

## Institute for Development and Research in Banking Technology (Established by Reserve Bank of India)

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IDRBT/IFN/NPD/6.9/125/2014-2015

29<sup>th</sup> April 2014

### **Invitation for “Expression of Interest for Setting Up and Managing Nationwide Secure WAN Connectivity at INFINET DC locations and INFINET CUG Member Banks”**

IDRBT, the premier Institute of Banking Technology in India, invites “Expression of Interest for Setting Up and Managing the Nation-wide Secure WAN Connectivity provided by multiple Telecom Service Providers at INFINET DC locations and INFINET CUG Members Banks,” from Network Integrators (including Telecom Service Providers) with proven experience and track record.

#### **Background**

IDRBT was established by the Reserve Bank of India in 1996 and was entrusted with the responsibility of evangelizing and pioneering the absorption of technology in the banking and financial sector. The major technology initiatives of the Institute include setting up and managing the nationwide communication backbone for the INFINET – the Indian Financial NETWORK (INFINET) with a 99.99% uptime. Indian Financial NETWORK (INFINET) is a communication backbone for the Indian payment system for enabling financial transactions between banks, financial institutions and the central bank of country (Reserve Bank of India). The INFINET MPLS Network is a CUG (Closed User Group – consisting of Reserve Bank of India (RBI), Banks and Financial Institutions) network. INFINET has its point of presence across the country, using MPLS technology in HA mode. The INFINET MPLS network is a backbone network connecting 2 IDRBT locations, 45 RBI offices and 220 banks across the country.

“Expression of Interest for Setting Up and Managing the Nation-wide Secure WAN Connectivity provided by multiple Telecom Service Providers at INFINET DC locations and INFINET CUG Members Banks” for a period of 5+2 years from the date of acceptance. The INFINET network is aimed to improve the availability of INFINET to CUG Members, based on major and reliable multi telecom service providers in the country, resilient to network outages and having feasibility at remotest part of the country. The respondents shall appropriately estimate and design the network, meeting the requirements mentioned in this document, which shall guide the bidders in proposing an optimal system. The broad requirements and the Scope of Work as under:

#### **The vendor shall provision:**

##### **1. Delivery of Last Mile and CPE:**

- a. For Supply, Install, Configure and Maintenance of INFINET network devices and provisioning of INFINET connectivity at 2 IDRBT locations, 3 RBI DC locations, 42 RBI ROs and 220 Member Banks through Multi Telecom service providers (TSP) to access INFINET applications smoothly and securely.
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- b. The Last Mile connectivity shall be through fiber and ensure the Last Mile is through redundant paths using the TSP own infrastructure.
- c. The CPE and the Last Mile connectivity shall be procured on rental basis. If required the vendor shall be able configure router provided by RBI/IDRBT/Member Bank, the vendor shall configure and maintain the router configuration only.
- d. At DC locations CPE shall support 1 Gb Ethernet by default.
- e. All CPE's deployed at RBI and Member Bank locations in INFINET shall be managed and maintained by the vendor.
- f. The minor components like cables etc., should be supplied by the vendor.

## **2. INFINET Network Uptime :**

- a. TSP shall ensure that network architecture and configuration will support uptime of 99.99% for each link.
- b. Any two or more telecom service providers shall be paired up for auto failover configuration, the vendor shall ensure Auto failover configuration at IDRBT / RBI and bank locations.
- c. The configuration shall support Low latency (less than 100 ms), no packet loss in the network. In case of failure of link and or equipment, the solution shall ensure business continuity by making sure that the network data traffic flows through alternate link/ring and equipment.
- d. In case of disruptions, IDRBT reserves the right to make any service provider interface/link/CPE admin down based on the business requirements.

## **3. INFINET SLA :**

- a. The penalty for meeting network level uptime parameters are as under and not limited to:
  - Huge packet loss not more than 5% packet loss continuously
  - High Latency not more than 100 msec
  - Link/Protocol Flapping not more than 5 minutes
  - Last mile outages
  - CPE related outages/issues
  - Configuration issues and Maintenance issue
  - Not addressing/attending to issue in a timely manner etc., are as per Annexure - II.
- b. The vendor shall coordinate with telecom service providers selected by IDRBT.
- c. The vendor shall submit SLA Compliance for the services rendered period along with invoice.
- d. The SLA Compliance report will be based on Annexure – II.
- e. The RCA/RFO for the incident in the network monitoring setup shall be submitted in T+1 day time frame.

## **4. INFINET IPv6 Schema :**

- a. The vendor shall comprehensively design INFINET IP Schema using IPV6 Address format for all RBIs and Member Banks based on Bank Name and location name.
- b. The IP Schema shall be simple and scalable to address future requirements also.
- c. The entire INFINET setup shall be operational using IPV6 from the day of implementation of INFINET connectivity.

## **5. INIFNET BCP :**

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- a. The network shall be designed and configured to support all BCP scenarios without any major changes in the network.
- b. The vendor shall design and submit BCP document covering all scenarios of INFINET.
- c. The vendor will co ordinate with all the other service providers finalized by IDRBT to ensure reliability and availability of INFINET network all the time.

#### **6. INFINET Network Monitoring:**

- a. The vendor shall set up an NOC to operate, monitor and maintain his network using the vendors own latest Network Monitoring Infrastructure – As per Annexure - II.
- b. Monitoring of INIFNET End to End WAN connectivity for IDRBT/RBI and Member banks locations.
- c. The vendor shall be able to display the Topological view of entire INFINET.
- d. Generate and Customize INFINET MIS reports for network monitoring and capacity planning etc.,
- e. Overall Dashboard of IDRBT/RBI and Member banks and also individual login to view dash board for IDRBT/RBI and member banks using Annexure - II.
- f. The RCA/RFO for the incident in the network monitoring setup shall be submitted in T+1 day time frame.
- g. IDRBT shall receive Alerts, Alarms via SMS and email.

#### **7. Desirable:**

- a) Knowledge/Experience in Next Generation technologies such as Software Defined Networks (SDN), Application aware networking, Automatic Switched Optical Networks (ASON), WAN Optimization etc., is desirable.

#### **8. Payment Terms and Conditions:**

- a. IDRBT shall pay the contracted amount on quarterly basis, after deducting the penalty amount and on successful discharge of service by the vendor.
- b. All payments will be released based on submission of invoices along with necessary SLA evidence/Reports of rendering of service as per stipulated in the requirements.
- c. The vendor is required to quote CST/APGST /Service Tax Reg No / PAN. on the invoice submitted for payment.

The details of the vendor may be furnished with the response as per the format at Annexure-I. IDRBT at its discretion will add/modify/remove any of the requirement mentioned in the above list.

#### **Eligibility Criteria**

Respondents should check whether they qualify to provide the required solution as prescribed in this document before expressing interest.

- I. The vendor should demonstrate maturity, experience and domain expertise in designing, implementing and maintaining large networks.
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- II. The vendor should have developed and implemented a similar system, backed by credentials from actual users, if called for by the IDRBT.
- III. The vendor should declare that they are not black listed or debarred by any organization for similar projects during the last 5 years.
- IV. The vendors should be authorized Bidder/representative in India and should have proven expertise on the solution using OEM equipment. An Authorization letter to this effect should be furnished by OEM.
- V. The vendor should be a legal entity possessing all authorizations and registrations, and should be a going concern.
- VI. Final balance sheets evidencing positive net worth & net profit making company for the last three years be produced as evidence and minimum turn over should be 100 Crore per year in last three financial years.
- VII. A broad approach to the project may be suggested in the response.

Only those eligible vendors who respond to the EOI and participate in the evaluation process including presentations and discussions (if any) will be eligible to receive limited RFP (if any) for “Expression of Interest for Setting Up and Managing the Nation-wide Secure WAN Connectivity provided by multiple Telecom Service Providers at INFINET DC locations and INFINET CUG Members Banks” from IDRBT and to participate.

The clarification meeting is scheduled to be held at IDRBT, Hyderabad on **15<sup>th</sup> May 2014 at 11:00** hrs IST. Please communicate queries to Dr. N. P. Dhavale at [npdhavale@idrbt.ac.in](mailto:npdhavale@idrbt.ac.in), before the above date & time, in case of any queries.

The EOI may be submitted duly signed and stamped by the authorized signatory of the organization not later than **2<sup>nd</sup> June 2014 at 15:00** hrs IST. Further, the EOI should be submitted in a sealed envelope clearly superscribing on the envelope “Expression of Interest for Setting Up and Managing the Nation-wide Secure WAN Connectivity provided by multiple Telecom Service Providers at INFINET DC locations and INFINET CUG Members Banks” as per **EOI No IDRBT/IFN/NPD/6.9/125/2014-2015, dated 29<sup>th</sup> April 2014**.

The EOI may be addressed to The Director, Institute for Development and Research in Banking Technology, Road No. 1, Castle Hills, Masab Tank, Hyderabad - 500 057.

#### Annexure – I

- a. Name of the vendor
  - b. Address
  - c. Telephone, fax and mobile No.
  - d. Email for contact
  - e. Website
  - f. List of partners (Domestic and International)
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- g. Number of production offices
- h. Expertise in areas:
  - i. Technology Consultancy
  - ii. Design of systems, architecture
  - iii. Implementation, operations and Maintenance
  - iv. Number of years of experience in this area and No of projects of similar nature executed.
  - v. No. of employees (including no of highest certified professionals in networking)
  - vi. Other details which the vendor wants to bring forth.
  - vii. A brief description of the system proposed with salient features, covering architecture, licensing related aspects, ease-of-use, backward and forwards integration capabilities, and other aspects.

**Annexure – II**

**1. SLA Conditions:**

- a) The problem attendance time at any INFINET location (RBI or Member Bank) is immediate and router replacement, if required, shall be done immediately.
- b) Uptime % of each Point to Point links will be calculated as under:

$$\frac{(365 \times 24 - \text{Planned maintenance time}) - \text{Down time}}{(365 \times 24 - \text{Planned maintenance time})} \times 100$$

**Penalty Stipulations:**

These penalties are applicable for each link provisioned

S.No	Level of Network Uptime	Penalty on PO Value
1	>=99.99% to 100%	0 % Penalty
2	>99.94% to <=99.99 %	10 % Penalty
3	> 99%to <=99.94	20% Penalty
4	<99%	No Payment of rental charges

**Note:** - The downtime includes Device going faulty, logical and configuration issues.

<b>Tentative Report Format for Network Monitoring using Key Network Parameters</b>			
<b>Sno</b>	<b>Parameter Description</b>	<b>Threshold Value</b>	<b>Periodicity</b>
<b>1</b>	<b>Device Availability CPE</b>		
a	Devices that is not reachable for more than 5 minutes		<b>Executive Report</b>
b	CPU Utilization in %	>70%	"
c	Memory Utilization in %	>70%	"
d	Mean Time Between Failures	One Month	<b>Monthly</b>
e	Mean Time To Repair	4 hours	"
<b>2</b>	<b>Interface Availability and Performance</b>		
a	Interface not reachable for more than 5 minutes.	>5 Minutes	<b>Executive Report</b>
	Primary Protocol Status	>5 Minutes	"
	Failover Protocol Status	>5 Minutes	"
	Physical I/O Status	>5 Minutes	"
<b>3</b>	<b>Link Performance</b>		
a	Link Availability	<99.9%	<b>Executive Report</b>
	Link Utilization	>70%	"
b	Packet loss %	>0.1%	"
c	CRC Errors	>1%	"
d	Round Trip Time	>100 msec	"
e	Latency	>70 msec (Avg)	"
f	Jitter	Sensitive	"
g	Site Availability (When Both links are down)	Both Link/Boxes Down	"
h	Locations where Auto failover not happened		"
<b>4</b>	<b>Application Wise (IP) and Port utilization.</b>		
a	Top 30 IPs Application wise utilization.	30 IPs	<b>Executive Report</b>
b	Top 30 IPs Port wise utilization.	30 IPs	"
<b>5</b>	<b>Report Summary</b>		
a	Calls Received from RBI		<b>Executive Report</b>
b	RFOs		"
c	TT Raised with Service Providers	Pending RFOs > 2 hrs	"
d	Configuration Changes in the network	Pending > 4hrs	"
e	Inventory of the network (Upgrade in Box/Link)		
f	Service Provider SLA Compliance Report		<b>Monthly</b>
<b>Please Note: The tentative report format and may changes as per the requirement at IDRBT. The provider may add if any important parameter(s) missing.</b>			

### Tentative Network Architecture

Typical INFINET MPLS with Multi Service Provider Connectivity

