RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À:

Bid Receiving - PWGSC / Réception des soumissions - TPSGC
11 Laurier St. / 11, rue Laurier
Place du Portage , Phase III
Core 0A1 / Noyau 0A1
Gatineau
Québec
K1A 0S5
Bid Fax: (819) 997-9776

SOLICITATION AMENDMENT
MODIFICATION DE L'INVITATION

The referenced document is hereby revised; unless otherwise indicated, all other terms and conditions of the Solicitation remain the same.

Ce document est par la présente révisé; sauf indication contraire, les modalités de l'invitation demeurent les mêmes.

Comments - Commentaires

Vendor/Firm Name and Address
Raison sociale et adresse du fournisseur/de l'entrepreneur

Issuing Office - Bureau de distribution

Security and Information Operations Division/Division de la securite et des operations d'information
11 Laurier St. / 11, rue Laurier
8C2, Place du Portage
Gatineau
Québec
K1A 0S5

Title - Sujet REPLACEMENT HF MONITOR RECEIVERS	
Solicitation No. - N° de l'invitation W8474-136566/B	**Amendment No. - N° modif.** 007
Client Reference No. - N° de référence du client W8474-136566	**Date** 2014-01-13
GETS Reference No. - N° de référence de SEAG PW-$$QE-450-24137	
File No. - N° de dossier 450qe.W8474-136566	**CCC No./N° CCC - FMS No./N° VME**
Solicitation Closes - L'invitation prend fin **at - à 02:00 PM** **on - le 2014-02-03**	**Time Zone** **Fuseau horaire** Eastern Standard Time EST
F.O.B. - F.A.B. **Plant-Usine:** ☐ **Destination:** ☑ **Other-Autre:** ☐	
Address Enquiries to: - Adresser toutes questions à: Guilderson, Greg	**Buyer Id - Id de l'acheteur** 450qe
Telephone No. - N° de téléphone (819) 956-0564 ( )	**FAX No. - N° de FAX** (819) 956-0740
Destination - of Goods, Services, and Construction: **Destination - des biens, services et construction:** N/A	

Instructions: See Herein

Instructions: Voir aux présentes

Delivery Required - Livraison exigée	**Delivery Offered - Livraison proposée**
Vendor/Firm Name and Address **Raison sociale et adresse du fournisseur/de l'entrepreneur** **Telephone No. - N° de téléphone** **Facsimile No. - N° de télécopieur**	
Name and title of person authorized to sign on behalf of Vendor/Firm (type or print) **Nom et titre de la personne autorisée à signer au nom du fournisseur/ de l'entrepreneur (taper ou écrire en caractères d'imprimerie)** **Signature** **Date**	

The following techncial questions have been asked by the vendor community and should be recognized for any response(s) to the LOI:

Q1.
How are the received channels to be distributed between the 9 antenna inputs?
(Technical Specification Para. 1.2 & 1.5 as amended by amendment 004).

A1.
Up to 9 antenna outputs are distributed through a 16 X 32 HF receive antenna matrix. The 32 antenna matrix outputs are then fed to HF bandpass filters and are then fed to a minimum of 9 HF monitor receiver inputs.

Q1.1
Is there a specified number of narrowband receiver channels required for each antenna input?

A1.1
DND is required to use only 18 antenna matrix outputs for monitoring so that the remaining 16 outputs can be reserved for operational traffic. Therefore, a minimum of two narrowband receive channels are required for each HF Monitor Receive System input.

Q1.2
Is there a requirement that any channels be connected to more than one antenna input simultaneously?

A1.2
No.

Q2.
What does the 4U limitation apply to? (SOW Para. 4.6.2 and Technical Specification Para. 1.26 & 1.27 as amended by amendment 004).

A2.
The 4U rack space limitation refers to the multichannel HF monitor receiver equipment.

Q2.1
Does it apply to the entire receiver equipment (receiver, control computer, display, interfacing equipment, etc as itemized in SOW Para 4.6.2), or to other equipment as well?

A2.1

No, The data server, technicians KVM, Ethernet switch, console, and router are not included in the 4U rack space limitation.

Q3.
Is clear text XML format for control messages the only allowed format? (Technical Specification Para. 2.12).

A3.
There is no protocol limitation for the link between the data server and the multichannel HF receiver. However, the control protocol from the data server via the Ethernet switch to the autonomous, operators, and technician consoles must be clear text. XML format is preferred.

Q4.
Is the IP network GFE? (Technical Specification Para. 2.1)

A4.
Yes.

Q4.1
If so is it IPv4 or IPv6 or both?

A4.1
IPV4 only is acceptable because transport will be over a closed network.

Q4.2
Is there any limitation on the number of IP Addresses available for use by the HF Monitoring Receiver Equipment?

A4.2
No, there is no limitation.

Q5.
What elements within the supplied diagrams are GFE? (Appendix 2)

A5.
The routers, Ethernet switches, the T1 network, and the microwave links will be GFE.

Q6.
Will another type of quick connect patch lead be acceptable for connection to the switch matrix to the receiver equipment? (Technical Specification 1.3)

A6.
RF connectors internal to the HF monitor receiver equipment may be any type, but DND requires a BNC termination to connect with the HF bandpass filter patch panel which directly connects to the receive antenna switch matrix. This requirement does not preclude the vendor from supplying a patch panel to connect from the DND furnished BNC cables to the HF monitor receiver equipment inputs, but supplying the patch panel will be the vendor's responsibility. The HF bandpass filter patch panel (and the receive antenna switch matrix beyond them) that the HF monitor receiver system inputs will be connected to are GFE components of the overall HF system.

Q7.
Are there any attack and Release time requirements for AGC?
(Technical Specifications 1.14 ... shall have an AGC).

A7
The AGC attack and release times shall be suitable for voice communications.

Q8.
…40W per channel maybe? Please clarify. (Technical Specifications 1.24 …Total power consumption for all receiver channels of less than 40W).

A8.
The total power consumption for all 36 receiver channels must be less than 40W.

Q9.
Is the 4U of rack height doubling with the increase to 36 channels? (Technical Specification 1.27).

A9.
The specification of 18 channels was a misprint, and was in contradiction of other specifications in the original technical specification document. The requirement is for 36 channels. Therefore the 4U rack height specification for the RF equipment will not be changed.

Q10.
Of the common codecs, the one with the lowest Ethernet bandwidth will (G.723.1) require 748.8Kbps to transport 36 channels simultaneously. Will the government increase their single network connection limit requirement (or decrease the number of simultaneous channels of audio data) to accommodate common codecs? (Technical specification 2.10: In the HF Monitor Receiver network the combined audio data bandwidth shall be suitable for carriage over a single network connection limited to 512 kbps).

A10.

The current base operational requirement is for 18 channels, but 36 channels are the specified to provide for future system expansion and scalability. Therefore, only 18 channels of audio information transport will be immediately required, hence the 512 kbps bandwidth constraint. If the channel quantity requirement expands at a later date, the government will increase the network bandwidth capacity accordingly. Notwithstanding, DND’s expectation is that the supplier will use hardware and software bandwidth compression techniques to minimize traffic bandwidth demands on the network.

Codec & Bit Rate (Kbps)	Codec Sample Size (Bytes)	Codec Sample Interval (ms)	Mean Opinion Score (MOS)	Voice Payload Size (Bytes)	Voice Payload Size (ms)	Packets Per Second (PPS)	Bandwidth MP or FRF.12 (Kbps)	Bandwidth w/cRTP MP or FRF.12 (Kbps)	Bandwidth Ethernet (Kbps)	**36 channels**
G.711 (64 Kbps)	80 Bytes	10 ms	4.1	160	20 ms	50	82.8	67.6	87.2	**3139.2**
G.729 (8 Kbps)	10 Bytes	10 ms	3.92	20	20 ms	50	26.8	11.6	31.2	**1123.2**
G.723.1 (6.3 Kbps)	24 Bytes	30 ms	3.9	24	30 ms	33.3	18.9	8.8	21.9	**788.4**
G.723.1 (5.3 Kbps)	20 Bytes	30 ms	3.8	20	30 ms	33.3	17.9	7.7	20.8	**748.8**
G.726 (32 Kbps)	20 Bytes	5 ms	3.85	80	20 ms	50	50.8	35.6	55.2	**1987.2**
G.726 (24 Kbps)	15 Bytes	5 ms		60	20 ms	50	42.8	27.6	47.2	**1699.2**
G.728 (16 Kbps)	10 Bytes	5 ms	3.61	60	30 ms	33.3	28.5	18.4	31.5	**1134**
G722_64k(64 Kbps)	80 Bytes	10 ms	4.13	160	20 ms	50	82.8	67.6	87.2	**3139.2**
ilbc_mode_20(15.2Kbps)	38 Bytes	20 ms	NA	38	20 ms	50	34	18.8	38.4	**1382.4**
ilbc_mode_30(13.33Kbps)	50 Bytes	30 ms	NA	50	30 ms	33.3	25.867	15.73	28.8	**1036.8**

Q11.
Is there a definition of Level 1 and 2 maintenance? (SOW 3.10.2)

A11.

For purposes of this specification, DND considers Level 1 maintenance to be fault identification and correction by replacement of the lowest replaceable unit (LRU). Level2 maintenance includes Level 1 maintenance actions, but also includes LRU repair if possible, analysis of control and traffic network faults, and reconfiguration of the basic control and traffic network parameters. Operator training required at the sites will be provision of “quick start guide” information to provide them basic competency to operate the system as quickly as possible. Maintenance training at the sites will be provision of training sufficient to provide them basic competency to troubleshoot the system as quickly as possible, and to correct operating parameter or hardware faults as quickly as possible. Maintenance training at CFSCE will be “train-the-trainer”, providing military technician instructors the competency to then provide the Level 1 and Level 2 training to on-site operators and technicians. Course material provided to the CFSCE instructors must be releasable to military and government employees without copyright infringement. Therefore, the training provided at operational sites need only be relatively short duration training at the time of system installation, but the training provided at CFSCE must be of sufficient depth that instructors will have the ability to teach hardware troubleshooting and module replacement techniques at the LRU level, and respond to questions on user settings and parameters that impact system operations.

Q12.

The drawings reference a “Scanning” capability, however nowhere in the LOI is a scanning capability defined or referenced as a requirement of the system. Is scanning a requirement of the system? (appendix 2 Drawings for HF Monitor - “... Digital Scanning RX ...”).

A12.

No. Scanning was originally looked at as an option for HF monitoring, but it was discarded in favour of simultaneous multi-channel receive technology that will simultaneously monitor the known set of HF frequencies of interest.

Q13.

Notional diagrams are supplied for the MACS and MARCOM system receive sites. Can the Government supply notional diagrams for the JTFN HQ, CFSCE HF Training Facility, and the HF Development Laboratory system receive sites as well? (Appendix 2 Drawings for HF Monitor).

A13.

Yes. These new drawings are included as an amendment to Appendix 2.

Q14.

Does the government have any particular IP codec compression formats that must be supported (e.g. G.711, G.722, G.728, G.729, etc.)? Any minimum codec Mean Opinion Score (MOS) that must be provided? (A. SOW 3.2.2-g ...enable transportation of signals/information in digital format, compatible with IP networks...).

A14.

No, the government does not have any particular IP codec compression formats that must be supported. Any codec compression format may be used that is suitable to voice communications. A minimum MOS of 3.6 must be provided.

Q15.

GFE is defined for equipment to "test and integrate complete systems in-factory". Can the Government define what GFE will be supplied for the operation of the system (Antennas, Ethernet LAN infrastructure, Routers, Ethernet switches, T1 WAN, Microwave Link WAN, etc.)? Or is the vendor to procure, install, and integrate all LAN, WAN, and RF (antenna, coax, antenna matrix) infrastructure and equipment? (SOW 3.3.2 Government Furnished Equipment (GFE)).

A15.

The Government will supply the equipment of paragraph 3.3.2 that is in use at the time of the contract award. However, the contractor must identify the quantities of the GFE listed that will be required for system testing. DND believes that a full receive site mock-up will not be required to test the operation of the HF Monitor Receiver subsystem.

Q15.1

If the Government is supplying and administering the Control Network (including LAN and WAN), will the Government be responsible for administration and monitoring of Quality of Service (QoS) by managing the delay, delay variation (jitter), bandwidth, and packet loss on the Control Network?

A15.1

Yes, the Government will be responsible for administration and monitoring of Quality of Service (QoS) by managing the delay, delay variation (jitter), bandwidth, and packet loss on the Control Network through the Government’s existing service provider.

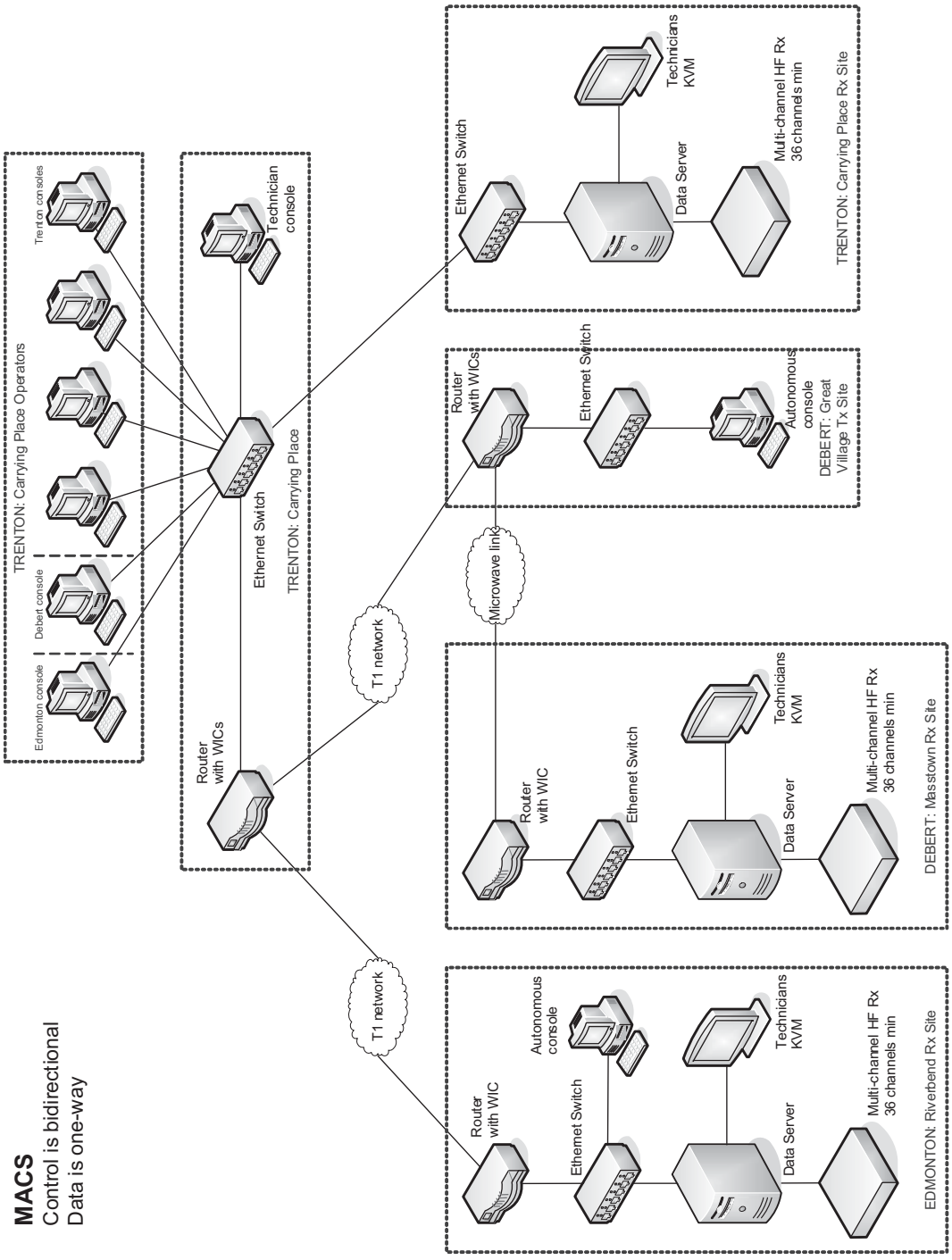
Q15.2

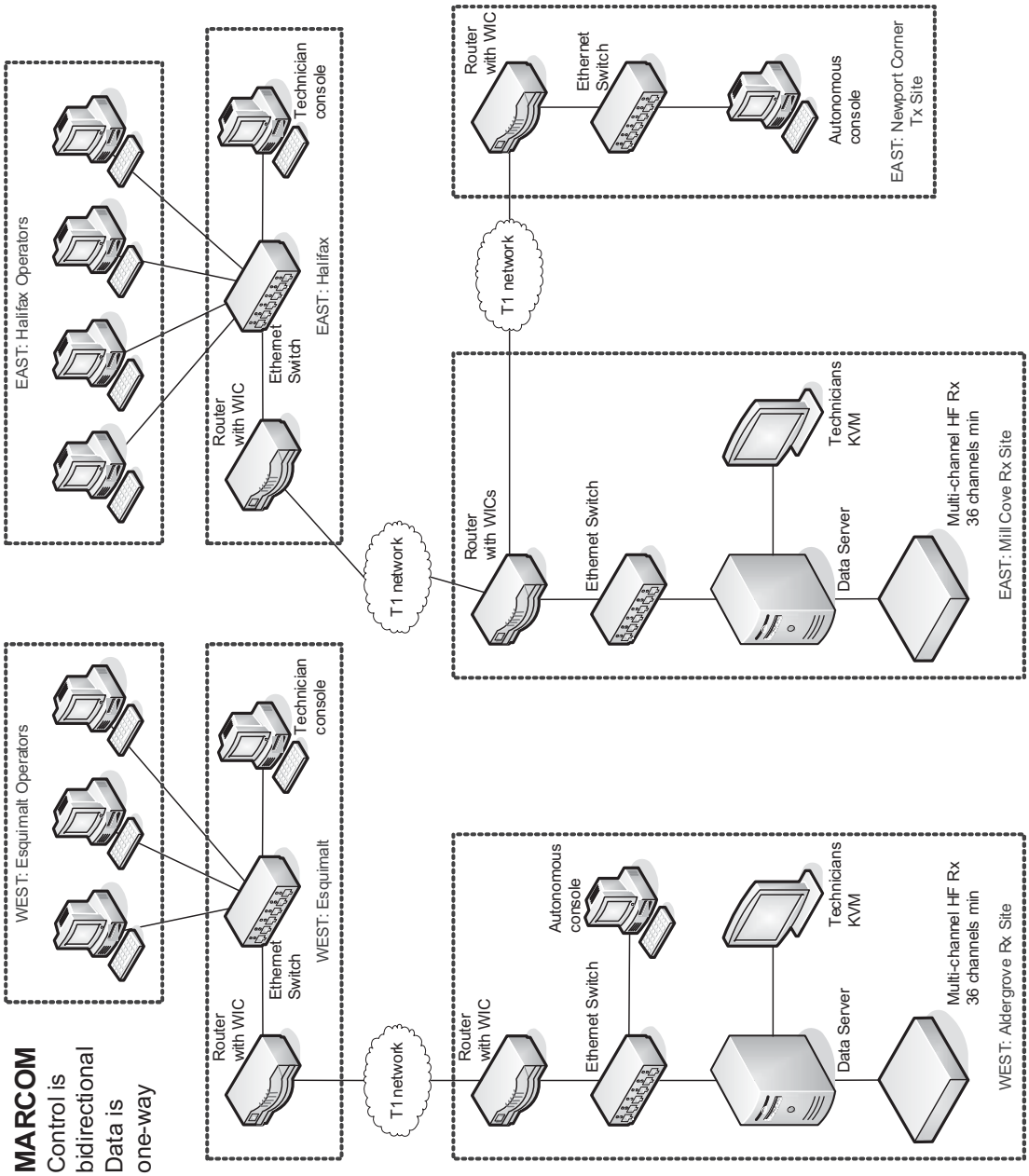
Is the voice codec function assumed to be supplied by the vendor or will the Government supply audio codec equipment (such as Foreign Exchange Station (FXS) Voice Interface Cards for the Cisco Routers)?

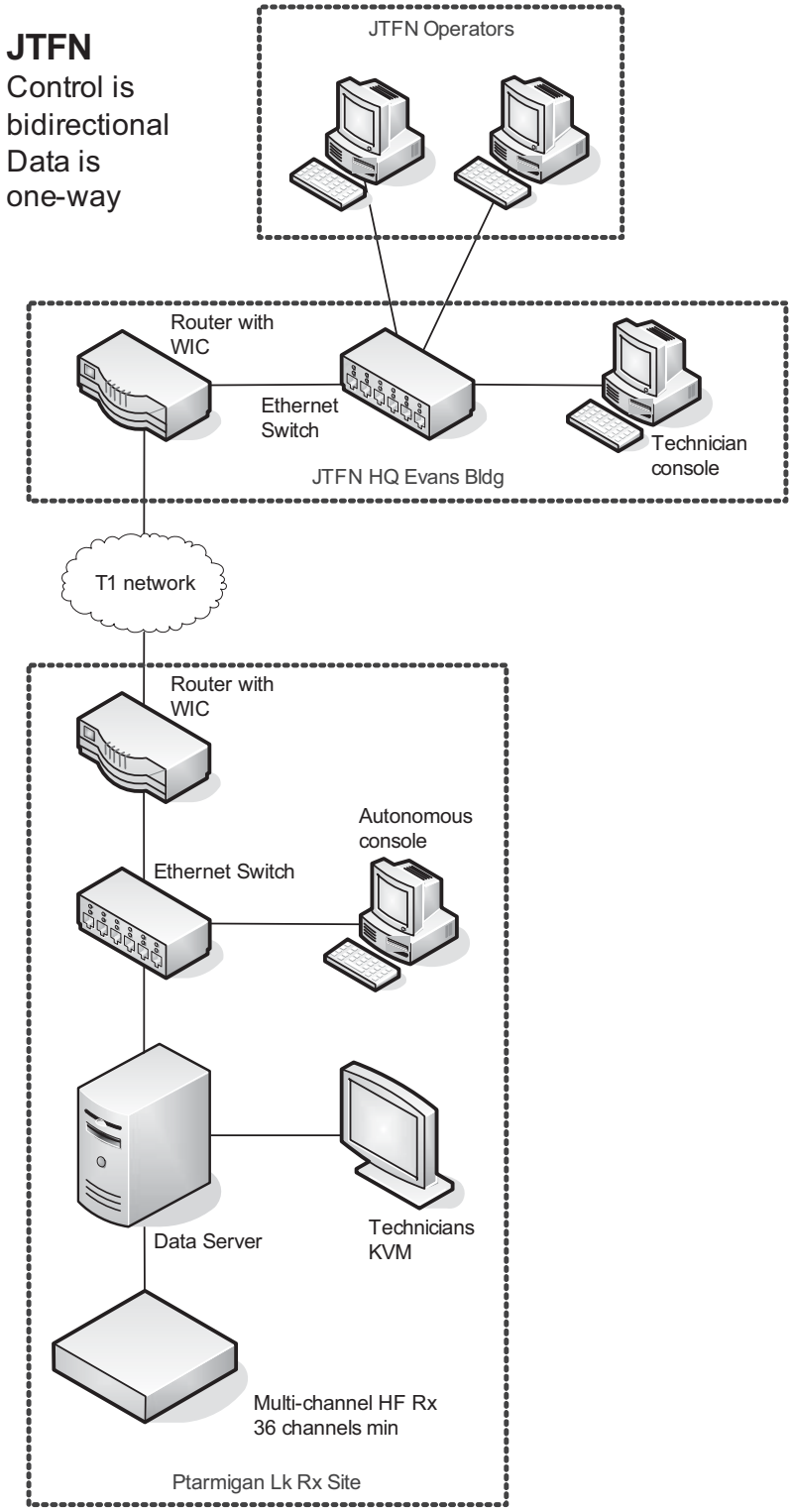
A15.2

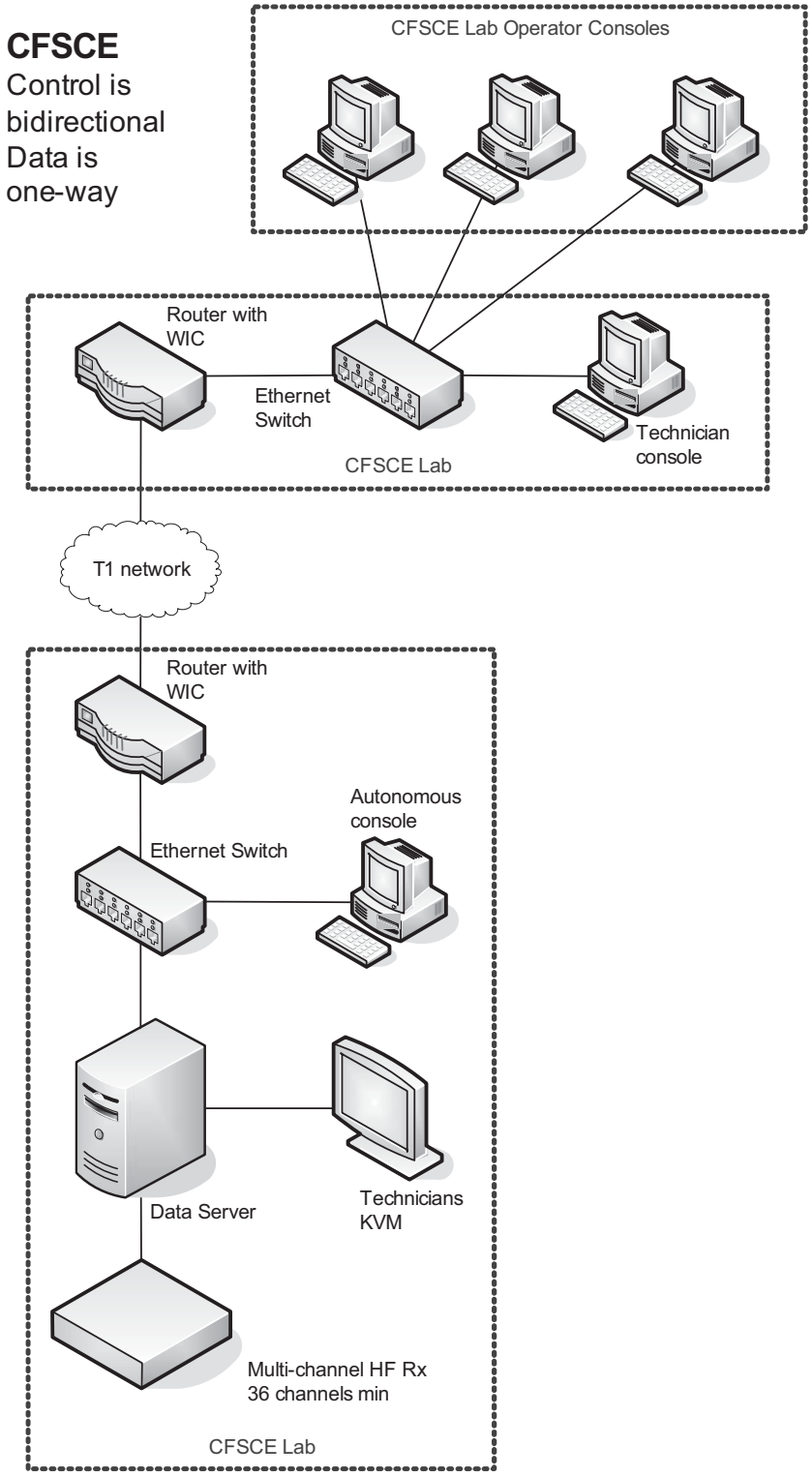
Yes, the voice codec function must be supplied by the vendor.

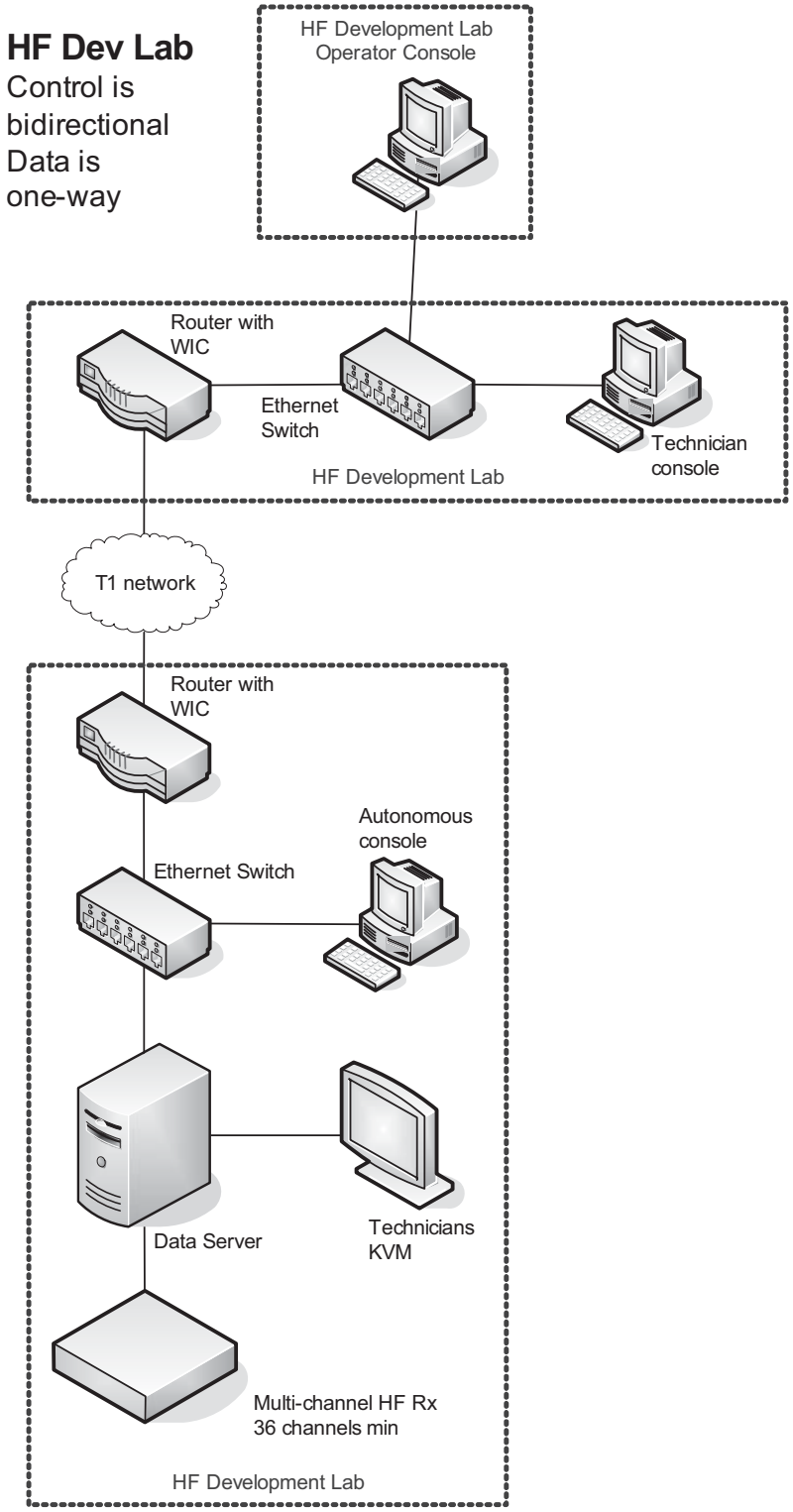
END OF AMENDMENT 007.


MACS
Control is bidirectional
Data is one-way
TRENTON: Carrying Place Operators
Trenton consoles
Debert console
Edmonton console
Technician console
Ethernet Switch
TRENTON: Carrying Place
Router with WICs
T1 network
T1 network
Microwave link
Ethernet Switch
Technicians KVM
Data Server
Multi-channel HF Rx 36 channels min
TRENTON: Carrying Place Rx Site
Router with WICs
Ethernet Switch
Autonomous console
DEBERT: Great Village Tx Site
Router with WIC
Ethernet Switch
Technicians KVM
Data Server
Multi-channel HF Rx 36 channels min
DEBERT: Masstown Rx Site
Router with WIC
Autonomous console
Ethernet Switch
Technicians KVM
Data Server
Multi-channel HF Rx 36 channels min
EDMONTON: Riverbend Rx Site


MARCOM
Control is bidirectional
Data is one-way
WEST: Esquimalt Operators
EAST: Halifax Operators
Router with WIC
Ethernet Switch
WEST: Esquimalt
Technician console
EAST: Halifax
T1 network
Router with WICs
Data Server
Technicians KVM
Multi-channel HF Rx 36 channels min
WEST: Aldergrove Rx Site
EAST: Mill Cove Rx Site
Autonomous console
EAST: Newport Corner Tx Site


JTFN
Control is bidirectional
Data is one-way
JTFN Operators
Router with WIC
Ethernet Switch
Technician console
JTFN HQ Evans Bldg
T1 network
Router with WIC
Autonomous console
Ethernet Switch
Data Server
Technicians KVM
Multi-channel HF Rx
36 channels min
Ptarmigan Lk Rx Site


CFSCE
Control is bidirectional
Data is one-way
CFSCE Lab Operator Consoles
Router with WIC
Ethernet Switch
Technician console
CFSCE Lab
T1 network
Router with WIC
Autonomous console
Ethernet Switch
Data Server
Technicians KVM
Multi-channel HF Rx
36 channels min
CFSCE Lab


HF Dev Lab
Control is bidirectional
Data is one-way
HF Development Lab Operator Console
Router with WIC
Ethernet Switch
Technician console
HF Development Lab
T1 network
Router with WIC
Autonomous console
Ethernet Switch
Data Server
Technicians KVM
Multi-channel HF Rx
36 channels min
HF Development Lab