

**Bangladesh Coast Guard Force
Agargaon Administrative Area
Sher-e-Bangla Nagar, Dhaka-1207**

**T E N D E R D O C U M E N T
FOR THE PROCUREMENT OF
GOODS (NATIONAL)**

(OTM)

**Purchase of Various Hardware for Coast Guard
(IP PBX System with accessories)
01 Lot**

**Invitation for CGHQ Project IT & Computer Tender No: 44.08.2680.005.02.001.18.67
Date: 23 April 2018.**

Section 2. Tender Data Sheet

Instructions for completing the Tender Data Sheet are provided, as needed, in the notes in italics and under lined mentioned for the relevant ITT clauses.

ITT Clause	Amendments of, and Supplements to, Clauses in the Instruction to Tenderers																												
A. General																													
ITT 1.1	<p>The Procuring Entity is Project Director IT & Computer, Bangladesh Coast Guard Force Headquarters, Agargaon Administrative Area, Dhaka-1207.</p> <p>The Name and identification number of Tender are: IP PBX System with accessories , CGHQ IT & Computer Tender No 44.08.2680.005.02.001.18.67 Date: 23 April 2018.</p> <p>The number, identification and name of lots comprising the Tender are:</p> <p><u>Lot No:1</u></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%;">(a)</td> <td style="width: 65%;">Unified Access Gateway (IP PBX)</td> <td style="width: 15%;">- 01 Nos.</td> <td rowspan="9" style="width: 15%; vertical-align: middle; text-align: center;">} As per Section-7</td> </tr> <tr> <td>(b)</td> <td>Session Border Controller (SBC)</td> <td>- 01 Nos</td> </tr> <tr> <td>(c)</td> <td>Branch Access Unified Gateway (IP PBX)</td> <td>- 04 Nos</td> </tr> <tr> <td>(d)</td> <td>Headquarter Router</td> <td>- 01 Nos</td> </tr> <tr> <td>(e)</td> <td>Branch Router</td> <td>- 04 Nos</td> </tr> <tr> <td>(f)</td> <td>Ship Router</td> <td>- 04 Nos</td> </tr> <tr> <td>(g)</td> <td>IP Phone (With Video Facility)</td> <td>- 30 Nos</td> </tr> <tr> <td>(h)</td> <td>Basic IP Phone</td> <td>- 70 Nos</td> </tr> <tr> <td>(i)</td> <td>Off Line UPS</td> <td>-08 Nos</td> </tr> </table>	(a)	Unified Access Gateway (IP PBX)	- 01 Nos.	} As per Section-7	(b)	Session Border Controller (SBC)	- 01 Nos	(c)	Branch Access Unified Gateway (IP PBX)	- 04 Nos	(d)	Headquarter Router	- 01 Nos	(e)	Branch Router	- 04 Nos	(f)	Ship Router	- 04 Nos	(g)	IP Phone (With Video Facility)	- 30 Nos	(h)	Basic IP Phone	- 70 Nos	(i)	Off Line UPS	-08 Nos
(a)	Unified Access Gateway (IP PBX)	- 01 Nos.	} As per Section-7																										
(b)	Session Border Controller (SBC)	- 01 Nos																											
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(f)	Ship Router	- 04 Nos																											
(g)	IP Phone (With Video Facility)	- 30 Nos																											
(h)	Basic IP Phone	- 70 Nos																											
(i)	Off Line UPS	-08 Nos																											
ITT 3.1	The source of public fund is Government of Bangladesh. (GOB).																												
ITT 3.3	The name of the Development Partner is Not Applicable.																												
ITT 5.1	Tenderers from the following countries are not eligible: None																												
ITT 6.1	Goods and Related Services from the following counties are not eligible: None																												
B. Tender Document																													
ITT 8.2	The following are the offices of the Procuring Entity or authorised agents for the purpose of providing the Tender Document: Not Applicable																												
TT 9.1	<p>For <u>clarification of Tender purposes</u> only, the Procuring Entity's address is:</p> <p>Attention: Project Director IT & Computer.</p> <p>Address: Bangladesh Coast Guard Force, Headquarters, Agargaon Administrative Area, Dhaka-1207.</p> <p>Telephone: 02-9140601</p> <p>Mobile No: 01766690020</p> <p>Electronic mail address: it@coastguard.gov.bd</p>																												

ITT 10.1	A Pre- Tender meeting shall be held on : One week before tender dropping
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C. Qualification Criteria	
ITT 14.1(a)	The Tenderer shall have a overall experience in the supply of similar goods and related services.
ITT 14.1(b)	The minimum specific experience is supplier in supply of goods: NA
ITT 15.1(a)	<p>The minimum amount of liquid asset or working capital or credit facility is</p> <p style="text-align: center;">Lot No – 1 - Tk. 80,00000/00</p> <div style="text-align: right; border-left: 1px solid black; border-right: 1px solid black; padding: 5px;"> <p>As supporting documents updated Bank Statement will be appreciated</p> </div> <p>(For Bank Solvency Certificate: The email address of the Issuing Bank including telephone, Mobile & Fax Number to be mentioned with the tender document for official purpose).</p>
D. Preparation of Tender	
ITT 21.1(i)	The Tenderer shall submit with its Tender the following additional documents asked vide ITT 28.1(f).
ITT 23.1	Alternatives Tenders shall not be permitted.
ITT 24.3	Tenders are being invited for 01 lots
ITT 26.6	Price quoted for each lot shall correspond at least to <i>100%</i> of the items specified for each lot and correspond at least to <i>100 %</i> of the total lot value.
ITT 24.8	The following particular item represents more than fifty percent (50%) of the estimated lot value is: Not Applicable
ITT 28.1(f)	Manufacturer's authorization Required only when the supplier is not the manufacturer. In that case manufacturers consent letter, i.e. the manufacturer will do the work for the supplier, if he gets the work order, should be attached.
ITT 29.1	The Tender validity period shall be 90 days .
ITT 31.1	<p>The amount of the Tender Security shall be :</p> <p>Lot –1. Tk. 1,50,000.00 (Taka one Lac Fifty thousand only) Pay order/Bank Guarantee</p> <p style="text-align: center;">(In favour of "<u>AYON O BAYON KORMOKORTA, COAST GUARD FORCE HEAD QUARTERS</u>")</p> <p style="text-align: center;"><u>(আয়ন ও ব্যয়ন কর্মকর্তা- কোস্ট গার্ড বাহিনী সদর দপ্তর)</u></p>
ITT 36.1	In addition to the original of the Tender, one copy shall be submitted.

E. Submission of Tender	
ITT 37.2	The inner and outer envelopes shall bear the following additional identification marks: a. CGHQ Project IT & Computer Tender No: 44.08.2680.005.02.001.18.67 Date: 23 April 2018.
ITT 38.1	For <u>Tender submission purposes</u> , the Procuring Entity's address is: Attention Project Director IT & Computer Address: Bangladesh Coast Guard Force, Coast Guard Headquarters, Agargaon Administrative Area, Dhaka-1207. The deadline for submission of Tenders is 12.00 pm. on 07 May 2018.
ITT 38.3	For <u>Tender submission purposes</u> , the Procuring Entity's address is: <i>[Note: In case of Multiple Dropping state below the addresses of the Primary Place and Secondary Places] Not Applicable</i>
ITT 38.4	The deadline for the hand-delivering of the Tenders at the Primary Place is: Not Applicable
F. Opening and Evaluation of Tenders	
ITT 44.1	The Tender opening shall take place at Bangladesh Coast Guard Force Headquarters, Dhaka-1207. at 1230 pm. 07 May 2018.
G. Award of Contract	
ITT 60.1	The maximum percentage by which quantities per item may be increased is 20% . The maximum percentage by which quantities per item may be decreased is 20% . <i>[in both instances the maximum percentage is between 15 and 20 %].</i>
ITT 62.1	The amount of Performance Security shall be ten [10%] percent of the Contract Price.
ITT 62.3	The security deposit shall be deducted @ ten (10) percent from the successful Tenderer's payable invoices during Contract implementation. If awarded the Contract.

Section 4. Particular Conditions of Contract

<i>Instructions for completing the Particular Conditions of Contract are provided, as needed, in the notes in italics mentioned for the relevant GCC clauses.</i>	
GCC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
GCC 1.1(n)	The Procuring Entity is Project Director IT & Computer, Bangladesh Coast Guard Force
GCC 1.1(s)	The site(s)/ point(s) of delivery is/are: Bangladesh Coast Guard Force, Headquarters, Dhaka-1207

GCC 3.1	<p>For notices, the Procuring Entity's contact details shall be:</p> <p>Attention: Project Director IT & Computer</p> <p>Address: Bangladesh Coast Guard Force Headquarters, Agargaon Administrative Area, Dhaka-1207.</p> <p>Telephone: 02-9140601</p> <p>Facsimile number: 02-9140092</p> <p>Electronic mail address: IT@coastguard.gov.bd</p>
	<p>For notices, the Supplier's contact details shall be:</p> <p>Attention:</p> <p>Address:</p> <p>Telephone:</p> <p>Facsimile number:</p> <p>Electronic mail address:</p>
CC 7.1(i)	<p>The documents to be furnished by the supplier shall be as follows:</p> <ul style="list-style-type: none"> (a) Attested copy of Valid trade license (b) Attested copy of Latest Income Tax certificate (c) Attested copy of Latest VAT registration certificate (d) Bank solvency (Original) <p>(The minimum amount of liquid asset or working capital or credit facility to be mentioned)</p> <ul style="list-style-type: none"> (e) Manufacturer authorisation letter/Certificate is: Required (f) Country of origin certificate: Required (g) List of technical persons with CV, at least on qualified engineer in the pay roll of the company/Sole Distributer at Bangladesh. <p>(Note: The above requirements should be reviewed by a Procuring Entity on a case-by case basis. With amendments being made as necessary).</p>
GCC 8.1	<p>The scope of Supply shall be defined in: <i>"Section-6 Schedule of Supply"</i></p>

Section 5. Tender and Contract Forms

Form	Title
	Tender Forms
PG3 – 1	Tender Submission Letter
PG3 – 2	Tenderer Information Sheet
PG3 – 3A	Price Schedule for Goods
PG3 – 3B	Price Schedule for Related Services (if requires).
PG3 – 4	Specifications Submission and Compliance Sheet
PG3 – 5	Manufacturer’s Authorisation Letter
PG3 – 6	Tender Security (Pay Order)/Bank Guarantee
	Contract Forms
PG3 – 7	Notification of Award
PG3 – 8	Contract Agreement
PG3 – 9	Pay order/ Bank Guaranty for Performance Security

Forms PG3-1 to PG3-6 comprises part of the Tender and should be completed as stated in ITT Clause 21.

Forms PG3-7 to PG3-09 comprises part of the Contract as stated in GCC Clause 5.

Tender Submission Letter (Form PG3 – 1)

[This letter shall be completed and signed by the Authorized Signatory
Preferably on the Letter-Head pad of the Tenderer].

To: [Contact Person] [Name of Procuring Entity] [Address of Procuring Entity]	Date: 23 April 2018.
Invitation for BCGHQ Prject IT & Computer Tender No: 44.08.2680.005.02.001.18.67	[indicate IFT No]
Tender Package No:	[indicate Package No]
Lot No: 01	[indicate number of Lots]

We, the undersigned, offer to supply in conformity with the Tender Document the following Goods and related Services:

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In accordance with ITT Clauses 22 and 23, the following prices and discounts apply to our Tender:

The Tender Price is: *Taka [state amount in figures]*
(ITT Sub-Clause 23.1) *and Taka[state amount in words]*

The conditional/ unconditional discount for being awarded more than one lot in this package is: *Taka [state amount in figures]*
(ITT Sub-Clause 23.9) *and Taka[state amount in words]*

The methodology for Application of the discount is: *[state the methodology]*
(ITT Sub-Clause 23.10)

The advance payment is: *[state the amount based on percentage of the Tender Price]*
(GCC Sub-Clause 27.1)

and we shall accordingly submit an Advance Payment Guarantee in the format shown in Form PG3 - 10.

In signing this letter, and in submitting our Tender, we also confirm that:

- a) our Tender shall be valid for the period stated in the Tender Data Sheet (ITT Sub-Clause 27.2) and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- b) a Tender Security is attached in the form of a *[pay order / bank draft / bank guarantee]* in the amount stated in the Tender Data Sheet (ITT Clause 29) and valid for a period of 28 days beyond the Tender validity date;
- c) if our Tender is accepted, we commit to furnishing a Performance Security in the amount

d) stated in the Tender Data Sheet (ITT Sub-Clause 60.2) in the form stated in Tender Data Sheet (ITT Sub-Clause 60.1) and valid for a period of 28 days beyond the date of completion of our performance obligations;

e) we have examined and have no reservations to the Tender Document, issued by you on *[insert date]*;

including Addendum to Tender Documents No(s) *[state numbers]*, issued in accordance with the Instructions to Tenderers (ITT Clause 11). *[insert the number and issuing date of each addendum; or delete this sentence if no Addendum have been issued]*;

f) we, including as applicable, subcontractor for any part of the contract resulting from this Tender process, have nationalities from eligible countries, in accordance with ITT Sub-Clause 5.1;

g) we are submitting this Tender as a sole Tenderer

h) we are not a Government owned entity as defined in ITT Sub-Clause 5.3

or

we are a Government owned entity, and we meet the requirements of ITT Sub-Clause 5.3];

(delete one of the above as appropriate)

i) we, declare that we are not associated, nor have been associated in the past, directly or indirectly, with a consultant or any other entity that has prepared the design, specifications and other documents, in accordance with ITT Sub-Clause 5.5;

j) we, including as applicable subcontractor have not been declared ineligible by the Government of Bangladesh on charges of engaging in corrupt, fraudulent, collusive or coercive practices, in accordance with ITT Sub-Clause 5.6;

k) furthermore, we are aware of ITT Sub Clause 4.3 concerning such practices and pledge not to indulge in such practices in competing for or in executing the Contract;

l) we intend to subcontract an activity or part of the Supply, in accordance with ITT Sub-Clause 16.1 to the following Subcontractor(s);

Nature of the Supply or related service	Name and address of Subcontractor
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m) we, confirm that we do not have a record of poor performance, such as abandoning the Supply, not properly completing contracts, inordinate delays, or financial failure as stated in ITT Sub-Clause 5.8, and that we do not have, or have had, any litigation against us, other than that stated in the Tenderer Information Sheet (Form PG3-2);

n) we are not participating as Tenderers in more than one Tender in this Tendering process. We understand that your written Notification of Award shall become a binding Contract between us, until a formal Contract is prepared and executed;

o) we understand that you reserve the right to accept or reject any Tender, to cancel the Tender proceedings, or to reject all Tenders, without incurring any liability to Tenderers, in accordance with ITT Clause 55.1.

Signature:

<i>[insert signature of authorized representative of the Tenderer]</i>
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Name:

<i>[insert full name of signatory with National ID]</i>

In the capacity of:

<i>[insert designation of signatory]</i>
--

Duly authorized to sign the Tender for and on behalf of the Tenderer

[If there is more than one (1) signatory add other boxes and sign accordingly].

Attachment 1: Written confirmation authorizing the above signatory (ies) to commit the Tenderer, in accordance with ITT Sub-Clause 34.3;

Tenderer Information Sheet (Form PG3-2)

[The Tenderer shall fill in this Form in accordance with the instructions indicated below. No alterations to its format shall be permitted and no substitutions shall be accepted]

Invitation for Tender No: 44.08.2680.005.02.001.18.67 Date 23 April 2018
 Tender Package No: -

A. Individual Tenderers

1. Eligibility Information of the Tenderer [ITT Clauses 5 & 21]	
1.1	Tenderer's Legal Name:
1.2	Tenderer's legal address in Country of Registration
1.4	Tenderer's Year of Registration
1.5	Tenderer's Authorised Representative Information
	Name
	National ID number
	Address
	Telephone / Fax Numbers
	e-mail address
1.6	<p>Attached are copies of original documents of: <i>[check box(es) of the attached original documents]</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> <i>Articles of Incorporation or Registration of firm named in 1.1, in accordance with ITT sub-Clause 5.1 and 5.2]</i> <input type="checkbox"/> <i>In case of government owned entity, documents establishing legal and financial autonomy and compliance with commercial law, in accordance with ITT Sub-Clause 5.3</i> <input type="checkbox"/> <i>An affidavit confirming the legal capacity stating that there are no existing orders of any judicial court that prevents either the tenderer or employees of a tenderer entering into or signing a Contract with the Procuring Entity in accordance with ITT clause 5</i> <input type="checkbox"/> <i>An affidavit confirming that the tenderer is not insolvent, in receivership or not bankrupt or not in the process of bankruptcy, not temporarily barred from undertaking their business for financial reasons and shall not be the subject of legal proceedings for any of the foregoing in accordance with ITT Clause 5.</i>

	<ul style="list-style-type: none"> <input type="checkbox"/> A certificate issued by the competent authority of Bangladesh stating that the Tenderer is a Tax payer having valid Tax identification Number (TIN) and VAT registration number or in lieu any other document acceptable to the Procuring Entity demonstrating that the Tenderer is a genuine Tax payer and has a VAT registration number as a proof of fulfilment of taxation obligations in accordance with ITT Clause 5 . <input type="checkbox"/> Documentary evidence demonstrating that they are enrolled in the relevant professional or trade organizations registered in Bangladesh in accordance with ITT Clause 5.
2. Litigation History: [Number of arbitration awards against the tenderer over the period in accordance the ITT Clause 13.1] if no [state "None"]	
3. Qualification Information of the Tenderer:	
3.1	Number of years of overall experience of the Tenderer in the supply of goods and related services as stated under ITT Sub-Clause14.1(a):
3.2	Number of completed supply contracts in the supply of similar goods and related services within the period mentioned in TDS as stated under ITT Sub-Clause14.1(b):
3.3	The supply and/or production capacity of Goods, if applicable, as stated under ITT Sub-Clause 14. (c)
3.4	<p>Number of completed supply contracts in the supply of similar goods and related services of required value within the period mentioned in TDS as stated under ITT Sub-Clause 15.1(a):</p> <ul style="list-style-type: none"> ▪ Number of Contracts: ▪ Value of the Contracts: ▪ Period of the Contract:
3.5	Available liquid assets or working capital or credit facility in accordance with ITT Clause 15.1(b)

Price Schedule for Goods (Form PG3-3A)

Invitation for Tender No:	44.08.2680.005.02.001.18.67	Date:	23 April 2018
Tender Package No:	-	Package Description:	<i>[enter description as specified in Section 6]</i>
Tender Lot No:	01	Lot Description:	<i>[enter description as specified in Section 6]</i>

A: PRICE OF GOODS (Including Spare Parts, if any) AND DELIVERY SCHEDULE

1	2	3	3	4	5	6	7	8
Item No .	Description Of Item	Country of Origin	Unit of Measurement	Qty Of units Required	Unit price	Total price (col. 4 × 5)	Point of Delivery as per Schedule of Requirement	Delivery Period Offered as per Schedule of Requirement
					(Note1)		(Note2)	

Note 1: Price shall include all customs duties, VAT and other taxes already paid or payable if Contract is awarded and Shall be delivered price in final destination or at point of delivery.

Note 2: The Tenderer will complete these columns as appropriate following the details specified in Section 6: Schedule of Requirements

Signature:	<i>[insert signature of authorized representative of the Tenderer]</i>
Name:	<i>[insert full name of signatory with National ID]</i>
In the capacity of:	<i>[insert designation of signatory]</i>
Duly authorized to sign the Tender for and on behalf of the Tenderer	

Specifications Submission and Compliance Sheet (Form PG3-4)

Invitation for Tender No:	44.08.2680.005.02.001.18.67	Date:	23 April 2018
Tender Package No:	-	Package Description:	<i>[enter description as specified in Section 6]</i>
Tender Lot No:	01	Lot Description:	<i>[enter description as specified in Section 6]</i>

Item No.	Name of Goods or Related Service	Country of Origin	Make and Model (<i>when applicable</i>)	Full Technical Specifications and Standards
1	2	3	4	5
	FOR GOODS			Note 1
	FOR RELATED SERVICES			

[The Tenderer should complete all the columns as required]

Signature:

<i>[insert signature of authorized representative of the Tenderer]</i>
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Name:

<i>[insert full name of signatory with National ID]</i>

In the capacity of:

<i>[insert designation of signatory]</i>
--

Duly authorized to sign the Tender for and on behalf of the Tenderer

Manufacturer's Authorisation Letter (Form PG3 - 5)

[The Tenderer shall require the Manufacturer to fill in this Form in accordance with the instructions indicated. This letter of authorization should be on the letterhead of the Manufacturer and should be signed by a person with the proper authority to sign documents that are binding on the Manufacturer. The Tenderer shall include it in its tender, if so indicated in the TDS as stated under ITT Sub-Clause 26.1 (b)]

Invitation for Tender No:	Date:
Tender Package No:	
Tender Lot No:	
To: Name and address of Procuring Entity]	

WHEREAS

We *[insert complete name of Manufacturer]*,

who are official manufacturers of *[insert type of goods manufactured]*, having factories at *[insert full address of Manufacturer's factories]*, do hereby

authorize *[insert complete name of Tenderer]* to supply the following Goods, manufactured by us *[insert name and or brief description of the Goods]*.

We hereby extend our full guarantee and warranty as stated under GCC Clause 33 of the General Conditions of Contract, with respect to the Goods offered by the above Tenderer.

Signed: *[insert signature(s) of authorized representative(s) of the Manufacturer]*

Name: *[insert complete name(s) of authorized representative(s) of the Manufacturer]*

Address: *[insert full address including Fax and e-mail]*

Title: *[insert title]*

Date: *[insert date of signing]*

Bank Guarantee for Tender Security (Form PG3 – 6)

[this is the format for the Tender Security to be issued by a scheduled bank of Bangladesh as stated under ITT Clauses 29 and 30]

Invitation for BCGHQ Project IT & Computer Tender No: 44.08.2680.005.02.001.18.67 Date: 23 April 2018

Tender Package No: -

Tender Lot No: 01

To:

[Name and address of Procuring Entity]

TENDER GUARANTEE No:

We have been informed that *[insert name of Tenderer]* (hereinafter called “the Tenderer”) intends to submit to you its Tender dated *[insert date of Tender]* (hereinafter called “the Tender”) for the supply of *[description of goods and related services]* under the above Invitation for Tenders (hereinafter called “the IFT”).

Furthermore, we understand that, according to your conditions, Tenders must be supported by a Bank Guarantee for Tender Security.

At the request of the Tenderer, we *[insert name of bank]* hereby irrevocably undertake to pay you, without cavil or argument, any sum or sums not exceeding in total an amount of Tk *[insert amount in figures and in words]* upon receipt by us of your first written demand accompanied by a written statement that the Tenderer is in breach of its obligation(s) under the Tender conditions, because the Tenderer:

- a. has withdrawn its Tender after opening of Tenders but within the validity of the Tender Security; or
- b. refused to accept the Notification of Award (NOA) within the period as stated under Instructions to Tenderers (ITT); or
- c. failed to furnish Performance Security within the period as stipulated in the NOA; or
- d. refused to sign the Contract Agreement by the time specified in the NOA; or
- e. did not accept the correction of the Tender price following the correction of the arithmetic errors in accordance with the ITT; or

This guarantee will expire:

- (a) if the Tenderer is the successful Tenderer, upon our receipt of a copies of the contract signed by the Tenderer and the Performance Security issued to you in accordance with the ITT; or
- (b) if the Tenderer is not the successful Tenderer, twenty-eight (28) days after the expiration of the Tenderer’s Tender validity period, being *[date of expiration of the Tender validity plus twenty-eight (28) days]*

Consequently, we must receive at the above-mentioned office any demand for payment under this guarantee on or before that date.

Signature

Seal

Section 6. Schedule of Requirements

Invitation for Tender No: 44.08.2680.005.02.001.18.67 Date 23 April 2018
 Tender Package No: - Lot. No: 01

A. List of Goods and Delivery Schedule

When completing Form PG3-2 the Tenderer shall quote prices and contract delivery dates for each item against each lot and show each Lot separately, as specified in the List of Goods and Delivery Schedule.)

Item No.	Description of Item	Unit of Supply	Quantity of Units required	Point of Delivery	Date Required (in weeks)
1	2	3	4	5	6
Procuring Entity's Option for delivery terms is: <i>[note 1]b</i>					
Lot No: 1					
<u>Hardware & Related Software for IP PBX System</u>					
(a) Unified Access Gateway (IP PBX)		01 Nos		CGHQ	06 weeks from signing of contract.
(b) Session Border Controller (SBC)		01 Nos			
(c) Branch Unified Gateway (IP PBX)		04 Nos			
(d) Headquarter Router		01 Nos			
(e) Brach Router		04 Nos			
(f) Ship Router		04 Nos			
(g) IP Phone (With Video Conference Facility)		30 Nos			
(h) Basic IP Phone		70 Nos			
(i) Off Line UPS		08 Nos			

Note 1: The delivery date required at will start Column 6.

SECTION-7

Technical Specifications

The Goods and Related Services shall comply with following Technical Specifications:

Lot No 1- Various Hardware & Related Software for Coast Guard IP PBX System

1. Specification of Unified Access Gateway (IPPBX)

- 1.1 **Name of Item:** Unified Access Gateway (IP PBX)
- 1.2 **Purpose:** To be used for IP PBX.
- 1.3 **Quantity:** 01 in no.
- 1.4 **Country of Origin:** USA/EU/UK/JAPAN/CHINA
- 1.5 **Year of Manufacture:** 2017 or Later.
- 1.6 **Manufacturing Country:** Bidder should mention
- 1.7 **Port of Shipment:** Bidder should mention
- 1.8 **Manufacture:** Bidder should mention
- 1.9 **Scope of Supply:** Unified Access Gateway (IPPBX) is to be supplied complete In all respect technical specifications with all required standard accessories/attachments and ready for immediate Use.

1.10 Technical Specification of Unified Access Gateway (IPPBX)

1.10.1	Brand Name	Internationally reputed brand
1.10.2	Model	To be mentioned
1.10.3	Country of origin	To be mentioned
1.10.4	Country of Manufacturer	To be mentioned
1.10.5	System capacity	A single system can be expanded to support a maximum of 1000 users. The system must include license for at least 300 users from day one.
		A single system supports a maximum of 16 E1 interfaces. Must provide at least Two (2) E1 module from day one.
		support up to 72 FXO interfaces or its multiple. provide at least 48 FXO or its multiple ports from Day One.
		The system must feature high performance and reliability. The CAPS must be at least 10. The BHCC must be at least 36,000.
		Maximum number of SIP trunk channels: ≥ 240

		<p>Maximum number of concurrent voice conference participants: ≥ 360 Maximum number of participants supported in a conference: ≥ 60 Maximum number of conference halls: ≥ 120 The system must include license for at least 30 concurrent voice conference participants from day one.</p> <p>Maximum number of FXS analog users can be extended by a single system: ≥ 192 Must provide at least 48 FXS ports from day one.</p>
1.10.6	Voice gateway	<p>The voice gateway adopts the softswitch architecture and is deployed based on an IP network.</p> <p>To ensure system stability, a universal server cannot be used as the core voice gateway. The core voice gateway must use an embedded operating system (such as VxWorks) and cannot use a general operating system (such as Windows and Linux).</p> <p>The DC or AC power module can be configured for the voice gateway based on requirements.</p> <p>The voice gateway can provides user interfaces that can directly connect to analog phones.</p> <p>The voice gateway must support the AT0, PRI, QSIG, SS7 signaling, and SIP protocols.</p> <p>IP voice switches must support the TCP/IP, Telnet, SSH, HTTP, HTTPS, TFTP, FTPS, SNTP, and SNMPv3 network transmission protocols.</p> <p>The voice gateway supports the built-in voice mailbox function without additional devices.</p> <p>The conference call function is embedded in the voice gateway without additional devices.</p> <p>The voice gateway must support the following voice codec formats: G.711A/μ, G.729a/b, and iLBC</p> <p>The voice gateway must support IPv6 to facilitate future expansion.</p> <p>The voice gateway must provide the following intelligent routing functions:</p> <ol style="list-style-type: none"> 1. Least-Cost routing (LCR) 2. Dynamically selecting routes by time segment 3. Rerouting upon routing failure 4. Routing by percentage 5. Selecting routes by sequence <p>The voice gateway can receive, store, and forward 32-digit numbers and analyze a number that consists of at least 32 digits to determine the call type and route selection scheme.</p>
1.10.7	Security	<p>Supports dual security authentication: account password + terminal IP address</p> <p>Supports encrypted communication using the TLS or SRTP protocol.</p>

		Supports security management. All management and maintenance protocols use encryption protocols. Web pages use the HTTPS protocol. The NMS uses an encryption protocol, for example, SNMP V3 or SSH.
1.10.8	IPT service	Supports basic calling services, including voice call, fax, video call and voice conference services.
		Supports voice conference services and three conference joining modes: system convening, moderator convening, and individual dialing-in. Users can configure and manage conferences on web pages using Internet Explorer.
		Supports the built-in voice mailbox service and at least 6 concurrent voice mailbox users. And the gateway can be upgraded to support at least 30 concurrent voice mailbox users without additional hardware.
1.10.9	Quality & Certificate	FCC/CE/UL certification. Must be listed in the latest Gartner report "Magic Quadrant for Unified Communications"
1.10.10	Warranty & Support	3 Years OEM warranty with support

2. Specification of Session Border Controller (SBC)

- 2.1 **Name of Item:** Session Border Controller (SBC)
- 2.2 **Purpose:** To be used IP PBX.
- 2.3 **Quantity:** 01 in no.
- 2.4 **Country of Origin:** USA/EU/UK/JAPAN/CHINA
- 2.5 **Year of Manufacture:** 2017 or Later.
- 2.6 **Manufacturing Country:** Bidder should mention
- 2.7 **Port of Shipment:** Bidder should mention
- 2.8 **Manufacture:** Bidder should mention
- 2.9 **Scope of Supply:** Session Border Controller (SBC) is to be supplied complete in all respect Fulfilling the technical specifications with all required standard accessories/attachments and ready for immediate Use.

2.10 Technical Specification Session Border Controller (SBC)

2.10.1	Brand Name	Same brand of Unified Access Gateway
2.10.2	Model	To be mentioned
2.10.3	Country of origin	To be mentioned
2.10.4	Country of Manufacturer	To be mentioned
2.10.5	System specifications	Supports at least 50 concurrent sessions, and supports a maximum of 300 concurrent sessions via license upgrade.
		Supports at least 50 concurrent sessions with SRTP encryption, and supports a maximum of 300 concurrent sessions with SRTP encryption.
2.10.6	Hardware specifications	Supports four or more 1000 Mbit/s Ethernet interfaces, among which at least two interfaces are used for service processing.
		Supports the throughput rate of 4 Gbit/s and line-rate media forwarding.
2.10.7	Reliability specifications	Supports dual-power redundancy for the single-node system.
		The heat dissipation system supports two or more fan modules that work separately. Under normal circumstances, the fans function simultaneously. If one fails, the other fans will work at full speed. The system generates an alarm, but services are not affected.
2.10.8	Interworking capabilities	Supports interworking between SIP and SIP and between SIP and H.323.
		Supports encryption and decryption for TLS and non-TLS SIP signaling.
		Supports encryption and decryption for RTP and SRTP media.
		Supports conversion for the SIP over UDP and SIP over TCP bearer protocols.

		<p>Supports adaptation of the header field in an SIP message and enables users to:</p> <ol style="list-style-type: none"> 1.Add, delete, modify, and replace the SIP request message header field and header field parameters. 2.Add, delete, modify, and replace the user-defined header field and header field parameters. 3.Add, delete, modify, and replace the SIP response message header field and header field parameters. 4.Directly discard request messages (for example, messages containing specific header fields or parameters) that have predefined characteristics. 5.Directly discard request messages that match specific requirements and returns response codes. <p>Supports proxy for various media types, such as audio, video, and fax. A wide array of media protocols are supported, including T.38, T.30, G.711, G.729A/B, G.723, iLBC, G.722, AMR-NB, AMR-WB, EVRCB0, Opus, and H.263/H.264/H.265.</p>
2.10.9	Media stream control	<p>Checks the call media type and specifies media types that are not supported. (For example, video is not supported.)</p> <p>Specifies the maximum bandwidth allowed for each media type, including audio, video, application, data, control, message, image, and text.</p> <p>Filters or sorts media codec types used for SDP-based negotiation. Enables or disables some audio or video codec types. Sorts the SDP codec priorities, ensuring that the calling and called parties use high-priority codec types for media interaction.</p> <p>Supports real-time media detection.</p> <p>If no media messages are forwarded (unidirectional or bidirectional) in a certain period of time (specified locally, minimum: within 5s) in an established call, the system identifies this symptom as abnormal media transmission and sends the BYE message to the two parties to end the call. This prevents abnormal use of resources and charging errors.</p> <p>Supports real-time media detection. If no media messages are forwarded (unidirectional or bidirectional) in a certain period of time (specified locally, minimum: within 5s) in an established call, the system identifies this symptom as abnormal media transmission and sends the BYE message to the two parties to end the call. This prevents abnormal use of resources and charging errors.</p> <p>Supports the media stream bypass function. If the networks where the calling and called parties are located can communicate with each other, media streams can be directly transmitted between the calling and called parties without being forwarded by the SBC. This function reduces bandwidth usage of the bearer network and improves the call quality.</p>

2.10.10	Routing capabilities	<p>Supports flexible SIP routing capabilities, including:</p> <ul style="list-style-type: none"> Routing by the number Routing by the domain name Routing by the tgrp and trunk-context parameters in the Request-URI header field Routing by the tgrp and trunk-context parameters in the Contact header field Routing by the Calling Party Category (CPC) in the P-Asserted-Identity header field of the request message sent by the calling party Routing by the ENUM/NP query result Routing by the media type in the SDP message body, including audio, video, fax, file transfer, image sharing, and instant messaging (IM) Routing by the media codec type Routing by the message type (such as registration message or other messages) Rerouting by the failure response code Routing by the time Routing by the QoS information
2.10.11	Call control capabilities	<p>Provides the following access control and management functions for call capacity resources:</p> <ul style="list-style-type: none"> Restricting the total number of concurrent calls Restricting the call rate Restricting the number of concurrent calls for a single user Restricting the call rate for a single IP address and port number. Restricting the number of concurrent calls for a single IP address Restricting the number of concurrent calls for a single service type (such as audio, video, and fax) <p>Adjusts the access control policies for registration and call resources based on the CPU usage. Once the CPU usage exceeds the threshold, new service requests should be processed or rejected based on a specified ratio. This mechanism will not stop working until the CPU usage becomes lower than the threshold.</p> <p>Supports access control and management for registration and call resources based on the service direction (such as inbound or outbound) and application scenario (such as the access or core side).</p> <p>Supports hierarchical resource access control and management capabilities to meet the resource sharing or exclusive use of different user groups in some application scenarios.</p>
2.10.12	Security defense capabilities	<p>Malicious users who make attacks are masked from the IP layer to ensure high stability of service applications and systems.</p> <p>Supports the access control list (ACL) function to prevent unauthorized user access. This function provides access permission control based on the IP layer.</p> <p>Supports the packet filtering firewall function to isolate attacks from the network layer, including:</p> <ul style="list-style-type: none"> DoS attacks: Smurf, source address spoofing, Fraggle, UDP Flood, TCP Flood, ICMP Flood, ICMP extension header, ICMP redirection, and IPv6 extension header Scanning and sniffing attacks: IPv4 options, port scanning, and Tracert Malformed packet attacks: malformed IP packets, special address attacks (broadcast, loopback, and class-E address), oversized ICMP packets, IP fragmentation error packets, abnormal TCP flag, WinNuke, abnormal IPv4 fragmentation flag, and UDP short header

		<p>Supports the blacklist and whitelist functions. Malicious users can be identified and dynamically added to the blacklist. VIP users can be added to the whitelist and granted high priorities, improving service security.</p> <p>Supports intrusion detection and prevention at the SIP application layer. This function can analyze historical behaviors of users to identify users who have abnormal and behaviors and accordingly implement security defense measures. Various abnormal behaviors can be identified, including malformed packet attacks, brute force cracking (repeated password change or registration attempts and password cracking by enumeration), frequent registration and refresh, invalid request, registration of unauthorized user, pending registration, incomplete call, ultra-short call, empty TCP connection, and excessive packet retransmission in SIP transactions.</p> <p>Supports the topology hiding function to convert address information of the network layer and SIP header fields and SDP message bodies (including o, s, c, and m lines) of the application layer. This function implements network isolation and prevents disclosure of network topology information to ensure high security of core network information.</p> <p>Provides security protection capabilities at the media plane, including: Pinhole firewall: Media forwarding is implemented through the media port negotiated in a call. The source IP address, source port number, protocol type, destination IP address, and destination port number cannot be forwarded if mismatching packets are detected. After the call is ended, the enabled media port will be disabled and cannot forward media packets. Malformed RTP packet anti-attack: The SBC verifies the version number and payload type of RTP packets. RTP packets will not be forwarded if the payload type of the RTP packets is different from the payload type specified in session negotiation. Media traffic control: The SBC allocates fixed bandwidth to each session based on the codec type used by the session. When the bandwidth occupied by a user exceeds the allowed bandwidth, the SBC will discard excess media packets to prevent bandwidth theft of unauthorized users.</p>
2.10.13	Traffic control capabilities	<p>Supports the traffic control function. In the case of registration/call/service storms or service overload, the SBC can schedule internal resources in an appropriate manner to ensure secure system operations and high service success rate. Even though the service load is three times as system specifications, the call success rate still reaches 100% (including calls within system specifications, but not calls beyond system specifications).</p> <p>Supports traffic control by priority to preferentially connect emergency calls and calls from VIP users.</p> <p>Supports local or remote firewalls.</p>
2.10.14	Operation and maintenance (O&M)	<p>Provides the graphical user interface (GUI) for easy O&M.</p> <p>Provides the web-based O&M platform to support common service configuration, interface management, hardware and system status monitoring, performance statistics, alarm management, system backup and restoration, and version upgrade management.</p> <p>Quickly delimits and locates faults when detecting call errors. For example, unidirectional communication detection can be conducted to delimit faults such as one-way audio, no audio, short silence, and noise caused by packet loss. In this way, whether call errors are caused by faults on the SBC can be determined.</p>

		Supports the signaling tracing function. This function dynamically traces and monitors connection processes of interfaces and signaling links, resource usage, and service flows in real time to help locate faults and conduct Interoperability Tests (IOTs).
2.10.15	User rights management	Supports hierarchical user rights management. The system administrator can allocate and manage accounts based on O&M scenarios and perform hierarchical and refined control over user rights management based on user groups and command groups. This achieves minimum authorization to ensure high O&M security.
2.10.16	Log management	Supports the log management function, including operation logs, security logs, and system event logs. The logs record user behaviors and system running status in detail to help detect intrusion behaviors, recover the system, measure system resource usage, audit operations, and provide electronic evidence.
2.10.17	Alarm management	Supports alarm management to report the information about errors that occur during system running. Operators can query and view all alarms anytime (in real time or not) and manage the alarms based on the given suggestions.
2.10.18	Performance management	Supports performance management. The SBC collects and analyzes statistics about its operations to provide an overview of the running status of the communications network and the usage of system resources. These statistics provide a reliable data basis for operations management, fault locating, network measurement, and planning & design of the SBC.
2.10.19	Quality & Certificate	Must be listed in the latest Gartner report "Magic Quadrant for Unified Communications"
2.10.20	Warranty & Support	3 Years OEM warranty with support

3. **Specification of Branch Access Unified Gateway (IP PBX)**

3.1 **Name of Item:** Brach Access Unified Gateway (IP PBX)

3.2 **Purpose:** To be used IP PBX.

3.3 **Quantity:** 04 (Four)

3.4 **Country of Origin:** USA/EU/UK/JAPAN/CHINA

3.5 **Year of Manufacture:** 2017 or Later.

3.6 **Manufacturing Country:** Bidder should mention

3.7 **Port of Shipment:** Bidder should mention

3.8 **Manufacture:** Bidder should mention

3.9. **Scope of Supply:** Branch Access Unified Gateway (IPPBX) is to be supplied complete in all respect fulfilling the technical specifications with all required standard accessories/attachments and ready for immediate Use.

3.10. Technical Branch Access Unified Gateway (IPPBX)

3.10.1	Brand Name	Same brand of Unified Access Gateway
3.10.2	Model	To be mentioned
3.10.3	Country of origin	To be mentioned
3.10.4	Country of Manufacturer	To be mentioned
3.10.5	System capacity	A single system can be expanded to support a maximum of 100 users. The system must include license for at least 50 users from day one.
		A single system supports a maximum of 12 E1 interfaces. Must provide at least Two (2) E1 module from day one.
		support up to 24 FXO or its multiple interfaces. provide at least 24 FXO or its multiple ports from Day One.
		The system must feature high performance and reliability. The CAPS must be at least 4. The BHCC must be at least 14,400.
		Maximum number of SIP trunk channels: ≥ 100
		Maximum number of concurrent voice conference participants: ≥ 60 Maximum number of participants supported in a conference: ≥ 60 Maximum number of conference halls: ≥ 20 The system must include license for at least 16 concurrent voice conference participants from day one.
		Maximum number of FXS analog users supported by a single system: ≥ 64 Must provide at least 24 FXS ports from day one.

		Supports AC and DC power supply.
3.10.6	Voice gateway	The voice gateway provides user interfaces that can directly connect to analog phones.
		The voice gateway can be deployed in distributed mode. Users at each branch can make outgoing calls through the local gateway.
		The voice gateway can be deployed in centralized mode. Users at each branch can make outgoing calls through the local gateway.
		Supports multiple voice codecs such as G.711A/μ, G.729a/b, and iLBC.
		Connects to the PSTN and supports call control and number analysis.
		Supports narrowband trunks, including the AT0 analog trunk and PRI, QSIG, ISUP, TUP, and R2 trunks.
		Supports SIP and connects to other voice gateways using SIP trunks.
		IP voice switches must support the TCP/IP, Telnet, SSH, HTTP, HTTPS, TFTP, FTPS, SNMP, and SNMPv3 network transmission protocols.
		The voice gateway supports the built-in voice mailbox function without additional devices.
		The conference call function is embedded in the voice gateway without additional devices.
		Supports E1 and T1 trunks.
		Provides intelligent routing: Routing based on the charging rate Dynamically selecting routes by time segment Rerouting upon routing failures Routing by percentage Routing sequentially
3.10.7	Maintenance and management	Supports web configuration.
		Supports message tracing on the local management console.
3.10.8	Quality & Certificate	Passes CE/RoHS/FCC/WEEE certification. Must be listed in the latest Gartner report "Magic Quadrant for Unified Communications"
3.10.9	Warranty & Support	3 Years OEM warranty with support

4. **Specification of Headquarter Router**

- 4.1 **Name of Item:** Headquarter Router
- 4.2 **Purpose:** To be used Video Conference.
- 4.3 **Quantity:** 01 in no
- 4.4 **Country of Origin:** USA/EU/UK/JAPAN/CHINA
- 4.5 **Year of Manufacture:** 2017 or Later.
- 4.6 **Manufacturing Country:** Bidder should mention
- 4.7 **Port of Shipment:** Bidder should mention
- 4.8 **Manufacture:** Bidder should mention
- 4.9. **Scope of Supply:** Headquarter Router is to be supplied complete in all respect fulfilling the technical specifications with all required standard accessories/attachments and ready for immediate Use.

4.10. **Technical Specification of Headquarter Router**

4.10.1	Brand Name	Same brand of Unified Access Gateway
4.10.2	Model	To be mentioned
4.10.3	Country of Origin	To be mentioned
4.10.4	Country of Manufacturer	To be mentioned
	Hardware Requirement	
4.10.5	Architecture	Non-blocking switching architecture
4.10.6	Processor	Muliti-core CPU; At least support 4 cores
4.10.7	WAN Speed with Services	800 Mbit/s
4.10.8	Firewall Performance	3 Gbit/s
4.10.9	Fixed WAN Ports	3 x GE (1 x Combo port)
4.10.10	LAN Ports	8 x GE
4.10.11	USB 2.0 Ports	2
4.10.12	Mini-USB Ports	1
4.10.13	Serial Auxiliary/Console Port	1
4.10.14	Slots	Slots≥ 6
4.10.15	Memory	1 GB
4.10.16	Flash	≥512 MB
4.10.17	Max. Power	150W
4.10.18	AC Power	100V to 240V
4.10.19	Frequency	50 Hz/60 Hz
	Software Requirement	
4.10.20	Basic Features	DHCP server/client, PPPoE server/client, PPPoA client, PPPoEoA client, NAT, and Subinterface management
4.10.21	LAN	IEEE 802.1P, IEEE 802.1Q, IEEE 802.3, VLAN management, MAC address management, and MSTP

4.10.22	IPv4 Unicast Routing	Routing policy, static route, RIP, OSPF, IS-IS, and BGP
4.10.23	IPv6 Unicast Routing	Routing policy, static route, RIPng, OSPFv3, IS-ISv6, and BGP4+
4.10.24	Multicast	IGMP v1/v2/v3, PIM SM, PIM DM, MSDP, and MBGP
4.10.25	MPLS	LDP, MPLS L3 VPN, VLL, PWE3, static LSP, dynamic LSP, MPLS TE, IP FRR, LDP FRR, and TE FRR
4.10.26	VPN	IPSec VPN, GRE VPN, DSVPN/DMVPN, A2A VPN, and L2TP VPN
4.10.27	IPSec Performance	IPSec forwarding bandwidth must be no less than 500Mbps.
4.10.28	QoS	DiffServ mode, MPLS QoS, priority mapping, traffic policing with Committed Access Rate (CAR), traffic shaping, congestion avoidance (based on IP precedence/DSCP-based WRED), congestion management (LAN interface: SP, WRR, SP + WRR; WAN interface: PQ/CBWFQ), MQC (traffic classifier, traffic behavior, and traffic policy), Hierarchical QoS
4.10.29	Security	ACL, firewall, 802.1x authentication, MAC address authentication, Web Authentication, AAA authentication, RADIUS authentication, broadcast storm suppression, ARP security, ICMP attack defense, URPF, IP Source Guard, DHCP snooping, CPCAR, blacklist, and IP source tracing
4.10.30	Management and Maintenance	Upgrade management, device management, web-based GUI, GTL, SNMP v1/v2c/v3, NTP, CWMP, Auto-Config, deployment using USB disk, CLI and SSH (v1/v2)
	Other Requirement	
4.10.31	Warranty & Support	3 Years OEM warranty with support

5. Specification of Branch Router

- 5.1 **Name of Item:** Branch Router
- 5.2 **Purpose:** To be used IP PBX.
- 5.3 **Quantity:** 04 in no
- 5.4 **Country of Origin:** USA/EU/UK/JAPAN/CHINA
- 5.5 **Year of Manufacture:** 2017 or Later.
- 5.6 **Manufacturing Country:** Bidder should mention
- 5.7 **Port of Shipment:** Bidder should mention
- 5.8 **Manufacture:** Bidder should mention
- 5.9 **Scope of Supply:** Branch Router is to be supplied complete in all respect fulfilling the technical specifications with all required standard accessories/attachments and ready for immediate Use.

5.10. Technical Specification of Branch Router

5.10.1	Brand Name	Same brand of Unified Access Gateway
5.10.2	Model	To be mentioned
5.10.3	Country of origin	To be mentioned
5.10.4	Country of Manufacturer	To be mentioned
	Hardware Requirement	
5.10.5	Architecture	Non-blocking switching architecture
5.10.6	Processor	Muliti-core CPU; At least support 4 cores
5.10.7	WAN Speed with Services	800 Mbit/s
5.10.8	Firewall Performance	3 Gbit/s
5.10.9	Fixed WAN Ports	3 x GE (1 x Combo port)
5.10.10	3G/LTE	FDD LTE: Uplink: 50 Mbit/s; Downlink: 100 Mbit/s WCDMA
5.10.11	USB 2.0 Ports	2
5.10.12	Mini-USB Ports	1
5.10.13	Serial Auxiliary/Console Port	1
5.10.14	Slots	Slots≥ 6
5.10.15	Memory	1 GB
5.10.16	Flash	≥512 MB
5.10.17	Max. Power	150W
5.10.18	AC Power	100V to 240V
5.10.19	Frequency	50 Hz/60 Hz
	Software Requirement	
5.10.20	Basic Features	DHCP server/client, PPPoE server/client, PPPoA client, PPPoEoA client, NAT, and Subinterface management
5.10.21	LAN	IEEE 802.1P, IEEE 802.1Q, IEEE 802.3, VLAN management, MAC address management, and MSTP

5.10.22	IPv4 Unicast Routing	Routing policy, static route, RIP, OSPF, IS-IS, and BGP
5.10.23	IPv6 Unicast Routing	Routing policy, static route, RIPng, OSPFv3, IS-ISv6, and BGP4+
5.10.24	Multicast	IGMP v1/v2/v3, PIM SM, PIM DM, MSDP, and MBGP
5.10.25	MPLS	LDP, MPLS L3 VPN, VLL, PWE3, static LSP, dynamic LSP, MPLS TE, IP FRR, LDP FRR, and TE FRR
5.10.26	VPN	IPSec VPN, GRE VPN, DSVPN/DMVPN, A2A VPN, and L2TP VPN
5.10.27	IPSec Performance	IPSec forwarding bandwidth must be no less than 500Mbps.
5.10.28	QoS	DiffServ mode, MPLS QoS, priority mapping, traffic policing with Committed Access Rate (CAR), traffic shaping, congestion avoidance (based on IP precedence/DSCP-based WRED), congestion management (LAN interface: SP, WRR, SP + WRR; WAN interface: PQ/CBWFQ), MQC (traffic classifier, traffic behavior, and traffic policy), Hierarchical QoS
5.10.29	Security	ACL, firewall, 802.1x authentication, MAC address authentication, Web Authentication, AAA authentication, RADIUS authentication, broadcast storm suppression, ARP security, ICMP attack defense, URPF, IP Source Guard, DHCP snooping, CPCAR, blacklist, and IP source tracing
5.10.30	Management and Maintenance	Upgrade management, device management, web-based GUI, GTL, SNMP v1/v2c/v3, NTP, CWMP, Auto-Config, deployment using USB disk, CLI and SSH (v1/v2)
	Other Requirement	
5.10.31	Warranty & Support	3 Years OEM warranty with support

6. Specification of Ship Router

- 6.1 **Name of Item:** Ship Router
- 6.2 **Purpose:** To be used IP PBX.
- 6.3 **Quantity:** 04 in no
- 6.4 **Country of Origin:** USA/EU/UK/JAPAN/CHINA
- 6.5 **Year of Manufacture:** 2017 or Later.
- 6.6 **Manufacturing Country:** Bidder should mention
- 6.7 **Port of Shipment:** Bidder should mention
- 6.8 **Manufacture:** Bidder should mention
- 6.9 **Scope of Supply:** Ship Router is to be supplied complete in all respect fulfilling the technical specifications with all required standard accessories/attachments and ready for immediate Use.

6.10. Technical Specification of Ship Router

6.10.1	Brand Name	Same brand of Unified Access Gateway
6.10.2	Model	To be mentioned by Bidder
6.10.3	Country of origin	To be mentioned by Bidder
6.10.4	Country of Manufacturer	To be mentioned by Bidder
	Hardware Requirement	
6.10.5	Architecture	Non-blocking switching architecture
6.10.6	Processor	Multicore CPU; At least support 4 cores
6.10.7	WAN Speed with Services	800 Mbit/s
6.10.8	Firewall Performance	3 Gbit/s
6.10.9	Fixed WAN Ports	3 x GE (1 x Combo port)
6.10.10	3G/LTE	FDD LTE: Uplink: 50 Mbit/s; Downlink: 100 Mbit/s WCDMA
6.10.11	USB 2.0 Ports	2
6.10.12	Mini-USB Ports	1
6.10.13	Serial Auxiliary/Console Port	1
6.10.14	Slots	Slots ≥ 6
6.10.15	Memory	1 GB
6.10.16	Flash	≥ 512 MB
6.10.17	Max. Power	150W
6.10.18	AC Power	100V to 240V
6.10.19	Frequency	50 Hz/60 Hz
	Software Requirement	
6.10.20	Basic Features	DHCP server/client, PPPoE server/client, PPPoA client, PPPoEoA client, NAT, and Subinterface management
6.10.21	LAN	IEEE 802.1P, IEEE 802.1Q, IEEE 802.3, VLAN management, MAC address management, and MSTP

6.10.22	Expansion Ports	Must provide 8* FXO Ports Port and 16*FXS module from day 1.
6.10.23	Voice	Basic voice functions are provided by the built-in PBX, SIP server, and SIP access gateway and Value-added voice services include multi-party communication, IVR automatic connection, ring-back-tone, parallel ringing, sequential ringing, one number link you (ONLY), bill management, and subscriber management,etc.
6.10.24	IPv4 Unicast Routing	Routing policy, static route, RIP, OSPF, IS-IS, and BGP
6.10.25	IPv6 Unicast Routing	Routing policy, static route, RIPng, OSPFv3, IS-ISv6, and BGP4+
6.10.26	Multicast	IGMP v1/v2/v3, PIM SM, PIM DM, MSDP, and MBGP
6.10.27	MPLS	LDP, MPLS L3 VPN, VLL, PWE3, static LSP, dynamic LSP, MPLS TE, IP FRR, LDP FRR, and TE FRR
6.10.28	VPN	IPSec VPN, GRE VPN, DSVPN/DMVPN, A2A VPN, and L2TP VPN
6.10.29	IPSec Performance	IPSec forwarding bandwidth must be no less than 500Mbps.
6.10.30	QoS	DiffServ mode, MPLS QoS, priority mapping, traffic policing with Committed Access Rate (CAR), traffic shaping, congestion avoidance (based on IP precedence/DSCP-based WRED), congestion management (LAN interface: SP, WRR, SP + WRR; WAN interface: PQ/CBWFQ), MQC (traffic classifier, traffic behavior, and traffic policy), Hierarchical QoS
6.10.31	Security	ACL, firewall, 802.1x authentication, MAC address authentication, Web Authentication, AAA authentication, RADIUS authentication, broadcast storm suppression, ARP security, ICMP attack defense, URPF, IP Source Guard, DHCP snooping, CPCAR, blacklist, and IP source tracing
6.10.32	Management and Maintenance	Upgrade management, device management, web-based GUI, GTL, SNMP v1/v2c/v3, NTP, CWMP, Auto-Config, deployment using USB disk, CLI and SSH (v1/v2)
	Other Requirement	
6.10.33	Warranty & Support	3 Years OEM warranty with support

7. Specification of IP Phone (With Video Conference Facility)

7.1 **Name of Item:** IP Phone (With Video Conference Facility)

7.2 **Purpose:** To be used for IP PBX.

7.3 **Quantity:** 30 in no

7.4 **Country of Origin:** USA/EU/UK/JAPAN/CHINA

7.5 **Year of Manufacture:** 2017 or Later.

7.6 **Manufacturing Country:** Bidder should mention

7.7 **Port of Shipment:** Bidder should mention

7.8 **Manufacture:** Bidder should mention

6.9 **Scope of Supply:** IP Phone (With Video Conference Facility) is to be supplied complete in all respect fulfilling the technical specifications with all required standard accessories/attachments and ready for immediate Use.

7.10 Technical Specifications of IP Phone (With Video Conference Facility)

7.10.1	Brand Name	Same brand of Unified Access Gateway
7.10.2	Model	To be mentioned
7.10.3	Country of origin	To be mentioned
7.10.4	Country of Manufacturer	To be mentioned
7.10.5	Software	Uses the Android 4.2+ operating system and support voice and video communication.
7.10.6	Hardware	Adapts the 8-inch multi-touch color screen with 1280 x 800 resolution; provides GUIs for easy use.
		Provides a built-in Bluetooth 3.0 module, an HDMI port, and a MicroSD card slot, and supports Wi-Fi access (IEEE 802.11 a/b/g/n).
		Supports software control of enabling/disabling Wi-Fi, Bluetooth 3.0, MicroSD card, and USB.
		Supports two 10/100/1000 Mbit/s Ethernet ports.
		Provides a shutter for the camera that has a dual-color (red and blue) LED.
		Adopts the integrated portable structure, with a built-in microphone and a camera that supports 2.0 megapixel.
		Provides an angle-adjustable (–25° to +15° relative to the screen) camera and an angle-adjustable (ranging from 55° to 80°) base.
		Provides PoE and complies with the IEEE 802.3af standard.
7.10.7	Voice codecs	Supports voice codecs including G.711a, G.711μ, G.729AB, G.722, iLBC, and Opus (with a sampling rate as high as 48 kHz).
7.10.8	Video codec	Supports video codecs such as H.264MP/BP and supports 1080p @ 30 fps HD video.

7.10.9	Security	Supports secure sessions (TLS/SRTP). The video phone shall support 802.1x (EAP-MD5 and EAP-TLS) to ensure network security.
7.10.10	QoS	Supports QoS mechanisms such as 802.1p/q and ToS/DSCP.
7.10.11	Network protocols	Supports network protocols such as TCP/IP, SIP, SDP, UDP, RTP, RTCP, DHCP, DNS, HTTP, HTTPS, SNTP, and XCAP.
7.10.12	Management	Supports remote management and maintenance based on TR069, and supports remote automatic upgrade.
7.10.13	Functional requirements	Supports UC services including corporate directory, calling name and department display, profile picture display, extension mobility, and IP phone linkage.
		Provides at least 24 line buttons using icons on the screen.
		Supports multi-registration.
		Supports local six-party conferences. A user engaged in an ongoing call can call a third party without ending the current call. After a three-party conference is set up, this user can add more participants (at most six participants in a conference), mute participants, remove participants, or end the conference.
		Provides quality voice with technologies such as anti-clipping (ACLP), acoustic echo cancelation (AEC), automatic gain control (AGC), adaptive jitter buffer (AJB), automatic noise restraint (ANR), comfort noise generation (CNG), hearing aid compatibility (HAC), packet loss concealment (PLC), voice activity detection (VAD), sidetone cancelation, voice quality monitoring (VQM), and buzz cancelation.
		Provides at least 24 system ringtones and supports import of custom ringtones in mid/wav/mp3/wma/ogg/3gp format.
		Supports picture-in-picture (PiP), full-screen display of the peer party, and local video preview.
Supports at least 1000 contacts in the directory. Contacts can be queried and imported or exported in .csv/vcf format using USB, SDCard, web.		
7.10.14	Power	The power adapter must be provided from day 1.
7.10.15	Quality & Certificate	RoHS/WEEE/REACH/CE/SASO/NRTL (UL)/FCC/IC certification. Must be listed in the latest Gartner report "Magic Quadrant for Unified Communications"
7.10.16	Touch Button	At least 20 in No one touch button or display setting for direct calling
7.10.17	Warranty & Support	3 Years OEM warranty with support

8. **Specification of Basic IP Phone**

- 8.1 **Name of Item:** Basic IP Phone
- 8.2 **Purpose:** To be used for IP PBX.
- 8.3 **Quantity:** 70 in no
- 8.4 **Country of Origin:** USA/EU/UK/JAPAN/CHINA
- 8.5 **Year of Manufacture:** 2017 or Later.
- 8.6 **Manufacturing Country:** Bidder should mention
- 8.7 **Port of Shipment:** Bidder should mention
- 8.8 **Manufacture:** Bidder should mention
- 8.9 **Scope of Supply:** Basic IP Phone is to be supplied complete in all respect fulfilling the technical specifications with all required standard accessories/attachments and ready for immediate Use.

8.10 **Technical Specifications of Basic IP Phone**

8.10.1	Brand Name	Same brand of Unified Access Gateway
8.10.2	Model	To be mentioned
8.10.3	Country of origin	To be mentioned
8.10.4	Country of Manufacturer	To be mentioned
8.10.5	Software	Supports the Linux operating system and voice calling.
8.10.6	Hardware	Provides an at-least-2.83-inch LCD color screen.
		Features low power consumption (at most 3.84 W).
		Provides at least two 10/100/1000 Mbit/s Ethernet ports.
		Provides at least 10 programmable buttons and four softkeys.
		Provides the RJ9 port.
		Provides PoE and complies with the IEEE 802.3af standard.
		Supports multi-registration.
8.10.7	Voice codecs	Supports common voice codecs, including G.711a, G.711 μ , G.729AB, G.722, iLBC, AAC-LD, G.722.1, G.722.2, and Opus.
8.10.8	Security	Supports level-based password management. Administrators and common users shall have different account numbers and passwords.
		Provides TLS-based SIP signaling encryption.
		Provides media encryption using the 128-bit AES to avoid unauthorized listening.
		Provides encryption of XML configuration files and encryption and delivery of commands for configuring services in web mode using HTTPS.
		Supports X.509-compliant digital certificates.

		Supports network access control and authentication protocol 802.1x (EAP-MD5/EAP-TLS).
8.10.9	QoS	Supports QoS mechanisms such as 802.1p/q and ToS/DSCP.
8.10.10	Network protocols	Supports TCP/IP, SIP, SDP, UDP, RTP, RTCP, DHCP, DNS, PPPoE, HTTP, HTTPS, SNMP, and XCAP.
8.10.11	Management	Supports remote management and maintenance based on TR069.
		Provides unified deployment, automatic software upgrade, and web-based management and configuration.
		Supports automatic deployment. That is, numbers and passwords are automatically delivered to IP phones.
8.10.12	Functional requirements	Provides PBX services, including but not limited to call waiting, call hold, call transfer, call forward, DND, BLF, advanced secretary (SCA), distinctive ring tone, designated pickup, group pickup, and call park.
		Supports UC services, including calling name, department, and profile picture display, corporate directory, extension mobility, IP phone linkage, contact synchronization, and instant conferencing.
		Supports local six-party conferences. A user engaged in an ongoing call can call a third party without ending the current call. After a three-party conference is set up, this user can add more participants (at most six participants in a conference), mute participants, remove participants, or end the conference.
		Provides server conference control capabilities. Users can join a scheduled conference or start an instant conference using their IP phones. The IP phone shall be able to display the participant list. As the chair in a conference, the IP phone shall be able to add, remove, mute, or unmute participants, or end the conference.
		Allows users to initiate a voice conference within a contact group.
		Supports caller ID and call history, including received, placed, missed, and transferred calls.
		Supports the directory function including local directory, group directory, and XML directory, and provides the LDAP interface.
		Provides quality voice with technologies such as anti-clipping (ACLIP), acoustic echo cancelation (AEC), automatic gain control (AGC), adaptive jitter buffer (AJB), automatic noise restraint (ANR), comfort noise generation (CNG), hearing aid compatibility (HAC), packet loss concealment (PLC), voice activity detection (VAD), sidetone cancelation, voice quality monitoring (VQM), and buzz cancelation.
8.10.13	Power	The power adapter must be provided from day 1.
8.10.14	Quality & Certificate	FCC/CE/ROHS/WEEE/REACH/UL certification. Must be listed in the latest Gartner report "Magic Quadrant for Unified Communications"

8.10.15	Touch Button	At least 10 in No one touch button for direct calling
8.10.16	Warranty & Support	3 Years OEM warranty with support

9. **Specification of Offline UPS**

- 9.1 **Name of Item:** Offline UPS
- 9.2 **Purpose:** To be used for IP PBX.
- 9.3 **Quantity:** 08 in no (4x2000VA & 04x1000VA)
- 9.4 **Country of Origin:** Bidder should mention
- 9.5 **Year of Manufacture:** 2017 or Later.
- 9.6 **Manufacturing Country:** Bidder should mention
- 9.7 **Port of Shipment:** Bidder should mention
- 9.8 **Manufacture:** Bidder should mention
- 9.9 **Scope of Supply:** Offline ups is to be supplied complete in all respect fulfilling the technical specifications with all required standard accessories/attachments and ready for immediate Use.

9.10. **Technical specification of Offline UPS**

Offline UPS 1000VA		
9.10.1	Brand Name	To be mentioned
9.10.2	Model	To be mentioned
9.10.3	Country of origin	To be mentioned
9.10.4	Country of Manufacturer	To be mentioned
9.10.5	Capacity	1000VA
9.10.6	Input Volt	140V~270V AC
9.10.7	Phase	Single
9.10.8	Input Frequency	50/60 Hz±0.5%
9.10.9	Output Volt	220V AC± 10%
9.10.10	Output Frequency	50/60Hz ± 0.5%(As input)
9.10.11	Transfer Time	<2-4 ms
9.10.12	Battery Recharging	8-10 Hours
9.10.13	Battery Type	Sealed Maintenance Free(SMF)
9.10.14	Backup Time	15 min
9.10.15	Noise (EMI/RF) Filter & AVR	Built-In
9.10.16	Wave form (Inverter)	Pulse Width Modulation(PWM) / Simulation Sine wave
9.10.17	Protection	Surge, Sag, Blackout, Brownout, Flicker, Over & Under Voltage, Over Load, Battery Over Charge, Battery Deep Discharge & noise (EMI) as per safety practices.

9.10.18	Warranty	01(One) year both of UPS & Battery.
Offline UPS 2000VA		
9.10.19	Brand Name	To be mentioned
9.10.20	Model	To be mentioned
9.10.21	Country of origin	To be mentioned
9.10.22	Country of Manufacturer	To be mentioned
9.10.23	Capacity	2000VA
9.10.24	Input Volt	140V~270V AC
9.10.25	Phase	Single
9.10.26	Input Frequency	50/60 Hz±0.5%
9.10.27	Output Volt	220V AC± 10%
9.10.28	Output Frequency	50/60Hz ± 0.5%(As input)
9.10.29	Transfer Time	<2-4 ms
9.10.30	Battery Recharging	8-10 Hours
9.10.31	Battery Type	Sealed Maintenance Free(SMF)
9.10.32	Backup Time	15 min
9.10.33	Noise (EMI/RF) Filter & AVR	Built-In
9.10.34	Wave form (Inverter)	Pulse Width Modulation(PWM) / Simulation Sine wave
9.10.35	Protection	Surge, Sag, Blackout, Brownout, Flicker, Over & Under Voltage, Over Load, Battery Over Charge, Battery Deep Discharge & noise (EMI) as per safety practices.
9.10.36	Warranty	01(One) year both of UPS & Battery.

10. **Standard Accessories.** Standard accessories must include all items and accessories which are essential to operate the Servers, whether those are mentioned in the specification or not. The accessories items list has to be provided with the quotation. All hardware (major and minor) must be compatible to each other.

11. **Test, Trial and Acceptance.** The Supplier will carry out test and trial of the supplied equipment at buyer's premises and hand over the items fully operational condition. An acceptance certificate will be signed between representatives of buyer after satisfactory test/trial. The supplier must complete the connection and run all equipment in Coast Guard All Zone, CG Base Agrajatra & CGHQ

12. **Documents.** Original operating, care/manufacture for all repair manual one (01) set each in English is to be provided with the Equipment trolley.

13. **Warranty and Support.** Warranty is to be given provided by the manufacturer for all the supplied items for a period of 3 Years 24x7 Support with 4 Hours Response Time (both for accessories and equipment) from the date of acceptance by the buyer. Telephone set issued to distant places like Bhola, Chittagong, Mongla, Patuakhali complain to be reduced immediately. Name and contract number of near service counter for support to be provided.

14. **Validity of Offer.** The offer should remain valid until 30 Jun 2018.

15. **Condition for Acceptance of Quotation.** Quotation has to have supporting documents (booklets, leaflet, catalogue, brochure etc) having detailed particulars of the offered items in English. If detailed information regarding specifications, maker's book and catalogue about the same model of the Offered item, accessories, scope of supply etc are not provided, the quotation will not be accepted.

16. **Compliance Statement.** A compliance statement fulfilling all the requirement of the tender is to be submitted for evaluation of the quotations. Stating mere 'Yes' or 'No' will not suffice and detailed description/information as required is to be given. An incomplete compliance statement may attribute to cancellation of the offer.
17. **Training.** Training for the operator and maintainer is to be conducted for at least 2 days for 02 CG personnel CGHQ at the supplier's cost in Bangladesh, detail of which is to be mentioned.
18. **Delivery Schedule.** Procure quantity is to be delivered in full within 60 days from the date of issuing work order.
19. **Inspection by CI&QC.** CI&QC will inspect the Equipment at CGHQ Premises. CI&QC will consider the following point:
- a. Quality of Material.
 - b. Design and outlook.
 - c. Testing of all option of exchange and telephone set
 - d. sound and video quality of telephone set.
 - d. Connectivity in case of network failure.
 - e. Technical details as per contact
 - f. Other points mentioned in the agreement.
 - g. Final acceptance for overall performance.
20. **Supplier's Service and Responsiveness.** Supplier must reply to buyer's query within 03 days of raising the query.
21. **Financial Offer.** Price of individual items and total price to be quoted including VAT and IT is a separate (Chittagong, Bhola, Agrajatra, Mongla and CGHQ) employee.
22. **Installations.** All System are to be run in all Zone & respective area as required by BCG. The main exchange to be installed in CGHQ and the extensions to be provide to all Zones and CG base Agrajatra. All facilities to the telephone sets and exchange to be activate. The telephone no. to be programme at last 3 digit of official mobile number apart form this 100 telephone set (30 Video phone + 70 normal phone) normal telephone set to be used in the offices of CGHQ, all zones and in CG base Agrajatra. Arrangement to be made to connect with the existing digital telephone set. existing BCG Headquarter system are to be connected with all Zone by private network.
23. **Video Conference and audio System.** All user should be capable of group calling and audio system should be compatible with the IP PBX system.
24. **Payment:** Payment will be made in BDT as per BCG Policy/PPR-2008 after satisfactory test, trial and final acceptance by CI&QC.
25. **Liquidated Damage(LD).** LD will be applicable as per BCG Policy/PPR-2008.
26. **Sample Submission.** Bidder is to submit 02 in no IP Phone (01 Video Phone & 01 Basic IP Phone) along with tender offer.
27. **Packaging.** All items are to be delivered in standard commercial packaging. Following information are to be printed/written on each package: Name of Items.
- a. Consignee.
 - b. Work Order No. and date.
 - c. Supplier's name and address.
 - d. Quantity in each package.