation</b>		
1	The system should be able to clearly identify configuration changes / policy violations / inventory changes across multi-vendor network tool.		
2	The system should support secure device configuration capture and upload and thereby detect inconsistent "running" and "start-up" configurations and alert the administrators.		
3	The proposed system should be able to administer configuration changes to network elements by providing toolkits to automate the following administrative tasks of effecting configuration changes to network elements: a) Capture running configuration; b) Capture start-up configuration; c) Upload configuration; d) Write start-up configuration; e) Upload firmware		
4	The proposed fault management solution must be able to perform "load & merge" configuration changes to multiple network devices.		
5	The proposed fault management solution must be able to perform real-time or scheduled capture of device configurations.		
<b>3)</b>	<b>Network Traffic Flow Analysis System</b>		
1	It shall be able to capture, track & analyse traffic flowing over the network via different industry standard traffic capturing methodologies viz. NetFlow, jflow, sFlow, IPFIX etc.		
2	It shall provide key performance monitoring capabilities by giving detailed insight into the application traffic flowing over the network.		
3	It shall be able to monitor network traffic utilization, packet size distribution, protocol distribution, application distribution, top talkers etc. for network traffic.		

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4	It shall collect the real-time network flow data from devices across the network and provide reports on traffic based on standard TCP/IP packet metrics such as Flow Rate, Utilization, Byte Count, Flow Count, TOS fields etc.		
<b>4)</b>	<b>Reporting</b>		
1	Reporting solution should be able to report on Service Level status of configured business service.		
2	It should be able to collect and collate information regarding relationship between IT elements and business service, clearly showing how infrastructure impacts business service levels.		
3	The solution must be built on big data platform and should be user configurable for building additional reports.		
4	Solution should be able to collect Key performance measurements and statistics from all network domains and store it. This data is to be used for evaluation of performance of the end-to-end network infrastructure/services.		
5	The performance management system shall be able to collect and report data like: a. Packet delay and packet loss; b. User bandwidth usage rate; d. Network availability rate; e. CPU usage rate; f. Input/output traffic through physical ports; g. Input/output traffic through logical ports		
6	<b>The Performance Management shall have user defined set of reports like:</b> <b>a. Summary Reports for specific groups:</b> Reports displaying per group of resources the group aggregations for a set of metrics (for example, per City, the maximum traffic or the total traffic). <b>b. Summary Reports for specific Resources:</b> Reports displaying for a set of resources the period aggregations for the same set of metrics (for example, per interface, the maximum traffic over the day). <b>c. Detailed chart Reports:</b> Reports displaying for one resource and the same set of metrics the values over the period (for example, the raw collected values for the day).		
<b>Helpdesk and IT Service Management</b>			
<b>1)</b>	<b>General Requirement of IT Service/ Helpdesk</b>		
1	Should be able to support and handle large volume of incident, service requests, changes, etc. and be able to integrate with third party IVR or CTI.		
2	The solution should have IT Service Management documentation/ guidelines in-built based on ITIL best practices and must be ITIL 2011 certified on at least 7 processes by Pink Elephant. The certification copies to be submitted.		
3	The solution should have a single CMDB across ITSM and Asset Management system.		
4	IT Service Management OEM must be an industry standard, enterprise grade solution and shall be in the present in Leaders Quadrant of Forrester / Gartner / IDC report for ITSM for the last two years.		
5	The solution should have a Single Architecture and leverage a single application instance across ITIL processes, including unique data and workflows segregated by business unit, cost centre, and user role for Incident, Problem, Change, Release, Knowledge Management, Asset Management and CMDB.		
6	Solution should support multi-tenancy with complete data isolation as well as with ability for analysts based on access rights to view data for one, two or more organizational units.		
7	Solution should support multi-tenancy with complete data isolation as well as with ability for analysts based on access rights to view data for one, two or more organizational units.		
8	The solution should provide to browse through CMDB which should offer powerful search capabilities for configuration items and services, enabling to quickly find CIs as well as their relationships to other CIs.		

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9	Provide option for approval engine so that any customized applications developed could incorporate the hierarchy, role based, level-based ad-hoc approval structure. Include notification and escalation capability if approval is not performed.		
10	The support person can interact with the end users through chat in built and add those chat transcripts in the ticket.		
11	A virtual bot should be available, which can respond to user requests, immediate via portal, email or mobile interfaces.		
12	Beyond mobile iOS and Android apps, Self Service App should be available on any device with an HTML5 browser.		
13	Should provide out-of-the-box categorization, as well as routing and escalation workflows that can be triggered based on criteria such as SLA, impact, urgency, CI, location, or customer.		
14	Should provide modern data analysis methods for insight and value to service desk by leveraging unstructured as well as structured data.		
15	Tool Analytics should be completely configurable in terms of source data and results, enabling Process Managers and other IT Users to proactively identify trends that can be used to drive action. Multiple instances shall be allowed to be configured in different ways in different modules for different outcomes - for example one should be able to identify trends in one set of data and subsequently develop linkages with other data, or Analytics can run on top of reporting results to provide further insights from unstructured data.		
16	The tool should allow the user to take a screenshot of the error message and sends it to the service desk. The user can type in a couple of text lines to describe the error in simple language. The service desk agent then can pick up the ticket with the information already filled in (category, impact, and assignment).		
17	The tool should have the knowledge management OOB – knowledge databases to support investigations, diagnoses, root cause analysis techniques, and creating / updating workarounds, temporary fixes and resolutions.		
18	Self Service App should provide a snapshot of your day, displaying your activities feed with upcoming appointments, pending requests, unresolved issues, and alerts from systems you use in your daily work.		
19	Integrates with any underlying service management including Service Desk, Change Management, Service Level Management and CMDB for request fulfilment.		
20	The solution should have the ability to operate all functionality available in the incident, problem, change, assets etc. via a mobile app on iPhone or Android phone.		
<b>2)</b>	<b>Service Level Management</b>		
1	SI's must proposed a full fledges Service Level Management Solution that allows for tracking of various service level performances of IT Infrastructure and vendor performance.		
2	Solution should support comprehensive SLA management platform and must allow creating and applying various operational level parameters to Incidents, Requests, Changes, and Release management modules.		
3	The tool should provide an audit trail, tracking & monitoring for record information and updates from opening through fulfilment to closure for example: IDs of individuals or groups opening, updating & closing records; dates / times of status & activities updates, etc.		
4	The solution should support SLA violations alerts during the tracking period and should support managing and maintaining a full history of an SLA.		
5	The solution must provide a flexible framework for collecting and managing service level templates including Service Definition, Service Level Metrics, Penalties, and other performance indicators measured across infrastructure and vendors.		
<b>3)</b>	<b>Auto-Discovery and Inventory</b>		

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1	Discovery should work without requiring agent installation (that is, agent-less discovery) while discovery Layers 2 through Layers 7 of OSI model.		
2	Should use Industry-standard protocols such as WMI, SNMP, JMX, SSH to perform discovery without requiring the installation of an agent.		
3	Discovery system should have the ability to capture configuration files for the purposes of comparison and change tracking.		
4	Discovery system should be capable of supporting role-based access to various aspects of CMDB administration.		
5	Discovery should be object-oriented, allowing specific CIs and relationships to be discovered using a library of discovery patterns.		
6	Discovery engine should gather detailed asset and configuration item (CI) information for specific servers and the applications running on them.		
7	Solution should dynamically discover and continuously map IT hardware inventory and service dependencies.		
8	Discovery system should have ability to modify out-of-box discovery scripts, create customized discovery scripts.		

### SAN Storage Capacity Requirement at DR Site:

Sl. No.	Product Description	Make / Model Applicable – by the bidder)	Complied (Yes / No)
112	HPE SAN Storage with 650 TB NL SAS+ 50 TB SSD– This supplied DR storage will be used for replication with HPE Primera 650 Storage at DC and hence HPE storage has to be quoted accordingly.		
113	NetApp SAN Storage with 370 TB NL SAS + 100 TB SSD – This supplied DR storage will be used for replication with Netapp Storage AFF-A700 at DCand hence Netapp storage has to be quoted accordingly.		

	Description	Make / Model Applicable – by the bidder)	Complied (Yes / No)
114	Enterprise Firewall as per specification mentioned/Equivalent		

### Details Specification for Serial No. 114

Item Description	Make / Model Applicable – by the bidder)	Complied (Yes / No)
XGS 5500 HW Appliance with 8 GE + 8 SFP+ ports, 2+1 expansion bays for optional Flexi Port modules (1x High-density), 2 x SSD + Base License (incl. FW, VPN & Wireless) for unlimited users + power cable : Qty-1		
Xstream Protection: Base Firewall, Network, Web, Zero-Day, Central Orchestration (expected later), Enhanced Support for 60 Months : Qty-1		
4 port 10GbE SFP+ Flexi Port module (for all XGS Rackmount models) : Qty-1		
Dual Rate 10GBase-SR 10GbE Fiber Transceiver (GBIC), for UTM/SG/XG SFP+ ports : Qty-4		
Central Intercept X Advanced for Server with EDR : Qty-50		

### NON-IT at DR

Sl. No.	Description	Make / Model Applicable – by the	Complied (Yes / No)
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## WEBEL TECHNOLOGY LIMITED

		bidder)	
115	24 Port (all) PoE+(190W) switch with 2 SFP uplink ports.		
116	10M HDMI CABLE.		
117	Performance Lite 2 MP IP Eyeball Camera Fixed lens.		
118	CAT 6 Cable		
119	Performance Lite 2 MP IP Bullet Camera Fixed lens.		
120	H265 4K 32CH NVR NO POE.		
121	Conduit 25 mmm PVC		
122	49" Colour Monitor Industrial duty		
123	9 U Network Rack		
124	2 door access Controller		
125	Supply of SMPS for Door Controller.		
126	Supply & Installation of Door controller Enclosour.		
127	Biometric Reader		
128	Card Reader		
129	Supply of "L" and "U" Bracket.		
130	Double Door EM Lock 600 lbs with LED		
131	Z bracket for 600lbs EM Lock.		
132	600lbs electromagnetic lock unmonitored type 12V LED Lamp Only for Singleleaf door.		
133	MAGNETIC CONTACT 2 WIRE.		
134	Supply of ACS Workstation Intel® Quad Core, 2.8GHz or higher, 8 GB RAM, 100 GB free disk space, Dual Ethernet 10/100MBs, Software Requirements: * Microsoft Windows 10 (Enterprise) 64-bits * Microsoft .NET Framework v4.0		
135	Exit Button 3 inches X 1 inch.		
136	Smart Access Card		
137	Access Control software		
138	Supply Installation Testing & Commissioning of addressable Optical Smoke Detector, Smoke Detection by : Photo-electric light scattering.		
139	Supply Installation Testing & Commissioning of addressable Heat Detector, Detection Technology : Thermistor / ROR		
140	Supply Installation Testing & Commissioning of Addressable Manual call point with built in isolator and DIL switch for Address Setting		
141	Supply Installation Testing & Commissioning of The Loop Powered 100 dB Sounder Base with Beacon		
142	Supply Installation Testing & Commissioning of Addressable Control Module		
143	Supply Installation Testing & Commissioning of Addressable Monitor Module		
144	Supply Installation Testing & Commissioning of Addressable Isolator module		
145	Supply Installation Testing & Commissioning of 2 Loop Fire Alarm Panel with 126 Addresses per Loop, Battery and accessories as per requirement. Battery Back-up		
146	2 core x 1 sqmm Copper Flexible FRLS Cable		
147	20 mm PVC Conduit		
148	ABC Type Fire Extingusher 5 Kg		

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149	SITC of short wavelength laser based ultra high sensitive aspiration smoke detector with resolution of 0.00006% obs/ft (0.0002% obs/m.), 4 pipe inlets, shall support minimum 100 meters pipe length per pipe inlet with cumulative pipe length up to 550 meters for one single detector, 4 alarm levels, optional auto cleaning mechanism for detection chamber, on-board dual stage filter with memory, built-in event memory of 20000 events, pipe wise 4 stage flow monitoring, LED indications for alarm and fault conditons. Detector shall support as an inbuilt colour touch screen 3.5" display for status monitoring including smoke level bar graph, analytics to determine nature of sampled airborne particles (dust, diesel & PVC wire burning), connectivity using RS485 & TCP/IP, Wi-Fi support for monitoring using smart phones, connection of additional displays for remote monitoring.		
150	SITC of Power Supply units - Power supply unit with 110/230VAC input and 18 to 29VDC output. The power supply unit has the following indications: OK - Green LED and Fault - Yellow LED Power supply unit should have capacity to operate on battery backup in case of AC mains failure & should have built in charging circuit for batteries.		
151	SITC of Trunk Adaptor, Capillary Tube Connector, Capillary Tube, Capillary Sampling Point, Sampling point label red (complete set) for air sampling in room voids for area having false ceilings.		
152	SITC of Sampling Pipe having Smooth bore PVC Pipe 25mm Outer Dia& 19 to 21mm Inner Dia with all required accessories.		
153	Supply, Installation, Testing and Commissioning of 2 ZONE Water Leak Detection Panel (for server Room and Electrical Room)		
154	Water Leak detection Cable Sensor – 25 mtrs		
155	Electronic Hooter		
156	SITC of 2 x 1.0 sq mm screened copper flexible cable		
157	SITC of Main Rodent Controller suitable to connect 24 Satellites @ 300sft at room area and 150 at ceiling and floor area. Server Room		
158	SITC of Satellite Stations / Transducers covering		
159	Cable and Conduits		
160	2 core 1 sq.mm Cu. Flexible Shielded cable @ 275 meter each coil		
161	20 mm PVC Conduit		
162	Console)		
163	Stand Brackets		
164	120 ltrs Tank and valve assembly with solenoid actuator, straps Empty (fill 60 - 100 Kgs.)		
165	Fire Suppression Fluid Novec1230, OEM Factory Fill per KG		
166	Cylinder Accessories		
167	Cylinder strap		
168	Pneumatic Actuator Shipping assembly		
169	Local Manual actuator		
170	Flexible discharge Hose -49 mm / SWIVEL ADAPTOR		
171	Flexible Actuation Hose / Pilot hose		
172	Nozzles, Brass drilled -360/180 deg throw selection		
173	LED type display sign board flashing with inbuilt Sounder "EVACUATE GAS RELEASED" & "DO NOT ENTER"		
174	49 mm MANIFOLD CHECK VALVE		
175	PRESSURE SWITCH - DPST		



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176	MANUAL RELELASE SWITCH		
177	ABORT SWITCH		
178	M.S. Seamless pipes as per ASTM A 106 Gr. B, schedule 40 with necessary Fittings & Hangers.		
179	2 WAY MANIFOLD		
180	MS Channel support		
181	Gas Release Panel		
182	Cross Zoning Detector		
183	Hooter with strobe 100 DB		
184	BUILDING MANAGEMENT SYSTEM APPLICATION		
185	6KVA online UPS with 20 minutes backup		
186	Structured cabling & Server racks: 10 M Cat 6 Cable		
187	15 M Cat 6 Cable		
188	25 M Cat 6 Cable		
189	Cat-6 UTP Cable Roll of 305 Mtrs		
190	12MTP/F-12MTP/F Trunk Cable, OM4, LSZH, 15m, polarity Reversed, Low-Loss		
191	12MTP/F-12MTP/F Trunk Cable, OM4, LSZH, 25m, polarity Reversed, Low-Loss		
192	LC-LC Fiber Duplex Patch Cord OM4 Multimode-3 Meter		
193	LC-LC Fiber Duplex Patch Cord OM4 Multimode-5 Meter		
194	24 Core Fiber Cassette (MPO) AB/BA Pair Flipped 24 Core fiber MPO LC Cassette, Pair Flipped AB/BA, Multi-Mode		
195	Trunk Cable (MPO-MPO) 25Meter MPO-MPO Trunk Male cable, 12 Fiber straight, 50.125 OM4 LSZH Multimode		
196	Trunk Cable (MPO-MPO) 15Meter MPO-MPO Trunk Male cable, 12 Fiber straight, 50.125 OM4 LSZH Multimode		
197	Installation Charge		
198	Server Rack - Supply, Installation, Testing & Commissioning of 42U Server Cabinet Extruded Aluminium Profile frame with top panel; having static load bearing capacity of 1300 Kg as per Tender specifications. . Dimensions: 2200mm x 800mm x 1200mm all complete as required and as per detailed specifications. Racks, PDUs, containment should be from same OEM		
199	Network Rack with PDU		

### B.11 Manpower Requirement for 24x7 Support:

Sr. No.	Description	Complied	(Yes / No)
200	Manpower Requirement for 24x7 Support: BMS Person -3 persons for 5 years		
201	IT - L1/L2- 2 persons for 5 years		

### B.12 Dedicated DC-DR Link & ILL

Sr. No.	Description	Complied	(Yes / No)
202	<b>Dedicated DC-DR Link &amp; ILL - 500 Mbps DC-DR LC with 1 Year ARC</b>		
203	100 Mbps ILL for with 1 Year ARC		

### Physical Security :

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204	Providing of 2 Nos physical security for SDC.FY-23-24	Complied	(Yes / No)
205	Providing of 2 Nos physical security for SDC.FY-24-25		
206	Providing of 2 Nos physical security for SDC.FY-25-26		

### FMS/AMC :

207	FM Cost for 5 Years as per requirement mentioned in existing DCO terms & conditionsFY-23-24	Complied	(Yes / No)
208	FM Cost for 5 Years as per requirement mentioned in existing DCO terms & conditionsFY-24-25		
209	FM Cost for 5 Years as per requirement mentioned in existing DCO terms & conditionsFY-25-26		
210	AMC/Support Cost for IT (software and hardware) equipmentFY-23-24	Complied	(Yes / No)
211	AMC/Support Cost for IT (software and hardware) equipmentFY-24-25		
212	AMC/Support Cost for IT (software and hardware) equipmentFY-25-26		
213	AMC/Support Cost for Nosn-IT Equipment (2nd Floor)FY-23-24		
214	AMC/Support Cost for Nosn-IT Equipment (2nd Floor)FY-24-25		
215	AMC/Support Cost for Nosn-IT Equipment (2nd Floor)FY-25-26		
216	AMC/Support Cost for Nosn-IT Equipment (1st Floor)FY-23-24		
217	AMC/Support Cost for Nosn-IT Equipment (1st Floor)FY-24-25		
218	AMC/Support Cost for Nosn-IT Equipment (1st Floor)FY-25-26		
219	AMC/Support Cost for PAC, UPS, Panel & DG. (1st Floor))FY-23-24		
220	AMC/Support Cost for PAC, UPS, Panel & DG. (1st Floor))FY-24-25		
221	AMC/Support Cost for PAC, UPS, Panel & DG. (1st Floor))FY-25-26		
222	Cost of dedicated Operation and AMC Support for RSA SIEM for WBSDC through L2 Level EngineerFY-22-23		
223	Cost of dedicated Operation and AMC Support for RSA SIEM for WBSDC through L2 Level EngineerFY-23-24		
224	Cost of dedicated Operation and AMC Support for RSA SIEM for WBSDC through L2 Level EngineerFY-24-25		
225	Cost of dedicated Operation and AMC Support for RSA SIEM for WBSDC through L2 Level EngineerFY-25-26		
226	AMC/Support Cost for UPS batteries for 2 years (4th & 5th years), post initial 3 years warranty period for 204 cells of 2v/357ahFY-23-24		
227	AMC/Support Cost for UPS batteries for 2 years (4th & 5th years), post initial 3 years warranty period for 204 cells of 2v/357ahFY-24-25		

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228	AMC/Support Cost for UPS batteries for 2 years (4th & 5th years), post initial 3 years warranty period for 204 cells of 2v/357ahFY-25-26		
229	Professional Support Services for one Database and one System Administrators with effect from 1.4.2022FY-22-23		
230	Professional Support Services for two Database and two System Administrators with effect from 1.4.2022FY-23-24		
231	Professional Support Services for three Database and three System Administrators with effect from 1.4.2022FY-24-25		
232	Professional Support Services for three Database and three System Administrators with effect from 1.4.2022FY-25-26		
233	Vodafone/other ISP 1000 Mbps ILL for WBSDC for 1-year upto 31.03.2022FY-21-22		
234	Vodafone/other ISP 1000 Mbps ILL for WBSDC for 1-year upto 31.03.2023FY-22-23		
235	Vodafone/other ISP 1000 Mbps ILL for WBSDC for 1-year upto 31.03.2024FY-23-24		
236	Vodafone/other ISP 1000 Mbps ILL for WBSDC for 1-year upto 31.03.2025FY-24-25	Complied	(Yes / No)
237	Vodafone/other ISP 1000 Mbps ILL for WBSDC for 1-year upto 31.03.2026FY-25-26		
238	AMC &UPGRADE of old SDC cloud servers (4)FY-22-23/Equivalent		
239	AMC & UPGRADE of old SDC cloud servers (4)FY-23-24/Equivalent		
240	AMC & UPGRADE (30 to 75 TB) of Dell VTL old SDC cloud system OR Equivalent for period from 1/4/2022 to 31/3/2023FY-22-23		
241	AMC of Upgraded Dell VTL of old SDC cloud system OR Equivalent for period from 1/4/2023 to 31/3/2024FY-23-24		
242	AMC & UPGRADE (75 TO 100TB) of Dell VTL old SDC cloud systemOR Equivalent for period from 1/4/2024 to 31/3/2025FY-24-25		
243	AMC of Upgraded Dell VTL of old SDC cloud system periodOR Equivalent from 1/4/2025 to 31/3/2026FY-25-26		
244	AMC / ATS & UPGRADE (from 40 to 60TB) of Commvault Backup SystemOR Equivalent upgraded BOQ from 2023for FY-23-24		
245	AMC / ATS (60TB) of Commvault Backup SystemOR Equivalent upgraded BOQ from 2024FY-24-25		
246	AMC / ATS (60TB) of Commvault Backup SystemOR Equivalent upgraded BOQ from 2025 FY-25-26		
247	AMC of WBSDC new cloud (blade) servers - lot one for FY-23-24		
248	AMC of WBSDC new cloud (blade) servers - lot one for FY-24-25		
249	AMC of WBSDC new cloud (blade) servers - lot one for FY-25-26		
250	AMC of Netapp SAN storage (430 TB) for the period from 2023FY-23-24		
251	AMC of Netapp SAN storage (430 TB) for the period from 2023FY-24-25		

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252	AMC of Netapp SAN storage (430 TB) for the period from 2023FY-25-26																								
253	AMC of WBSDC new network (SDN) infrastructureFY-23-24																								
254	AMC of WBSDC new network (SDN) infrastructureFY-24-25																								
255	AMC of WBSDC new network (SDN) infrastructureFY-25-26																								
256	AMC & UPGRADE of RedhatOpenstack Cloud Software License SA for FY-23-24 : <table border="1" style="width: 100%;"> <tr> <td style="width: 80%;">PRODUCT DESCRIPTION</td> <td></td> </tr> <tr> <td>Red Hat OpenStack Platform with Smart Management, Premium (2-sockets)</td> <td></td> </tr> </table>	PRODUCT DESCRIPTION		Red Hat OpenStack Platform with Smart Management, Premium (2-sockets)																					
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259	Renewal/ upgrade of RSA Software Product Licenses with OEM support for 1 yearFY-22-23 <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 80%;">RSA existing Item Description</th> <th style="width: 20%;">Qty</th> </tr> </thead> <tbody> <tr> <td>Issues Management Perp Enh Maint /100</td> <td style="text-align: center;">1</td> </tr> <tr> <td>On-Demand App Perp Enh Maint /100</td> <td style="text-align: center;">5</td> </tr> <tr> <td>CYBINBR PERP &lt;5K ENH /100EMP /MO</td> <td style="text-align: center;">1</td> </tr> <tr> <td>NW S5 Hybrid for Pkts EnhMnt1M</td> <td style="text-align: center;">1</td> </tr> <tr> <td>NW S5S HeadUnit Archiver EnhMnt 1M</td> <td style="text-align: center;">1</td> </tr> <tr> <td>NW S5SHeadUnit EvntStrmAnalysis EnhMnt1M</td> <td style="text-align: center;">1</td> </tr> <tr> <td>NW S5 Hybrid for Logs EnhMnt1M</td> <td style="text-align: center;">1</td> </tr> <tr> <td>NW S5 Analytics Svr 10U EnhMnt1M</td> <td style="text-align: center;">1</td> </tr> <tr> <td>Tier1 RNWE EnhMnt p/Host 1-250 1Mo</td> <td style="text-align: center;">1</td> </tr> <tr> <td>EMULEX 2 PORT 8GB SAN HBA EnhMnt1Mo</td> <td style="text-align: center;">1</td> </tr> </tbody> </table>	RSA existing Item Description	Qty	Issues Management Perp Enh Maint /100	1	On-Demand App Perp Enh Maint /100	5	CYBINBR PERP <5K ENH /100EMP /MO	1	NW S5 Hybrid for Pkts EnhMnt1M	1	NW S5S HeadUnit Archiver EnhMnt 1M	1	NW S5SHeadUnit EvntStrmAnalysis EnhMnt1M	1	NW S5 Hybrid for Logs EnhMnt1M	1	NW S5 Analytics Svr 10U EnhMnt1M	1	Tier1 RNWE EnhMnt p/Host 1-250 1Mo	1	EMULEX 2 PORT 8GB SAN HBA EnhMnt1Mo	1		
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EMULEX 2 PORT 8GB SAN HBA EnhMnt1Mo	1																								
260	Renewal / upgrade of RSA Software Product Licenses with OEM support for 1 year FY-23-24																								
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262	Renewal / upgrade of RSA Software Product Licenses with OEM support for 1 year FY-25-26																								

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263	SOAR (Security Orchestration Automation Response) Software License Renewal FY-24-25		
264	SOAR (Security Orchestration Automation Response) Software License Renewal FY-25-26		
265	DDOS additional 3 Years subscription for supplied BOQ in this RFP for FY-24-25		
266	DDOS additional 3 Years subscription for supplied BOQ in this RFP for FY-25-26		
267	<b>DC Augmentation – Installation, Commissioning &amp; System Integration Charges</b>		
268	Deep Security Enterprise Software License - additional 150 VMs for 2 years during FY-21-22		
269	Deep Security Enterprise Software License - additional 50 VMs for 1 years & License renewals for all existing licenses during FY-22-23		
270	Deep Security Enterprise Software License - additional 50 VMs for 1 years & License renewals for all existing licenses for yearFY-23-24		
271	Deep Security Enterprise Software License - additional 50 VMs for 1 years & License renewals for all existing licenses for yearFY-24-25		
272	Deep Security Enterprise Software License - additional 50 VMs for 1 years & License renewals for all existing licenses for yearFY-25-26		
273	EDB Postgres Enterprise License CPU Core support renewal / upgrade - Production Support (including Replica DB servers) FY-21-22		
274	EDB Postgres Enterprise License CPU Core support renewal / upgrade - Production Support (including Replica DB servers) FY-22-23		
275	EDB Postgres Enterprise License CPU Core support renewal / upgrade - Production Support (including Replica DB servers) FY-23-24		
276	EDB Postgres Enterprise License CPU Core support renewal / upgrade - Production Support (including Replica DB servers) FY-24-25		
277	EDB Postgres Enterprise License CPU Core support renewal / upgrade - Production Support (including Replica DB servers) FY-25-26		
278	VMware vCloud Suite Subscription per CPU 20 CPUs Commitment Plan - 12 month Prepaid with supportFY-22-23		
279	VMware vCloud Suite Subscription per CPU 20 CPUs Commitment Plan - 12 month Prepaid with supportFY-23-24		
280	VMware vCloud Suite Subscription per CPU 20 CPUs Commitment Plan - 12 month Prepaid with supportFY-24-25		
281	VMware vCloud Suite Subscription per CPU 20 CPUs Commitment Plan - 12 month Prepaid with supportFY-25-26		
282	DC-DR LC & ILL ARC for DR SiteFY-22-23		
283	DC-DR LC & ILL ARC for DR SiteFY-23-24		
284	DC-DR LC & ILL ARC for DR SiteFY-24-25		
285	DC-DR LC & ILL ARC for DR SiteFY-25-26		
286	Capacitor Bank change of old UPSFY-21-22		
287	Capacitor Bank change of old UPSFY-24-25		
288	Electrical and Earth Pit Repair / ReconstructionFY-22-23		
289	DG Repair / Replacement due to aging / obsolescenceFY-22-23		
290	DG Repair / Replacement due to aging / obsolescenceFY-24-25		