

# HOSPITAL INTRODUCTION: CLINICS & TECHNOLOGY

Faculty of Medicine Universitas Indonesia/  
Cipto Mangunkusumo National General Hospital

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# Introduction

- Cipto Mangunkusumo Hospital
  - National tertiary referral hospital
- Universitas Indonesia



# Pusat Endoskopi Saluran Cerna, Gastroenterology Division, Internal Medicine Department, Faculty of Medicine

## Clinicians :

**Prof. Marcellus Simadibrata**

**Dadang Makmun, MD, PhD**

**Ari Fahrial Syam , MD, PhD**

**Murdani Abdullah, MD, PhD**

**Ahmad Fauzi, MD**

**Kaka Renaldi, MD (Telemedicine Coordinator)**

**Hasan Maulahela, MD**

**Amanda P Utari, MD**





Facility :

- Indonesia-Japan Collaboration Advanced Endoscopy Training centre
- 6 endoscopy rooms
- Each connected with discussion room and auditorium by Olympus Endoalpha system



# medical needs for telemedicine

- Existing telemedicine set-up and activities
  - Annual telemedicine and live surgery conference (APDW, JIGES)
- Future plans
  - regular 3 monthly teleconference for Endoscopy case study discussion
- Expecting fields other than endoscopy/surgery, such as infection, dermatology, etc.
  - Degenerative disease (DM, Arthritis)
  - Fetus

# Hospital Telemedicine resource –Key person

- Doctor (Name, title, affiliation, photo)
- Engineer:
  - Nopa Krismanto, SKom; FMUI
  - Ibnu Rasyid, SKom; RSCM
- Coordinator
  - Aria Kekalih, MD, MIT, PhD; FMUI
  - Agus Mutamakin, MD, MSc; RSCM



# Hospital Telemedicine resource

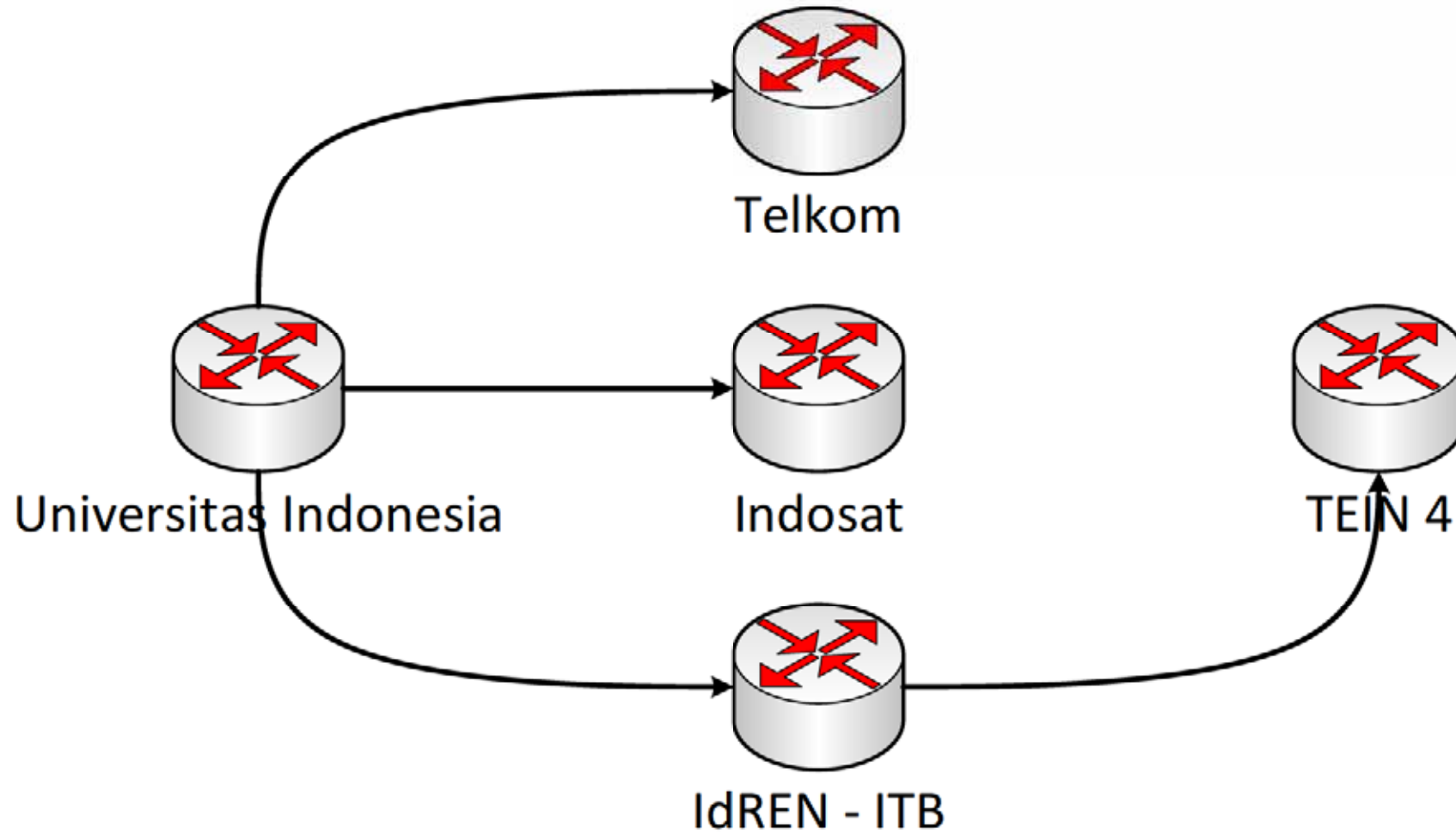
- Internet

- Commercial
  - PT Telekomunikasi Indonesia (Telkom)
  - Indosat
- Research and education network
  - Indonesian Research and Education Network (IdREN)

- Bandwidth

- International @ 2.4 Gbps (Telkom + Indosat) -> Total : 4.8 Gbps
- IdREN
  - P2P Link 100 Mbps UI IdREN to ITB IdREN (Telkom)
  - 622Mbps ITB IdREN Backbone to TEIN 4 Network (end of August 2015)

# Routing





# Security & Equipment

- Security
  - Fortigate Firewall
- Equipment
  - Teleconference room
    - Global Distance Learning Network Room
    - Deanery Meeting Room
    - Teaching Theater (IMERI)
    - Seminar Room (IMERI)
  - \*Indonesian Medical Education and Research Institute (IMERI), (under development, scheduled to finish on October 2016)
  - Teleconference devices
    - Polycom
    - Panasonic
    - Aver
    - Avaya
    - Vidyo
    - Skype
    - Google Hangout

# Experiences – Live Demo

- **Asia Pacific Digestive Week 2014**

An Endoscopic HD live surgery between Gastroenterology RSCM (Jakarta), Hyderabad University (India) and BNDCC venue (Bali)

*Equipment : Aver EVC 900 as an MCU*

- **APAN 40 – Kuala Lumpur, Malaysia 2015**

Live Demo from Gastrointestinal Endoscopy Center RSCM to venue and many remote participants.

*Equipment : Polycom HDX7000, Kyushu University as an MCU*

- **Indonesian Pediatric Forum 2015**

Cardiovascular pediatric surgery in Sutomo Hospital (Surabaya) and Marriot Hotel (Surabaya) as a venue.

*Equipment : Aver EVC100 – Peer to peer*

# Experiences – Participations

- **APAN 41 – Manila, Philipina 2016**

As International speakers and presenters

*Dr.dr. Aria Kekalih MTI, Nopa Krismanto*

- **APAN 42 – Hongkong 2016**

As a comentator in Endoscopy live demo session (ECE)

*Dr. dr. Dadang Makmun, SpPD, KGEH, FACG;d r. Kaka Renaldi SpPD-KGEH*

As a moderator in Dental session

*Dr. dr. Aria Kekalih MTI*

- **JSPS – Bangkok, Thailand 2016**

As a venue participant and engineering exercises

*dr. Kaka renaldi SpPD, Dr. dr. Aria Kekalih, MTI, Nopa Krismanto*



# Hospital Telemedicine Resource

- **Current problems**

- IT resources comes from Faculty and the doctor comes from Hospital.
- Equipment – Moving to hospital when the event comes.
- Coordination between telemedicine components (doctor and IT).

- **Expectation**

- Schedules for event in a year
- Training and certificate