

## POLICE DEPARTMENT



### KERALA

No. G1- 4877/08/CCTNS-Infra-Revamp/SCRB

DATED 29.07.2020

e-Government Procurement (e-GP)

### REQUEST FOR PROPOSAL

TENDER NO. KPET/03/2020/APB

**SUPPLY, INSTALLATION, CONFIGURATION AND COMMISSIONING  
OF CONTAINER BASED INFRASTRUCTURE SOLUTION INCLUDING  
DC & DR INFRASTRUCTURE, SOFTWARE, LICENSES etc.**

The Deputy Inspector General of Police (Nodal Officer CCTNS), Armed Police Battalion Headquarters, Kerala Police Department, Government of Kerala invites online bids from reputed manufacturers/ authorized dealers or reputed vendors for the **Supply, installation, configuration and commissioning of Container Based Infrastructure Solution in Kerala Police for Application deployment of Revamped Core Application Software (CAS)**

1	Tender No. & Date	<b>KPET/03/2020/APB</b> Dated 29.07.2020
2	Item	Supply, installation, configuration and commissioning of Container Based Infrastructure Solution in Kerala Police for Application deployment of Revamped Core Application Software (CAS)
3	Tender Fees (through online mode only)	Rs. 28,750/- (Rupees Twenty eight thousand seven hundred and fifty only) (GST extra). 18% GST amount on tender fees mentioned above shall be paid to GST Department directly by the bidder.

4	Earnest Money Deposit(through online mode only)	Rs. 6,00,000/- (Rupees. Six Lakhs only)
5	Date and time of publication of e-Tender	29/07/2020, 04:00 PM
9	Date of submission of e-Tender	30/07/2020 10 AM to 20/08/2020 2 PM
10	Last date and time for online submission of e-tender	20/08/2020, 2:00 PM
11	Date and time of opening of e-Tender	21/08/2020, 04:00 PM
12	Place of opening	<b>Armed Police Battalion Headquarters, Peroorkada, Thiruvananthapuram</b>
13	Date of starting Technical Evaluation	22/08/2020
14	Opening of commercial bids	Will be informed to the Technically Qualified Bidders.
15	Bid Validity (Total Number of Days up to which the rates are to be firm)	180 days
16	Address of Tender Inviting Authority	Armed Police Battalion Headquarters, Thiruvananthapuram Email-ID <a href="mailto:digapbn.pol@kerala.gov.in">digapbn.pol@kerala.gov.in</a> . 04712436054
17	Name and designation of contact officer	Padmakumar, CCTNS Technical Core Team Member Email-ID <a href="mailto:digapbn.pol@kerala.gov.in">digapbn.pol@kerala.gov.in</a> , 09497965266

1. Kerala Police reserves the right to change the scheduled dates with prior intimation to all bidders.
2. Any exemption in the Tender Fees shall be as per the rules in the Stores Purchase Manual of the Government of Kerala
3. Any exemption in the Earnest Money Deposit shall be as per the rules in the 'Stores Purchase Manual of the Government of Kerala'. Please refer Clause 8.6 to 8.11 of this. Micro, Small & Medium Enterprises registered with the National Small Industries Corporation Limited, New Delhi and in respect of which competency certificates are issued by the Corporation will be exempted from payment of earnest money deposits. All the exemptions are as per the prevailing rules and regulations only.

## 1. Pre-Qualification Criteria

The OEM/Bidder should submit pre-qualification compliance statement in the given format with all the documentary supporting evidence for their claims. Failure in submission of the same will lead to rejection of the bid without any further clarifications.

Sr.No.	Pre-Qualification Criteria	Complied/Not Complied
1	The Bidder should be a reputed Original Equipment Manufacturer (OEM) or authorized dealer of OEM (solution provider), who is having an Authorization Certificate from the OEM to participate in the tender floated by Kerala Police.	
2	Certificate from the OEM for sales and service need to be produced. The Authorization Form from OEMs (MAF- Manufacturer Authorization Form) shall specifically mention the tender number and the same shall be submitted along with the technical bid.	
3	The OEM/ Solution provider should have their own Office/ Support Center functioning in India (preferably in Kerala). The documentary proof for the same must be enclosed along with the technical document.	
4	The OEM / Solution Provider should have Average Annual Turnover of at least INR 50 Crores (Fifty Crores) during the last three financial years (2016-17, 2017-18 & 2018-2019). This should be supported by audited balance sheet and P & L sheet for all three financial years.	
5	The OEM/ Solution Provider should not have been blacklisted by Central Government or any State Government organization/ department in India at any point of time. A Self declaration letter signed by the Authorized signatory of the bidder should be submitted.	
6	The OEM/ Solution Provider should have following certificates. <ul style="list-style-type: none"> <li>• Should have Company Registration Certificate / Incorporation Certificate.</li> <li>• Should have PAN/ Tax Index Number.</li> <li>• Should have GST registration certificate.</li> <li>• Should have ISO - 9001 Certified with Valid current Certificate.</li> <li>• Should have ISO - 27001 Certified with Valid current Certificate.</li> <li>• Should have CA certificate for having positive net worth.</li> <li>• Should have EPF/ ESIC registration certificate.</li> </ul>	
7	The successful bidder should execute a legal agreement with Kerala Police. The SLA terms for the bidder to ensure 99.99% availability will be incorporated in the said agreement.	
8	The solution provided by OEM/ Solution Provider/Bidder should adhere to the policies of Government of India with respect to the National Security and Data Security. The bidder should provide an undertaking in this regards	
9	There should not be any ambivalence with respect to the	

	operational support and maintenance proposed by the OEM/ Solution Provider and their bidder	
10	Kerala Police also reserves the right to reject the bid in case of any such ambiguity with respect to the clause 8&9 to protect the security of the data	

## 2. General Terms & Conditions:

Sr.No.	Description	Complied/Not Complied
1	Bids should clearly specify item/equipment delivery and implementation schedule.	
2	Any taxes or statutory levies payable should be shown separately; otherwise quoted price will be treated as all inclusive.	
3	The bidder (OEM/ solution provider) should submit a document stating the make and model of the Solution items offered for all the requirements in terms of the tender specifications without fail, failing which the bid is liable for rejection.	
4	The technical bids of bidders, qualifying the pre-qualification eligibility criteria, shall be considered for further evaluation.	
5	The OEM/ Solution Provider should submit details of SLA adherence plan for the entire contract period along with the escalation matrix	
6	The OEM/ Solution Provider should submit duly filled compliance statement as per the format for all the respective general terms & conditions/ pre-qualification criteria/bill of material/ mandatory specifications etc. Non-submission of compliance statement will lead to rejection of bid.	
7	Technical evaluation shall be based on the solution offered in the technical bid and complying with the mandatory specifications mentioned in the RFP.	
8	The technically qualified bidder quoting the lowest price shall be considered as the Successful Bidder for the award of contract.	
9	Kerala Police will notify the successful Bidder in writing by letter or by email that its bid has been accepted. The notification of award will constitute the formation of the Contract. Upon the successful Bidder's furnishing of performance security pursuant to Clause 7 below, Kerala Police will promptly notify each unsuccessful Bidder and will return their bid security.	
10	Within 7 working days of the receipt of notification of award from Kerala Police, the successful Bidder shall furnish the order acceptance letter along with Security Deposit (SD) in the form of Bank Guarantee, for satisfactory execution of the Contract. Security Deposit shall be equal to 10% of the value of the contract in the form of a bank guarantee bond from a nationalised bank valid for a period of sixty (60) days beyond the date of final acceptance. Failure of the successful Bidder to submit the Security Deposit within 7 working days shall constitute enough	

	grounds for the annulment of the award and forfeiture of the bid security (EMD). The Security Deposit shall be released upon final acceptance of the implementation and on submission of a Performance Bank Guarantee (PBG) as per Payment Terms mentioned. The bidder can also submit a combined BG for SD & PBG for 10% of order value valid until the completion of total contractual obligation.	
11	Bidder should ensure that the quoted items are not declared "End of Sale" for the next five years period from the date of submission of the bid. If in any case, any of the quoted item/s is/are not available in the market, the bidder will have to supply higher version/replacement of that Item in the quoted cost in the same time duration.	
12	Kerala Police reserves the right to change the quantity of items to be procured or place Purchase Order (PO)/ Subsequent POs for a subset of items during the project period.	
13	Bidder shall quote in Indian Rupees only. Kerala Police reserves all the rights to increase or decrease the quantity prior to the release of work order.	
14	The bidder must engage OEM's Professional Service for Designing/ Deploying/ Configuring/ Implementing/ Integration of the Solution at DC and DR by OEM's own resources. All the manpower to be deployed for the installation, implementation, integration& commissioning highly qualified and OEM/bidder should take prior approval for any outsourcing of the experienced technical experts.	
15	The bidder should extend necessary technical and resource requirement for any movement of the infrastructure between Data Centres during the contract period, if required. The bidder should submit a detailed plan of dismantling and reinstallation of entire equipment's and gets it approved from the Kerala Police before any such movement.	

### 3. Detailed Specification

The specifications mentioned below are the minimum specification required for the solution. Bidder should quote for equivalent or higher configuration based on their solution parameters. However, Kerala Police will not accept any lower configuration specifications other than accepted by Kerala Police in writing and any such degradation to the specified tender specification shall lead to rejection of the bid.

The Specifications mentioned are tentative only and any other additional components or licenses required for smooth functioning of the whole solution is the responsibility of the OEM/Solution Provider. The solution provider shall quote any such additional items during the time of the bidding without fail.

### 3.1. Server Enclosure

Sr.No.	Item	Minimum Specifications/Requirements	Complied / Not Complied	Document Ref .Pg No.
1	Enclosure	The enclosure should support full height/width and half height/width blades in the same enclosure.		
2		Blade chassis shall be 19" rack mountable		
3		Enclosure should occupy a max of 10RU rack height and should support minimum 8 half height/width blades per blade chassis		
4	Power	The enclosure should be populated with power supplies of the maximum capacity of the fully populated enclosure & should be energy efficient		
5		The power subsystem should support N + N / N+1 power redundancy (where N is greater than 1) for a fully populated chassis		
6	Cooling	Each blade enclosure should have a cooling subsystem consisting of redundant hot pluggable fans or blowers. All fans/blowers should be populated.		
7	Blade Support	Should support built-in management software in redundancy		
8		Should provide single management console for all the blade servers across multiple chassis.		
9	Chassis connectivity	The chassis should be provided with redundant modules for connectivity including management components		
10	Network Module	All Network and management modules should be populated from day 1 to ensure redundancy		
11	Converged Module	Chassis should support aggregation of multiple enclosures to consolidate data center network connection, reduce hardware and scale network bandwidth. The interconnects can be internal or external in either case should be provided in redundancy with minimum 12 x 10Gbps LAN Uplink and 12 x 16Gbps SAN Uplink connectivity. All the modules/switches for chassis interconnectivity should be in redundancy. For internal interconnect switches, all the switches in the chassis should be populated for maximum throughput and redundancy from Day 1.		

12	Future Scalability	Total number of Chassis should be provided as per solution requirements. Each Chassis should be kept empty at least 25% or more slots for future scalability. All connectivity modules should be populated day 1		
13	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.		
14		Centralized Redundant Management solution should be provided so that management of all blade servers across multiple chassis within Data Center can be done from single console. If required the management of rack servers should be possible from same console. If the management system runs as a virtual machine then all hardware and software licenses to enable this should be included		
15		Solution should provide Centralized and embedded management with seamless high availability built into the infrastructure. All Management modules should be redundant on day 1. Management modules should not be isolated to a single chassis. If that is the case, the modules should have redundancy in each chassis.		
16		Should support auto-discovery of resources within an enclosure and on multiple connected enclosures.		
17		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		
18		Should be able to provide Single Pane of Glass view management for both Rack Servers and Blade Servers together in a given location. The OEM has to offer their highest Management license. These licenses should be included on day 1.		
19		Should have front accessible USB Keyboard/ Mouse and monitor connectivity populated from day 1		

20		Role Based Access Control users to define roles and privileges and remote management capabilities including remote KVM should be Included		
21		The proposed solution should support movement of server identity from one slot / server to another in the event of server failure.		
22		The proposed solution should provide technology for infrastructure firmware updates & upgrades for the proposed system		
23		The management solution should be open & programmable should provide Rest API's		
24		The proposed solution should have dashboard to show overall faults / health / inventory for all managed infrastructure		
25		Blade chassis solution should be IPv4 and IPv6 compliant.		
26	Warranty	24 x 7 x 365 days Same day response and Next Business day (NBD) resolution Five (5) Years Onsite Comprehensive Maintenance by OEM for both Hardware and Software		
27	Accessories	The bidder shall provide all the necessary tools & tackles, licenses, cables / connectors for Ethernet / Fibre / USB / Power, Rack mounting kits etc. required for making the system operational.		

### 3.2. Compute Resource

Sr No	Item	Minimum Specifications/Requirements	Complied/Not Complied	Document Ref. Pg No.
1	Total Processor core required	The offered solution should have minimum 408 cores usable for the compute requirement. Additional cores required for management resources should be quoted in addition to the above 408 cores.		
2	CPU	Each blade shall have two numbers of latest series Intel Xeon Scalable Processors Gold processor or higher with Min. 24 cores per processor each having Min. 2.2 GHz processor speed or higher with minimum 35MB Cache & 10.4 GT/s.		
3	Motherboard	Intel chipset compatible with the offered processors.		
4	Memory	Each blade servers should have Min. 24 DIMM slots. It should be provided with <b><u>minimum 512 GB RAM using minimum</u></b>		



		<b>64GB DDR4 DIMM's</b> operating at the highest speed (MT/s) depending on processor model or higher.		
5		Each server should support scaling of memory upto 3TB. The bidder has to ensure equal distribution between processors as per industry standards.		
6	Memory Protection	Advanced ECC protection, online mirror memory		
7	Harddisk drive	2 * 900GB High endurance Enterprise grade SSD drives with Hot Plug.		
8	Storage Controller	Integrated 12G or higher SAS Raid Controller with RAID 0, 1 with 1GB or higher of Flash backed write cache onboard.		
9	Network ing features	The server should provide a minimum of 40 Gbps of bandwidth with Converged network adapter ports across two or more cards.		
10		Each Blade should have redundant network Connectivity to all the Chassis Interconnect modules.		
11		Server must be populated with required Nos of internal LOM / PCI-e slots with Connectivity cards to offer maximum throughput to the overall Network on Day 1.		
12	Managemen t Features	Dedicated remote management port should be provided and it should be able to download the firmware from the website directly or from internal system. Server should support automated firmware update.		
13		Server should support agentless management using the out-of-band remote management port. The Server Management Software should be of the same brand as of the server supplier.		
14		Should have facility to provide proactive notification of component failure alerts on critical components like CPU, Memory, HDD etc.		
15	Redundanc y	The blade server to be provided with port level & card level redundancy		
16	Interfaces	Minimum of 1 x internal USB 3.0 port ,1 x internal SD card slot		
17	IPv4 and IPv6	Blade Server should be IPv4 and IPv6 compliant.		

18	Operating System and Virtualization Support	Microsoft Windows Server, Red Hat Enterprise Linux (RHEL), VMware, SUSE Linux Enterprise Server (SLES), Oracle VM, Oracle Linux, MS Hyper-V		
19	Warranty	24 x 7 x 365 days same day response and Next Business day (NBD) resolution Five (5) Years Onsite Comprehensive Maintenance by OEM for including both Hardware and Software		
20		The warranty should include keep the drive option during the entire support period and bidder should replace all the drives as per SLA without any additional cost.		

### 3.3. Network distribution switch

Sr No	Item	Minimum Specifications/Requirements	Complied/Not Complied	Document Ref. Pg No.
1	General requirement	The offered solution should include the necessary networking components from day 1		
2	Port details	The switch should be provided with 24 x 40G or higher ports with activation license for all the ports from day 1 and should be populated fully from day 1		
3	Accessories	The offered product should include all the necessary accessories to establish the complete solution in all respect without any performance impact during the warranty period		
4		Any additional hardware / DAC / modules , rack mounting kits required for the fulfilment of proper configuration during implementation should be the responsibility of the bidder without any additional cost		
5		The bidder should provide minimum 25% spare cable/modules from day 1		
6	Redundancy	The proposed product should be included with power module and Fan redundancy from day 1		
7	Investment protection	The switch should be scalable to support 100Gig interfaces without the need to change the base hardware, CPU, memory etc. All Licenses and cables/DAC modules required to enable 40G/100G to be supplied from day one for all the ports as required.		

		The bidder should demonstrate the compatibility support for 40 G and 100 G modules during the acceptance test.		
8	High Availability	The bidder should provide switch level redundancy for both DC and DR		
9	Warranty	24 x 7 x 365 days 5 year OEM comprehensive warranty with NBD support		

### 3.4. Enterprise Hybrid Storage

Sr No		Minimum Specifications/Requirements	Complied/N ot Complied	Document Ref .Pg No.
1	Third Party Report	The OEM should be present in Gartner Leader Quadrant for General Purpose Disk Array Report Consecutively in last 3 years report.		
2	Storage Architecture	Storage System with NSPoF (No single point of failure) Architecture and 99.999% availability. The architecture should allow modular upgrades of hardware and software for investment protection. Storage Solution must be a true Hybrid storage.		
3	Storage Controllers	The Storage system must be an Enterprise Class Storage having at least two controllers running in a true active-active mode (for all required protocol's) with automatic failover to each other in case of one controller failure. The controller must be configured with latest generation scalable processors.		
4	Cache	Proposed storage shall have minimum 192 GB DRAM cache and scalable upto minimum 768 GB or higher with or without change in controller. The OEM can propose equivalent caching mechanism considering the highest performance of the proposed solution.		
5		The cache should be dynamically allocated for READs and WRITEs depending on the workload for optimum performance		
6		Data on cache of the storage should be battery backed for at least 24 hrs or must be de-staged to either flash /disk and no cache data loss is permitted.		
7	Drives Supported	The unified storage system should support intermixing of SSD, and SAS drives to meet the capacity and performance requirements of various applications. The bidder should demonstrate the compatibility support for SSD and SAS		

		drives during the acceptance test.		
8	Storage Capacity	The proposed array must be proposed and configured with <ul style="list-style-type: none"> <li>• 100 TB of usable capacity for DC</li> <li>• 50 TB of usable capacity for DR</li> <li>• With minimum 70% using High Endurance Enterprise SSD not exceeding 3TB disks in RAID6</li> <li>• Remaining capacity using 1.8TB 10K RPM SAS disks in RAID6.</li> </ul>		
9		The bidder should configure the performance capacity with enterprise high endurance SSDs and failed SSDs should be replaced during the support period without any additional cost		
10		Entire asked capacity should be supplied as part of the pool across different drive technologies i.e. SSD, SAS etc.		
11	Configuration	The SAN must allow migration of data between drive technology with no server down-time.		
12		Should support protection against double disk failures in same RAID group.		
13	Grouping	SSD : Best Grouping as per Industry Standards Preferably including the parity disk. Bidder to mention the RAID group selected in detail. SAS : RAID6 8D+2P or equivalent		
14		For SSD One RAID group should not have more than 20 disks including the parity disk		
15	Hot Spare	There should be a provision for global hot spare disk over and above the usable capacity of individual SSD, and SAS drives as mentioned below : SSD- One hot spare for every 20 drives SAS- One hot spare for every 20 drives		
16	Thin Provisioning	Storage should support Thin Provisioning and all licenses for the same should be provided from day one for configured capacity.		
17	High Availability	The unified storage system should have redundant hot swappable components like disks, power supplies, fans etc. It must be also configured to continuously serve data in case of any controller failure. System must be able to withstand failure and should be configured a maximum of 8D +2P configuration.		

18	Data protection	The storage system shall also have snapshots. License for the same should be provided from day one for configured capacity. License to restore snapshot should be provided.		
19	Data Encryption	The proposed array must supplied with storage controller based Data at Rest Encryption solution or SED based encryption to encrypt data on all drives.		
20	Protocols	The storage system should be able to support FCP, iSCSI, CIFS, NFS, SMB with latest versions and other latest protocols. At the same time, it should support the maximum capacity offered by storage system.		
21	Storage Management	Storage management software should provide interface/wizards to perform configuration operations like create LUNs present LUNs to host, set LUN attributes etc.		
22		Storage management software should be able to perform and monitor local and remote replication operations.		
23	Snapshot	Storage System should have required licenses to create snapshots. License should be for complete capacity.		
24	Scalability	The storage system should be scalable to minimum 100 Drives within supplied controllers over and above the drive sizing mentioned including SSD and HDD.		
25		The storage system should be scalable to at least 1 PB Usable Capacity within the box for future upgrade using 1.2 TB or higher capacity SAS drives		
26	Replication	The SAN must support synchronous, asynchronous replication. Further, the replication must be bi- directional to support multiple replication options.		
27		Any licence or hardware required to provide replication to DC/DR site to be provided with this solution. If any hardware or software required at DC storage should be provided with this for replication purposes.		
28	Licensing	All the licenses on the storage system like Storage Replication (Sync and Async), Snapshot License, De-Duplication, Storage Management System, compression, etc. must be provided for the supported capacity by the system from day one.		
29		<b>All licenses must be perpetual in nature.</b>		

30	Upgradeability / Investment Protection	The proposed system should be field upgradeable to a higher capacity (up to 1PB storage capacity).		
31		The storage must provide non-disruptive firmware/micro code upgrade, device reallocation and configuration changes		
32		Each disk enclosures should be provided with minimum 30% empty slots to populate disks(SAS/SSD) in future and the existing disks should be distributed across all the enclosures equally.		
33	Back and Front Ports	The storage should support minimum 8 x 16Gbps on FC and 4 x 10Gbps on iSCSI (SFP+) front end ports. The storage should be configured with redundant 12Gbps or higher back end ports.		
34	SAN Switch	The offered solution should be with redundant 24 port SAN switches with all ports populated and active from day 1.		
35		The Switch shall provide Redundant and hot swappable power supplies. Should allow hot swap ability without resetting the switch, or affecting the operations of the switch. Redundant FAN should be provided.		
36		The bidder shall provide all the necessary tools & tackles licenses, cables / connectors for Ethernet / Fibre / USB / Power etc. required for making the system operational.		
37	Warranty	24 x 7 x 365 days same day response and Next Business day (NBD)resolution Five (5) Years Onsite Comprehensive Maintenance by OEM for including both Hardware and Software		
38		The warranty should include keep the drive option during the entire support period and bidder should replace all the drives as per SLA without any additional cost.		

### 3.5. Container Platform

Sr No		Minimum Specifications/Requirements	Complied/Not Complied	Document Ref .Pg No.
1	License Requirement	The bidder should offer Enterprise license for the container platform (core based or socket based), but should cover the entire cores available in the solution from day 1.		
2		The licenses should be perpetual in nature		

		and only support shall be subscription based.		
3		The proposed container solution should be quoted with 24 x 7 x 365 days 3 year support subscription along with the perpetual license		
4		The offered solution should be enabled with all the Enterprise features from day 1 and in case of any additional requirement during the initial 3 year subscription period shall be supplied by the bidder free of cost.		
5	Latest Stable Kubernetes Release	The Proposed container solution should provide and deploy most up-to-date, stable and enterprise ready Kubernetes release with relevant tools and it should allow workloads to be portable between environments.		
6	Kubernetes cluster deployment service	The Proposed solution should be deployed with container orchestration solution as Kubernetes cluster deployment service. It should include tasks to increase and decrease worker nodes in existing K8s cluster and provision to update and upgrades Kubernetes cluster version without taking application downtime.		
7	Scaling Cluster	The solution should provide for cluster scaling to scale an existing cluster horizontally by adding worker nodes and vertically by changing the size of the nodes/VMs		
8	Resources Creation	The proposed solution should have a framework, which can create resources for container Platform for Cluster Master, Worker Nodes and On-Prem Docker Registry setup. Any additional licenses required have to be included by the bidder.		
9	On Demand Cluster creation	The solution should provide a provision to create cluster based on requirement and in single click.		
10		The proposed solution should be setup multiple Kubernetes clusters for different environments i.e. Production/Dev/Test as per the requirement		
11	On-Prem Container Registry	The Solution should provide and must have Deploy OCI compliant enterprise-class registry server that stores and distributes container images with		

	Service	vulnerability scanner as part of registry service		
12	Policy-Based Image Replication	The solution should provide and Deploy policy based image replication between multiple registry instances with auto-retry on errors, offering support for load balancing, high availability, multi-datacentre, hybrid, and multi-cloud scenarios.	3	
13	Integration with LDAP/AD for user authentication	The proposed solution should Integrate with enterprise LDAP/AD systems for user authentication and management. It can also import an LDAP/AD group to registry server and assign project roles to it.		
14	Management of Helm charts	The Container solution should support management of Helm charts isolated by projects and controlled by RBAC.		
15	IP Address Management Solution for multi-tenancy	The proposed solutions should deploy IP address management solution to provide complete network traffic isolation and autonomy for tenants to bring their own IP address ranges.		
16	Persistent Storage Service	The solution should deploy Kubernetes clusters for both stateless and stateful applications with standard Kubernetes volume, persistent volume and dynamic provisioning primitives.		
17	Storage Policy based provisioning of Persistent Volumes	The proposed solutions should be deployed storage policies to capture storage requirements, such as performance and availability, for persistent volumes. These policies determine how the container volume storage objects are provisioned and allocated within the datastore to guarantee the requested Quality of Service.		
18	On-demand provisioning	The proposed Kubernetes clusters should be in such way that it eliminate manual steps, minimizes mistakes and shortens time-to-value.		
19	Automatic health	Configure operations management capabilities as part of container platform		



	check and self-healing	solution to prevent issues by implementing proactive monitoring of the health of all nodes and this should ensure desired responsiveness of the application services by recreating failed / unresponsive nodes.		
20	Advance Networking Capabilities	The Solution Should Provide and Deploy overlay based network, advance network services at Layer 2 to 7, Load Balancers (L4 and L7), firewall in addition to switching and routing (North-South and East-West) and multi site networking ( Layer 2 extension)		
21	CNI Capabilities	The proposed solution should provide and Deploy CNI to automate the creation and configuration of network objects required for Kubernetes. These objects include routers, load balancers, service mesh, logical switches, and IP address subnets for clusters and namespaces. Such capabilities should ensure significantly speed up and simplify the creation and management of Kubernetes clusters.		
22	Ingress controller Service	The solution should provide Ingress controller service gateway for containers provide secure and reliable access from external users to Kubernetes clusters and in on-premises data centers.		
23	Network flow and security monitoring	The proposed solution should provide consolidated GUI based monitoring facility for network, security, and visibility across all Kubernetes clusters irrespective of the underlying infrastructure		
24	Monitoring and troubleshooting	The Proposed solution should be configured Operations Management features for Container Monitoring to monitor complete Kubernetes objects like Namespaces, Clusters, Replica Sets, Nodes, Pods, and Containers. Should help in troubleshooting by highlighting any performance issues and sends alerts for the objects that are monitored.		
25	Application Monitoring and Governance	The Proposed solution should be configured container platform operations management features for real-time visibility into the operations and performance of containerized applications running in the Kubernetes clusters		
26	Centralized	The Proposed solution should provide a Log management solution to ingest,		

	Logging and Reporting	analyse and interpret logs from container-based solutions.		
27	Kubernetes cluster Conformance	The solution should be configured with K8S Cluster diagnostic tool to validate the state of K8s cluster for compatibility and interoperability with upstream K8s APIs		
28	Workload Backup and Restore Service	The Proposed solution should provide and Deploy proposed backup and restore tool for Kubernetes cluster resources and persistent volumes data. Solution should provide enterprise OEM supported backup solution for container backup and recovery.		
29	Auto Scaling	The solution should provide auto scale out and scale in so that when traffic load increases, required load balancer instances are added or deleted on demand.		
30	Load Balancer	The solution should provide the load balancer solution for automated deployment, configuration and lifecycle management of the data Plane entities in Kubernetes environments		
31	Visibility	The solution must Provide and Implement in-depth analytics for the North-South traffic flows including latency/end-to-end timing analysis of flows, application performance monitoring, client and log analytics and dynamic health scoring		
32	Container management components	The Proposed solution should have sufficient reserved infrastructure resources for all management solution components such as container and Kubernetes management components		
33	Container Security solution	The bidder should provide enterprise security solution for the proposed container platform with all the required licenses. The bidder should include the same with 24 x 7 x 365 days 3 year subscription support.		
34	OEM Professional services	The OEM/Bidder should provide entire design and implementation of container management platform.		
35		The bidder should include OEM professional support cost for implementation of the container solution		

		with all associated components including Networking, Backup and Monitoring & Logging by respective OEM professional services.		
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### 3.6. DR Infrastructures

Sr.No.	Item	Minimum Specifications/Requirements	Complied/Not Complied	Document Ref .Pg No.
1	Disaster Recovery option	<b><u>The bidder should quote for 50% scale down version for the DR site with all the other specifications matching with the DC components</u></b>		
2		This should include the following components <ul style="list-style-type: none"> <li>• Compute Resources including the enclosures required</li> <li>• Network distribution switches</li> <li>• Enterprise Hybrid Storage</li> <li>• License for container platform</li> </ul>		
3		The solution should provide automated disaster recovery, site migration and testing capabilities		
4		The solution should consider the seamless integration with the array based replication to automate the process of disaster recovery and falling back		
5		The bidder should provide the detailed BoM for the DR site along with the technical bid.		

### 3.7. Virtualization VMware

Sr.No.	Item	Minimum Specifications/Requirements	Complied/Not Complied	Document Ref .Pg No.
1	Component features	The proposed Virtualization solution should provide High Availability, Continuous Availability, Network & Storage QoS, affinity and anti affinity rules for placements of VMs		
2	Configuration Templates	The proposed solution should support host level configuration templates as per the best practices.		
3	Security Features	The proposed Virtualization solution should support virtual infrastructure security Hardening and encryption of VMs		

4		Should support Secure boot to protect hypervisor & OS and integrate with 3rd party endpoint security for agentless implementation as per the best practices.		
5	Management Features	The Proposed virtual Infrastructure solution should provide, deploy, and configure the centralized console for unified visibility for VMs.		
6		The proposed solution should provide access to developers to consume VMs, and infra resources like compute, storage, networking etc.		
7	Virtual management components	The Proposed Virtualization solutions should have a reserved resources for all management solution components such as Virtualization, networking and storage allocation		
8	License details	The bidder can propose required 24 x 7 x 365 days 3 year support and subscription, in addition to the perpetual license for the VMware platform based on the design of the solution		
9	License requirements – Tentative	<b>The requirement mentioned below is purely tentative and bidder has to propose based on their solution.</b> The minimum requirement of license is 30 - 40 VMs across minimum three physical servers (DC) and two physical servers (DR) in case the container solution is baremetal based.		
10		The above license is exclusive of any management node requirements. The bidder should consider additional licensing requirements for any management node resources in addition to the above license.		

### 3.8. Database – MySQL Enterprise

Sr.No .	Item	Minimum Specifications/Requirements	Complied/Not Complied	Document Ref .Pg No.
1	License requirement	The bidder should offer Socket or VM based <b><u>Three (3) Nos of MySQL Enterprise license for DC and Two (2) Nos of MySQL Enterprise license for DR,</u></b> based on the solution offered by the bidder		

2		Each MySQL Server should be configured in physical or VMs and not as container platform. The licenses must match with the configuration offered and bidders should ensure the same.		
3		The license should be with 24 x 7 x 365 days three (3) year subscription support.		
4	Professional Support	The bidder should include professional support cost for implementation with all associated components including Backup, Monitoring & Logging.		

### 3.9. Database – MongoDB Enterprise

Sr.No	Item	Minimum Specifications/Requirements	Complied/Not Complied	Document Ref .Pg No.
1	License requirement	The bidder should offer Socket or VM based <b><u>One (2) Nos of MongoDB Enterprise license</u></b>		
2		The license should be with three (3) year subscription support.		
3	Professional Support	The bidder should include professional support cost for implementation with all associated components including Backup, Monitoring & Logging.		

### 3.10. Operating System

Sr.No	Item	Minimum Specifications/Requirements	Complied/Not Complied	Document Ref. Pg No.
1	License requirement	The bidder should offer <b><u>Seven (7) Nos of Redhat Enterprise license</u></b> in line with the proposed solution		
2		The license should be with 24 x 7 x 365 days three (3) year subscription support.		
3		The proposed license should be of latest version released by the OS vendor		
4	Professional Support	The bidder should include professional support cost for implementation with all associated components including Backup, Monitoring & Logging.		

## 4. General Specifications

Sr.No.	Minimum Specifications/Requirements	Complied/Not Complied
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1	The bidder should provide required Antivirus license with 24 x 7 x 365 days 3 year support and subscription.	
2	The bidder should provide implementation support for all the hardware and software supplied.	
3	The OEM/Solution provider should provide an on-demand on-site DevOps engineer support for the completion of the deployment during the contract period. The bidder should submit the details viz., qualification, experience in the respective technology offered.	
4	The container platform implementation should include OEM professional support for application deployment support to the Kerala Police Development team.	
5	<b><u>The bidder should migrate the existing development environment running in Open Source Native Kubernetes to the Enterprise Solution provided by the bidder.</u></b>	
6	The bidder should install, configure, test and demonstrate the replication between the DC and DR site	
7	The bidder should renew the subscription for all the software components after the 3 <sup>rd</sup> year without any break in support subscription.	
8	The rates for 4 <sup>th</sup> year and 5 <sup>th</sup> year shall be mentioned separately and shall be paid on submission of the proof of subscription renewal.	
9	The rates for comprehensive Annual Maintenance Charges for 6 <sup>th</sup> , 7 <sup>th</sup> and 8 <sup>th</sup> year shall be mentioned separately.	
10	The successful bidder should execute a legal agreement with Kerala Police. The SLA terms for the bidder to ensure 99% availability will be incorporated in the said agreement.	
11	The bidder should provide the mentioned respective warranty from the date of successful installation, configuration and testing of the solution	
12	The bidder should mention the Implementation Support and warranty cost separately.	
13	<b><u>The bidder should submit the compliance statement in the format specified in letter head signed by the Authorized Signatory. Non submission of this shall lead to rejection of the bid.</u></b>	
14	All the payment for the support and subscription will be paid only on submission of documentary proof for the same.	
15	The bidder should submit Manufacturer Authorization Form (MAF) for the components quoted mentioning the Bid Number without fail, failing which is liable to rejection of bid	
16	The bidder should submit the detailed Bill of Material for the entire solution with OEM part numbers and price	
17	The bidder should quote for optional price for RACKs with all the necessary accessories required for proper installation and placement of the components offered.	
18	The solution requirement mentioned is as per the initial	

	assumptions and the solution provider should quote for all the necessary hardware components, license components, accessories required including cable, connectors etc to complete the installation, configuration and commissioning of the solution since this is a turnkey solution.	
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## 5. Project Milestone

Sr. No	Milestone/Activity	Timelines (Months)	Complied/Not Complied
1	Project Award and Contract Signing between Kerala Police and successful Bidder	Project Start Date =T0	
2	Submission of Project Plan	T1 = T0 + 5 days	
3	Supply of all equipment as per RFP	T2 = T0 + 25 days	
4	Installation, Testing, Configuration and Operationalization of all equipment/components (Hardware) including system software licenses	T3 = T2 + 10 days	
5	Data Migration and Infrastructure Readiness for Application deployment	T4 = T3 + 5 days	
6	User Acceptance Testing before Go Live date	T5 = T4 + 5 days	

## 6. Payment Milestone – Delivery & Deployment

Sr. No	Milestone/Activity	Payable (% Value)	Complied/Not Complied
1	On Successful delivery and acceptance of the solution components and software subscriptions	40 %	
2	On successful completion of installation and final acceptance of the solution	50%	
3	On submission of Performance Bank Guarantee (PBG) in INR equal value by the bidder after final acceptance	10%	

Note : Cost of the software and subscription support will be paid only on submission of documentary proof of delivery. All the licenses and subscriptions should be in the name of "Nodal Officer, CCTNS, Kerala Police".

## 7. Payment Milestone – Warranty Support charges

Sr. No	Milestone/Activity	Complied/Not Complied
1	The Total amount of the warranty support charges shall be paid in equivalent quarters to the bidder, and will be calculated based on the period of the project.	

2	The computation of the amount will be in-line with the SLA parameters as defined in the RFP and the applicable penalties shall be deducted from the same. In case the SLA penalty exceeds the warranty support charges payable to the system integrator, then the remaining shall be deducted from PBG.	
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## 8. Payment Milestone – Other terms and Conditions

Sl.N o.	Item/ Description	Complied/Not Complied
1	GST/TIN/PAN No. of the supplier should be mentioned	
2	All applicable taxes, duties and levies shall be shown separately	
3	Charges towards freight, forwarding, transit insurance, installation, warranty & support shall be included in the quoted price	
4	Loading and unloading of materials is the responsibility of the bidder and any charges in this regard to be borne by the bidder.	
5	TDS as applicable will be deducted.	
6	The base rates quoted by the bidder shall be firm throughout the project execution period. Any revision in the rate of Taxes, Duties, levies etc., or introduction of new taxes/duties/levies by government shall be honoured, provided bidder has clearly shown the taxes, duties, levies etc., in the commercial bid.	
7	Liquidated damages shall be levied @0.5% of the total order value, per week or part of the week, for the delayed period subject to a maximum value of 10% of the delivery & deployment.	
8	Kerala Police reserves the right to accept or reject any bid or cancel tender proceedings without assigning any reason whatsoever.	
9	The disputes, legal matters, court matters, if any shall be subject to Thiruvananthapuram, Kerala, India jurisdiction only.	
10	All disputes/claims of any kind arising out of supply, commissioning, acceptance, warranty maintenance etc., under this contract, shall be referred by either party (Kerala Police or the selected bidder) after issuance of 30 days' notice in writing to the other party clearly mentioning the nature of dispute to the Sole Arbitrator appointed by Kerala Police. The arbitration proceedings shall be conducted in English and as per the provisions of Indian Arbitration and Conciliation Act, 1996. The decision of the Arbitrator shall be final and binding on both the parties.	

## 9. SLA & Penalty Clause

Sl.N o.	Item/ Description	Complied/Not Complied
1	Any complaints received through telephone/email/online	



	registration or using any other medium from Kerala Police regarding the DC/DR solution components shall be responded within 2 hours and resolved within 4 hours of call reporting on all days, unless there is no hardware replacement. For hardware replacement the SLA of Next Business Day as per the RFP terms.	
2	Response Time: 0 - 2 Hours of service call reporting on all days.	
3	Resolution Time: 0 - 4 Hours of service call reporting on all days. For hardware replacement the SLA of Next Business Day as per the RFP terms.	
4	Any delay in replacement of hardware beyond NBD, for each day 2% of current quarter's guaranteed revenue payable for the Warranty support charges shall be levied as penalty subject to a maximum of 20% of the warranty support charges under the agreement.	
5	The penalty will be calculated on 24x7x365 basis.	
6	The OEM/Solution provider should ensure all the hardware replacement must be NBD, other than specified explicitly, during the entire contract period.	
7	The OEM/Solution Provider should ensure regular non-disruptive upgrade (NDU) of the firmware of all the components supplied and any impact due to vulnerable firmware/firmware update shall be the responsibility of the OEM/Solution provider	
	<b>Availability of Solution</b>	
6	The bidder shall guarantee a 24x7x365 availability with quarterly uptime of 99.99%	
7	This should be ensured during the period of the Contract and during AMC, if contracted, which shall be calculated on quarterly basis.	
8	The "Downtime" is the time between the Time of Failure and Time of Restoration within the contracted hours. "Failure" is the condition that renders the Police Department unable to perform any of the defined functions on the solution that affects the business continuity of Kerala Police operations. "Restoration" is the condition when the selected bidder demonstrates that the solution is in working order and the Police Department acknowledges the same.	
9	The penalty calculation for availability shall be Rs. 10,000/- (Rupees Ten Thousand only) for every 0.01% downtime, subjected to a maximum of 10% of current quarter's guaranteed revenue payable under the Agreement.	
10	In case the SLA penalty exceeds the warranty support charges payable to the system integrator, then the remaining shall be deducted from the PBG.	
10	The OEM/solution provider should submit a monthly availability report generated through automated tools as documentary evidence	

## 10. Documents Establishing Items Conformity To Bid Terms

The bidder shall furnish, as part of his bid, documents establishing the conformity of his bid to the Bid document of all Items and services, which he proposes to supply under the Contract. Submission shall be as follows:

1. The documentary evidence of the Items and services in conformity to the Bid Documents shall be in the form of literature, drawings and data that the Bidder shall furnish. These shall be attached as Annexure to the Compliance Statement.
2. Compliance Statement shall be in the format given below which should include the actual specification offered by the Bidder. Compliance Statement shall be one of the two statements viz. "Complied or "Not complied". Any other remark or comment should be submitted as a separate document with detailed description.

Sl No.	Specification Ref	Complied or Not complied	Offered Specification	Document Ref Page No.

3. The bidder should submit the detailed Bill of Material (BoM) for the entire solution mentioning the OEM part numbers including the support part numbers, implementation part numbers and unit price.
4. The bidder should submit all the relevant documentary evidence as mentioned the tender specifications to ensure the technical eligibility of the Solution Provider.

  
**Deputy Inspector General of Police**  
Armed Police Battalion Headquarters