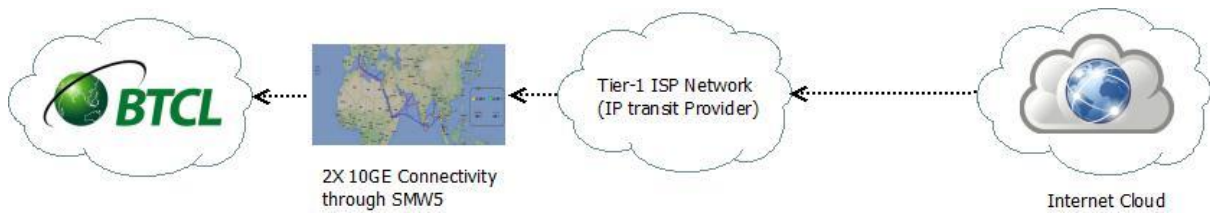




Bangladesh Telecommunications Company Limited (BTCL)

TelejogajogBhaban
37/E Easkaton Garden, Dhaka-1000

Request for Quotation (RFQ) for International Internet Bandwidth through SEA-ME-WE5(SMW5) submarine cable system for the operation of BTCL's Internet service.



September 2018

1. INTRODUCTION

Bangladesh Telecommunications Company Limited (BTCL) is a leading telecommunication service provider in Bangladesh. It is providing all kinds of Telecommunication services e.g. Basic Telephony, International Terrestrial Cable (ITC) Service, International Internet Gateway (IIG) service, Data Communication, Leased Line Internet, Domestic L2 and L3 VPN, ADSL, GPON, Broadband Internet service etc. In order to facilitate more bandwidth to the Internet users, BTCL intends to expand its Internet Bandwidth capacity through **SEA-ME-WE-5 (SMW5) Submarine Cable System**. With this in view, BTCL invites offer from the Tier-1 International IP bandwidth providers through **SMW5**.

2. ELIGIBILITY REQUIREMENT OF THE BIDDER

- 2.1. The Bidder shall be an IP bandwidth provider licensed in the country where the offered IP node is located.
- 2.2. The Bidder shall be a Tier-1 internet bandwidth provider in Singapore.
- 2.3. The Bidder must not have been declared bankrupt or filed for bankruptcy in any country.

3. SERVICE REQUIREMENT FOR THIS PROPOSAL

- 3.1. To expand the Internet bandwidth capacity through SMW5 cable system, BTCL intends to procure IP bandwidth through one of the Cable Landing Stations (CLS) situated in the eastern side of the Bangladesh branch cable.
- 3.2. BTCL is considering procuring symmetric 2×10G (20Gbps download and 20Gbps upload) international IP bandwidth.

4. DURATION OF IP BANDWIDTH LEASE

Initial duration of the IP bandwidth lease shall be for one year effective from the date of the commissioning of the service. Depending on the performance and prevailing market price, duration of the IP Bandwidth lease may be extended for 1(one) more year.

2X10G IP Bandwidth

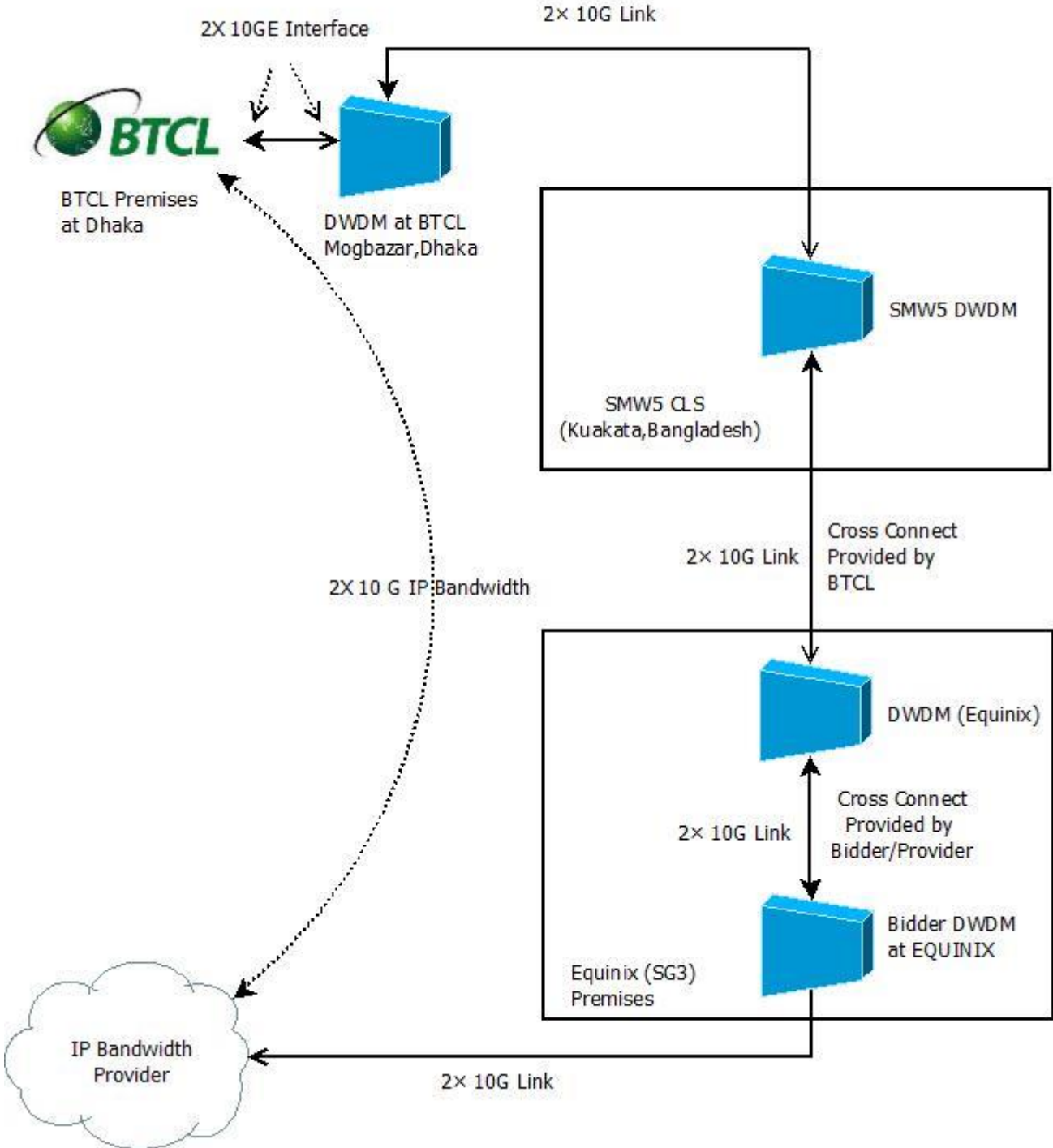


Figure: Network diagram for the proposed 2X10G IP transit connectivity through SMW5

5. SUBMISSION OF OFFER

The hard copies of the Quotation shall be submitted in person or sent by postal mail/email to the following address within the date stipulated in this RFQ. It is the Bidder's responsibility to ensure that the offers are submitted in time to the following address.

General Manager (International)

Bangladesh Telecommunications Company Limited (BTCL)

TelejogajogBhaban(2nd Floor), (Room no # 316)

37/E, Eskaton Garden, Dhaka-1000, Bangladesh

Phone: +880 2 9320115

FAX: +880 2 9320116

Email: dirint@btcl.com.bd; btcl.int@gmail.com

6. LATE OFFERS

Any Quotation received by BTCL after the deadline for submission of the Quotation as prescribed by BTCL shall be rejected and returned unopened to the Bidder.

7. CLARIFICATION OF OFFERS

7.1. BTCL may ask the Bidder for clarifications of its Quotation.

7.2. The requests for the clarification and the responses shall be in writing and/or via email.

8. VALIDITY OF OFFER

The Bidders Priced Quotation must remain valid for at least **180 (One hundred and eighty) days** after the date of the RFQ submission. A bid valid for a shorter period than the specified period shall be considered "**Non-responsive**" by BTCL.

9. CLARIFICATIONS AND AMENDMENT OF DOCUMENTS

9.1. A prospective Bidder requiring any clarification of this RFQ Document may notify such queries to BTCL, in writing, by letter or facsimile or e-mail, at the mailing address/FAX/e-mail as indicated service.

9.2. At any time prior to the deadline for RFQ submission, BTCL may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective Bidder, amend/modify the RFQ Document.

9.3. The amendment will be notified to all prospective Bidders. Such amendment, if made, shall become part of the RFQ Document and will be binding on Bidders. BTCL reserves the rights to add/ delete/ modify any condition of the RFQ Document.

9.4. In order to provide reasonable time to the prospective Bidders to take the amendment into account in preparing their Offers, BTCL may at its discretion,

extend the deadline for the RFQ submission, by any period of time it deems fit.

10. FORMAT AND SIGNING OF THE SUBMITTED OFFER

- 10.1. The bidder shall prepare one complete set of original Quotation and make another copy of the same. The original one shall be marked as 'Original' and the copy as 'Copy'. In the event of any discrepancy between the copies, the original shall govern.
- 10.2. The original and the copy of the Quotation shall be typed or printed, properly indexed and all the pages numbered consecutively including the annexures (if any) and each page shall be signed by the bidder or a person or persons duly authorized to submit the Quotation.
- 10.3. A Soft Copy of the offer document shall also be provided. The Soft Copy shall contain the exact replica of the offer. All the supporting documents, printed literature etc. shall be scanned and copied into the Soft Copy. The soft copy may be submitted on CD or via email as mentioned above.
- 10.4. All the forms should be properly filled. If any section of any form is not applicable for the Bidder, it must be clearly mentioned in the relevant forms by marking as **“Not Applicable”** or **“N/A”**.

11. DOCUMENTS TO BE SUBMITTED WITH THE OFFER

The Bidder shall submit the following documents along with the Quotation:

- 11.1. The **“Compliance Schedule”** to all the clauses and its sub-clauses of the Tender Document. The schedule shall be prepared as per form-A.
- 11.2. A **sample list of customers**, if not covered by any non-disclosure agreement, who have been provided 10G and higher capacity Internet bandwidth.
- 11.3. A draft standard Service Level Agreement (SLA) stating, among other points, Redundancy, Standard Quality of Service, Service Availability, Compensation Package for service degradation and interruptions etc.
- 11.4. Any other agreement/document, to be signed by both BTCL and the successful Bidder, containing at least the requirements stated in this document. BTCL shall not sign any other document/agreement later on (except technical information sheet), if those are not submitted by the successful Bidder in his Quotation earlier.
- 11.5. **Filled up forms given in Annexure** to provide concise technical/other relevant information to BTCL for easy evaluation and selection of the provider.
- 11.6. **A copy of network diagram** showing interconnection points, backup links, details of peering with Internet Exchanges and other ISPs in own country

and in other countries should be provided. Details about Diversity and Redundancy in the Internet Bandwidth should be provided for evaluation purposes and shall form part of the agreement.

- 11.7. Documents providing average Mean Time To Recover (**MTTR**) and Mean Time To security Breaches (**MTTB**) statistics for the IP node to which BTCL would be connected as well as average MTTR and MTTB for global network.

12. RESPONSILITIES OF THE PARTIES

12.1. Responsibility of BTCL

- 12.1.1. BTCL will provide of 2×10G capacity on the wet segment of SMW5 cable system with back haul up to Equinix at SG3 in Singapore from cable landing station (CLS) Kuakata.
- 12.1.2. BTCL will provide 2×10G backhaul connectivity from Kuakata CLS to BTCL PoP at Mogbazar, Dhaka, Bangladesh.
- 12.1.3. BTCL will configure its router at BTCL PoP at Mogbazar, Dhaka upon receipt of Interface IP addresses (both IPv4 and IPv6) from the successful Bidder.

12.2. Responsibility of the bidder

- 12.2.1. The successful bidder will arrange all requirements to complete the connection from their offered IP Router location to SMW5 cable system interconnection point located at EQUINIX, SG3..
- 12.2.2. The successful bidder shall test & commission the ordered capacity on its Router IP port as a Tier-1 IP transit service to Tier-1 Internet backbones complying with applicable international standards.
- 12.2.3. The successful bidder shall ensure the quality of the LEASED INTERNET BANDWIDTH service during the tenure of the AGREEMENT.

13. TECHNICAL REQUIREMENTS

- 13.1. The Bidder must provide as much information as possible about the existing IP connectivity in their offered IP node with the global network of renowned Internet Service Provider(s), type of connectivity (peer or transit) and bandwidth capacity etc.
- 13.2. The bidder shall provide a detailed list of **PoPs at other regional and international locations**. The following related information shall also be provided:
 - 13.2.1. Details of locations of PoPs for Peering and Transit as per Form A-2
 - 13.2.2. Whether PoPs locations are owned or shared
 - 13.2.3. Number of providers interconnected at each location and bandwidth

capacity with those providers.

13.2.4. Physical Redundancy arrangement of the Service Provider.

13.2.5. Global network map with clear demonstration of connectivity among various PoPs.

13.3. The Bandwidth asks for must be symmetric and must be un-contended.

13.4. The bidder shall specify the proposed interface/hardware detail of the connectivity at their offered IP node such as Equipment Name, Model, Make etc.

13.5. *The bidder shall specify the Router model (Cisco/Juniper)*

13.6. In BTCL side, termination of the bandwidth will be done at 02X10GE interface of BTCL's one of the gateway routers. Both the 10 G links will be bundled together for load balancing. The gateway Router model is NetEngine NE40-X8 manufactured by Huawei Technologies, China.

13.7. The link between two IP Access Nodes (BTCL and Provider) shall work as WAN link.

13.8. Routing between BTCL and the successful Bidder shall support both static and BGP. The BGP peering shall be with physical interface IP address or loop back IP address (both IPv4 and IPv6) of the same Router.

13.9. The successful Bidder may use IP-prefix filter list or ASN filter list. In case of IP-prefix filter list, 'LE 24' for IPv4 and 'LE 48' for IPv6 shall be allowed. The Bidder would support BTCL for updating of prefix-lists/access lists within 24-hour of request sent from BTCL.

13.10. The Bidder shall provide ASN information and in case of multiple ASN, the connectivity to BTCL shall be from the better AS path distance.

13.11. The bandwidth to be procured shall be used by the local ISPs, Corporate bodies and educational Institutions already connected or will be connected with BTCL network on rental basis. So, the successful IP transit provider shall arrange to permit the BTCL Customer's own IP addresses (both IPv4 and IPv6), allocated by APNIC in addition to BTCL's own IP addresses (both IPv4 and IPv6).

14. LEAD TIME TO ESTABLISH THE SERVICE

The Bidder, in the offer, shall indicate the lead-time to establish the service after the Work Order is issued to them, which should not be more than 2 (Two) weeks.

15. SERVICE LEVEL AGREEMENT (SLA) BENCHMARKS

The successful bidder (the service provider) shall sign a Service Level Agreement (SLA) with BTCL. The SLA will specify the standards for the service provider to

provide the service quality, network reliability and service availability. The main components of the SLA will be on the following parameters;

- Service Availability
- Round Trip Delay (RTD)/Network Latency
- Packet Delivery

These parameters shall satisfy the requirements as specified in the relevant clauses in this document. The bidder shall clearly state the methods used for measuring various parameters. The bidder may also indicate the throughput deficiency credit, service outage credit, packet loss credit and latency credit for inclusion in the SLA. The bidder's service level and the service outage credit shall not be below to that specified by BTCL in this RFP. The details of customer support contact points and procedure for registration of complaints shall also be provided by the bidder for inclusion in the SLA. The bidder shall clearly specify the details of its obligations and support provided to BTCL during the agreement period. Both the parties will sign SLA, soon after the purchase order is issued.

15.1 SERVICE AVAILABILITY

Definition

Monthly Average Internet Port Availability shall mean the average Service Availability of the relevant Internet Port(s) that the Customer connects to the Service.

Measurement

At the BTCL's request, Bidder will calculate the Monthly Average Internet Port Availability in a Month as follows:

$$\frac{(\text{Total Monthly Time} - \text{Total Monthly Outage Time}) \times 100\%}{\text{Total Monthly Time}}$$

Where:

Total Monthly Time will be calculated as follows:

24 hours x 60 minutes x number of subscription Days in the Month under consideration, excluding the Day the Service is first handed over by the Bidder to the BTCL for acceptance.

Total Monthly Outage Time means the sum of Outage Time in minutes that the Internet Port is not capable of transmitting and receiving any of the Customer's

Internet traffic.

Service Level

Services for IP network shall be provided at a guaranteed level. This shall apply to Services provided on network between the bidder's router and BTCL's Gateway router. In the event that service level falls below guaranteed level, the following compensation shall be payable:

Parameter	Service Level	Compensation (% of Recurring Monthly Charge for the affected service)
Monthly Average "Internet Port Availability"	Below 100% and up to or equal to 99.9% (43 minute to 173 minutes of unavailability)	2%
	Below 99.6% and up to or equal to 99.4% (174 minutes to 259 minutes of unavailability)	4%
	Below 99.4% and up to or equal to 99.2% (260 minutes to 345 minutes of unavailability)	6%
	Below 99.2% and up to or equal to 99.0% (346 minutes to 432 minutes of unavailability)	10%
	Below 99.0% (More than 432 minutes of unavailability)	12%

15.2 Round Trip Delay/Network Latency

Definition

The Round Trip Delay/Network Latency shall mean the average time (in milliseconds) for a 100-byte diagnostic Packet to transit from a specific origin Point of Presence to a specific destination Point of Presence and return within the Backbone Network. This will be measured by BTCL under normal operating conditions.

Exceptions

Round Trip Delay/Network Latency does not include delays caused by:

- (a) Delays in transit occurring in the local loop circuit between a Point of Presence and the BTCL's site (as the delay varies with the physical distance and the line access speed); or
- (b) Any equipment used to interconnect the local loop circuit to the BTCL's site or a Point of Presence

Measurement

Specially generated delay measurement Packets will be used to measure Backbone Network

Transit Delay. The measurement frequency is five (5) minutes. The Monthly Average Backbone Network Transit Delay between any two specific Point of Presence is computed for the Month based on a 95-percentile average (ie. omitting the top 5% where common spikes and irregularities are expected) on the measured data.

Service Performance

Region		PoP to PoP round trip latency (milliseconds)
BTCL Gateway Router Dhaka to	First hop router of Bidder	50
	NYIIX	260

Service Level

Parameter	Service Level	Compensation (% of Recurring Monthly Charge for the affected service)
Monthly Average Round Trip Delay	Delay exceeding 10% in a Month	4%

The Bidder shall also mention the approximate Round Trip Delay (RTD) between offered IP node to the following websites:

websites	www.google.com	www.linx.net	www.amsix.net
RTD(ms)			

websites	www.hkix.net	www.jpix.ad.jp	www.gov.sg	www.ausix.net
RTD(ms)				

15.3 PACKET DELIVERY

Definition

The Monthly Average Backbone Network Packet Delivery shall mean the average successful Packet delivery from a specific origin Point of Presence to a specific destination Point of Presence within the Backbone Network.

Packet delivery is calculated as the number of Packets that arrive from a specific origin Point of Presence to a specific destination Point of Presence as the result of a ping echo initiated with 100 Packets with 100 bytes length each. This is expressed as a ratio of Packets successfully delivered to Packets transmitted.

Measurement

Specially generated measurement Packets are used to measure Backbone Network Packet Delivery. The measurement frequency is fifteen (15) minutes. The Backbone Average Network Packet Delivery between any two specific Point of Presence is computed for the Month on the measured data based on a 95-percentile average on the measured data on the unsuccessful Packet delivery (i.e. omitting the top 5% where common spikes and irregularities are expected).

Service Performance

Region		Packet Delivery (%)
BTCL Gateway Router Dhaka to	NYIIX	99.5

Service Level

Parameter	Service Level	Compensation (% of Recurring Monthly Charge for the affected service)
Monthly Average Backbone Network Packet Delivery	Packet delivery below 99.5% in a Month	4%

- 15.4 In case the above-mentioned parameters exceed for consecutive three months then BTCL shall have the right to terminate the Service Agreement with the Service provider with one-month prior notice.
- 15.5 Compensation due for failure to meet "Availability" or "Round-trip delay" or "Packet Delivery" guarantees will be adjusted from periodic rental charge payment.
- 15.6 The total maximum aggregated compensation payable by service provider to BTCL in any month shall not exceed total monthly recurring charge. The combined cumulative compensation to be issued during the contract period shall be limited to 20% of the total contract value.
- 15.7 Failures, interruptions, defects or delays in transmission due to any of the following reasons shall not count toward the calculation of service downtime.
- (i) Testing the Service after mutual agreement between BTCL and service provider although no fault has been detected or reported.
 - (ii) The Service modification or alteration in any way after mutual agreement between BTCL and Service provider
 - (iii) Any Force Majeure event;
 - (iv) Any interruptions resulting from defects or failures in the Bangladesh end Backhaul or BTCL end apparatus.

- 15.8 The bidder shall provide access to web-based tools, which will allow graphical monitoring of the ports from the bidder's end for packet drops, errors, bandwidth utilization, circuit availability etc. Details of such tools should be provided in the bid. The bidder shall also provide looking glass facility within the quoted price.
- 15.9 The bidder is required to provide comprehensive service support on 24 hours X 7 days basis from the date of commencement of services for the entire agreement period without any additional fees and charges.
- 15.10 The bidder shall allow remote Black holing of malicious IP addresses through BGP announcements.
- 15.11 The successful bidder shall support IPv6 and 4-Byte ASN implementation, when required by BTCL in addition to IPv4 and 2-Byte ASN support. The bidder shall peer with BTCL's router using both IPv4 and IPv6 address. The bidder shall also allow transit BTCL and its Customers' IPV4 as well as IPV6 IP Prefixes without additional charges.
- 15.12 The service provider shall submit Network Operation Center (NOC) fault reporting procedures, format of trouble ticket and its generation mechanism. The service provider shall also submit a separate sheet summarizing contact Telephone numbers (to be accessed from Bangladesh), Facsimile, email addresses etc. at different levels/points to report fault or to seek any support service along with escalation hierarchy in terms of number of hours.
- 15.13 The successful service provider shall carry out any schedule maintenance in its network, which affects BTCL's traffic between 0200 and 0800 Hrs. window of Bangladesh Standard Time (BST) and must notify before at least 3 (three) Bangladesh working days (Sunday to Thursday) in advance. Otherwise, schedule maintenance carried out outside the above-mentioned time frame shall be taken into calculations while arriving at service availability figures.
- 15.14 All Scheduled testing requirements shall be notified at least 7 days prior to the testing. Test plans shall be provided at least seven business days prior to the test.
- 15.15 The service provider would provide mechanism, to BTCL, to measure and monitor the SLA as mentioned above.

16. FINANCIAL PROPOSAL

16.1 All prices must be quoted in USD.

16.2 All prices must be quoted inclusive of VAT, all relevant taxes and charges, interconnection/cross-connection charges (if any) from the offered location. The quoted price shall remain unchanged during the contracted period.

16.3 BTCL will pay the recurring charges quarterly on post-paid basis. The one-time

charge (if any) shall be paid with the first quarter recurring bill.

16.4 Amount of discount, if any, must be clearly mentioned.

16.5 The price offer shall be strictly submitted in the **Form-A.2.1**.

16.6 Disagreement/deviation of any or many of the above clauses 16.1 to 16.3 shall be treated as "**Non-responsive**" of the Bid.

16.7 Any conditional price offer shall also be treated as "**Non-responsive**".

16.8 The bidder may offer specific financial incentives for the service to be renewed after completion of one-year contract period.

17. EVALUATION CRITERIA OF THE OFFERS

17.1 BTCL shall evaluate the offers to determine whether they are complete and whether all required information have been provided. If any bidder does not submit any document at the time of submission of offer, evaluation of bids will be based on available documents in the bid and clarification submitted in response to query by BTCL (if any). Non-submission of any document will be treated as non-availability of documents.

17.2 Offers without clause-by-clause compliance statement **shall not** be considered for evaluation.

17.3 If certain clause(s)/ sub-clause(s) are missed or left unattended in the compliance statement, such clause(s)/sub-clause(s) shall be considered as **non-compliant** by the bidder.

17.4 If a clause has been stated as non-compliant or partially complied, the bidder will provide full details of such deviations.

17.5 BTCL will determine the substantial responsiveness of each offer. A substantially responsive offer is one, which conforms to all the terms and conditions of the Offer documents without material deviations. BTCL's determination of offers responsiveness is to be based on the contents of the offer itself without recourse to extrinsic evidence.

17.6 The bidder shall note that information to be given against Clause-3.1 and Clause- 3.2 is very important for evaluation of the submitted offer.

17.7 An offer, determined as substantially non-responsive will be rejected by BTCL. BTCL may waive any minor infirmity or non-conformity or irregularity in an offer, which doesn't constitute a material deviation, provided such waiver, doesn't prejudice or affect the relative ranking of any bidder.

17.8 Financial offers of only responsive bids will be evaluated for selection of the

successful bidder. For financial comparison of the responsive bids will be based on the total charges (one-time charge and Monthly Recurring Charge) BTCL shall have to pay for the whole one-year contracted period.

17.9 Prior to finalizing the selection of successful bidder, BTCL may determine whether the bidder of evaluated lowest bid has the capability to deliver the service satisfactorily. As part of this, BTCL may take necessary steps, whichever fits desirable and practical to them, to verify information contained in the bidder's offer. If the lowest bidder has already been working with BTCL, then its technical performance of the service, quality of customer service etc. as a voice carrier/ IP bandwidth provider may be taken in to consideration prior to finalizing the award.

17.10 An affirmative determination shall be a prerequisite for award of the Contract to the bidder. A negative determination shall result in rejection of the Bidder's offer, in which event BTCL shall proceed to the next lowest evaluated bidder to make a similar determination of that bidder's capabilities to perform satisfactorily. In this process the "Successful Bidder" will be selected.

17.11 BTCL reserves the right to accept any bid, to annul the bidding process, or to reject any or all bids, at any time prior to contract award, without thereby incurring any liability to the affected bidders, or any obligation to inform bidders of the grounds for BTCL's actions.

17.12 After the opening of bids, information relating to the examination, clarification, and evaluation of bids shall not be disclosed to any person(s) not officially concerned with the evaluation and selection process.

17.13 BTCL reserves the right to accept or reject any or all offers without assigning any reason thereof.

18. GOVERNING LAWS AND JURISDICTION

The Request for Proposal, consequent Work Order and agreement etc. shall be bound by Bangladeshi Laws. All disputes relating to this RFP and the resulting contract shall be subject to the jurisdiction of Courts in Dhaka only.

::Annexure::

FORM-A

SCHEDULE OF COMPLIANCE

Clause No	Item	Bidder's Response	Reference in Bid document*	Remarks
		Agreed/ Not Agreed		

Form A-1

Backhaul Connectivity Checklist of the bidder:

Serial	Item	Information
1	Proposed IP Termination Node location (Full Address)	
2	Distance between SMW5 interconnection point at SG3 to IP Termination Node	
3	Whether Backhaul/transmission Link capacity <u>OWNED</u> by the Bidder or <u>LEASED</u> from other carrier	
4	If leased, the name of the backhaul/transmission provider	
5	Is there any redundancy in backhaul/transmission links? (Yes or No)	
6	If yes, switch-over time in case of failure of the main link	

Form A-2IP Connectivity (Peering/Transit) at the Offered IP Node:

Sl. No.		AS Number	Peering/ Transit	Bandwidth Capacity
1	AT&T			
2	Global Crossing (GX)			
3	Level 3			
4	Verizon Business(formerly UUNET)			
5	NTT Communications(formerly Verio)			
6	Qwest			
7	SAVVIS			
8	Sprint Nextel Corporation			
9	AOL Transit Data Network (ATDN)			
10	PCCWGlobal			
11	British Telecom			
12	Cable & Wireless			
13	France Telecom			
14	Teleglobe/VSNL			
15	TeliaSonera			
16	XO Communications			
17	Telecom Italia Sparkle/Seabone			
18	Amsterdam AMS-IX			
19	Palo Alto PAIX			
20	London Internet Exchange			
21	Any other (Please specify)			
22	Equinix			
23	NYIIX			
24	London IX			

FormA-3

Price Quotation for IP Bandwidth through SMW5

Capacity (Duplex)	Time duration	One time Charge* (if any), USD	Monthly Recurring Charge*, USD	Total Price** for full durations , USD	Comment (if any)
2x10 GE	One year				
2x10 GE	Two years				

* Including VAT and other relevant taxes applicable outside Bangladesh.

** Including One Time Charge (OTC) and Monthly Recurring Charge (MRC) charges.

-----End of Document-----