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PREQUALIFICATION FOR WEB MANAGEMENT SOLUTION

Pakistan Telecommunications Authority

HOME PTA HQ F-5/1 Islamabad Pakistan

Contents

1. Introduction

1.1   Pakistan Telecommunication Authority (PTA), a regulatory authority for the telecommunication sector in Pakistan was established as a body corporate under Section 3 of the Pakistan Telecommunication (Re-Organization) Act, 1996. It regulates the establishment, operation and maintenance of telecommunication systems and the provision of telecommunication services in Pakistan. It is empowered under the Act to promote and protect the interests of users of telecommunications services in Pakistan and to ensure that said interests are duly safeguarded.

1.2   The Prevention of Electronic Crime Act (PECA) Clause 37 empowers PTA to regulate internet content as under:

> *"Unlawful on-line content.-(I) The Authority shall have the power to remove or block or issue directions for removal or blocking of access to an information through any information system if it considers it necessary in the interest of the glory of Islam or the integrity, security or defense of Pakistan or any part thereof, public order, decency or morality, or in relation to contempt of court or commission of or incitement to an offence under this Act."*

1.3   In discharge of its statutory obligations PTA has planned for deployment of a sophisticated Turn-key Technical solution hereinafter referred as ***"Web Management Solution (WMS)"***, at national level, for identifying and blocking access to any on line content classified as unlawful under PECA.

1.4   In line with PPRA prequalification process, interested parties are required to provide response against Annexures 1.A to 1.E of this document in a single sealed package to display their capability against PTA requirements.

1.5   Other details related to submission are:
- The Applications should reach PTA Headquarters Islamabad before 12:30 PM (Pakistan Standard Time) on 22nd March 2018.
- PTA shall follow the Public Procurement Regulatory Authority Ordinance, 2002, and all Rules and Regulations made there under. Relevant legislation in this regard is available at (www.ppra.org.pk).
- Details for Applicants:

Name of Procuring Agency	Pakistan Telecommunication Authority
Last date for Application Submission	22nd March, 2018 12:30 PM Pakistan Standard Times (PST)
Application Opening	22nd March, 2018 at 02:30 PM PST
Application Opening Place	PTA HQs, F-5/1 Islamabad, Pakistan
Contact Person	Assistant Director (IP&WA)
Phone:	051-9215145
Fax:	051-2878132
Email:	khalidwazir@pta.gov.pk

- Complete mailing address for submission:

Assistant Director (IP&WA)
Pakistan Telecommunication Authority
PTA HQs, F-5/1, Islamabad Pakistan
Email: khalidwazir@pta.gov.pk

1.6   PTA will prequalify the Applicant(s) after an open transparent process, in accordance with compliance shown against PTA requirements, relevant experience, past projects and financial position.

1.7   PTA is not bound to accept any of the applications submitted, however, upon request, ground of rejection of all applications, shall be communicated to the applicant.

1.8   Applicant shall not be hired for any assignment that would be in conflict with their current obligations to other governments, any GoP office, or that may place them in a position of not being able to carry out the assignment in the best interest of Pakistan.

1.9   Applicant or any of their affiliates shall not be hired for any assignment which, by its nature, may be in conflict with another assignment of the Applicant.

1.10   The qualified applicants shall be eligible for participation in any procurement process carried out by PTA for WMS and the successful bidder shall be selected after an open transparent bidding process, in accordance with 'Quality and cost based selection' method.

2. Scope of Work

2.1. Terms of Reference

1. Supply, installation and configuration of applicable hardware/software/middleware to establish Web Management Solution (WMS) for live Management of Internet traffic passing through country's internet gateways, for:
   a. Identification and prevention of public access to following internet content which is classified as unlawful under PECA:
      o Pornographic
      o Blasphemous
      o Indecent or immoral
      o Anti-State
      o Contempt of court
      o Law and order
      o Incitement to an offense
      o Sectarian
      o Others as stated in law for time being in force
   b. Crawler with auto learning functionality to automatically identify and classify unlawful content available on the internet as per classification at point (a) above (i.e. HTTP, HTTPS,SPDY,QUIC, RTSP etc.).
   c. The ability to restrict delivery of unlawful content to the public without affecting any other content being served by the same Server / Website / Domain.
2. Provide training to designated PTA Human Resource for carrying out Hardware and Software configuration and Operations of the WMS.
3. PTA or its designated team should be able to easily operate WMS and configure changes to tailor the solution for on-going developments in the field.
4. WMS should be robust and scalable for supporting increase in International bandwidth and newer Internet technologies/protocols.
5. Provide WMS hardware and software support at no cost for a period of (03) three years.

2.2. Network Monitoring Sites
Following are the designated monitoring sites:

1. PTCL IGE-I Pak Capital Exchange Karachi
2. PTCL IGE-II, Marston Exchange Karachi
3. PTCL IGE-III - Satellite Town Exchange Rawalpindi
4. PTCL Misri Shah Exchange Karachi
5. TWA – Hawks Bay Landing station Karachi

The current total volume of complete internet traffic is around 1.5 Tbps.

2.3. Technical Deliverables

Solution Deliverables

2.3.1 Installation of requisite hardware and software on international Gateways, for live management of complete Internet traffic.

2.3.2 The technical solution should not degrade the quality of the monitored Internet traffic in any manner.

2.3.3 Intelligent Port independent monitoring for all Internet sessions.

2.3.4 The solution should be able to monitor and distinguish between all standard Internet Protocols / applications with the ability to develop support for new, non-standard and proprietary protocols / applications within a mutually agreed timeframe.

2.3.5 Asymmetry of Internet traffic should be catered if the same is effecting the identification of unlawful internet content.

Analysis and Functional Deliverables

2.3.6 Real time analysis of Internet traffic to automatically identify unlawful internet content (i.e. web pages, images, videos, words, applications etc.) and block it for public viewership as and when required.

2.3.7 Crawler with auto learning functionality, for identifying and classifying all type of unlawful internet content designated under PECA i.e. pornography, blasphemy etc.

2.3.8 Ability for PTA to designate a specific internet content/application as unlawful.

2.3.9 Ability to develop and enforce policies using intuitive GUI (Graphical User Interface).

2.3.10 Facility to only analyze and identify unlawful content from designated HTTPS websites and applications with the ability to exclude certain applications and HTTPs contents (i.e. financial websites etc.) and vice versa.

2.3.11 The System to further ensure that only unlawful web content for a particular domain are blocked without affecting access to rest of the domain for HTTP as well as HTTPs.

2.3.12 Ability to identify IP addresses / user information which are accessing/using specific web content/application.

2.3.13 Ability to display a warning to the user upon accessing unlawful web content.

2.3.14 As and when required, System should be able to generate reports related to identification and blocking.

2.3.15 Ability to classify web sites (i.e. social, pornographic, Financial, sports, etc.).

2.3.16 Ability to collect country wide statistics related to website (i.e. number of times being accessed; number of sessions being made to, etc.).

Data and Storage Deliverables

2.3.17 Logs for IP addresses / User information accessing unlawful content shall be stored in a central database to facilitate analysis / Data Mining with the facility to export data to standard formats i.e. CSV, XML etc.

2.3.18 Store and classify information against unlawful content identified by the System itself.

2.3.19 Data backup/restoration facility in terms of disaster recovery should also be provided for monitored data.

2.3.20 The information stored in the central database shall serve as the basis for further data manipulation (filtering, statistical calculation, summarizing, reporting).

2.3.21 All databases shall be in an encrypted form with changeable encryption keys.

2.3.22 System SAN should account for 180 days of data availability in the main database with storage solution for archiving the data exceeding 180 days.

System Management and Configuration

2.3.23 The System shall provide user-friendly tools for system configuration and administration. Following functions are mandatory:
   a. Configuration: Display of HW/SW configuration of all probes, Auto-configuration of probes, Re-configuration of probes.
   b. Parameters: Name/number of probe, interface types and characteristics.

2.3.24 The system shall also support IPV6 in addition to IPV4.

2.3.25 The system should be easily extendible towards integration into related systems (open system/open interface).

2.3.26 System shall generate statistical Reports related to Captured Traffic with the ability to robustly add new reports as per requirement.

2.3.27 System software(s) shall be licensed in a transparent and modular form.

2.3.28 For the application server(s) an open multi-user and multi- tasking operating system is to be used.

2.3.29 The System client side shall expose graphic user interfaces, which allows the user to easily configure network and management system elements, to define signaling measurement applications and result queries.

2.3.30 All NEs will be synchronized using a GPS receiver or PTA authorized source.

2.3.31 The systems should support protocols like SNTP for internal synchronization.

2.3.32 The maximum acceptable time deviation is 10 milliseconds.

2.3.33 Centralized dashboard shall also be provided to view reports/statistics.

Fault Tolerance and Alarms Management

2.3.34 The system shall recognize data communication failures between monitoring and storage components to ensure a fallback solution to compensate for the loss.

2.3.35 Data storage should be ensured for communication failure up-to a maximum duration of 72 hours.

2.3.36 System should be equipped with a sophisticated NMS to identify all System management issues in real time.

2.3.37 System should generate and transport real time alarms through NMS, emails and SMS.

2.3.38 These alarms may include but not limited to the breakdown of a monitored link, probe power mains, critical storage levels, any other component of the system or any other alarm situation deemed necessary for the operations team to know without delay.

2.3.39 All alarms and user notifications shall be displayed on the graphic user interface of the client workstations per network element.

2.3.40 The user may subscribe to only a subset of all available alarms and ignore others.

2.3.41 Alarms shall be logged into a file for further processing.

2.3.42 Different severity levels for alarms shall be definable.

Management Component

2.3.43 The System should provide management facility to:
  - Block complete communication of certain IP(s) or disrupt any of its designated Internet sessions without affecting normal traffic flow for its other Internet sessions.
  - Restricting access to designated web content and applications.

2.3.44 The management / blocking component should be configurable / customizable to flexibly define different blocking rule sets and thresholds involving possible parameters e.g. Protocol / Type of traffic to block, blocking interval, unblocking interval, blocking on port basis, number of sessions before blocking commences etc.

2.3.45 System should provide a facility to white list certain IP addresses / IP ranges for carrying designated traffic or access to designated web content and application.

2.3.46 System should provide a facility to blacklist:
  a. Designated web content / application / Traffic type / IP addresses for restricting its usage / access.
  b. Certain IP(s) for not carrying designated traffic.

2.3.47 System should provide seamless solution to restrict / allow IP addresses / IP ranges for usage of any target protocol /application and access to designated web content only or vice versa.

2.3.48 The System should be able to filter and only block designated unlawful content for HTTP, HTTPs and web applications without affecting the rest of the domain or application functionality.

2.3.49 The management component should also maintain a database which is accessible to PTA so as to extract blocking statistics as per requirement.

3. Guidelines for Applicants

3.1   Procedure for submission of applications

The application should be received as per the date and time specified in section 1 of this document. It shall meet all other mentioned requirements for eligibility of responsiveness. The original application shall be prepared without any inter-lineation or overwriting. The application therefore, shall comprise of the following documents:

    a) A Sealed package containing response in line with the Annexures I.A to I.E.
    b) Response against each Annexure to be clearly labeled for identification.

All the above documents shall be sent in a sealed package. This package shall bear the submission address, and clearly marked **"Application for Web Management Solution (WMS)"– "Do Not Open, except in presence of Evaluation Committee".**

An authorized representative of Applicant shall initial all pages of the application along with Annexures and sign in full on the last page of application, clearly mentioning the full name of the representative. The representative's authorization is confirmed by a written power of attorney accompanying the application.

For each application, applicants shall prepare four copies including any computer models used in developing the applications. Each APPLICATION shall be marked "ORIGINAL" or "COPY" as appropriate. If there are any discrepancies between the original and the copies of the application, the original application will be taken as the correct one.

The prospective Applicant may be required to make presentation before the Evaluation Committee in person or via video link at PTA HQ as per the time assigned to them. The prospective Applicant will also be able to participate via video link.

After the deadline for submission of application, the applications shall be opened by the evaluation committee as per timeframe specified in Section 1 of this document.

The successful Applicant(s) shall be intimated through FAX and/or e-mail and shall be eligible to respond against the project RFP.

3.2   Clarification and Amendment

A conference with prospective Applicants may be held at PTA HQs Islamabad during the evaluation process. Based on the feedback received, response to the clarifications sought, shall be sent to all prospective Applicants. The prospective Applicants may participate via video link, provided the request is made 3 days prior to conference.

Applicant may request a clarification against information contained in this document not later than 5 days before the application submission date. Any request for clarification must be sent in writing by paper mail, facsimile, or electronic mail to PTA's address given below. PTA will respond by facsimile or electronic mail to such requests and will send written copies of the response (including an explanation of the query but without identifying the source of inquiry) to all participating Applicants who intend to submit applications.

The address for requesting clarifications is:

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Assistant Director (IP&WA)
Pakistan Telecommunication Authority
PTA HQs, F-5/1, Islamabad Pakistan
Email: khalidwazir@pta.gov.pk
Tel: 051-9215145
Fax: 051-2878132

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At any time before the submission of applications, PTA may, for any reason, whether at its own initiative or in response to a clarification requested by an applicant, amend this document. Any amendment shall be issued in writing through addenda. PTA shall post the addenda on its website and will make maximum effort to send it by mail, facsimile, or electronic mail to all participating applicants, however main source of decimating such information will be PTA website. The addenda shall be considered part of this document and will be binding on the applicants. PTA may at its sole discretion extend the deadline for the submission of applications.

4 Preparation of Application

4.1 Prequalification Criteria

The Applicants are requested to submit their application in English. For qualification in the first stage of evaluation, application must fulfill the following:

a. All of the requirement mentioned in Annex- I.E
b. Minimum one project as per Annex-I.B.

Only responsive applications shall be further taken up for evaluation.

In preparing their response, applicants are expected to examine the documents constituting this document in detail. Material deficiencies in providing the information requested may result in disqualification of the applicant.

All applicants may be asked to present before the Evaluation Committee constituted by PTA, clearly demonstrating their experience and capacity to perform the assignment.

Applicant must give particular attention to the following:

a) If Applicant considers that it does not have all the expertise for the assignment, it may obtain a full range of expertise by associating with other or entities in a joint venture or consortium, as appropriate.

The applicant shall provide the following information using the attached Standard Forms in the Annexes:

b) A brief description of the Applicant's organization and an outline of recent experience on assignments (Annexure I.B) of a similar nature. For each assignment, the outline should indicate, inter alia, the profiles of the staff proposed, duration of the assignment, contract amount, and Applicant's involvement.
c) Any comments or suggestions on the Terms of Reference and on the data, a list of services, and facilities to be provided by PTA (Annexure I.C).
d) Applicant shall provide the complete financial position of its company (Annexure I.D).
e) Statement of Compliance against PTA requirements related to the project (Annexure I.E).

Technical Application Cover Letter

[*Location, Date*]

To:

Assistant Director (IP&WA)
Pakistan Telecommunication Authority
F-5/1, Islamabad Pakistan

Sir,

I/We, the undersigned, offer to provide services, in accordance with your requirement. I/We are hereby submitting our application in-line with PTA requirements for prequalification for Web Management Solution (WMS)in a sealed envelope.

I/We, undertake that we are able to comply with all requirements raised in this document.

In case we are prequalified, we would submit our bids for any tender carried by PTA for Web Management Solution.

I/We remain,

Yours,
Authorized Signature:
Name and Title of Signatory:
Name of Firm:
Address:
Tel:
Cell:
Email:

Organization Details and Work Experiences

Description of Applicant's Organization containing the following:

- Business & Technical profile of the applicant, participating members of the consortium, and level of involvement of participating members of the consortium, if any.
- Details of financial capability including Sales Tax, NTN numbers, (Income Statements or Annual reports).
- Details of relevant experience with R&D details.
- Details of Technology Roadmap.

Description of Similar Past Projects

Using the format below, provide information on each similar assignment for which your firm/entity, either individually or as a corporate entity or as one of the major companies within an association, was legally contracted.

Assignment Name:	Country:
Location within Country:	Professional Staff Provided by Your Firm/Entity(profiles of each):
Name of Client:	No. of Staff:
Address:	No. of Staff-Months; Duration of Assignment:

Start Date (Day Month/Year):	Completion Date (Day Month/Year):	Approx. Value of Services (in Current US$):
Name of Associated Entities, If Any:		Number of Months of Professional Staff Provided by Associated Entities:
Name of Senior Staff (Project Director/Coordinator, Team Leader) Involved and Functions Performed:		
Narrative Description of Project: Description of <u>Actual</u> Services Provided by Your Staff: Technologies supplied with brief description of their role in the project:		

***All projects mentioned above must be supported with documentary proof.**

Comments and Suggestions on the Terms of Reference and on Data and Facilities to be provided by PTA

On the Terms of Reference

1.

2.

3.

4.

5.

On the data and facilities to be provided by PTA

1.

2.

3.

4.

5.

Organization's Financial Position

National Tax Number (NTN) Number: _____

Sales Tax Registration Numbers: _____

Active Tax Payer's List   YES/NO

Should include the following:

- Annual Report
- Income Statement
- If company is listed on Stock Exchange, specify exchange on which it is traded

Annexure I.E

Statement of Compliance

Id#		Statement	CL	Remarks
			Response	
1		Application Software (Server Side) Data acquisition and processing:		
	a	Capability to capture data off-the- network with no disturbance in the main traffic.		
	b	Applicant will ensure and prove that 100% traffic is monitored on international links without errors and all asymmetries (multi-path signaling of all types) are accounted for all required protocols.		
2		Transport protocol supported:		
	a	MPLS		
	b	Ethernet Channel		
	c	Pure IP		
3		Capability to resolve asymmetry.		
4		Capability to collect across multiple links concurrently and classify IP traffic in real time or with less than one minute delay provided. State compliance against the following:		
	a	HTTP		
	b	HTTPs		
	c	Mobile Apps for accessing Internet content		
	d	SPDY		
	e	QUIC		
	f	RTSP		
5		The System is able to identify following categories of unlawful web content out of the box:		
	a	Pornographic		
	b	Blasphemous		
	c	Anti-State		
	d	Indecent or immoral		
	e	Contempt of court		
	f	Law and order		
	g	Incitement of an offense		
	h	Others as stated in law for time being in force		
6		System is able to identify unlawful web content across the following:		
	a	HTTP		
	b	HTTPs		
	c	Mobile and Software Apps used for accessing web content		
	d	RTSP		
	e	SPDY		

Web Management Solution (WMS)

Id#	Statement		Response	
			CL	Remarks
7	Ability to block access to HTTPs / web application unlawful web content without blocking access to the entire HTTPs domain/ web allocation without compromising user experience and security.			
8	Ability to block access of unlawful content on Mobile and Software Apps without affecting their other functionality.			
9	Crawler with auto learning functionality to automatically identify unlawful content on the internet being served through HTTP and HTTPs across following categories:			
	a	Pornographic		
	b	Blasphemous		
	c	Anti-State		
	d	Indecent or immoral		
	e	Contempt of court		
	f	Law and order		
	g	Incitement of an offense		
	h	Others as stated in law for time being in force		
10	Generate and store logs containing IP address, user information if any e.g. social media ID, date/time, accessed unlawful web content, unlawful website URL etc. for protocols mentioned in point 4 above.			
11	System should also maintain a database which is accessible to PTA to extract statistics as per requirement.			
12	Processing should be structured ensuring integrity of data and properly documented.			
13	The solution should be capable to generate alarms and transport them to designated place through NMS, emails and SMS, as specified by PTA. These alarms may include but not limited to downing of a monitored link, probe or any other component of the system or any other alarm situation deemed necessary for the operations team to know without delay. Alarms should be presented through a GUI.			
14	The solution should allow the user to generate ad-hoc, historical and scheduled reports.			
15	The solution should provide data backup/ restoration facility in terms of disaster recovery.			
16	Highly scalable and modular structure for optimum adaptation to the increasing future requirements. Extendible for further telecommunication technologies by means of simple and modular hardware and software upgrades. HW and SW be fully reusable when growing in size.			
17	Within the warranty period All software subscription & maintenance shall be free and include upgrades as well as new releases.			
18	Maintenance for hardware should include on-site support with guaranteed call response times 24x7.			

Id#	Statement	Response	
		CL	**Remarks**
19	Use of off-the-shelf best Servers + leading PC Servers with latest hardware, firmware, software versions.		
20	High efficient database.		
21	The platform must be able to handle user sessions while processing data, reports, etc. in the background.		
22	The solution must provide system performance measures on the levels of the system, application and database.		