

# **Deendayal Port Trust**

(formerly known as Kandla Port Trust)

Finance Department, EDP section, Post Box. 50,  
Chairman's Wing, Gandhidham, Kachchh-Gujarat – 370201  
Phone :- (02836) 221251, Fax :- 02836 233089.  
Mobile :- 9879462352 Email id :- [chiefmngrit@deendayalport.gov.in](mailto:chiefmngrit@deendayalport.gov.in)

No.Finance/EDP/LoadBal/2023/

Dated :- 23-11-2023

**To**

**M/s.** \_\_\_\_\_,

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_.

## **“EXPRESSION OF INTEREST (EOI)”**

**Subject – “SUPPLY AND INSTALLATION LOAD BALANCER WITH FIVE SUPPORT.”**

Sir,

Expression of interest (EOI) are invited to carry out the work  
**“SUPPLY AND INSTALLATION LOAD BALANCER WITH FIVE SUPPORT”** as per the Scope of work, Technical specification, Terms & Conditions stipulated below.

The Expression of Interest (EOI) along with Annexure-A should reach this office of undersigned on or before **05/12/2023** at 17.00hrs or scanned copy of scanned offer also accepted on e-mail [chiefmngrit@deendayalport.gov.in](mailto:chiefmngrit@deendayalport.gov.in) which shall be opened on the same day.

Yours faithfully,

S/d-

Chief Manager-ICT  
Deendayal Port trust.

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## **"Schedule B"**

Sr. No.	Item Particulars	Quantity	Unit price	Total	Total in words.
1.	<b>SUPPLY AND INSTALLATION LOAD BALANCER WITH 5 YEARS SUPPORT</b>	2			
			TOTAL (excluding GST)		

(Rupees In words\_\_\_\_\_)

**NOTE : GST will be paid extra as applicable. The price quoted should be inclusive of all other taxes.**

S/d-

**Signature & Seal  
of Contractor**

**Chief Manager-ICT  
Deendayal Port Authority**

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Annexure

## **SCOPE OF WORK**

### **1. Scope of Work**

*Problem statement: -*

*DPA datacenter is currently operating with 3 active ILL connections and 2 active MPLS connections (DC -DR ESDS) without the use of a link load balancer.*

*Without a link load balancer, switching over manually would be necessary in the event of an active ILL or MPLS failure, which would reduce productivity.*

*Without link load balancing, it is also impossible to use 100% of all network connectivity in active mode and efficiently manage load sharing.*

*Requirement: -*

*2 Nos of Link load balancer HA requirement.*

*A single link load balancer that can accommodate 3 Nos of ILL connections and 2 MPLS connections and it should in HA mode.*

*All connections of ILL and MPLS operate in active mode with an equal load distribution, or as necessary.*

*In case of any failure of connectivity automatic load sharing with active available link.*

*That during the holidays and non-working hours, when the internet is down or MPLS is down and when Tech. Mahindra Team (System Integrator for ERP) is not available for the manual switching from one network to another for that instants, the Load balancer shall manage the connections as it is very essentials for the DPA to enable smooth working of DPA applications like e-office, NLP and SAP 24x7 days.*

**Signature & Seal  
of Contractor**

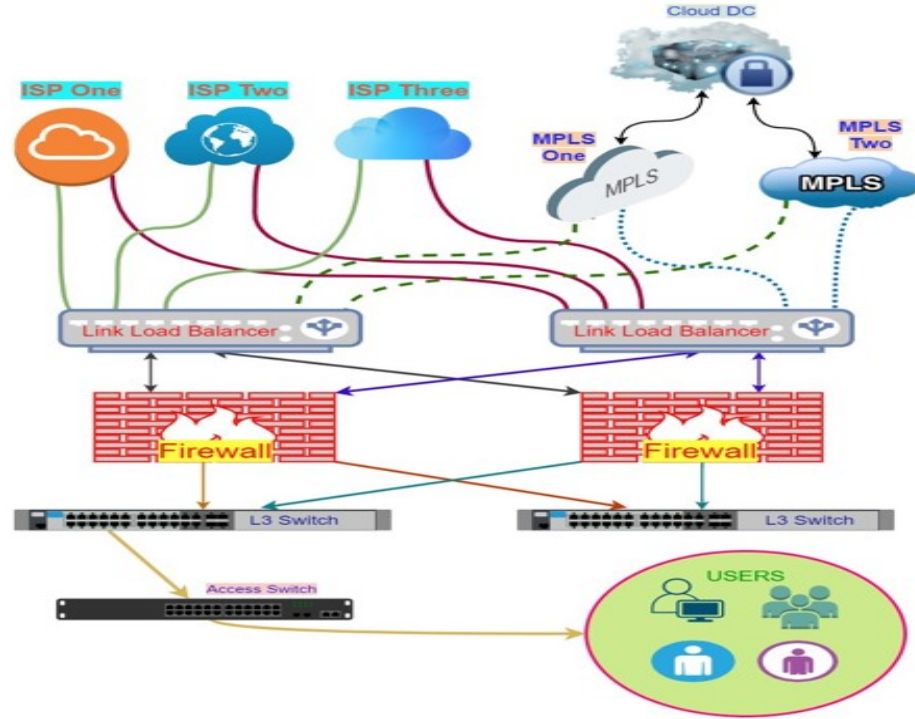
**Chief Manager-ICT  
Deendayal Port Authority.**

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Expected Network connectivity along with Link Load Balancer: -



Functional and technical requirement: -

Sr. No.	Link Load Balancer
1	Should be high performance purpose built next generation multi-tenant hardware with NFV and SDN support. Platform should support multiple network functions including link load balancing, & Secure remote access network functions with dedicated hardware resources for each virtual instance.
2	Appliance should support 8x1GBE, 4x10GbE SFP+ ports & The appliance should have 64GB RAM and 4TB SSD HDD
3	The appliance should have minimum 40Gbps of system throughput from day one
4	Platform should have one dedicated LLB instance from day one and should have option to host Anti-DDOS instance on same device with SW license upgrade.
5	The OEM should have at least 70% local content as per the MII guideline and should have been present in India for at least last 10 years.
6	The OEM should have minimum 5 PSUs provided Link load balance ( Declaration provide by OEM with details of End customer and Product )
<b>Link Load balancing features</b>	
7	Support for multiple internet links in Active-Active load balancing and active-standby failover mode.
8	Appliance must have link load balancer license & server load balancer license comes by default along with base license including ipv6

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9	Extensible policies (epolicies) TCL scripts to implement business logic on network without changes in application code.
10	Should support Outbound load balancing algorithms like round robin, Weighted round robin, shortest response, hash ip, target proximity and dynamic detect.
11	Should support inbound load balancing algorithms like round robin, Weighted round robin, target proximity & dynamic detect.
12	Should support Static NAT, Port based NAT and advanced NAT for transparent use of multiple WAN / Internet links.
13	IPv6 support with IPv6 to IP4 and IPv4 to IPv6 translation and full IPv6 support.
14	IPv6 support with DNS 6 to DNS 4 & DNS 4 to DNS 6 translation
15	Domain name support for outbound link selection for FQDN based load balancing.
16	Dynamic detect (DD) based health check for intelligent traffic routing and failover
17	In case of link failure, device should detect it in less than 30 seconds and divert the traffic to other available links.
18	Shall provide individual link health check based on physical port, ICMP Protocols, user defined I4 ports and destination path health checks.
19	Should provide mechanism to bind multiple health checks, support for Application specific VIP health check and next gateway health checks.
20	Should support persistency features including RTS (return to sender) and ip flow persistence.
21	Should support various deployment modes for seamless integration including reverse proxy (IPv6 to IPv4, IPv4 to IPv6) and IPv6 to IPv6 transparent and reverse proxy mode.
22	IPv6-ready gold certified
	<b>Network security</b>
23	should support advance ACL's to protect against network based flooding attacks. Administrator should able to define ACL's rules based on connections per second (CPS) and concurrent connections (CC), cookie value.
24	Should support License upgradable feature to provide machine authentication based on combination of HDD ID, CPU info and OS related parameters i.e. mac address to provide secure access to corporate resources.
25	Should define ACL rules to restrict the connections per second (CPS) and concurrent connections (CC) utilizable for the clients on a specified subnet/IP or network
26	Should support QOS for traffic prioritization, CBQ , borrow and unborrow bandwidth from queues.
27	Should provide QOS filters based on port and protocols including TCP, UDP and ICMP Protocols.
28	Should support rate shaping for setting user defined rate limits on critical application.
29	should support integrated firewall module to protect the device itself from network based DOS and DDOS attacks.
30	Solution should support DDoS attacks from day one like Protocol Attack: SSL invalid packet, SSL handshake attack, SSL renegotiation, HTTP invalid packet attack – Application Attacks: HTTP slow attack, HTTP flood attack, long form submission, Challenge Collapsar (CC), Hashdos, DNS NXDomain flood – Network Attacks: SYN flood, ICMP flood, Ping of Death, Smurf, IP option – HTTP & DNS ACL rules, ACL blacklist – Monitoring and Logging: PUSH/ ACK flood, FIN/RST flood, Connection flood, UDP flood – Machine learning of traffic patterns and automatic configuration of HTTP/DNS thresholds to defend against anomalous traffic

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31	Appliance should have security features like reverse proxy firewall, Syn-flood and dos attack protection features from the day of installation .
32	<b>Global server load balancing for site failover</b>
33	The appliance should support site selection feature to provide global load balancing features for disaster recovery and site redundancy.
34	Global load balancing should support advance functions Authoritative name sever, DNS proxy/DNS NAT, full DNS server with DNSEC, DNS DDOS, application load balancing from day one
35	Capable of handling complete Full DNS bind records including A,MX, AAAA, CNAME, PTR, SOA etc.
36	GSLB solution should able to evaluate round trip time (RTT), Persistence loss ration (PLR) and hop count for dynamic proximity calculations.
37	The appliance should support global server load balancing algorithms including - Weighted round robin, Weighted Least Connections, Administrative Priority, Geography, Proximity, Global Connection Overflow (GCO),Global Least Connection (GLC),IP Overflow (IPO)
38	should support dynamic proximity and static proximity rules to direct the traffic to closest datacenter
39	Shall provide individual link health check based on physical port, ICMP Protocols, user defined I4 ports and destination path health checks.
40	GSLB SDNS should provide full IPv6 functionality with support for AAAA DNS resolution, proximity rule support for IPv6 , dynamic proximity (to detect IPv6 local DNS's) and SDNS health check for IPv6 service IP's
	<b>High Availability and Cluster</b>
41	Should provide comprehensive and reliable support for high availability and N+1 clustering based on Per VIP based Active-active & active standby unit redundancy mode.
42	Stateful session failover with N+1 clustering support when deployed in HA mode
43	Should support USB based FFO cable to synchronize configuration at boot time of HA
44	Support for multiple communication links for realtime configuration synchronizations including HA group, gateway health check, decision rules, SSF sessions etc.. and heartbeat information
45	should support floating MAC address to avoid MAC table updates on the upstream routers/switches and to speedup the failover
46	should support for secondary communication link for backup purpose
47	should support floating IP address and group for statefull failover support. Appliance must have support 256 floating ip address for a floating group
48	should support built in failover decision/health check conditions including, CPU overheated, system memory, process health check, unit failover, group failover and reboot
49	should also have option to define customized rules for gateway health check - the administrator should able to define a rule to inspect the status of the link between the unit and a gateway
50	Configuration synchronization at boot time and during run time to keep consistence configuration on both units.
	<b>Centralized Management</b>
51	The appliance should have extensive reporting and logging with inbuilt tcpdump like tool and log collection functionality
52	The appliance should have SSH CLI, Direct Console, SNMP, Single Console per Cluster with inbuilt reporting.

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53	Should support XML-RPC for integration with 3rd party management and monitoring of the devices.
54	The appliance should provide detailed logs and graphs for real time and time based statistics
55	Appliance must support multiple configuration files with 2 bootable partitions for better availability and easy upgrade / fallback.
56	The system should support led warning and system log alert for failure of any of the power and CPU issues

1.2 Deployment of onsite assistance by deploying Residential Engineer including 5 years Support.

1.4 All the hardware and software including application software should be complaint to CERT-in guidelines.

## **GENERAL ELIGIBILITY CRITERIA FOR SUBMISSION OF EOI**

<b><u>S.N o.</u></b>	<b><u>Eligibility Criteria</u></b>	<b><u>Supporting Document Required</u></b>	<b><u>Yes / No and Deviati on, if any</u></b>
1	The applicant shall be a single entity, registered as a Company, Firm, Partnership, or Society under respective acts in India & Should have been in existence in India for the last <b>SEVEN years</b>	Copy of Incorporation Certificate from authority or.  Registration Certificate from RoC.	
2	The agency must be registered in India with appropriate tax and other administrative authorities.	GST Registration  PAN Card	
3	The organization should have an average business turnover of at least 30% of the estimated cost of EOI in the last three years.	Certificate from the Chartered Accountant of the Organization.  Audited Balance sheets, Profit and loss account, Auditor report for last three years.	
4	An undertaking to the effect that no change has been made in the tender	Letter of undertaking as in FORM H/ Schedule H duly	

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	document; and they have not been banned/de-listed by any reputed organization in past. Information regarding any litigation, current or during the last five years, in which the Bidder is involved, the parties concerned and disputed amount. Undertaking that party is not blacklisted/debarred by any Govt./PSUs/PSE/Reputed Company) in last 5 years.	filled and signed.	
5	The organization or its office should be situated / located in India.	Provide a copy of the address proof	
6	Copies of Income Tax for three years upto assessment year 2023-24.	Provide copies of Returns of IT, , 2020-2021, 2021-22, 2022-23	

(1) SUGGESTIONS MAY BE INDICATED AS SEPARATE ANNEXURE PLEASE WITH JUSTIFICATIONS BASED ON THE EXPERIENCE OF HANDLING SUCH PROJECTS BY YOUR ORGANIZATION.

(2) ONE OR MORE EXPERIENCE CERTIFICATE FOR SIMILAR WORK MAY BE ATTACHED WITH THE BUDGETARY OFFER TO BE CONSIDERED BY EDP SECTION.

(3) LATEST TURNOVER CERTIFICATE FROM CA MAY BE ATTACHED TO PROVE THE FINANCIAL COMPETENCE OF THE COMPANY TO UNDERTAKE THE PROJECT.

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