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BdREN:
Pioneering Telemedicine Activities in Bangladesh

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Medical Working Group
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1

BdREN: Introduction

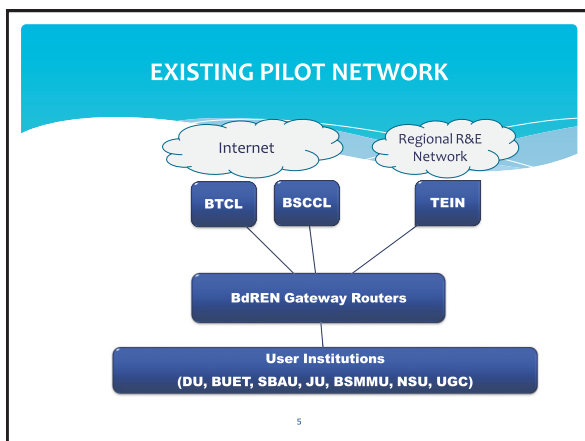
- * **A high bandwidth, high availability single umbrella network**
- * **Connecting Universities, Medical Institutions and Research Organizations**
- * **Providing connectivity to Global Research and Education Networks (RENs) and Commercial internet.**
- * **Supporting connected members to collaborate with peer organizations**
- * **Providing various applications/services for members**

2

BACKBONE OF BdREN

- * **Designed on PGCB OPGW Network running over high voltage transmission line.**
- * **Leased one pair of optical fiber from PGCB for 20 years.**
- * **Connecting institutions to backbone network through own optical fiber cables**

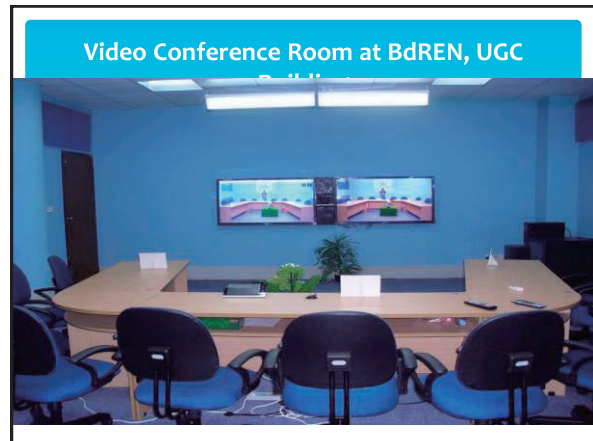
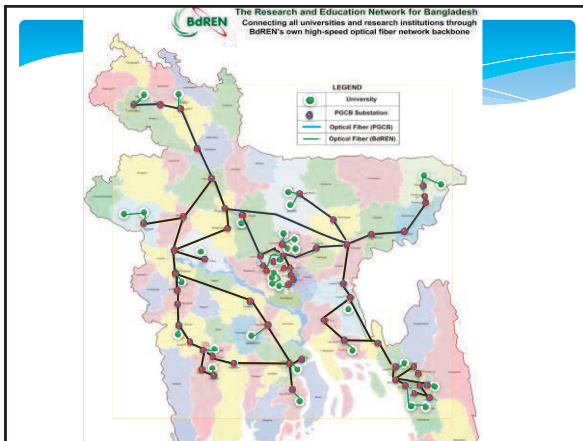
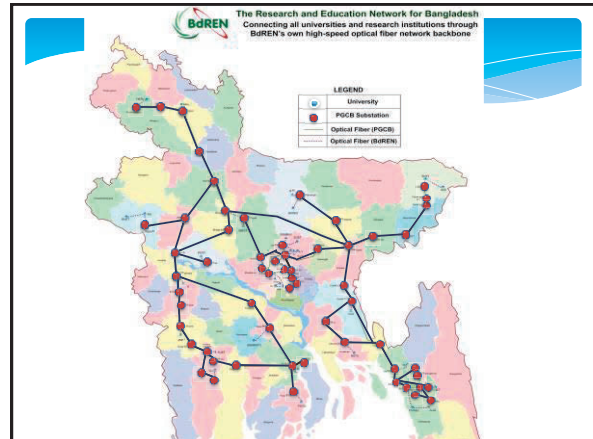
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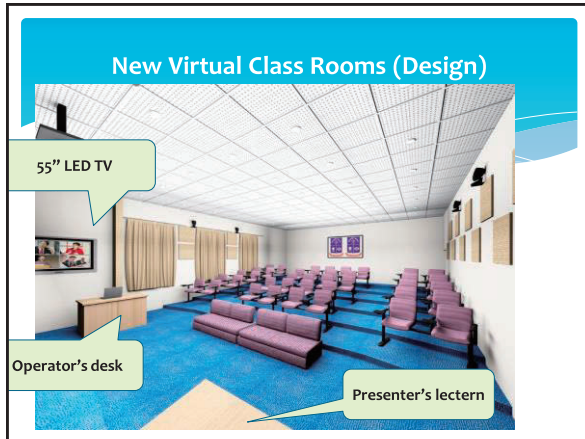


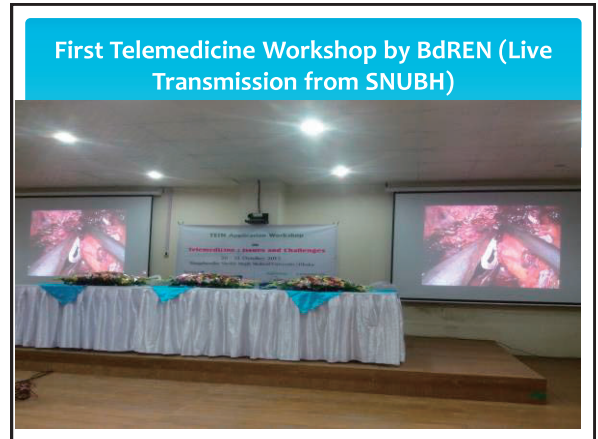
BdREN FULL NETWORK: OPENING APRIL 2016

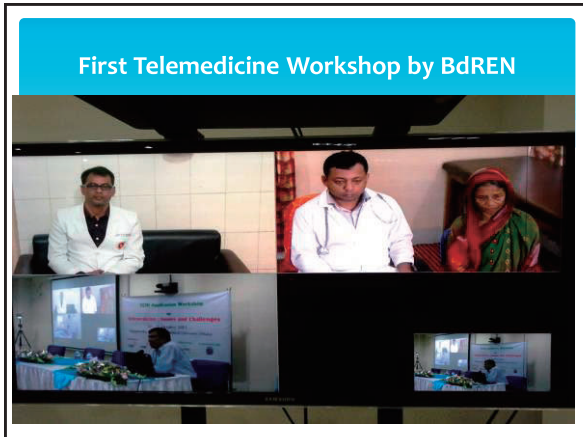
- * **Network Equipment:**
 - * Transmission equipment to create backbone network
 - * Internet PoPs at all Public Universities (34) and 1 Private University
- * **Data Center (DC and DR) Sub-System**
 - * DC at BdREN, UGC and DR at BUET
 - * Storage Area Network with 400 Tera Byte Capacity
 - * Dual Path Fiber connectivity between DC and DR sites
- * **Video Conference Sub-System with Virtual Class Room**
 - * 33 Public Universities
 - * Cisco C90 Codec, Interactive Whiteboard, Main Camera, Auxiliary Camera, Document Camera, Dual Projector, Interactive Digital Display, Microphone Array, Yamaha Sound System, Eco Cancellation Microphone, Standby Power Backup System.
 - * BdREN Data Center
 - * Cisco MCU 4500
 - * VCS Server
 - * Expressway
 - * Content Server
 - * Telepresence Management Server

6









First Telemedicine Workshop by BdREN

EXPECTATION FROM APAN41

- * **First Time Participation to realize**
 - * Extent of Supporting Role of BdREN
 - * Technology Trend and technical issues involved
- * **Create Human Network**
 - * Telemedicine Experts
 - * Network Engineers
 - * Organizations/Donors
- * **Deciding Future Course of Actions on Telemedicine**
 - * Infrastructure Building vs Awareness Creation
- * **Explore Collaboration Possibility for Bangladeshi Doctors**
 - * BdREN network utilization

26

LEARNING POINTS FROM APAN41

- * **Participation is useful and meaningful. Met and discussed many key persons of APAN, TEIN, NRENS, Medical WG, Agricultural WG and many more**
- * **Have to take leading role in telemedicine in Bangladesh and gradually going to supporting role with doctors taking the leads**
- * **Bunch of technology/products can be mixed for connecting multiple sites**
 - * Vidyo/H.323/Skype/Google Hangouts
 - * Cisco/Polycom/Lifesize

27

LEARNING POINTS FROM APAN41

- * **Very challenging for the engineers in terms of converging all technology/products-interopability issue-Audio/Video/Presentation**
- * **Human network formation is very encouraging**
- * **Without waiting for infrastructure development actions to be started with whatever resources in hand to create awareness among the doctors**
- * **There are huge potential of collaboration in the field. Many organizations are willing to exchange experiences through telemedicine.**

28

Future Infrastructure Planning for Telemedicine

- * **Connectivity with Virtual Class Room Facilities to 12 Public Medical Colleges**
 - * Dhaka Medical College
 - * Sir Salimullah Medical College, Dhaka
 - * Shahid Surawardy Medical College, Dhaka
 - * Dhaka Dental College
 - * Mymensingh Medical College
 - * Chittagong Medical College
 - * MAG Osmany Medical College, Sylhet
 - * Rangpur Medical College
 - * Rajshahi Medical College
 - * She-E-Bangla Medical College, Barisal
 - * Shekh Sayera Khatun Medical College, Gopalganj
 - * Cox's Bazar Medical College
- * **Immediate connectivity to some Hospitals**

Future Planning for Telemedicine

- * **Meet BdREN 2016**
 - * An annual conference of participants from all connecting institutions is going to be held in April 2016
 - * Various sessions on Applications of REN infrastructure and facilities for research and education will be there
 - * A dedicated session on Telemedicine has been included
 - * Aware the users of the facilities, procedures related to Telemedicine etc.
 - * Encourage the institutions to engage in telemedicine activities.
 - * Collaboration window
- * **Formation of Domestic APAN Medical Group**
- * **Arrange Telemedicine Workshop/Seminar/Training on regular basis**
- * **Encourage participation in International Events**

