Expression of Interest (EOI)
For
Study, Development and Implementation of Load Balancing Solution For the ICSI Webserver

Cost to be submitted with EOI: NIL

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Institute Website: www.icsi.edu
Statement of Confidentiality

The information contained in this EOI Document or subsequently provided to Bidder(s) / Applicants whether verbally or in documentary form by or on behalf of Institute of Company Secretaries of India (hereinafter “ICSI”) or by any of their employees or advisors, shall be subject to the terms and conditions set out in this EOI Document and all other terms and conditions subject to which such information is provided. The purpose of this EOI document is to provide the Bidder(s)/Applicants with information to assist the formulation of their proposals. This EOI Document does not purport to contain all the information each Bidder/Applicant may require. This EOI document may not be appropriate for all persons, and it is not possible for the ICSI, their employees or advisors to consider the investment objectives, financial situation and particular needs of each Bidder/Applicant who reads or uses this EOI document. Each Bidder/Applicant should conduct its own investigations and analysis and should check the accuracy, reliability and completeness of the information in this EOI document and where necessary obtain independent advice from appropriate sources. ICSI, its employees and advisors make no representation or warranty and shall incur no liability under any law, statue, rules or regulations as to the accuracy, reliability or completeness of the EOI document. ICSI may in their absolute discretion, but without being under any obligation to do so, update, amend or supplement the information in this EOI Document.
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1. INTRODUCTION:

The Institute of Company Secretaries of India (ICSI) is a statutory body set up by an Act of Parliament. It is functioning under the overall administrative jurisdiction of Ministry of Corporate Affairs, Government of India, and its Headquarters is located at “ICSI House” 22 Institutional Area Lodi Road New Delhi-110 003.

ICSI intends to implement Load Balancer for the ICSI webserver.

ICSI invites Expression of Interest (EOI) to Study, Develop and Implement Load Balancer for the ICSI webserver.

Eligible firms having deep understanding of Load Balancer and the experience to provide the above solutions are invited to submit their Expression of Interest (EOI) as per the details provided in this document by last date as mentioned in the first page.

The Expression of Interest should be sent to Shri Sutanu Sinha, Chief Executive, The Institute of Company Secretaries of India, by name at the Institute’s Headquarters in the envelope super scribing “EOI for Study, Development and Implementation of Load Balancer for the ICSI webserver” at

‘ICSI House’22, Institutional Area,
Lodi Road, New Delhi-110 003

The ICSI will not be responsible for any postal delays. Application through e-mail is not valid. The ICSI reserves the right to accept or reject any or all the applications without assigning any reasons, whatsoever.

(B. Pradhan)
DIRECTOR
2. **SCOPE OF THE WORK**

1. Bidder will study the existing infrastructure, applications of the ICSI and suggest Load balancer solution to cater the peak load of approximately 50 k transactions (Financials and non-financials both) in a day.
2. The solution should be scalable both in terms of the number of servers and number of end users. There shall be no limitations on these two accounts. The solution shall further be near linear scalable as per the increase in network elements and users without affecting performance in online and batch process mode. It shall also support parallel servers for load balancing.
3. The solution should comply with all functional, legal and regulatory requirements of the respective OEMs.
4. Solution should have standard and customizable user friendly reports.
5. The solution should ensure integration with various payment gateway applications for collection of various Fees and other applications & CRM systems needs to be handled in optimal way to achieve the desired goal of ICSI.
6. The solution should maintain logs and keep a record of events for later verification.

**Proposed Solution required should include, but not limited to, the following:**

1. The Proposed solution should include the separate multiple high end enterprise servers for web/application/database. The solution should include licenses for all H/W, Operating Systems, Database and Application Software.
2. The proposed solution should be in the form of hardware box. This is to ensure bidder should not give/offer solution in software form only.
3. Appliance should have minimum 8 GB memory with dual Power support. Memory should be good enough to ensure high performance and compatible for all OEMs.
4. Appliance should have LCD screen /LED on the front of Appliance and should display alerts and fault information for an administrator to monitor the system.
5. The proposed solution should Support minimum 2 Million TCP connections and minimum 100k TCP L4 CPS. The expected load is maximum 100000 Internet users for the site [www.ICSI.in](http://www.ICSI.in) and while the users open multiple sessions and explorer window which are new connections to the load balancer. The reason to have minimum 2 Million TCP connections is to ensure there are ample of available connection table for new request during peak time and have option to scale the appliance higher with new applications and services for more users for later time.
6. Minimum 15000 SSL handshakes per second/CPS @1024 Key size and 3000 SSL handshakes per second/CPS @2048 Key size without any SSL session reused with bulk throughput of 2 GBPS SSL handshakes per second. The proposed solution should support at least 10k of concurrent SSL users connected at 2048 key size.
7. The Proposed Solution should support High Availability and should support HA Cluster, as it would help move services from failed appliance to active appliance seamlessly without disconnecting any user sessions. Failover should happen in within 3 sec.
8. Load Balancer appliance should have various Topology Deployment like
9. **Appliance should have capability to Perform load balancing in**
   a. **Proxy mode (reverse proxy mode),** this is equivalent to star token system which does proxy connection from user to internal applications for hiding internal resources.
   b. **Transparent mode (client transparency mode).** In case the server needs client details transparency mode help track end user IPs.

10. **The appliance should support X-forwarder option.** The appliance should have option to enable x-forwarder option per service to log actual client IP in web server log.

11. **The proposed solution should have capability to handle and configure multiple load balancing (Layer 7) protocols on same appliance.** The proposed solution should support multiple protocols like http, https, ftp, TCP, TCPS, Radius applications which can be configured with its own profile per service and be able to route the applications independently of server location or network schema, hence more applications will benefit from load balancer services.

12. **The proposed solution should have capability of Rate Limiting and TCP Surge Protection.** Appliance should support rate limiting connections for client to backend servers at the same time support TCP Surge protection, In an event of connection surge from end client the appliance should be able to queue the connection without dropping them.

13. **The proposed solution should have the capability to configure multiple services on same Virtual IP with different ports and services options.** In case the applications have same IP schema and need port based server selection, the load balancer should be able to ensure port based server selection for minimizing IP overuse and have support for same Virtual IP for port based grouping.

14. **The proposed solution should have the capability of Rate shaping & QoS Support Solution** so that all applications work optimally without impacting user experience. (Rate shaping helps connection control and request per source to prevent DoS attacks and ensure minimum resources are available for all users, e.g. 10 connections per second per source ip to ensure that one ip does not overload the server TCP stack and server process).

15. **The appliance should have feature of Cluster failover with within 3 second failover** (Cluster help move services from failed server to cluster server and hence help continuity for applications access Multiplexing Server Side Connection).

16. **Load balancing should support minimum IP based persistency, session based cookie persistency and headers inspection, URL redirection, hash IP, round robin, shortest repose time and least connections, these are various algorithm support for maximum options and help granular control per service and applications.**

17. **SSL offloading:** The appliance should have feature of SSL Offloading which should have
   a. **Dedicate SSL Chipset for SSL Offloading.** SSL offloading should be done by dedicated hardware instead of shared of CPU used for load balancing.
   b. **Minimum 2 Gbps SSL Throughput Max.** SSL Bulk Crypto should be minimum 1 Gbps for ensuring SSL connections are used with good performance.
c. SSL be card based for 1024 and 2048 bits certificates and support 4096 bit. All Server certificate that are 1024 or 2048 bit need to be supported, Appliance should also support 4096 bit for future requirement.

d. SSL Renegotiate DoS protections from Various SSL Attacks.

18. **HTTP and TCP Layer Acceleration**: The appliance should have feature of Compression with

a. Appliance should support minimum 2Gbps Hardware or Software Compression (Compression helps speed up the application access for end users and enable faster transactions and speed)

b. Per browser and service control for Mime (Multipurpose Internet mail extension) type reporting (MIME is a identifier of browser version and helps control compression per browser, like pdf compression in ie6 has issues as reported by Microsoft so mime selection can prevent pdf compression issue by disabling pdf compression for ie6 but enabled for other version hence controlling compression support per service)

c. Support TCP Optimization.

19. **Caching**: The appliance should have feature of Caching with

a. Per file type/content type TTL control. This feature ensures the load balancer perform compression for valid file types and avoid private data caching

b. Per service application cache details and responses. The cache report per service help identify cache performance and optimization capability

c. Dynamic content caching. Should have intelligence to caching of dynamic content so enables the correct content is delivered to the end user always

d. Push static content to local client machine. Appliance should be able to push static contents to client browser to reduce WAN Bandwidth cost.

e. Change expiry timers. Should support change lifetimes of content passed by the backend servers to the client. These lifetimes can be made specific to any parameter that the user may want to identify. Should support OBEY OR DISOBEY lifetimes set by the backend server.

f. Customize Cache Timers. Cache period configurable i.e. for e.g. can NS set the MAX-AGE value in the Cache Control

g. Per service caching filter support. Per service filter helps granular control and optimizing cache performance per site.

h. Appliance support asymmetric acceleration. Appliance should support ASSYMMETRIC deployment without any need to deploy any WAN optimization device. The user can log into the application from any location and get similar experience from any appliance

i. Support content and white space Stripping. Reduce Web page load time on but stripping unwanted Data on WAN.

j. Support Content Reordering. This feature will help to reorder the Web page content to improve user experience and reduce the page loading time

20. **IPv6 Support**: The product should support IPv6 ALG and NAT64.

21. WAF as well as ADC and Load Balancer should complied and support IPv4 and IPv6 both. This feature helps Dual Stack Support for old as well as new schema.

23. **Web Application Firewall:**

   a. The proposed solution should have Web Application Firewall with Minimum throughput of 1 Gbps for Internet segment. The proposed solution should provide minimum 1 Gbps throughput with all features enabled (load balancing, SSL offloading, Compression, Cluster, Caching, Web application firewall-advanced and logging) to ensure the solution is scalable and more applications can be added later.

   The proposed Solution should have Inbuilt Web Application Firewall in the same appliance. The Appliance should be able to handle Top 10 OWASP Attacks as well as Zero Day Attacks, Should have Vulnerability Scanner or Support integration with 3rd Party Vulnerability Scanner example Cenzic, Whitehat, Qualsy etc, Should Support Application compliance reporting, should support HTTP, XML, JASON & AJAX protocol, Should support positive and negative signature Module, should support inbuilt reporting.

   b. Solution should Support Layer 3 to Layer 7 Support with advance protection for http request and response. Application firewall should be able to prevent any attack from Layer 3 to layer 7.

   c. The solution should have reporting feature on same appliance Should be able to generate WAF report on same appliance.

24. **Reporting & Management:**

   a. The solution should Support High Speed Logging Solution should Support integration with RSA Envision and 3rd Party Logging Engine.

   b. The solution should support Customize Logging. Customize Logging Attributes to reduce Logging size.

   c. The proposed solution should give real Time Reporting and Monitoring. This feature will help to get real time report and fault identification etc. e.g. real server response and outstanding requests, real server/virtual server status and system statistics etc. Reporting is important and required for ensuring real time and historical trending and base lining for trending usage, Should support reporting of all modules on same platform/appliance.

   d. The appliance should have feature of SSH, HTTPs and Console access The appliance should have multiple management options which are secure and easy to use for configuration.

   e. The appliance should Support for segmentation and routing per service Segmentation controls application flow to respective gateway per server and helps multiple segment control for various applications.
3. CURRENT SETUP AT THE ICSI

Infrastructure:
1. ICSI.edu and ICSI.in domain hosted are on data centers
2. ICSI.edu domain has one server hosting both Web Application and Database.
3. ICSI.in domain is to provide the online services and is integrated with total of 8 servers i.e. 1 application server, 4 database servers, 1 email server, 1 sharepoint server and 1 SMS server.
4. Out of the above mentioned 4 database servers, 3 servers are also being used offline by the users in the Institute for data entry, processing and reporting purpose. These 3 database servers are synchronized with remaining one database server (which is working online for icsi.in domain) and vice versa.
5. www.icsi.edu website is HTTP enabled and www.icsi.in is both HTTP and HTTPS capable and enabled.
6. ICSI.edu is primarily hosting static contents and links to other sites including icsi.in.
7. Users are redirected to ICSI.in from ICSI.edu for accessing online services.
8. No load balancing solution is implemented in the current setup.
9. The internet bandwidth of the data center where icsi.in domain is hosted is 20 MBPS. The said bandwidth is also used by the users of the site.
10. Icsi.edu domain is hosted with unlimited bandwidth.

Payment Gateway
Following Online Payment Gateway are currently implemented in the ICSI. Number of gateways may be increase or decrease as per the requirement of the ICSI
1. Billdesk
2. Axis Bank
3. City Bank
4. Tech Process

Applications
Tentative list of the online services (Accessible through https://www.icsi.edu ) provided by the ICSI to its stakeholders is placed below. Number of services may increase or decrease as per the requirement of the ICSI

1. Online Services for Members
   - Payment of New Admission Fee/ Annual Membership Fee / CP fee / Restoration Fee / CP renewal Fee / CSBF Fee
   - Duplicate Payment Receipt – Without login
   - Various e-Letters generation
   - Integrated Emailing and SMS facility for transactions
   - Membership Profile
   - Membership Directory – Without login
• Address Change
• Facility to restrict fields from display in Membership Directory
• Credit Hours Certificate (Member) / Credit Hours Updation (RO/Chapter/HQ)
• Placement
• Grievance Redressal
• Registration for National Convention
• E-Cart Services

2. Online Services for Students
• Registration (Foundation, Executive ) – Without login
• Professional Registration
• Registration Denovo
• Extension of Registration
• Exemption (qualification based)
• Switchover
• Enrollment for Examination
• Center Change (After Enrollment)
• Medium Change (After Enrollment)
• Module Change (After Enrollment)
• Online payment facility / Offline Payment facility through Challan
• Duplicate Payment Receipt – Without login
• E-cart Services
• Integrated Emailing and SMS facility for transactions
• Password Change/Reset facility – Without login
• E-Admit Card through Third Party Portal - Without login
• Result cum E-mark sheet through Third Party Portal - Without login
• Facility of Registration for result through e-mail - - Without login
• Enrollment Status - Without login
• Student Profile / Overall Status
• Registered Companies and PCS for training - Without login
• Registration Status - Without login
• Denovo Registration Status - Without login
4. **ELIGIBILITY CRITERIA:**

1. The Bidder/Applicant shall be a company incorporated, registered under the Indian Companies Act, 1956 or by a competent authority in case of foreign Bidder/Applicant companies.

2. The Bidder/Applicant must not have been declared bankrupt / insolvent or should not have filed for bankruptcy / insolvency in the past five years or in the process of being declared bankrupt / insolvent before any designated authority in any country.

3. The company shall have a minimum audited annual turnover of INR 50 lakhs or equivalent each year during last 3 financial years in Load Balancer domain.

4. Bidder/Applicant shall have full cycle implementation of Load balancer application(s) relating to online Services (including payment gateways) to stakeholders in a reputed organization with at least three implementations in last three years in India.

5. The Bidder/Applicant should not have been black-listed by central/ state governments/ PSUs.
5. DOCUMENTS ESTABLISHING BIDDER/APPLICANT’S ELIGIBILITY:
The following documents are required to be submitted along with the EOI bid. Non-submission of any documents or submission of incomplete, misleading or false information may render the bidder liable for summarily rejection or cancellation of its EOI.

1. A copy of Certificate of Incorporation from Registrar of Companies or from competent authority in case of foreign companies, signed by the Company Secretary / authorized signatory of the Bidder/Applicant Company.

2. Copy of Articles of Association and Memorandum of Association.


4. Board resolution in favor of the Authorized Signatory including attestation of the signatures of the Authorized Signatory by the company’s bankers.

5. Certificate regarding Bidder/Applicant Company not being bankrupt/ insolvent from statutory Chartered Accountant/ Company Secretary of Bidder Company.

6. Experience / Implementation Certificate from at least three separate companies wherein the Bidder/Applicant has done a full cycle implementation of Load balancer application(s) preferably relating to reputed organization / educational institute/university/college etc in last three years in India.

7. List of Directors on the Board of the Company/ proprietor in case of single or joint proprietors with their address (es), contact telephone numbers, email id etc.
6. **GENERAL CONDITIONS**

1. The vendor must be a reputed service provider. The authority for all products provided from the manufacturer must be submitted. The EOI received without authority are liable to be rejected.
2. All the pages should have page no. and authenticated by authorized Person
3. Hard copy and soft copy (in USB/Pen Drive/CD) of EOI should be submitted in sealed cover.
4. The Purpose of this EOI is to shortlist the LBS Vendors and prepare a RFP on the basis of their study and presentation on the LBS. The EOI bidders will help the Institute to develop the RFP for the job but it no way restricts the Institute to go for inviting bids through open tendering process.
5. The Bidders/Applicants are advised to study the requirements of the Institute in details before submitting their application/bid and the presentation..
6. **AMENDMENT OF EOI DOCUMENTS**
   a) At any time, prior to the date of submission of bids, ICSI may, for any reason, at its own initiative modify EOI document by amendments.
   b) The amendments shall be notified on ICSI’s web site, i.e. at https://www.icsi.edu and these amendments will be binding on all the Bidders/Applicants.
   c) In order to afford prospective Bidders/Applicants a reasonable time to take the amendment into account in preparing their bids, ICSI, at its discretion, may extend the deadline for the submission of bids suitably.
7. Bid shall remain valid for 180 days from the date of opening of bids. A bid valid for a shorter period shall be rejected.
8. The last date for receipt of sealed EOI in the Institute and opening of bids is mentioned on the first page of the document. No separate communication will be issued in this regard. Bids will be opened in the presence of the intending vendors or their authorized representatives, who wish to be present. In the event of due date being a closed holiday or declared Holiday for Central Government offices, the due date for opening of the EOI will be the following working day at the appointed date, time & venue.
9. Site for study / inspection / delivery / installation is as under:
   The Institute of Company Secretaries of India
   Plot no. C-37, Sector – 62, Noida (U.P.)
10. The vendors shall be invited for a presentation of their solution subsequently.
11. For any further details /clarifications pertaining to presentation, Office of Shri Ankur Yadav, Senior Director Information & Technology in ICSI (0120-4522012) may be contacted.

7. INFRASTRUCTURAL DETAILS

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<td>2</td>
<td>Tele/Fax/E-mail/Cell No. Of the company</td>
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<tr>
<td>3</td>
<td>Detail of Contact Persons authorized by the company to execute documents on its behalf, with ICSI (Designation, Tel, E-Mail)</td>
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<tr>
<td>4</td>
<td>Details of registered office, if any along with contact person's name and Contact detail (Tel / Mobile &amp; E-Mail)</td>
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<td>5</td>
<td>Income-tax registration number along with documentary evidence</td>
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<td>6</td>
<td>A) Sales tax registration number along with documentary evidence B) Please also specify if you are registered with appropriate Authority under Works Contract Act, 1999. (Please provide details)</td>
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<tr>
<td>7</td>
<td>List of clients to whom services (as per this EOI) in last 3 year provided with details of company, value of business, concerned person name &amp; his telephone no. (Please attach full details)</td>
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8. DECLARATION

1. The undersigned certifies he/she is authorized to obligate the represented firm and further agrees with all terms, conditions, and requirements of the ICSI's EOI.

2. We have no objection if enquiries are made about the work listed by us in the accompanying sheets / annexure.

3. We agree that the decision of the ICSI in selection process will be final and binding on us.

4. We confirm that we have not been barred / blacklisted / disqualified by any Regulators / Statutory Body in India and we understand that if any false information is detected at a later date, the assignment shall be cancelled at the discretion of the institute.

5. All the information furnished by us here in above is correct to the best of our knowledge and belief.

Place: SIGNATURE OF THE APPLICANT

Date: NAME & DESIGNATION SEAL OF ORGANISATION