MEKONG RIVER COMMISSION

SUPPLIES TENDER No: RFP17-027

VIDEO CONFERENCE SYSTEM FOR NATIONAL MEKONG COMMITTEES (CAMBODIA, LAO PDR, THAILAND AND VIETNAM)

Section VI. Schedule of Requirements

TECHNICAL SPECIFICATIONS

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Video Conferencing System's Technical Speciation

1. Background

Mekong River Commission Secretariat(MRCS) is planning to upgrade video conferencing system from current point-to-point (between MRCS offices in Vientiane, Lao PDR and Phnom Penh, Cambodia) to **multiple point system** which will be used for video conference meeting between MRCS in Vientiane and four National Mekong Committees (NMCs) of Cambodia, Lao PDR, Thailand and Vietnam through Virtual Private Network (VPN). The new video conference system includes:

- 2 (existing) videoconferencing group units and collaboration server locating at MRCS Office in Vientiane,
- 2 (existing) sets of videoconferencing group units at Regional Flood Management and Mitigation Center (RFMMC) and
- 4 new video conference group system units located at each NMC at below addresses.

Cambodia	**Thailand**
Cambodia National Mekong Committee P.O.Box 623, 364 Monivong Blvd., Sangkat Phsar Doerm Thkouv, Khan Chamkar Mon, Phnom Penh, Cambodia Tel: (855-23) 216 514 Fax: (855-23) 218 506 E-mail: cnmcs@cnmc.gov.kh	Ministry of Natural Resources and Environment Secretary General of Thai National Mekong Committee Member of the MRC Joint Committee for Thailand Chairperson of the MRC Joint Committee for 2016 180/3 Rama 6 Road, Soi Phibul Watana Building Phayathai, Bangkok 10400 Thailand Tel. (66-2) 271 6165, 298 6605 Fax. (66-2) 298 6605 E-mail: tnmc@dwr.mail.go.th
Lao PDR	**Vietnam**
Lao National Mekong Committee Secretariat Khunbulom Road, Chantabouly District, Vientiane, Lao PDR Tel. (856-21) 260 983 Fax. (856-21) 260 984 E-mail: lnmcs@monre.gov.la	Viet Nam National Mekong Committee Member of the MRC Joint Committee for Viet Nam 23 Hang Tre, Ha Noi, Viet Nam Tel: (84-4) 825 4785 Fax: (84-4) 825 6929 E-mail: vnmc@hn.vnn.vn; ubsmcvn@hn.vnn.vn

Currently, MRCS has 4 sets video conference group systems, 2 are at MRCS Office in Vientiane, Lao PDR and 2 at RFMMC in Phnom Penh, Cambodia and operate point to point conferencing.

To operate video call with multiple parties between MRCS and four NMCs, the additional video conferencing equipment with software license is needed. The additional equipment includes a main videoconferencing collaboration server for MRCS, 4 sets of video conference group systems with 4 TV sets for NMCs . The minimum specification of these equipment are descripted as below:
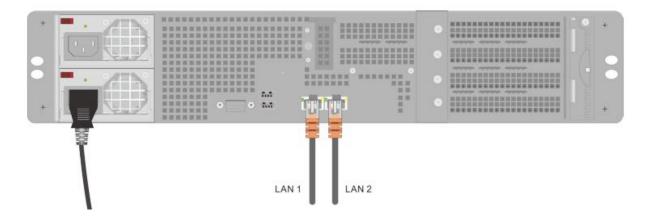
2. Collaboration Server

2.1 Description

Collaboration Server is the hardware for multiparty video, voice, and content collaboration solution with highest quality. The collaboration server will be located at MRCS and has function to connects meeting participants at MRCS with participants from NMCs sites. The collaboration server should offers the following features:

- Linux® based
- Support for standard network ports (H.323, SIP, and LAN)
- New hardware codec technologies
- Up to 1080p 60 high definition video conferencing
- Telecommunication grade high availability and on-line upgrading
- Easy integration of conference elements into external network management
- Enhanced Continuous Presence (multi-image video)
- IVR (Interactive Voice Response) module
- Support both H.264 SVC endpoints-only conferencing, and AVC-SVC mixed conferencing.
- Hot backup to offer high availability and a rapid recovery solution

2.2 System Specifications

The specific technical specifications are descripted below

The system	
Hardware	RealPresence Collaboration Server 1800 IP only system 2x1080p60/5x1080p30/10x720p/20xSD
Software	Collaboration Server software license
Media Protocols	
Audio	SAV, G.711, G.722.x, G.729A, Siren 14, Siren 22 (in mono or stereo)
Video	H.261, H.263, H.263+, H.264, H.264 High Profile, H.264
Network ports	
IP	H.323, SIP, VoIP
LAN	LAN 1, LAN 2
Power Supply	
AC Input/ Range, Power output	Voltage range: 100-240 VAC 50-60 Hz. Current: 10-3.5 AMP
Power Consumption	
AC Maximum Power consumption	350 Watts.
Environment	
Operating temperature	10° to 35°C (50° to 95°F).
Storage temperature	-40° to 70°C (-40° to 158° F).
Relative humidity	20% to 90% non-condensing.
Operating altitude	Up to 5 KM (16404 Ft.)
Operating ESD	4 KV.

Media Protocols	
Audio	SAV, G.711, G.722.x, G.729A, Siren 14, Siren 22 (in mono or stereo)
Video	From QCIF to 1080p60 • H.263 (H.263++), H.264 Baseline and High Profile • 16:9 and 4:3 aspect ratio • H.239 content sharing resolution (H.263/H.264): VGA, SVGA, XGA and

Network ports	
IP	H.323, SIP, VoIP Network Separation (multiple IPs) • ICE and SRTP Support—video and content • IP H.323 and SIP—video and content • ISDN • IPV4 • 10/100/1000 Mb interface • 64 kbps to 4 Mbps conference data rates
LAN	LAN 1, LAN 2

Power Supply	
AC Input/ Range, Power output	Voltage range: 100-240 VAC 50-60 Hz. Current: 10-3.5 AMP

Power Consumption	
AC Maximum Power consumption	350 Watts.

Environment	
Operating temperature	10° to 35°C (50° to 95°F).
Storage temperature	-40° to 70°C (-40° to 158° F).
Relative humidity	20% to 90% non-condensing.
Operating altitude	Up to 5 KM (16404 Ft.)
Operating ESD	4 KV.

3. RealPresence group

3.1 Description

RealPresence group is powerful video collaboration system for group conference from small meeting rooms to larger rooms. it is powerful video and audio performance and interaction content collaboration bring users closers together and drive meaningful conversation for geographically dispersed teams.

The system will be installed at each NMCs and will be received and requested video conferencing meeting between NMCs and MRC via collaboration video conference server locating at MRC. The system includes a codec unit, a camera and sound system as shown below image. The minimum technical specification of Real Presence group system can be summarized as follows.

3.2 Minimum specification

Product Specification	
Package includes:	• RealPresence Group 500 codec • Cable bundle • Remote control • EagleEye IV-12X camera and RealPresence Group Microphone Array, or EagleEye Acoustic camera
Video standards and protocols	• H.261, H.263, H.264 AVC, H.264 High Profile, H.264 SVC, RTV • H.239/ People+Content™ H.263 & H.264 video error concealment

Video input	• 1 x HDCI • 1 x HDMI 1.3 • 1 x VGA
Video out	• 2 x HDMI 1.3 • People video resolution • 1080p, 60 fps from 1740 Kbps • 1080p, 30 fps from 1024 Kbps • 720p, 60 fps from 832 Kbps • 720p, 30 fps from 512 Kbps • 4SIF/4CIF, 60 fps from 512 Kbps • 4SIF/4CIF, 30 fps from 128 Kbps • SIF (352 x 240), CIF (352 x 288) from 64 kbps • QSIF (176 x 120), QCIF (176 x 144) from 64 kbps • w288p from 128 Kbps • w448 from 384 Kbps • w576p from 512 Kbps
Content video resolution	
Input	• HD (1920 x 1080i), HD (1920 x 1080p) • WSXGA+ (1680 x 1050) • UXGA (1600 x 1200) • SXGA (1280 x 1024) • WXGA (1280 x 768) • HD (1280 x720p), XGA (1024 x 768) • SVGA (800 x 600)
Output	• WUXGA (1920 x 1200) • HD (1920 x 1080) • WSXGA+ (1680 x 1050) • SXGA+ (1400 x 1050) • SXGA (1280 x 1024) • HD (1280 x 720) • XGA (1024 x 768) • VGA (640 x 480)
Content frame rate	• 5−60 fps (up to 1080p resolution at 60 fps)

Content Sharing	• People+Content and People+Content IP

Audio	
Audio input	• 1 x RealPresence Group microphone array input port (supporting a total of 4 microphone arrays) • 1 x HDCI (camera) • 1 x HDMI • 1 x 3.5 mm stereo line-in
Audio output	• 1 x HDMI • 1 x 3.5 mm stereo line-out • 22 kHz bandwidth Siren™ 22 technology, AAC-LD (TIP calls) • 14 kHz bandwidth with Polycom Siren™ 14 technology, G.722.1 Annex C • 7 kHz bandwidth with G.722, G.722.1 • 3.4 kHz bandwidth with G.711, G.728, G.729A

Network	
IP and Ethernet	• IPv4 and IPv6 support • 1 x 10/100/1G Ethernet • Auto-MDIX • H.323 and/or SIP up to 6 Mbps • Polycom® Lost Packet Recovery™ (LPR™) technology • Reconfigurable MTU size • RS232 with API support • Microsoft® Office Communications Server integration • Microsoft® ICE support • Microsoft Lync and Skype for Business support

4. Digital TV

4.1 Description

Digital TV is for transfusion and interaction of audio and video between participants in video conference rooms of each NMCs of Cambodia, Lao PDR, Thailand and Vietnam with main video conference at MRCS. The 4 TV sets (as shown below) will be installed in the video conference rooms of NMCs, while the MRCS including RFMMC will be used the existing TV sets which located in the MRCS video conference and in Phnom Penh. The minimal technical specification of the TV sets for NMCs is descripted as follows

4.2 Minimum Technical Specification

Product Specification	
Backlight Type:	Direct LED
Video Processor:	REGZA ENGINE
LCD Size:	55"
Contrast Ratio:	12000:1
Response Time:	9ms
Brightness:	300cd/m2
Panel Type: N/A motion:	Active
Motion Rate:	100
Picture Sensor:	Intelligent Backlight Control
Viewing Angle:	176 Degree
Audio Speaker:	1 Way 2 Speakers
HDMI:	2
Digital Audio out:	Yes
Internet connection:	No
Composite (AV In):	Yes