



Presentation on Training Program on Telemedicine

Telemedicine Development Center of Asia (TEMDEC)
Kyushu University Hospital, Japan

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About My organization

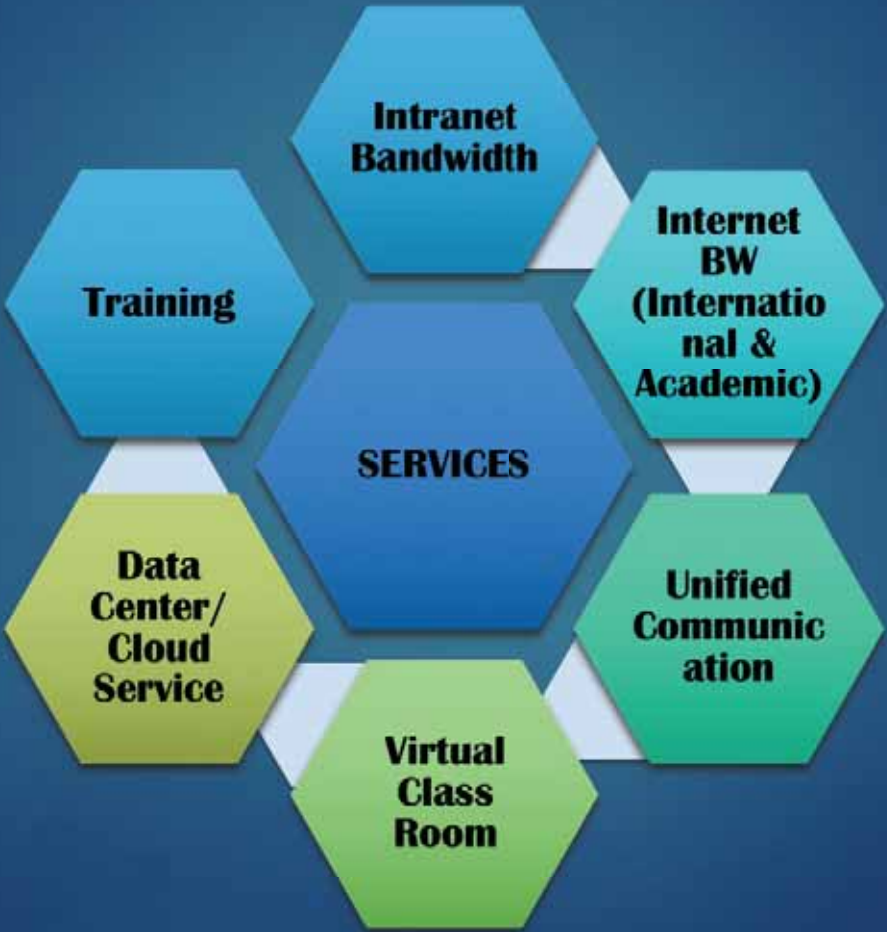
- ❑ Bangladesh Research and Education Network (BdREN) is National REN of Bangladesh.
- ❑ BdREN trust is the owner.
- ❑ BdREN Trust will take responsibility of operation and maintenance of the network from January 2019

- ▶ Designed on PGCB Optical Fiber Network running over h
(3200+ Km)
- ▶ Last Mile Connectivity through Optical Fiber (300 Km)
 - ▶ 34 Public Universities
 - ▶ 2 International Universities (IUT, AUW)
 - ▶ 3 Private Universities (NSU, IUB, BRACU)
- ▶ Other institutions to be connected in phases



Power Grid Line

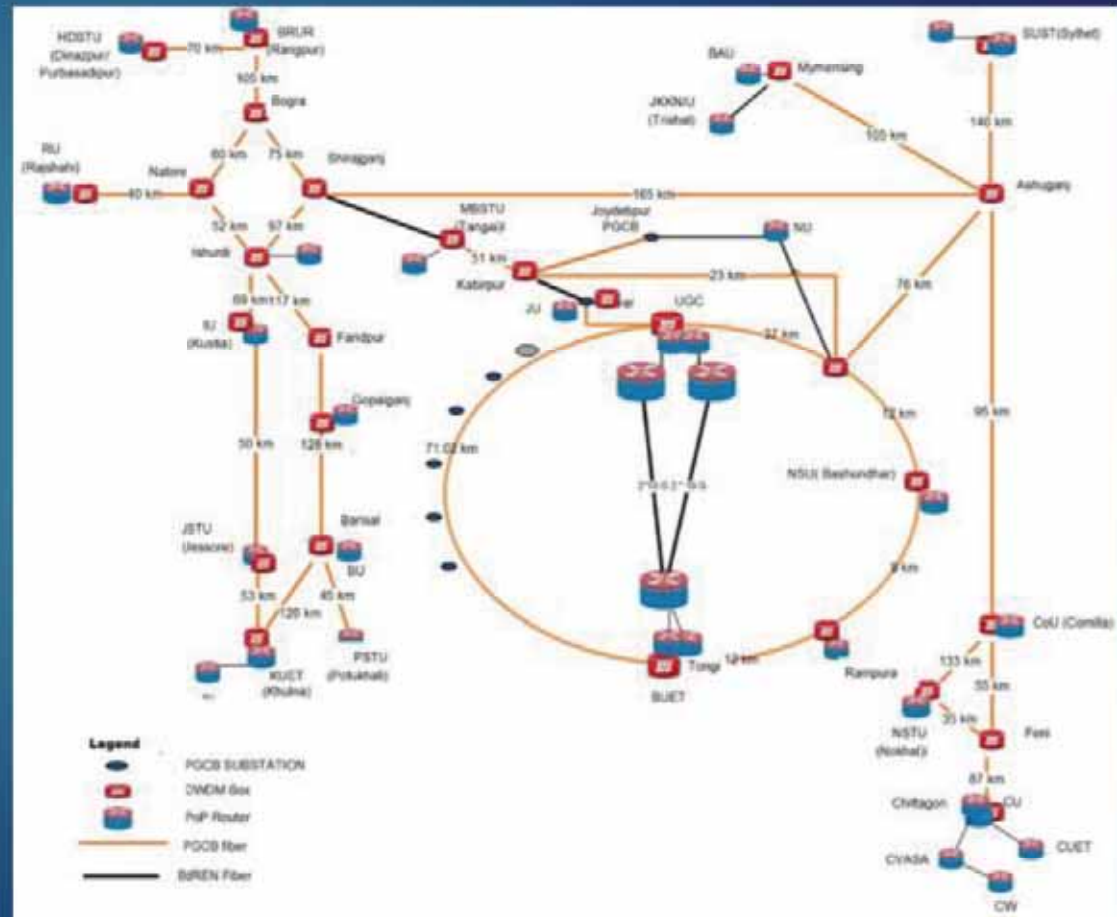
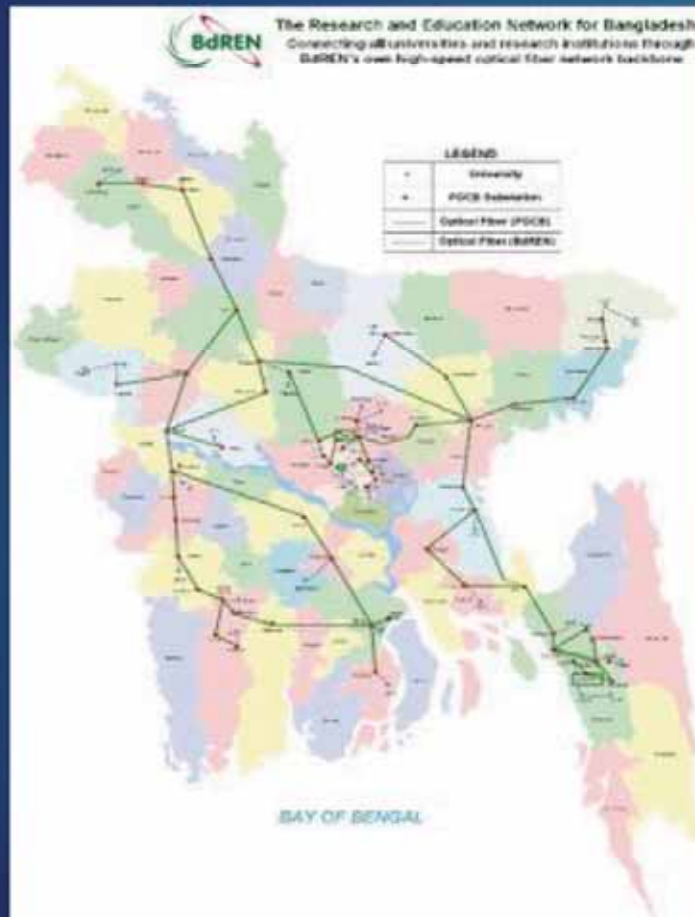
BdREN Services



Existing Transmission Network system

CISCO DWDM Based Transmission Network,

>Existing DWDM Node Total: 28



Expansion of Transmission Network system

BdREN going to Install 9 more DWDM Node to expand Transmission Network

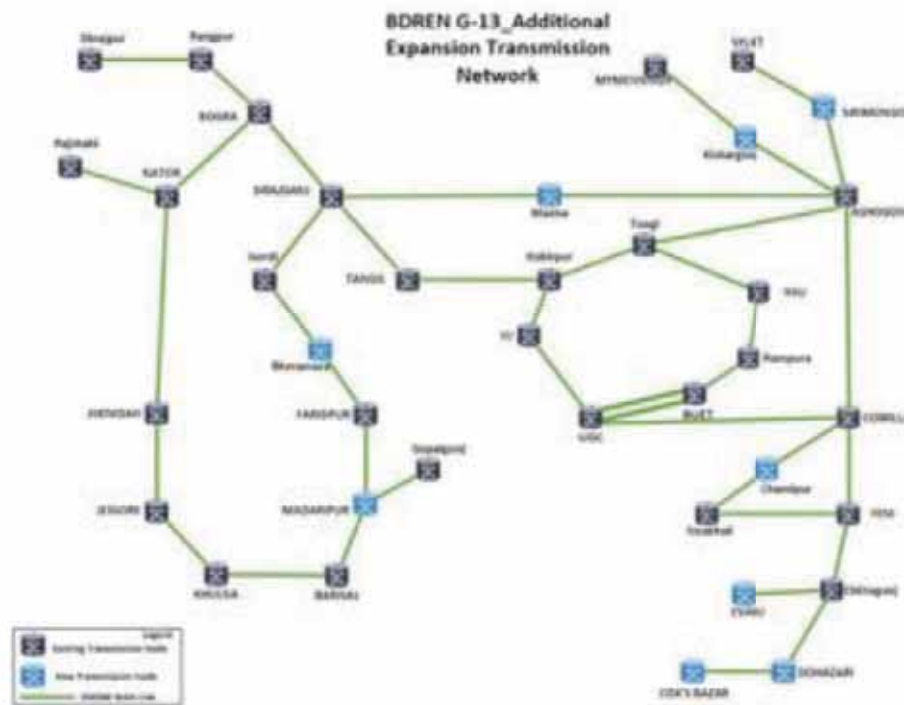
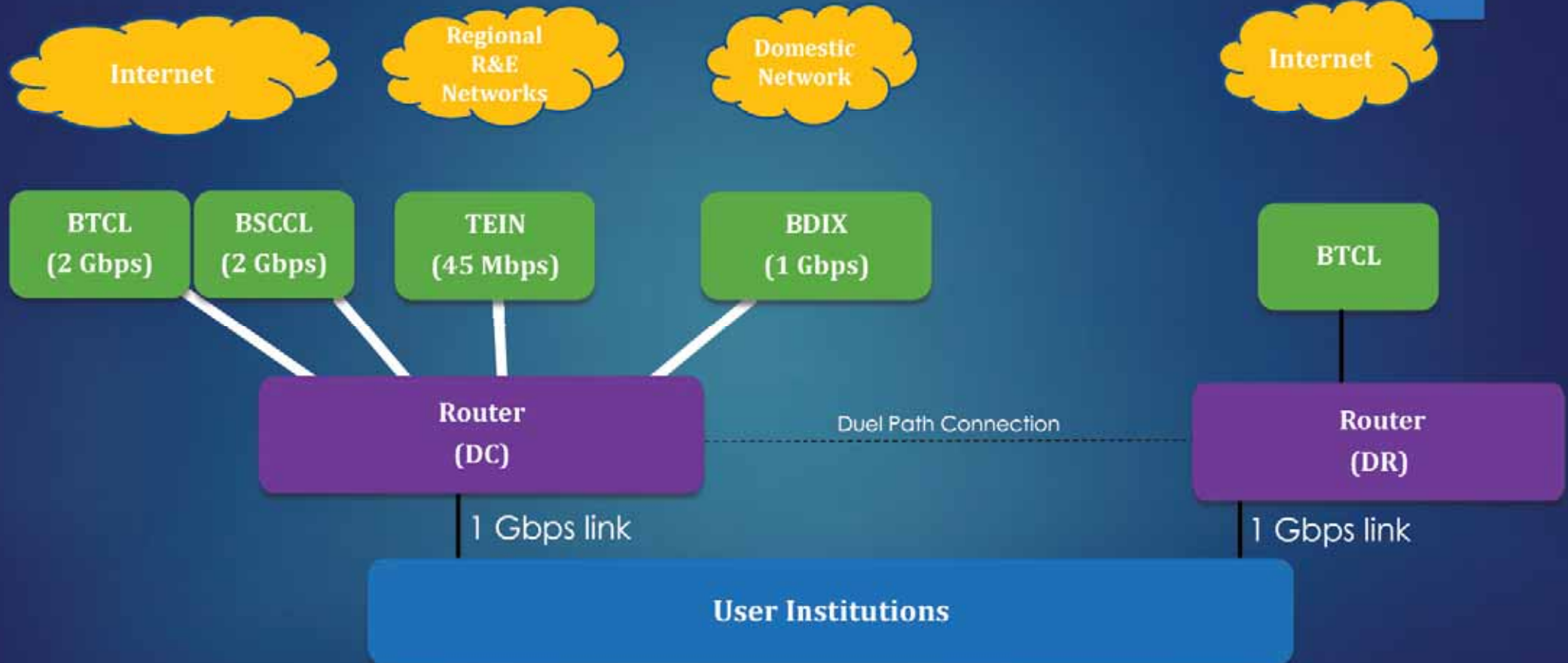


Fig: Upgraded Tx Network

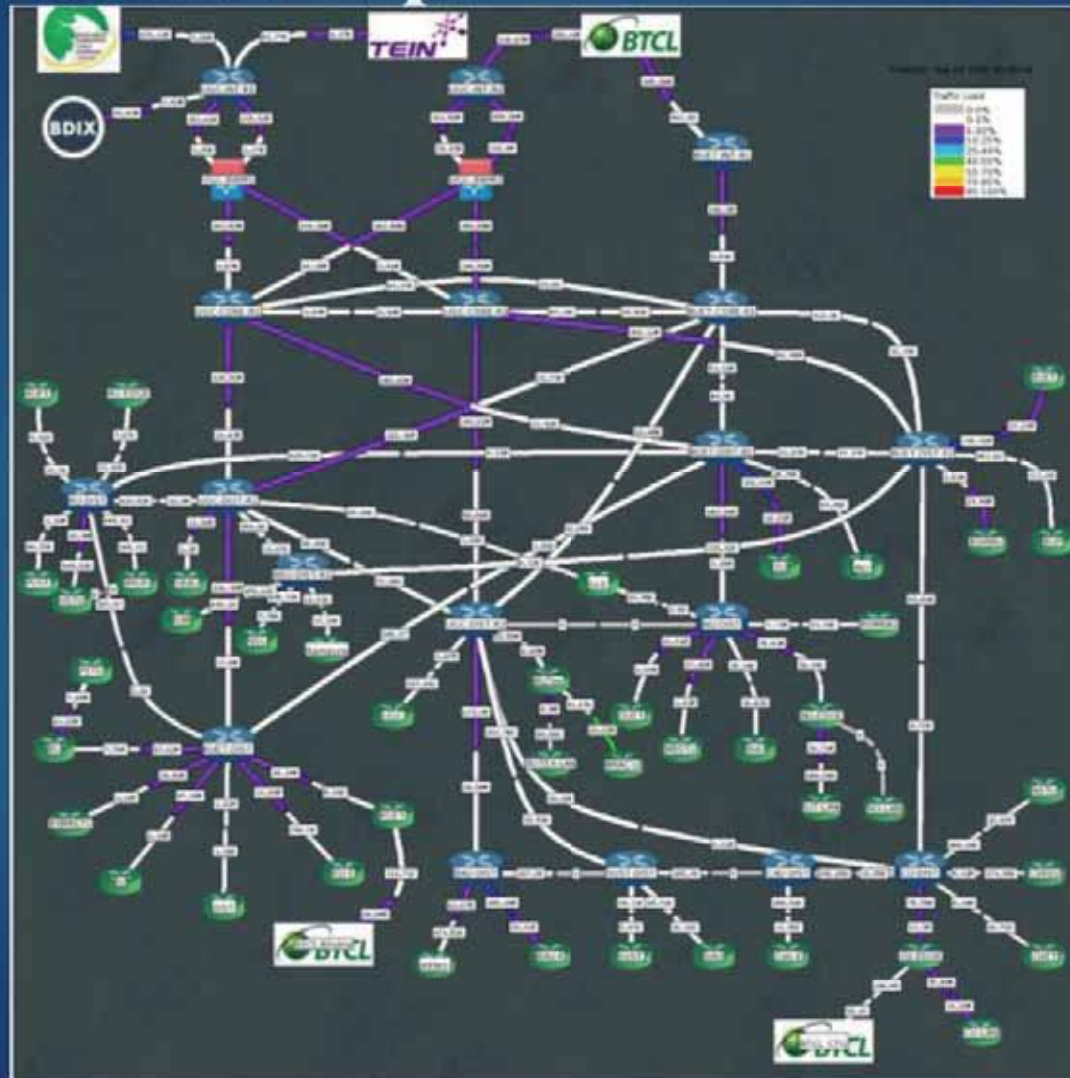


Fig: DWDM Box

Bandwidth and Connectivity



BdREN Weathermap



BdREN NOC

- Monitor Traffic Health Status And Utilization Rate
- Ensuring Continuous Operation Of Servers And Services
- Manage Faults And Incidents - Single Trouble Ticketing System
- Email and Phone Notification
- Service Hour : 7x24 Hours



BdREN Data Center



Existing Distance Learning Theater

- ❑ No. of DLT in Public Univ: 33
- ❑ Room Capacity: 60 & 40 chairs



VC Equipment

List of Equipment in Every Distance Learning Theater (DLT)

- ▶ Cisco C90 CODEC Unit x1
- ▶ Cisco PTZ Camera x 2
- ▶ HD Projector x 2
- ▶ LED TV x 2
- ▶ Tabletop Microphone x2
- ▶ Hand-Hold Wireless Mic x 2
- ▶ Collar Mic & Ceiling Mount Mic
- ▶ Wireless Touch Control
- ▶ Juniper Access Point
- ▶ Document Camera
- ▶ Interactive White Board
- ▶ Digital Interactive Board
- ▶ Sound Speaker x 4
- ▶ UPS
- ▶ Desktop PC



VC Equipment – Server End

Below listed equipment we have in the BdREN Data Center:

1. Cisco Video Communication Server Control (VCSC) (1+1)
2. Cisco Video Communication Server Expressway (VCSE)
3. Cisco Meeting Server(CMS)
4. Cisco Content Server/Recording Server (CS)
5. Cisco Telepresence Management Suite(TMS)
6. Cisco WebEx Meeting Server for Web Conferencing

Upcoming:

1. Redundant Cisco CMS Server
2. Wowza Streaming server for streaming



Telemedicine session in Meet BDREN2016



Other VC Session



Distant Mentoring on Software Programming



Research collaboration between Dhaka University and Harris County Psychiatric Center, UK

BdREN Expansion Phase under HEQEP

Connectivity expansion to:

- > Universities -3
- > Medical Colleges -12
- > Research Institutions -10

DLT in BdREN Expansion Phase

Design of Distance Learning Center in Universities /Medical Colleges

- ❑ New Interior Design
- ❑ Cisco SX80 endpoint
- ❑ Instead of Projector there will be two 85" FHD Display Panel
- ❑ One Interactive Panel for writing
- ❑ Sitting Capacity 50



DLT in BdREN Expansion Phase

Design of Distance Learning Center in Universities /Medical Colleges



BdREN Expansion Phase under HEQEP

Design of Distance Collaboration Center (DCC) in Research Institution





Training Feedback

Telemedicine Development Center of Asia (TEMDEC)



- ▶ Telemedicine activity of KUH started in 2002, when Korea-Japan co-hosted World Cup **Soccer Games**
- ▶ Kyushu University Hospital joined there as a medical team.
- ▶ Expanded activity to whole Asia under the name of "Asia-Kyushu Advanced Medical Network (AQUA)" which was organized in 2005.
- ▶ Next, Kyushu University Hospital formally opened a new office, Telemedicine Development Center of Asia (TEMDEC), in October 2008, and it takes over the role of AQUA to lead international telemedicine.
- ▶ Website: <http://www.temdec.med.kyushu-u.ac.jp/eng/>



Activity of TEMDEC

- ▶ **Remote medical education**
- ▶ **Remote patient care**
- ▶ **Development and application of new technology**
- ▶ **Development of attractive contents**
- ▶ Secretariat of **Medical Working Group** of Asia-Pacific Advanced Network: <http://apan.net/>
- ▶ **Center for international exchange programs**

Activity of TEMDEC



- Teleconference happen once in a month with Indonesia.
- Doctor give presentation on several case studies
- Discuss on various topics in details

Objective of Train the Trainee Program

- ▶ Understand how the telemedicine event is realized
- ▶ Check the quality level of telemedicine
- ▶ How the different teleconferencing system works
- ▶ Technical preparation and how to handle problems during the session
- ▶ Organize a telemedicine session with home institution or hospital

Training Activity

- ❑ Mentor in General: Ms. Kuriko Kudo, PhD
- ❑ Always proactive to give instruction and taking feedback



Training Activity

□ Intro with TEMDEC Conference Room –

Trainer: Shunta san and Yoshiko san



VC Equipment Used in TEMDEC VR

- DVTS (Digital Video Transport System)
- H.323 Video Conference System (Polycom)
- Vidyo Room
- Adobe Connect

Polycom HDX 9000 (H.323)



Vidyo Room HD-230



Ronald Switcher



Audio Mixer



Sony PTZ HD Cam



Vidyo Desktop/Zoom



Video Conferencing System in TEMDEC VR

Sound mixer

System Selection Panel

PTZ Cam Controller



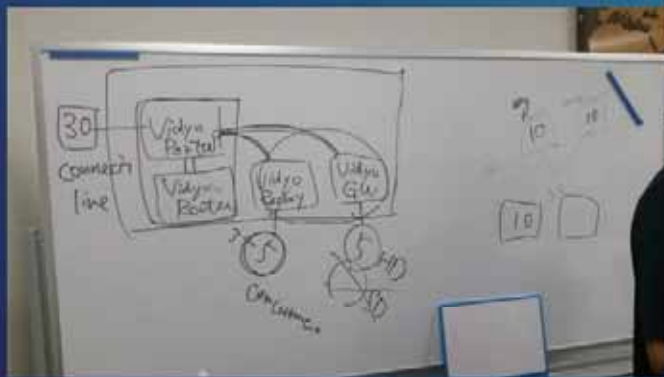
Video Mixer/
Switcher

Audio Level
Controller

Control Panel

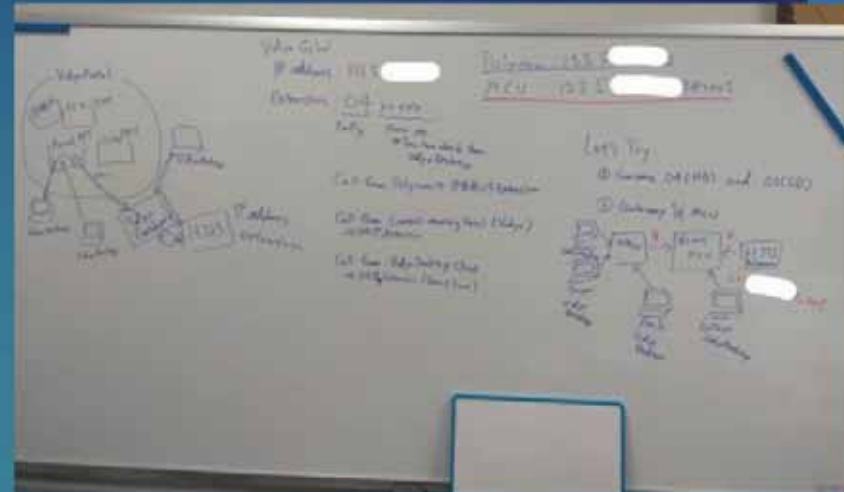
Training Activity

- ❑ Intro with Vidyo Technology
- ❑ We learned how to use the Vidyo system



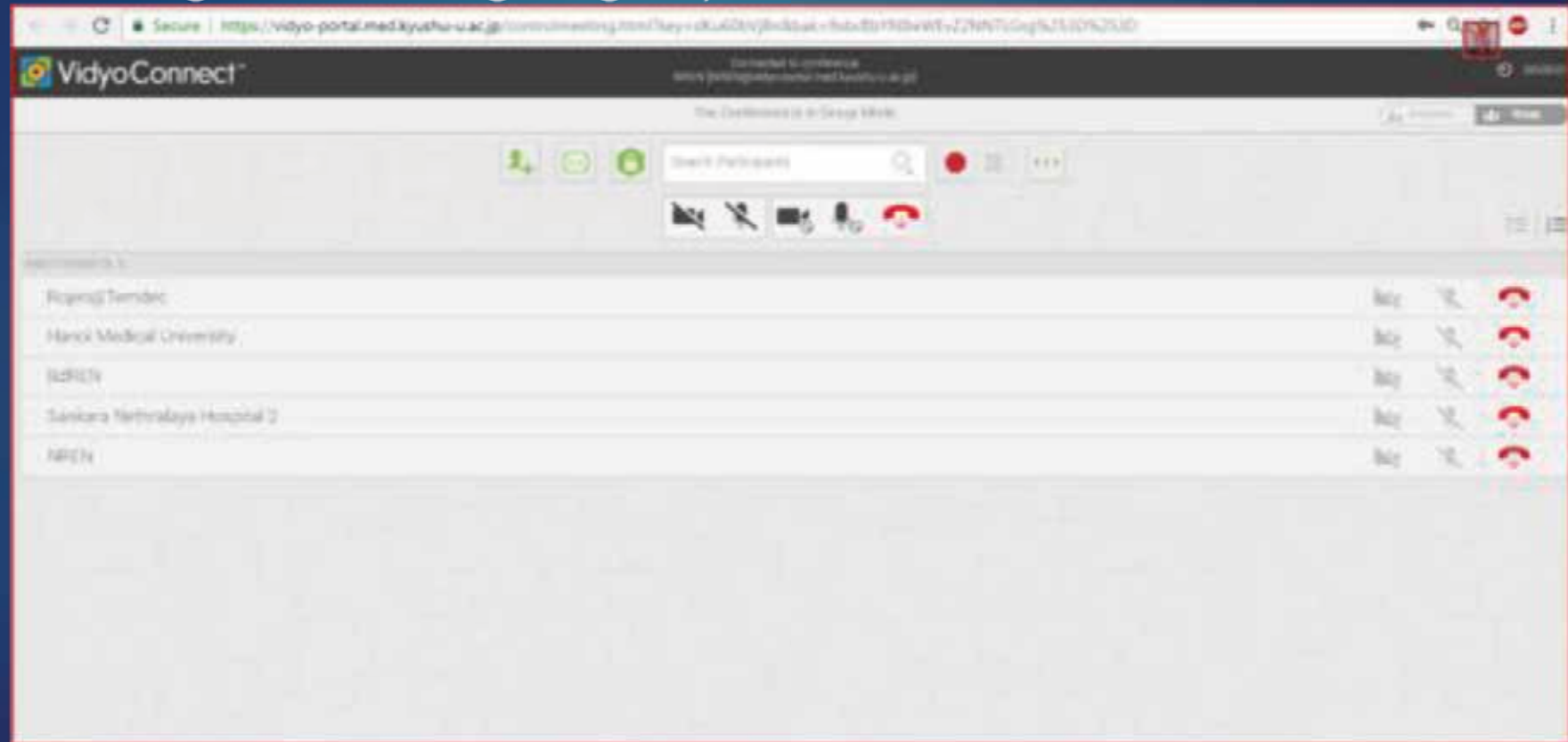
Training Activity

- Details about Vidyo Technology by Shunta san
- Test calling technique from different system to different system



Training Activity

- ❑ Meeting Room management interface controlling session
- ❑ Recording and Streaming using Vidyo



Training Activity

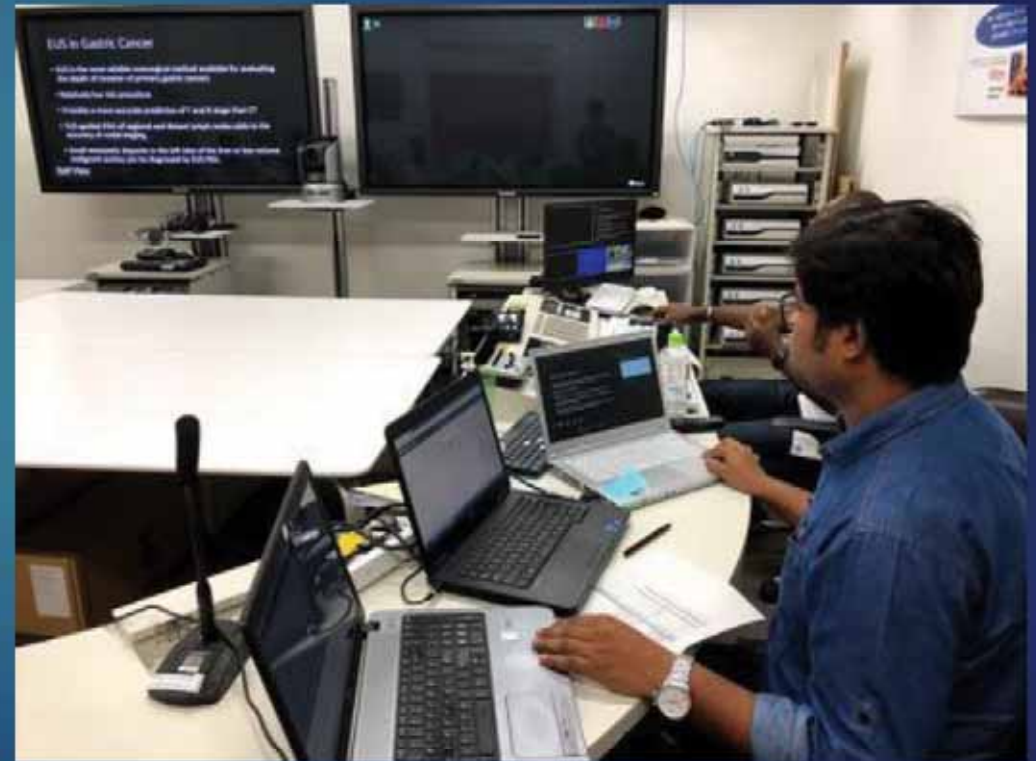
Join View System , Trainer: Shintaro Ueda, PhD

- ❑ High definition image/video sharing system
- ❑ While watching videos, you can mark the areas you care about by annotation
- ❑ We explore different features of Join view



Training Activity

- ❑ Control VC system during different session
- ❑ During APAN46 meeting took care of the Latin Session as Chief Engineer



Life in Fukuoka



Life in Fukuoka

- Situated on the northern shore of Japanese island Kyushu.
- Beautiful city
- Warmth and friendliness environment.



Life in Fukuoka

Ohori Park

The annual Nishinippon Ohori
Fireworks Festival

Over 410,000 spectators

6,000 fireworks



Life in Fukuoka

Visit Panasonic Exhibition –
Solution Japan



Life in Fukuoka

Fukuoka Tower (234m)
Tallest Seaside Tower in Japan
Went Mimochi Beach



Life in Fukuoka

Japanese Food

- Its Delicious
- Authentic taste



Future Endeavors

- ▶ The experience that I have gained from here will undoubtedly benefit my organization and member institution of BdREN
- ▶ BdREN will try to organize a training workshop by inviting doctors and engineers from its member institution
- ▶ I will try to spread my experience among doctors and engineers of medical colleges of Bangladesh
- ▶ I will request our doctors to take telemedicine seriously and participate and organize many telemedicine programs in the future.

THANK YOU



Kyushu University Hospital Campus