

Annexure-I

SN	Clause no. & Chapter no.	Page No.	Content of the tender Clause	Change asked by firm	RailTels Response / Clarification
1	12.1. Eligibility Criteria for Bidder:	31	The bidder should have received a minimum cumulative contract amount of Rs. 20.15 Cr. from the operations in the last three financial years plus current year up to the date of opening of tender.	In this clause are you asking for company turnover of amount s 20.15cr. From the operations in the last 3 financial years. Please clarify?	As per tender
2	S.No.3, Technical Capability	31	The tenderer must have successfully completed any of the following during last 07 (seven) years, ending last day of month previous to the one in which tender is invited	Here we request you to amend it to last 10 (Ten) Years, ending last day of month previous to the one in which tender is invited.	As per tender
3	S.No 7, Bidder type	33	The Bidder or their promoters having equity stake or operating partnership in bidder, should not be holding valid License for Telecom service provider/ISP/ NLD, Services License of Government of India for Telecom Operation	This undertaking you are asking in what concern. Please clarify?	As per tender

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4	Eligibility Criteria -Technical Capability 12.1.1 (3)	31 - 32	The tenderer must have successfully completed any of the following during last 07 (seven) years, ending last day of month previous to the one in which tender is invited: Three similar works# each costing not less than the amount Rs. 4.03 Cr., or Two similar works# each costing not less than the amount Rs. 5.37 Cr., or One similar work# each costing not less than the amount Rs. 8.06 Cr. For Startups* (recognized by Department of Industrial policy and promotion, Ministry of Commerce and Industry), the bidder should have completed in last three financial years plus current year upto the date of opening of tender: Single order of similar work# for an amount Rs. 4.71 Cr., OR Two orders of similar work# for an amount Rs. 2.69 Cr., OR Three orders of similar work# for an amount Rs. 2.02 Cr. Note: Completion of work should fall in the above period. The bidder shall also furnish work completion/ substantial work completion certificate issued by customer/s for the Purchase Orders/ Work Orders. Substantial completion shall be 80% (value wise) or more works completed under the contract. For contracts under which bidder participated as a Joint Venture member or sub contractor, only the bidder's share, by value, shall be considered to meet this requirement. # Similar Work: Projects of Supply and installation of Data Center Hardware/Software items.	1. Request you to please allow us relaxation on this clause Since most of the client do not provide completion certificate, we request you to please allow us to share tax invoice and E-Mail as a proof instead of completion certificate. 2. Requesting you to allow us to submit ongoing project too. 3. We understand that for similar work experience public cloud supply/installation is also considered. Please confirm?	As per tender
5	SCHEDULE OF REQUIREMENT SOR-1	6	Cloud Solution Platform with 3 years Support as per Scope of Work & Technical requirement given in CHAPTER-3-A. Nos 58		Proposed cloud solution shall be deployed on Total 58 Servers each server shall be of 02 Socket and will be provided by RailTel.
6	Virtualization	20	The offered IaaS cloud software should be Open Source and the source code should be downloadable by client at any time during the contract period from OEM portal. Support services from OEM must include upgrade of cloud solution to the newer available version from day1.	Should be deleted.	OEM Portal should be public or private, access to download complete source code should be given to RailTel.

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7	Storage	20	The solution should integrate with FC, FCoE and iSCSI SAN from leading vendors.	Clarification needed	As per tender
8	"Virtualization"	20	The virtualization solution should be able to provide VM level isolation for better security.	Solution should provide Virtual Network visibility with application-centric protection from network threats and automation of common networking operations. Solution should provide micro segmentation (Restricted access between VMs in the same VLAN/ VXLAN as well as across VLANs/ VXLANs) using integration with proposed stateful virtual firewall	As per tender
9	"12.1. Eligibility Criteria for Bidder: 5. Bidder Type"	33	The Bidder or their promoters having equity stake or operating partnership in bidder, should not be holding valid License for Telecom service provider/ISP/ NLD, Services License of Government of India for Telecom Operation.	This clause may be deleted	As per tender
10	4	17	DC DR Replication: DC DR replication for cloud components and workloads VMs must be available from day1.	Kindly clarify the DC-DR requirement is for how many VM's	At least 325 VMs should be protected through DC DR replication from day1.
11	4	17	Migration: Bidder must ensure successful migration of existing VMs deployed in existing RailTel cloud solution i.e., from Vmware to proposed cloud solution	Kindly clarify the total number of VM's to be migrated. Can the bidder migrate 10% of the VM's (Medium & Complex workloads) and create a SOP for RailTel team to migrate the remaining VM's?	At least 165 existing VMs, Bidder shall create SOP for remaining VMs and shall provide support if any issue faced by RailTel Team during migration.
12	NA	20	The offered IaaS cloud software should be Open Source and the source code should be downloadable by client at any time during the contract period from OEM portal. Support services from OEM must include upgrade of cloud solution to the newer available version from day1.	Kindly confirm if Support services from OEM is being referred to in the context of availability of product version upgrades as part of the Software Subscription	As per tender
13	NA	22	All aspects of the platform can be extended / customized using Python language	Kindly change this as follows for wider inclusion. "All aspects of the platform can be extended / customized using any industry standard languages like Python, Ruby, etc."	All aspects of the platform can be extended / customized using any industry standard languages at least Python
14	NA	22	The CMP should be able to manage at least 600 VMs at each DC and DR (Total 1200 VMs at least)	Kindly confirm if the intent is as follows "The CMP should be able to manage 300 VM's at each DC and DR (Total 600 VMs at least)"	Please see corrigendum-I

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15	NA	22	The TAM service must be available for 3 years on 24x7 basis.	Kindly change to "The TAM service must be available for 1 year"	As per tender
16	2.3	27	Products/Solutions supplied against this tender shall not be end of life/end of support for next 8 years from the date of PAC.	Kindly change to "Products/Solutions supplied against this tender shall not be end of life/end of support for next 5 years from the date of PAC."	Please see corrigendum-I
17	5	17	Migration: Bidder must ensure successful migration of existing VMs deployed in existing RailTel cloud solution i.e., from Vmware to proposed cloud solution.	As per CHAPTER- 2 Schedule of Requirement Professional Services for deployment of Cloud Management asked,so please clarify for migration bidder service required or OEM service required.	At least 165 existing VMs, Bidder shall create SOP for remaining VMs and shall provide support if any issue faced by RailTel Team during migration.
18	2	17	The deployment of the cloud shall be in Two (2) data centres on total of 58 servers, The actual location of the data centres and number of servers in each DC will be provided to the successful bidder. The deployed solution must be designed in such a way that DC-1 work as a DR for the DC-2 and vice versa.	We undersand that for servers at both locations necessary Rack & Power Cooling already provisioned by RailTel.	Required Servers, Rack, Power and cooling shall be provided by RailTel.
19	2/f/i	26	Maintenance manual of each type of equipment containing: i. Preventive maintenance procedures.	Please share the preventive maintenance time period.	The maintenance should be as per the recommendation and best practice followed and issued by OEM.
20			Generic	We understand that for servers at both locations necessary Networking Switch,Transceiver already provisioned by RailTel.	Yes
21	4	17	DC DR Replication: DC DR replication for cloud components and workloads VMs must be available from day1.	Kindly clarify the DC-DR requirement is for how many VM's.	At least 325 VMs should be protected through DC DR replication from day1.
22	5	17	Migration: Bidder must ensure successful migration of existing VMs deployed in existing RailTel cloud solution i.e., from Vmware to proposed cloud solution.	Kindly clarify the total number of VM's to be migrated. Can the bidder migrate 10% of the VM's (Medium & Complex workloads) and create a SOP for RailTel team to migrate the remaining VM's?	At least 165 existing VMs, Bidder shall create SOP for remaining VMs and shall provide support if any issue faced by RailTel Team during migration.

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23	NA	20	The offered IaaS cloud software should be Open Source and the source code should be downloadable by client at any time during the contract period from OEM portal. Support services from OEM must include upgrade of cloud solution to the newer available version from day1.	Kindly confirm if Support services from OEM is being referred to in the context of availability of product version upgrades as part of the Software Subscription	As per tender
24	NA	22	All aspects of the platform can be extended / customized using Python language	Kindly change this as follows for wider inclusion. "All aspects of the platform can be extended / customized using any industry standard languages like Python, Ruby, etc."	All aspects of the platform can be extended / customized using any industry standard languages at least Python
25	NA	22	The CMP should be able to manage at least 600 VMs at each DC and DR (Total 1200 VMs at least)	Kindly confirm if the intent is as follows "The CMP should be able to manage 300 VM's at each DC and DR (Total 600 VMs at least)"	Please see corrigendum-I
26	NA	22	The TAM service must be available for 3 years on 24x7 basis.	Kindly change to "The TAM service must be available for 1 year"	As per tender
27	2.3	27	Products/Solutions supplied against this tender shall not be end of life/end of support for next 8 years from the date of PAC.	Kindly change to "Products/Solutions supplied against this tender shall not be end of life/end of support for next 5 years from the date of PAC."	Please see corrigendum-I
28	12.1. Eligibility Criteria for Bidder	33	The Bidder or their promoters having equity stake or operating partnership in bidder, should not be holding valid License for Telecom service provider/ISP/ NLD, Services License of Government of India for Telecom Operation.	To offer the services mentioned in experience criteria, the bidder will require some licenses e.g ISP to fulfill the regulatory criteria. Requesting to remove the mentioned condition	As per tender
29	12.1. Eligibility Criteria for Bidder	31	Technical Capability Work experience certificate issued by Public listed company having average annual turnover of Rs 500 Cr and above in last 3 financial years excluding the current financial year, listed on National Stock Exchange or Bombay Stock Exchange, incorporated/registered at least 5 years prior to the date of opening of tender, shall also be considered provided the work experience certificate has been issued by a person authorized by the Public listed company to issue such certificates.	Requesting to verify and confirm if Work Experience of Central/State Government PSUs/ Government Departments/Nationalized Bank/Scheduled commercial bank/Private Bank/Cooperative Banks /Large Enterprises can be showcased . Kindly allow and confirm the same.	Please see corrigendum-I
30	Backup	21	There should be a provision for backing up of VM/workload using the existing backup solution.	Please share details of existing backup solution.	Cloud Solution should support multiple backup solution like Veeam, Barracuda, Veritas, Commvault etc.

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31	Backup	21	Any additional software/hardware required to provision requested cloud design is to be provided by bidder in-line with the complied technical specifications.	We understand that backup solution already deployed will continue to be used and this clause is only related to ability of the platform being proposed to integrate with existing backup solution.	As per tender
32	<i>Design Considerations and Functional Specifications:</i>	17	Migration: Bidder must ensure successful migration of existing VMs deployed in existing RailTel cloud solution i.e., from Vmware to proposed cloud solution.	What type of VM workload will be required to be migrated to new platform. More details of existing VM workload is required.	At least 165 existing VMs, Bidder shall create SOP for remaining VMs and shall provide support if any issue faced by RailTel Team during migration.
33	Classification - Network	20	Solution shall take advantage of NIC Teaming Capabilities.	Is the NIC Teaming capabilities is referred to the network card bonding at server level?	As per tender
34	Classification - Storage	20	The solution should integrate with FC, FCoE and iSCSI SAN from leading vendors.	As in the tender HCI for storage is proposed , so integration of external storage vendor is part of the scope?	Clarification- Integration with existing external storage is the responsibility of bidder.
35	Classification - Storage	21	The solution should have the ability to configure thin and thick provision volumes.	As Software defined storage on HCI hardware is the requirements of tender which usually support thin provisioning of volumes only , so can the the solution have thin or thick volume provision instead of and	As per tender
36	Classification - Backup	21	Any additional software/hardware required to provision requested cloud design is to be provided by bidder in-line with the complied technical specifications	How much GB/TB/PB of backup data is expected in this tender?	As per tender
37	CMP	21	Support for composable blueprints, (e.g. blueprint in a blueprint): A Blueprint can be configured to discover and sync resources of the type that it describes. This can be especially useful for bringing brownfield environments under management	More details are required with the definition of blueprint and the scope of brownfield environment management.	As per tender
38	CMP	21	Ability to deliver Anything-as-a-service using blueprint approach	More details are required on type of services that needs to be delivered.	As per tender
39	CMP	21	The CMP solution must be able to discover existing legacy environments, on prem and in the public clouds	More details are required with existing legacy systems.	As per tender

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40	5.1	28	<u>Payment Terms</u> 75% payment of the value of the supply items would be made on receipt of material by the consignee (at site /the stores, to be decided by CO/respective regional ED/RGMs) duly inspected and on submission of the following documents subject to any deductions or recovery which RailTel may be entitled to make under the contract	In case of the supply of material payment should be 100% on receipt of material.	As per tender, No change.
41	22.4	38	<u>Offer/ Bid Prices</u> Fall Clause: - The tenderer shall undertake that in case the tenderer offers same type of material at a lower price to any other purchaser including Central/State/ Government Organization or Public Sector Undertaking, during the validity of purchase order, the equal benefit of lower prices will be passed on to RailTel. The tenderer will submit an undertaking to this effect while claiming the payment.	There may difference in prices for the same / similar material / services provided to other Govt entities/ PSUs etc. due to various reasons like volume, payment terms etc.Request to delete/Ammend the clause.	As per tender.
42	Clause 26.3	39	<u>Settlement of Disputes/ Arbitration.</u> The Arbitral Tribunal shall consist of the Sole Arbitrator appointed by CMD/RailTel Corporation of India Limited, if the value of claim is up to Rs. 10 lakhs. If the value of the claim or amount under dispute is more than Rs. 10 Lakhs, the matter shall be referred to the adjudication of arbitral council.	We request that the sole arbitrator should be mutually appointed by CMD/RailTel and contractor.	As per tender.
43	Clause 26.3	39	<u>Settlement of Disputes/ Arbitration.</u> Chairman Managing Director (CMD) of RailTel Corporation shall furnish a panel of three names to the contractor, out of which, contractor will recommend one name to be his nominee and then CMD/RailTel shall appoint one	We request that RailTel and Contractor (Yotta) shall mutually furnish a panel of three names Contractor (Yotta) should also have a preference/say while finalising the panel of three names. It should not be arbitrarily selected by RailTel.	As per tender
44	3. Data Center Service Requirements:	16	Open Source based Private cloud - Private cloud must be based on the enterprise class open-source platform.	There are matured and stable comercial solutions available with large and successfuil install base. Request to allow commercial solutions to be quoted for a wider participation.	As per tender
45	3. Data Center Service Requirements:	17	The bidder shall deploy the Open-Source cloud software to build the private cloud platform at Two Raitel data centres and integrate with the proposed cloud management portal for provisioning multiple IaaS cloud services to various RailTel clients.		As per tender

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46	Functional	19	The solution should be with open-source products compliant to open standards having L1-L3 based 24x7 support from OEM, updates and upgrades for the project period. The OEM should have a support centre based out of India for easier and faster communication on any support call resolution.		As per tender
47	Virtualization	20	The offered IaaS cloud software should be Open Source and the source code should be downloadable by client at any time during the contract period from OEM portal. Support services from OEM must include upgrade of cloud solution to the newer available version from day1		As per tender
48	Storage	21	The offered software defined storage platform should be Open Source and the source code should be downloadable by client at any time during the contract period from OEM portal.		As per tender
49	Virtualization	20	Virtualization	No security capabilities are mentioned for virtualization solution. It is recommended that Railtel should mention basic security capability including 1. support for TPM 2.0 and secure boot to provide protection for both the hypervisor and guest operating system by ensuring images have not been tampered with and preventing loading of unauthorized components, 2. Trust authority which creates a hardware root of trust with a trusted computing base 3. support for Intel Software Guard Extensions (SGX) which allows applications to work with hardware to create a secure enclave such that things like encryption key cannot be viewed by the guest OS or hypervisor. 4. Support for Integration of 3rd party endpoint security to secure the virtual machines with offloaded antivirus, antimalware, firewall and hips solutions	As per tender

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50	3. Data Center Service Requirements:	17	Migration: Bidder must ensure successful migration of existing VMs deployed in existing RailTel cloud solution i.e., from Vmware to proposed cloud solution.	1. Please clarify the purpose of this migration. 2. Share more details on workload	At least 165 existing VMs, Bidder shall create SOP for remaining VMs and shall provide support if any issue faced by RailTel Team during migration.
51	3. Data Center Service Requirements:	17	Migration: Bidder must ensure successful migration of existing VMs deployed in existing RailTel cloud solution i.e., from Vmware to proposed cloud solution.	Post migration what is expected in terms of parity of network and security capabilities between existing setup and this new cloud setup e.g. microsegmentation, network overlay	Migration should be done in new cloud with the functionality asked in cloud solution.
52	3. Data Center Service Requirements:	16	Open Source based Private cloud - Private cloud must be based on the enterprise class open-source platform.	How RailTel is planning Day 2 operations for this setup, are there open source skills available with RailTel to manage the operations of this setup	As per tender
53	3. Data Center Service Requirements:	16	Open Source based Private cloud - Private cloud must be based on the enterprise class open-source platform.	Please clarify if this cloud setup need to meet MeitY and STQC compliances for empanelment if yes please mention those requirements in the RFP.	Proposed Cloud Solution need to meet MeitY compliances of Cloud Service Provider (CSP) for empanelment.
54	Network	20	The network controller shall provide Restricted access between VMs in the same VLAN as well as across VLANs using security groups.	Please elaborate the requirement. Very basic security capabilities are asked in RFP. To address today's security challenges in cloud setups it is recommended that solution should have Capability of up to layer 7 Stateful firewalling which should be distributed across entire environment and centralized policy and management for easy cloud operations. Security policies must be tied to application and can be defined based on grouping construct with dynamic or static membership criteria based on VM name, tags, logical switch, logical port, IPSets, computer OS Name, computer name, Active Directory	As per tender

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55	Functional	19	The bidder should provision cloud monitoring solution for monitoring the health and utilization of cloud components along with resource utilization monitoring for workload/VMs running on it. The solution should have a dashboard and the capability to send alert notifications. The solution should also provide functionality for reporting and report scheduling.	Monitoring capabilities asked are very limited to run the cloud operations at scale. Solution should asked for converged visibility and analytics that tie together compute, network, storage and security and provide Physical to Virtual Correlation and troubleshooting. The solution should provide comprehensive flow assessment and analytics and security groups and firewall rules suggestion for the purpose of implementing a zero-trust security within the datacenter. Solution should report the amount of EastWest, North-South, Internet, virtual machine to virtual machine, virtual machine to physical traffic within the datacenter	As per tender
56	Network	20	The Solution shall allow configuring each Virtual Machine with one or more virtual NICs. Each of those network interfaces can have its own IP address and even its own MAC address.	To achieve complete cloud automation it is recommended that Cloud network should be capable for automated delivery of virtual networking (micro segmentation), virtual Switching, virtual routing, load balancing, virtual security services such as firewalling (EoW & NôS) and be software manageable. Request RailTel to elaborate the requirements for a stable solution to be proposed	As per tender
57	Functional	18	The supplied solution should have capability of catalogues for multiple IaaS and PaaS offered services.	Request to mention the list of services to be created and to be provisioned from self-service portal for RailTel users. Is Railtel expecting all the services to be created on this cloud which are already in use in existing setup. E.g. VM(Win/Linux) as service, Multi-machine provisioning, PaaS, container/K8s cluster as service, backup, DR, auto-scale, firewall, and LB as service.	As per tender
58	Design Considerations and Functional Specifications	17	DC DR Replication: DC DR replication for cloud components and workloads VMs must be available from day1.	DR management software requirement is not given in RFP. Please clarify how DC to DR failover or vice-versa, visibility into RTO/RPO and reports are envisaged to be achieved	DC-DR Replication is a part of solution and bidder has to provision the DC-DR functionality like RTO/RPO etc.

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59	2.Chapter-3-A	16	All the below-mentioned tools and solutions will integrate with the required system and applications to manage the required system integration services of the infrastructure as desired. The primary objective of this RFP is to select a bidder who shall supply, install, test, and commission IT infrastructure and software for the DC and DR of RailTel. The key guidelines and scope should cover the following components: The bidder shall provide warranty & Support for a period of 3 (Three) years as part of the scope of this tender. Bidder should submit OEM undertaking to provide warranty/support for 3 years for supplied component by respective OEM and should have back-to-back warranty/support arrangement with respective OEM to ensure smooth operations.	Request you clarify the following details: 1. Tools & solutions for required system details to be needed for clarification 2. I understand that Oem undertaking has provided a warranty/support arrangement,in which types of operation is required for system	As per tender
60	3	16	Data Center Service Requirements:		
61	Technical	16	1.Supply, Installation, Configuration, Performance Tuning & Integration, Performance Testing, Acceptance Testing, Commissioning, and Training of the supplied solutions as per the Schedule of Requirements		As per tender
62	Technical	16	2.Bidder should have backend tie-ups with the respective OEMs to provide required technical support for the supplied solution for its installation, Configuration, fine-tuning, integration with existing components, and commissioning to Meet the functional requirements.	Request you clarify the Bidders will technical support only for supplied solution	As per tender
63	Technical		Design Considerations and Functional Specifications:		
64	Technical	17	The bidder should ensure the following key design considerations for open-source cloud project solution-		As per tender
65	Technical	17	1.Open Source-based Private cloud - Private cloud must be based on the enterprise-class open-source platform.	Request you please clarify the details on open source-based Private cloud - Private cloud must be based on the enterprise-class open-source platform.	As per tender
66	Technical	17	2.Hyperconverged deployment architecture for Private cloud- The solution must be based on Hyper-Converged deployment architecture which should deliver virtual computing and storage out of the same platform	Request you please clarify the Hyperconverged deployment architecture	As per tender

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67	Technical	17	3.Redundancy and Recoverability within a DC- The solution must be highly available within a DC. It must implement an ability to recover from failure in a much faster manner in a data center.		As per tender
68	Technical	17	4.DC DR Replication: DC DR replication for cloud components and workloads VMs must be available from day1.		As per tender
69	Technical	17	5.Migration: Bidder must ensure successful migration of existing VMs deployed in existing RailTel cloud solution i.e., from Vmware to proposed cloud solution	Noted;Request you please clarify the existing VMs system	At least 165 existing VMs, Bidder shall create SOP for remaining VMs and shall provide support if any issue faced by RailTel Team during migration.
70	Technical	17	6.Training & Certification: Bidder must provide an expert level of training & certification of supplied cloud solution for at-least four nos. of candidates without any additional cost.	Request you please clarify the in which type of training required (Remote/On-site)	As per tender
71	Technical	17	7.Installation and implementation: Bidder has to ensure that complete installation and implementation of supplied cloud solution must be executed by the team of OEM only. The deployment Team must provide Knowledge Transfer, Implementation documents, and Training of each component deployed to the Data Center Technical Team of RailTel.	Noted; Request you please clarify the in which types of documents & implementation training required for technical team	As per tender
72	Technical	17			
73	Technical	17	Bidder must provide the following scope of work for building the private cloud at RailTel Datacenter.		
74	Technical	17	1.The bidder shall supply various cloud software as per the Schedule of Requirements (SoR) and in accordance with the minimum technical specifications as provided. Higversionssion/Additional specifications shall be accepted. However, deviation from minimum specifications if any, shall be clearly indicated along with the explanation in the technical deviation section		As per tender
75	Technical	17	2.The deployment of the cloud shall be in Two (2) data centers on a total of 58 servers, The actual location of the data centers and the number of servers in each DC will be provided to the successful bidder. The deployed solution must be designed in such a way that DC-1 works as a DR for DC-2 and vice versa.	Noted	As per tender

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76	Technical	17	3.All the supplied software licenses and subscriptions should be in the name of RailTel	Noted; Request you please clarify the Software licenses & Subscriptions criteria	As per tender
77	Technical	17	4.The bidder shall supply the required software Viz, in SOR-A and SOR-B for building the private cloud as per RFP requirements and technical specifications.	Noted; Request you please clarify the SOR-A & SOR-B requirement details	Corrigendum-I
78	Technical	17	5.The bidder shall provide software subscriptions for a period of 3 (Three) years as part of the scope of this tender. Bidders should submit OEM undertakings to provide warranty/support for 3 years for supplied components by respective OEM and should have back-to-back warranty/support arrangement with respective OEM to ensure smooth operations.	Noted	As per tender
79	Technical	17	6.The bidder shall deploy the Open-Source cloud software to build the private cloud platform at Two Railtel data centres and integrate with the proposed cloud management	Request you please clarify the "Open-Source cloud software to build the private cloud platform at Two Railtel data centers and integrate with the proposed cloud management "	As per tender
80	Technical	19	7. The cloud platform deployment shall be of using the HCI architecture (co-located compute and storage in each node)	Request you please clarify HCI architecture	As per tender
81	Technical	19	8. The two data centers' cloud deployment shall be standalone while both the clouds shall be managed using the single cloud management portal (CMP).		As per tender
82	Technical	19	9.The successful bidder shall work with RailTel team on low level design of the deployment like number of controller servers, management and monitoring servers and HCI nodes in each data centre		As per tender
83	Technical	19	10.The successful bidder and RailTel team will work together to plan and size the usable compute resources and storage resources available for client provisioning as per the OEM deployment and best practice, performance requirement and available physical server and storage resources		As per tender
84	Technical	19	11. Bidder needs to integrate the cloud platform with the existing LDAP solution in RailTel.	Noted;Request you please clarify the Existing LDAP Solution	Multiple LDAP solution like open LDAP, IDM, RADIUS etc. are available and bidder has to ensure the integration with all of them.

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85	Technical	19	12. Bidders shall furnish the detailed Bill of Material (BoM) for each SoR item. The detailed Bill of Material should clearly mention all the components down to software components including quantities and licenses. The priced Bill of Material should be submitted in the price bid and the unpriced Bill of Material should be submitted in the techno commercial part. There should be no difference in the items and quantities in the priced and the unpriced BoMs		As per tender
86	Technical	19	13. Bidders should have backend tie-ups with the respective OEMs to provide required technical support for the supplied Software, for their installation, Configuration, fine-tuning and commissioning to Meet the functional requirements		As per tender
87	Technical	19	14. Bidder shall provide Root Cause Analysis for each case logged with Support team/OEM Team.		As per tender
88	Scope of Work & Functional Requirement (Railtel)				
89	Technical	19	The bidder should create a self-service portal for automation and provision/ de-provisioning of virtual machine with required compute, storage, and network.	Noted; Request you please confirm the Hardware & software requirement details.	As per tender
90	Technical	19	The supplied solution should have capability of catalogues for multiple IaaS and PaaS offered services.	Request you please clarify the Cloud Services requirement	As per tender
91	Technical	19	The bidder should create policy-based controls of cloud resources and should configure Role-based policy management, administration and enforce role-based policies.	Noted	As per tender
92	Technical	19	The bidder shall also create basic & necessary reports for the analysis of resources (CPU, Memory, Storage and Network) utilization and available resources	Noted; Request you please clarify the system wise hardware requirement	As per tender
93	Technical	19	The solution should support REST base APIs with full API-level access to all functional components of the compute service such that any function available through the user interface is available through a REST API	Request you please explain more details.	As per tender
94	Technical	19	The solution should support scalability as per the increased requirements.		As per tender

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95	Technical	19	The solution should support multiple users' groups with appropriate rights on the platform. Solution should provide functionality for monitoring and reporting of assigned infrastructure like CPU, RAM, Storage, VMs etc. from user access. One user can only monitor their infra, no other infra should be accessible. Online reports must be available for at least 3 years.		As per tender
96	Technical	19	The Solution should be capable of supporting multi-tenancy to run cloud services (compute, network, storage) for multiple consumers on a single platform while managing the isolation of virtual machines into secure pools		As per tender
97	Technical	19	The virtualization solution hypervisor shall be independent of hardware platform and shall be consistent across production and non-production environment providing ease of operations.	I understand ,its depends upon existing system.Request you please clarify the existing system hardware details	As per tender
98	Technical	19	The solution should be with open-source products compliant to open standards having L1-L3 based 24x7 support from OEM, updates and upgrades for the project period. The OEM should have a support centre based out of India for easier and faster communication on any support call resolution.		As per tender
99	Technical	19	The bidder should provision cloud monitoring solution for monitoring the health and utilization of cloud components along with resource utilization monitoring for workload/VMs running on it. The solution should have a dashboard and the capability to send alert notifications. The solution should also provide functionality for reporting and report scheduling.	Request you please clarify the more details requirement	As per tender
100	Technical	19	The Console should have functionality for monitoring real-time utilization of VM resources such as RAM, CPU, storage I/O, and network statistics. A dashboard for complete capacity management of the cloud shall be available to management.		As per tender
101	Virtualization				
102	Virtualization	20	Virtualization software shall allow heterogeneous support for guest Operating systems like Windows Server, and Linux servers	I understand that heterogeneous support for Guest Host is required .Request you to Confirm	As per tender

SN	Clause no. & Chapter no.	Page No.	Content of the tender Clause	Change asked by firm	RailTels Response / Clarification
103	Virtualization	20	Should have the capability for creating VM templates to provision new servers	I understand that only VM templates are required for the new server. Request you confirm how much new server is required in your OS??	As per tender
104	Virtualization	20	Should support VM snapshots to revert to an earlier state, if required.	Request you Confirm your Schedule for VM Snapshots(Internal/External Storage)??	As per tender
105	Virtualization	20	Should support live Virtual Machine migration between two or more servers in a cluster	Request you confirm the number of hosts required in one Cluster & how many clusters are required in Live Virtual Machine migration??	As per tender
106	Virtualization	20	Virtualization software should support High Availability capabilities for the virtual machines.	Request you confirm the number of hosts required in HA(high availability).	As per tender
107	Virtualization	20	The virtualization solution should be able to restrict placement of a VM to a subset of hosts in a cluster and to keep virtual machines paired or separated. i.e., affinity and anti-affinity rules	Request you clarify how many VM is required & in which VM restrict placement has required??	As per tender
108	Virtualization	20	The virtualization solution should allow for creating virtual Networks that connect virtual machines	Request you clarify the system wise VLAN & Ips details.	As per tender
109	Virtualization	20	The virtualization solution should have inbuilt SDN to centralize network provisioning, administration, and monitoring.	Request you confirm the virtualization details like the version, Services,& Package.	As per tender
110	Virtualization	20	The virtualization solution should provide a Web Based Virtualization administrator portal with a graphical management mode for administrators to manage virtual machines, templates, storage, and network.	Request you confirm the virtualization details like the version, Services,& Package.	As per tender
111	Virtualization	20	The virtualization solution should have provision for hosts undergoing maintenance to automatically have their guest VMs migrated to other available hosts.	I understand that a virtualization solution should provide for the host. kindly confirm the number of Host detail & VM details.	As per tender
112	Virtualization	20	The virtualization solution should be able to provide VM level isolation for better security	Request you clarify the number of user details for Virtualisation.	As per tender
113	Virtualization	20	The solution should support integration with multiple Cloud Management & Orchestration portals. Any additional solutions/software required for integration with the proposed CMP should be available/provisioned from day 1.	Request you clarify the additional Solutions/Software requirement & CMP details?	As per tender
114	Virtualization	20	The solution should support auto scale-out of virtual machines	Request you clarify the Auto scale-out of the Virtual machines??	As per tender

SN	Clause no. & Chapter no.	Page No.	Content of the tender Clause	Change asked by firm	RailTels Response / Clarification
115	Virtualization	20	The offered IaaS cloud software should be Open Source and the source code should be downloadable by client at any time during the contract period from OEM portal. Support services from OEM must include upgrade of cloud solution to the newer available version from day1.	Request you confirm which types of support & services are required in the contract period from OEM side.(Remote/On-site)	As per tender
116	Network				
117	Network	20	The Solution shall allow configuring each Virtual Machine with one or more virtual NICs. Each of those network interfaces can have its own IP address and even its own MAC address.	I understand that Network IP & MAC address is configurable. Request you confirm the HBA(Host bus Adaptor), and NICs port for the host server	As per tender
118	Network	20	The Solution shall allow for creating virtual switches that connect virtual machines	Noted	As per tender
119	Network	20	The Solution shall support configurations of 802.1 q VLANs, VRFs, VxLANs which are compatible with standard VLAN implementations from other vendors	Noted,Request you clarify the Configurations of 802.1 q VLANs, VRFs, and VxLANs which are compatible with standard VLAN implementations from other vendors	As per tender
120	Network	20	Solution shall take advantage of NIC Teaming Capabilities	Request you confirm the NICs port for the host server	As per tender
121	Network	20	The Solution shall support VLAN isolation by supporting multiple networks per resource pool.	Noted.Request you confirm the number of VLAN with System wise	As per tender
122	Network	20	The network controller shall provide Restricted access between VMs in the same VLAN as well as across VLANs using security groups.	Request you clarify the number of protocols used & configuration details is required	As per tender
123	Network	20	The solution should have Virtual Switch which should be able to span across multiple hosts in a virtual cluster	Noted	As per tender
124	Network	20	The solution should support virtual load-balancing ability appropriate for the instances in a private cloud deployment	Request you clarify the number of networks are available for system-wise/for load balancing ability	As per tender
125	Backup				
126	Backup	20	There should be a provision for backing up of VM/workload using the existing backup solution.	Request you clarify the existing backup solution on this subject matter	Cloud Solution should support multiple backup solution like Veeam, Barracuda, Veritas, Commvault etc.
127	Backup	20	There should be a provision of Service Management capabilities from the solution or an option to leverage existing tools.	Request you clarify the existing Service management tools on this subject matter	As per tender

SN	Clause no. & Chapter no.	Page No.	Content of the tender Clause	Change asked by firm	RailTels Response / Clarification
128	Backup	20	Any additional software/hardware required to provision requested cloud design is to be provided by bidder in-line with the complied technical specifications.	Request you confirm the Backup software solution & technical Specification.	As per tender
129	CNP				
130	CNP	21	The solution should provide an easy self-service catalog experience that caters to both technical and non-technical users (e.g. provide a simple form to non-technical users)	I understand that a Self-services catalog is required. Request you confirm the list of the type of catalog required.	As per tender
131	CNP	21	Ability to support a broad range of technologies, tools, and platforms.	Request you Clarify the broad range of tech??	As per tender
132	CNP	21	Support for composable blueprints, (e.g. blueprint in a blueprint): A Blueprint can be configured to discover and sync resources of the type that it describes. This can be especially useful for bringing brownfield environments under management.		As per tender
133	CNP	21	The solution should have the capability to build a service catalogue and should be offered with self-service provisioning capabilities	I understand that a Self-services catalog is required. Request you confirm the list of the type of catalog required.	As per tender
134	CNP	21	The solution should provide user authentication and authorization integration capabilities with AD/LDAP	Noted	As per tender
135	CNP	21	The solution should provide role-based access control using standard authentication and authorization	Noted	As per tender
136	CNP	21	The solution should be able to automate and provision cloud services such as IaaS.		As per tender
137	CNP	21	A self-service portal is needed to establish a central point of access. The portal should be configurable and accessible via a web browser.	I understand the service portal is required, Request you clarify the in which portal for services.	As per tender
138	CNP	21	Ability to deliver Anything-as-a-service using a blueprint approach	Request you clarify more detail on the blueprint approach on this subject matter.	At least all the services as per MeitY compliances requirement for CSP.
139	CNP	21	The solution should support multi-tenancy	Noted	As per tender
140	CNP	21	Ability to build your own customizations and extensions without needing to depend on vendor RFEs and roadmap	Request you clarify the more details.	As per tender
141	CNP	22	All aspects of the platform can be extended / customized using the Python language	Request you clarify the more details.	All aspects of the platform can be extended / customized using any industry standard languages at least Python
142	CNP	22	The vendor should support customizations through standard support channels	Noted	As per tender

SN	Clause no. & Chapter no.	Page No.	Content of the tender Clause	Change asked by firm	RailTels Response / Clarification
143	CNP	22	The orchestrator platform should have the capability to build custom workflows for complex tasks and Day-2 operations		As per tender
144	CNP	22	The solution can be white labeled and rebranded		As per tender
145	CNP	22	The CMP solution must be able to discover existing legacy environments, on-prem and in the public clouds		As per tender
146	CNP	22	Ability to perform service lifecycle automation and orchestration		As per tender
147	CNP	22	Ability to embed governance processes into the service lifecycle		As per tender
148	CNP	22	The CMP should be able to manage at least 600 VMs at each DC and DR (Total 1200 VMs at least)		Please see corrigendum-I
149	CNP	22	Role-based Access Controls in Management Console: Ability to define different administrative roles in the management console with different administrative rights. Management console should also have Multifactor authentication for user authentication to cloud portal.		As per tender
150	Technical Account Manager				
151	TAM	22	TAM shall prevent issues before they arise with proactive planning and technical reviews		As per tender
152	TAM	22	TAM shall gain visibility into current and future products to plan for and meet your long-term technology goals.		As per tender
153	TAM	22	TAM shall receive priority access with product feature requests and changes		As per tender
154	TAM	22	TAM shall be responsible for the enhancement of the RailTel Team resources and improve efficiency in the operational execution of technology initiatives.		As per tender
155	TAM	22	The TAM shall be a direct link to the OEM support organization and shall be the designated resource, single point of contact for access to OEM product management and engineering for prioritizing feature requests and changes.		As per tender
156	TAM	22	TAM shall have in-depth knowledge of RailTel technical environment. If a multi-vendor issue does occur, TAM is a single point of contact for getting a resolution.		As per tender
157	TAM	22	The TAM service must be available for 3 years on 24x7 basis.		As per tender
158	Chapter-B		INSTALLATION, TESTING & COMMISSIONING		

SN	Clause no. & Chapter no.	Page No.	Content of the tender Clause	Change asked by firm	RailTels Response / Clarification
159	ITC	23	1.1 Installation, Configuration and Commissioning: Bidders must complete the installation of all the supplied solution at RailTel DC and DR within timeframe given in tender. This also includes handover of all the deployment documents, SOP, architecture, system credentials, Training to RailTel team.	Noted	As per tender
160	ITC	23	1.1 PROVISIONAL ACCEPTANCE CERTIFICATE (PAC) On Installation, Configuration and Commissioning of supplied solution, the bidder shall certify and advise Railtel Supervisor where solution has been deployed, in writing that the installation is (i) completed (ii) ready for satisfactory commercial service and (iii) ready to be handed over. After the successful completion of Site Acceptance Testing, a report (SAT) shall be forwarded to GM/ITP. Provisional Acceptance Certificate (PAC) will be issued by GM/ITP. PAC will not be held back for want of minor deficiencies not affecting the functioning of the solution. Deficiencies, if any, pointed at the time of issuance of PAC, will be rectified by the contractor within one month.		As per tender
161	ITC	23	1.3 TRIAL RUN/FIELD TRIALS: Upon conclusion of the site acceptance testing, the Tenderer shall keep the facilities commissioned for one month for 'TRIAL RUN/FIELD TRIALS'. During this period Tenderer shall provide all specialist Engineers & Technicians including experts at the NMS to maintain the total log, incidents, failures & for assisting site engineer & for total co- ordination. However, the normal operation and maintenance of the system shall be performed by the personnel of the Purchaser trained for the purpose.		As per tender

SN	Clause no. & Chapter no.	Page No.	Content of the tender Clause	Change asked by firm	RailTels Response / Clarification
162	ITC	23	If during ‘TRIAL RUN/FIELD TRIALS’ any defect is noted in the system, the Tenderer shall rectify, replace the same to the satisfaction of Purchaser/Engineer. The decision to repeat the final test or restart the ‘Trial / Field Trials’ shall be of Purchaser/Engineer depending upon the severity of the defect. During trial run / field trial, if any issue occurs to any supplied solution, Tenderer shall identify and rectify the same and provide report, history of all faults to the Purchaser. Ideally, during the ‘TRIAL RUN / FIELD TRIALS’, no outage of the system due to failure of existing functionality should happen. A record of all failures shall be kept for each cases accordingly and results submitted to Purchaser/engineer. If the system fails to come up to the guaranteed performance, the Tenderer, within a period of thirty (30) days shall take any and all corrective measures and resubmit the system for another ‘Trial Run’ of trial period. All modifications, changes, corrective measures etc. shall be at the cost of the Tenderer. In case the date of completion for the second trial run exceeds the time schedule for the project, he shall be liable to pay liquidated damages. If the system fails to reach the guaranteed performance even after the second trial run, the Purchaser shall be free to take any action as he deems fit against the Tenderer and to bring the system to the guaranteed performance with the help of third party at the expense of the Tenderer.		As per tender

SN	Clause no. & Chapter no.	Page No.	Content of the tender Clause	Change asked by firm	RailTels Response / Clarification
163	ITC	23	1.4 FINAL ACCEPTANCE CERTIFICATE (FAC) The final acceptance of the works completed shall take effect from the date of successful completion of 12 months after issue of PAC provided in any case that the contractor has complied fully with his obligations in respect of each item under the contract. The Final Acceptance Certificate of all regions against the contract shall be issued by GM/ITP. Notwithstanding the issue of Final Acceptance Certificate, the contractor and the purchaser shall remain liable for fulfillment of any obligation incurred under the provision of the contract prior to the issue of Final Acceptance Certificate which remains unperformed at the time such certificate is issued and for determining the nature and extent of such obligation the contract shall be deemed to remain in force between the parties hereto		As per tender
164	Chapter-3C		TRAINING, VENDOR DATA REQUIREMENTS, DOCUMENTATION, AND DESIGN GUIDELINES		

SN	Clause no. & Chapter no.	Page No.	Content of the tender Clause	Change asked by firm	RailTels Response / Clarification
165	1.Training	25	The tenderer shall train personnel of the Purchaser/engineer in all aspects of the offered system. The training course shall be conducted at the manufacturing facilities from where the respective equipment/subsystems are manufactured/ offered or in India if the firm can arrange full-fledged training facilities in case their manufacturing facilities are located outside India. It shall be explicitly understood that Purchaser's/Engineer's personnel shall be fully associated during Engineering, Installation, Testing, and Commissioning activities, and this opportunity shall be taken by the Tenderer to impon-the-job job training in addition to the above training course. The tenderer offer excludes costs of transportation, lodging, and boarding of the trainees which shall be arranged by the Purchaser. The training course to be conducted at the manufacturing facilities shall be designed to train the trainees in all aspects of System engineering, equipment operation, installation and functional details, theory of operation of equipment, troubleshooting, and familiarization with the equipment at card and component level. The tenderer shall provide comprehensive documentation, course material, manuals, literature etc. as required for proper training of personnel at his own cost. Consolidated and comprehensive documentation shall be available to each participant. After the completion, of course, all such materials shall become the property of the PURCHASER. The tenderer shall update the course material of manuals in case there are any changes owing to revision/modifications in equipment/system specifications. The tenderer shall, prior to starting training, send a complete training program including details of each course duration		As per tender
166	2.VENDOR DATA REQUIREMENT AND DOCUMENTATION	25	One set of Documentation shall be supplied with each system. In addition, 12 more sets of full documents shall be supplied. All documents and manuals shall be in English language only. The following documents for the complete system shall be supplied and approved by the Purchaser/Engineer in order to start the inspection:		As per tender
167			a. System description, System configuration diagram & Connectivity diagram		As per tender
168			b. Detail technical manual of each type of equipment		As per tender

SN	Clause no. & Chapter no.	Page No.	Content of the tender Clause	Change asked by firm	RailTels Response / Clarification
169			c. Solution architecture diagram including details of various interfaces, and protocols used at each stage.		As per tender
170			d. Installation manual including installation procedure and commissioning.		As per tender
171			e. Supervisory configuration, alarm list, operator interface, etc.		As per tender
172			F Maintenance manual of each type of equipment containing: i. Preventive maintenance procedures. ii. Troubleshooting procedures for the known use cases. iii. Expansion possibilities of the system without causing deterioration in the system performance. iv. Any other data, or document not specifically mentioned, but required for the satisfactory testing, installation and commissioning, operation and maintenance of the system shall be provided. v. Documents to be supplied after trial runs but before System commissioning (Acceptance of the System by Purchaser/Engineer).		As per tender