

Expression of Interest (EOI)
For
Unified Video Communication Solutions
for Virtual Classrooms

1st July, 2017

Centre for Development of Imaging Technology, C-DIT

Chithranjali Hills, Thiruvallom

Thiruvannathapuram – 695027

Tel No: 0471- 2380910/ 912, Fax : 0471- 2380681

INVITATION FOR EXPRESSION OF INTEREST

No. CDIT/6/EOI-VC/004/17-18 Dated 01.07.2017

Centre for Development of Imaging Technology (C-DIT) invites sealed Expression of Interest (EOI) from Firms/companies/ OEMs/ institutes/ organisations/ agencies for providing Unified Video Communication Solutions for Virtual Classrooms.

The EOI Document containing the details of qualification criteria, submission requirement, brief objective & scope of work and evaluation criteria etc. can be downloaded from the website www.cdit.org.

Last date for submission of EOI is on or before **12PM, 7th June, 2017**.

Sealed envelope marked to the captioned address given below mentioning **“EOI for Unified Video Communication Solutions for Virtual Classrooms”** on the top cover.

**“The Registrar,
Centre for Development of Imaging Technology (C-DIT),
Chithranjali Hills,
Thiruvallom PO,
Thiruvananthapuram -695027”**

Sd-
Registrar, C-DIT

Note: C-DIT reserves the right to cancel this request for EOI and/or invite a fresh one with or without amendments, without liability or any obligation for EOI and without assigning any reason. Information provided at this stage is indicative and CDIT reserves the right to amend/add further details in the EOI.

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Scope of work

Providing established and proven Unified Video Communication Solutions for Virtual Classrooms as per the technical requirement & specification listed below.

Eligibility Criteria

1. The bidder should have supplied and installed similar solutions/ systems in at least three projects in India.
2. The bidder should be a registered company or firm, OEM or OEM authorized dealer or retailer.

Documents to be enclosed

1. Documentary evidence for Firm/ Company registration
2. GST No./ registration details
3. Copy of PAN/ TIN
4. Copies of work orders and work completion certificates.
5. Certificate of authorised partnership/ dealer ship from OEMs
6. Details of support centres in India/ Kerala in case of foreign firms/ OEMs
7. Copy/ details of the annual turnover of the last three financial years in similar line of business

Evaluation criteria

Only those firms who can supply Virtual Classroom Central unit, HD end points, cameras and other allied equipment as per the technical specifications provided will be considered for tie-up. The bidder shall submit a technical compliance statement regarding this.

Budgetary Offer

Bidder shall indicate component wise pricing for the recommended/ proposed solution for budgetary estimation of the solution.

Technical Requirements & Specifications for Unified Video Communication Solutions for Virtual Classrooms

The solution shall comprise of the following:

Central Unit

- A central unit at the State Data Centre to support 150 ports (capable to connect any H.323 and SIP devices at 1080 p,30 fps in continuous telepresence mode from day

Scalable up to 200 modes (with interoperability with third party H.323 or SIP endpoints or computing or mobile devices) used for managing immersive virtual classrooms and scheduling multiple live sessions between multiple studios (to be located in industrial areas) and hi-tech classrooms.

The central unit shall also support

- IPv6 ready from day 1
- Enable remote control of the immersive virtual classroom
- Enable Conference features with Far Camera Control, conference dial out and dial in and support scheduling calls using external and internal scheduler
- Recording 10 concurrent Virtual class room sessions at HD 1080p 30fps with full video, audio and content and optional automated recording archived play back to multipoint H.323 hi-tech class room endpoints.
- Support 5000 concurrent streaming viewers through a HD 1080p live streaming H.264 (H.261,H.263 and H.265) video and stereo quality audio G.722 (G.711) with optional resolution changes as bandwidth changes providing best user experience with optimal use of available resources.
- Shall support standard compression techniques as well as multicasting
- Facilitate content sharing from studio endpoint to class room end points
- Shall have redundancy to ensure continued services in the event of failures
- Provide centralised SAN storage of recordings and content for future use.

- Shall have 2X10/100/1000 Mbps Ethernet interface/serial/USB ports for maintenance/ upgrade.
- Support open standard APIs for integrating LMS applications
- Shall have ability to add or drop additional nodes from external networks (industry, national, international institutions) and integrate with multiple devices.
- Shall provide intuitive user interface to connect all the nodes, provide dashboard for live monitoring of all connected nodes
- Shall provide instant messaging facility to interact with classroom nodes and the Central unit
- Built in encryption, security and access control.

Multiple Studio Full HD Endpoints

The studio endpoint shall

- Support H.323 and SIP standards for communication
- H.261, H.263, H.264 and H.265 compression standards
- G.711, G.722, G.728, G.729 Audio compression standards
- Shall support 1080p 60 fps, 1080p 30 fps, 720p 60 fps, 720p 30 fps resolutions
- Three (1X DV1/HDMI or similar or better for main HD camera and 1 X DV1/HDMI/USB for document camera)
- Audio inputs for microphones with echo cancellers and noise reducers to cover 350 sq. ft. area.
- Provide 2 HDMI video and audio outputs and 2 balanced line level audio outputs
- Built in encryption, security and access control.
- Should interface with appropriate directory features
- IP network features and system management features

Classroom Full HD Endpoints

- The studio endpoint shall Support H.323 and SIP standards for communication
 - H.261, H.263, H.264 and H.265 compression standards
 - G.711, G.722, G.728, G.729 Audio compression standards

- Shall support 1080p 60 fps, 1080p 30 fps, 720p 60fps, 720p 30 fps resolutions
- Three (1X DV1/HDMI or similar or better for main HD camera and 1 X DV1/HDMI/USB for document camera)
- Audio inputs for microphones with echo cancellers and noise reducers to cover 1200 sq. ft. area.
- Provide 2 HDMI video and audio outputs and 2 balanced line level audio outputs
- Built in encryption, security and access control.
- Should interface with appropriate directory features
- IP network features and system management features

Speaker Tracker Camera

Camera with automatic tracking with facial recognition for automatic zooming capable of

- +-90-degree pan, +15, -25-degree tilt
- 10X zoom
- MP4/MP4V, AVI Video
- HDMI, USB 3 interface
- 1920X1080 pixels @60 fps

Active Speaker Detection Camera

Camera with automatic tracking with facial recognition to focus on speaker capable of

- +-90-degree pan, +15, -25 degree tilt
- 10X zoom
- MP4/MP4V, AVI Video
- HDMI, USB 3 interface
- 1920X1080 pixels @60 fps

Audio Mixer

- DSP based 4 i/p, 4 o/p Audio mixer with Auto Echo Cancellation
- 65 dB S/N ratio, Distortion <0.1 %

Mic Ceiling Mount

- 360-degree coverage
- Compact form factor- Spherical, Cylindrical or Conical

Wall Mounted Powered Speaker

- * ohm impedance
- <0.5% THD
- 150 w RMS 300 w peak
- frequency response 70 Hz -20 KHz +- 3db
- cross over range 50 Hz to 3KHz or better

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