



PONTIFICIA
UNIVERSIDAD
CATÓLICA
DE CHILE



KYUSHU UNIVERSITY HOSPITAL

One Month Training in Telemedicine

Telemedicine Development Centre of Asia

February 2017

Francisco Schmidt F.

TEMDEC
Telemedicine Development Center of Asia

Telemedicine: Not only technology, but people.

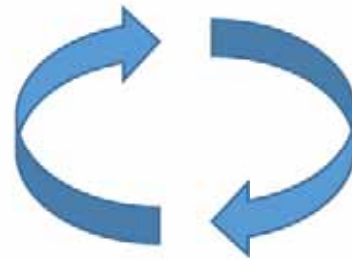


Planning



Telemedicine: Not only technology, but people.

Testing



Problem Solving

- **General Information Pontific Catholic University**

Catholic University, created on 1888 => 129 years of experience

- 5 Campus:

- Casa Central -> Santiago
- Lo Contador -> Santiago
- Oriente -> Santiago
- San Joaquín -> Santiago
- Villarrica -> Villarrica

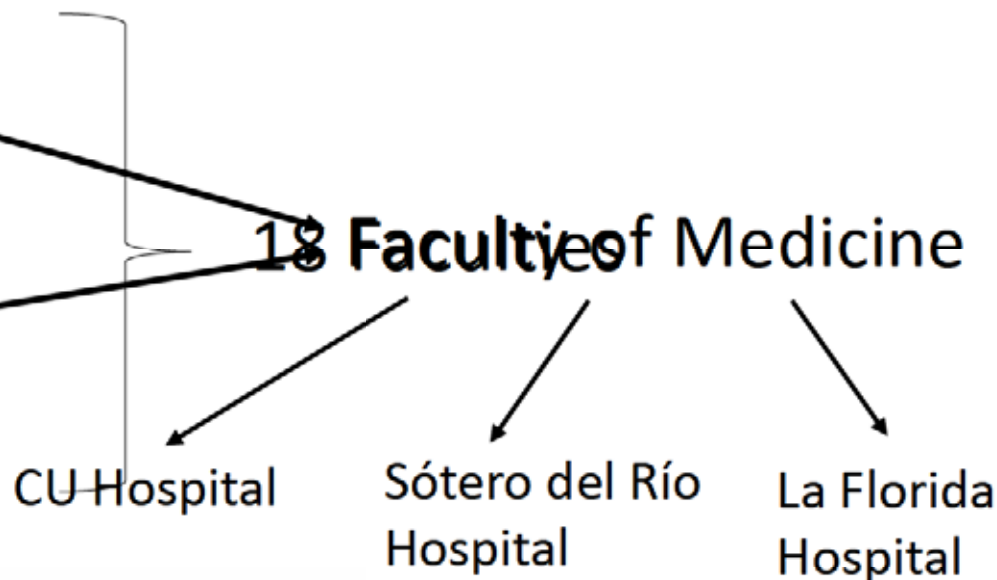
} **18 Faculties**

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Medicine School

School of Dentistry

Infirmiry School

Health Careers

We've had several changes since 2013 to date...

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Faculty of Medicine

2014



CHRISTUS Health®

School of Dentistry

Academic School

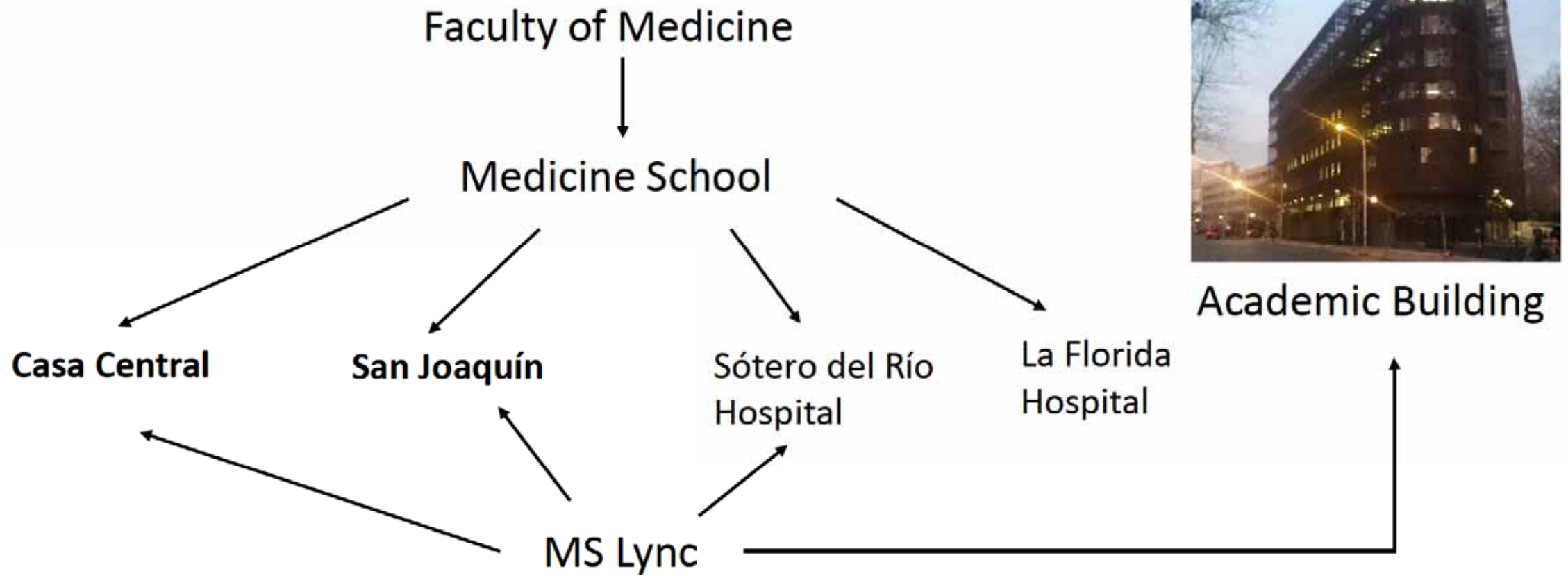


Academic Building

We've had several changes since 2013 to date...

- Teleconference Systems Implemented on the Faculty of Medicine

MS Lync: response to a need of the X-Rays Department



Academic Building

- Teleconference Systems Implemented on the Faculty of Medicine

Equipment



**Vaddio ClearSHOT 10
USB 3.0 PTZ
Conferencing Camera**

**Plantronics
Calisto 620**



Logitech Webcam C930e



ConferenceCam BCC950



**Sistema de videoconferencia Logitech
ConferenceCam CC3000e**

One-month Engineer Training Program in Telemedicine

Main Objectives:

1. How is Telemedicine Realized
2. Required Quality Level for Telemedicine
3. Teleconference Systems
4. Technical Preparation
5. How to Work on Problems

Telemedicine, What is it about?



Not just Technology



Share
knowledge



Share
experience



Promote Clinical
Discussion

Quality of Image, Sound and Movement

Telemedicine, What is it about?

- Many diferent Instances

Basement: General information of institution

Name, Country, City

Member information of institution

Doctor, engineer, email, phone...

Network&System information of institution

REN or commercial, bandwidth, room equipments...

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Ready Program of event

Day & time, institutions, how to connect, chair, topic...

Mailing list of event

Annouce and update

Test connection

Network, Image & audio, presentation

Event

Training report of Endoscopy and Engineering with Chile	
Session Duration	
Start Date	Training report of Endoscopy and Engineering with Chile
End Date	2017-02-21
Start Time	09:00 AM
End Time	12:00 PM
Topic	Training Experience in Kwana University Hospital
Content	Others
Style	Conference
Connection Method	Zoom
Server Ad	Kwana University Hospital
Streaming Address	https://zoom.us/j/491848124
Brief Description	In this session, we will have presentations from Chile trainees about their training experience learned endoscopy or telemedicine engineering. This teleconference will be conducted 1:10

Perform

Presentation, Operation Live, disscission

Solve Problems on the Run

Have a trouble, communicate by chat, phone, email...

Recording

Movie, photo...



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Presentation, Operation Live, discission

Solve Problems on the

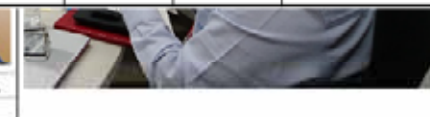
Have a trouble, communicate phone, email ...



#688 The 10th Asia Telemedicine Symposium '2 2016.12.03

[Event] The 10th Asia Telemedicine Symposium '2	[Comments] On the 2nd day of 10th Asia Telemedicine Symposium, the first Vietnam Telemedicine Workshop took place. After lunch, the current status of early gastric cancer in each hospital was reported by gastroenterologists from various countries as updates for joint research for early gastric cancer. Finally, the research collaboration session of Asia Pacific tele-learning for detection of early gastric cancer was held.
[Date] 2016.12.03	
[Venue] JW Marriott Hotel Hanoi (Vietnam), Seoul National University Bundang Hospital engineer's home, Seoul (Korea, Republic of), Hse University Hospital (Vietnam), Hse Central Hospital (Vietnam), Cho Ray Hospital (Vietnam)	

Institution name	Engineer	Network	Video	Sound	Presentation	Note
1. University of Hong Kong (Versel)	Hiyam, Shiwangi, Ken	Unstable				
2. Deenanath Mangeshkar Hospital	Shiwangi, Donvat, Ms. Vias Takalkar					
3. Brawijaya University	Tunggul Laksono,					
4. Nagoya University	Itsuko Asada			Sound level too high		
5. Cho Ray Hospital	Le Thanh Ni				Couldn't receive contents	
6. University of Adelaide	Abdel-Rahman Bassal, Phil					Couldn't contact to the engineer during the session
7. Changi General Hospital	Alvin Lim			No sound (Mic did not work)		
8. National Cancer Center Hospital	Shigetaka Yoshinaga, SH	Unstable				
9. University of Malaya	Helmy					
10. Kyushu University	Kudo		Unclear Camera image			
11. Chulalongkorn University	Chakaphan			Echo		
12. Universiti Sains Malaysia (USM)	Ms. Mohd Kaman Ibrahim					
13. Selayang Hospital	Daniel		No image			
14. Kinki University	Masuda Masami					Unsmooth movie (Sent from
15. National University of Malaysia (UKM)	Saidi					
16. Oso University Hospital				Echo		



Telemedicine, What is it about?

- Many different Instances

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Ready

Program of event

Day & time, institutions, how to connect, chair, topic...

Mailing list of event

Annouce and update

Event

Perform

Presentation, Operation Live, discission

Solve Problems on the

Have a trouble, communicate phone, email ...

Review

Report

activity list, comment

Questionnaire

Ask about Contents, systems

Archive

Archive

Movie, photoes, activity list, comment

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A presented slide.
Picture taken at: Kyushu U



Engineers established a connection behind the venue.
Picture taken at: JW Marriott Hotel Hanoi

Publication
IP paper, annual report...

Required Quality and Equipment

Quality (Basics):

- Internet Connection: Bandwidth of 2 Mbps or better (recommended)
- CPU: Core 2 Duo 2 GHz or better
- RAM: 2 Gb or higher
- No global IP address

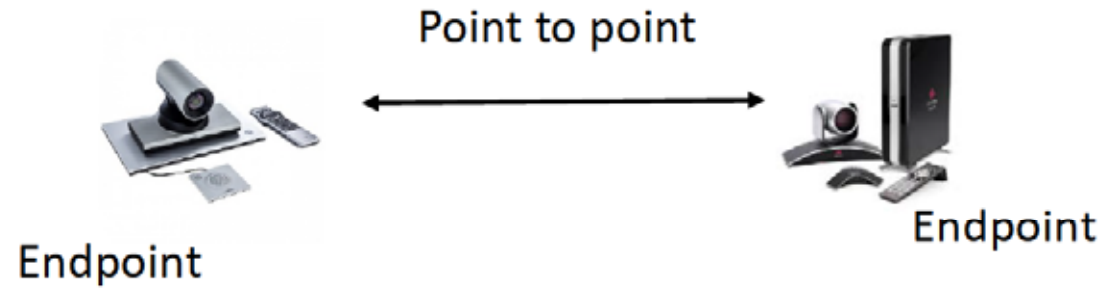
Basic Equipment:

- PC or teleconference system
- Webcam
- Speakerphone built-in echo canceller or USB headset
- Screen or data show (not exclusive)



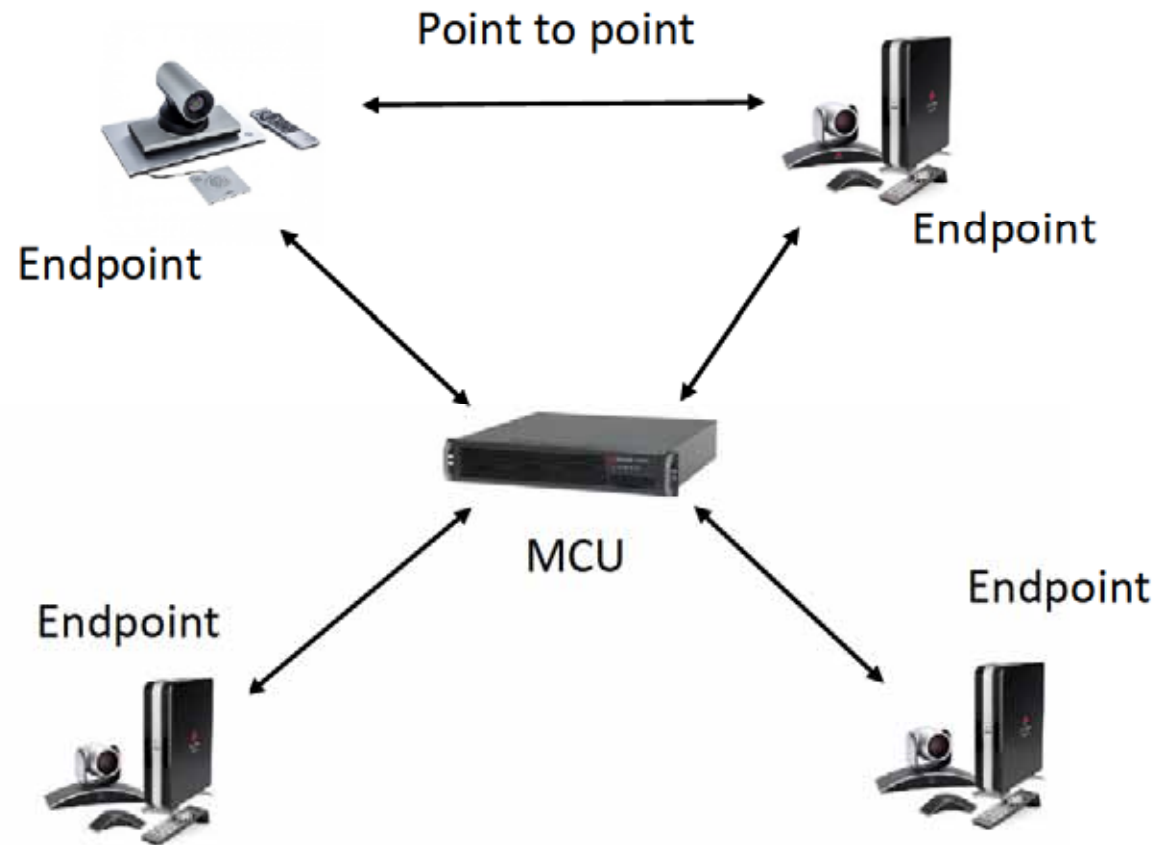
System Solutions Learned during the Program

H.323 System



System Solutions Learned during the Program

H.323 System



Advantages

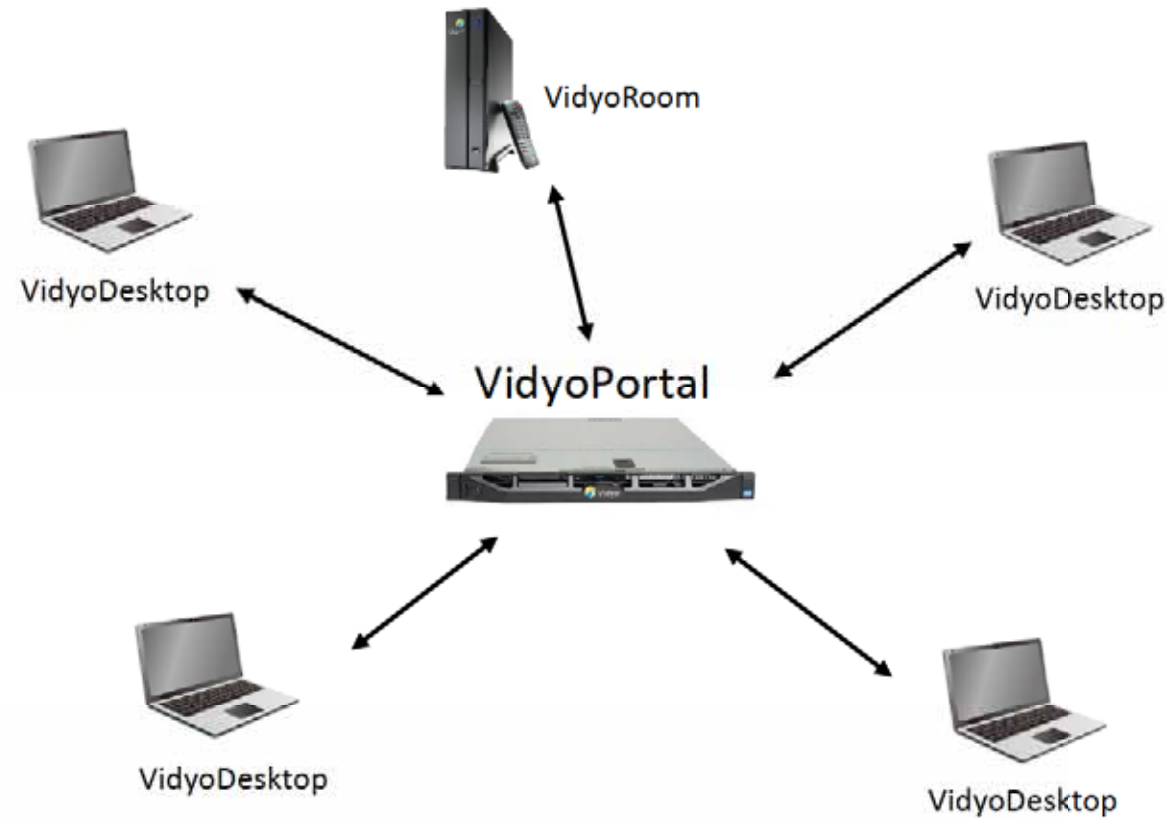
- High quality of data transmission (Image and sound)
- HW solution designed for Teleconference
- Doesn't need a server for point to point connection

Disadvantages

- High costs (Endpoints, devices and Server)
- Operation Interface needs know how
- Needs a server (MCU) for multiple connections

System Solutions Learned during the Program

Vidyo System



Advantages

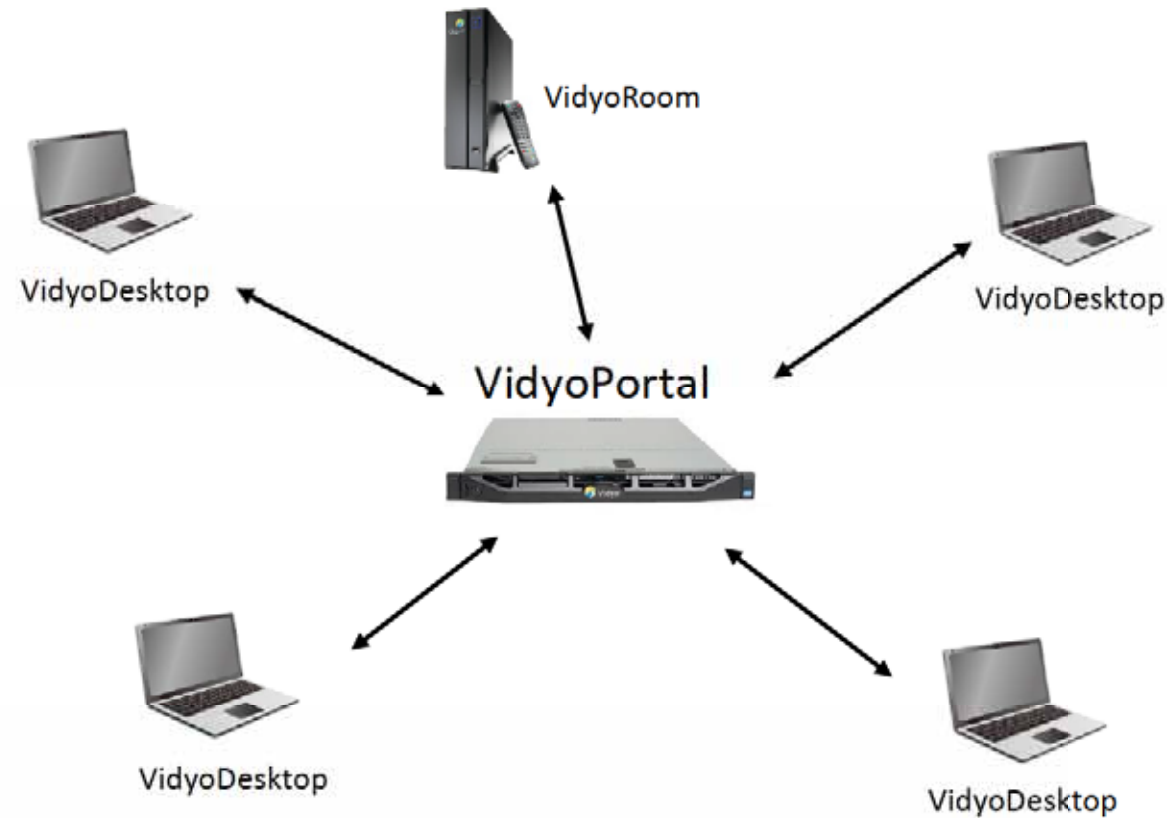
- High quality of data transmission (Image and sound)
- Easy to connect (several connections)
- Users don't need a special room
- Easy to manage

Disadvantages

- Need of Server (VidyoPortal) -> High Cost
- Content Sharing in Vidyo Desktop is not suitable for movies or animations
- Need of Vidyo Room to Share movies or animations in presentations
- When sharing movies through VidyoRoom, sound is not easy to manage (mixer recommended).

System Solutions Learned during the Program

Vidyo System



Advantages

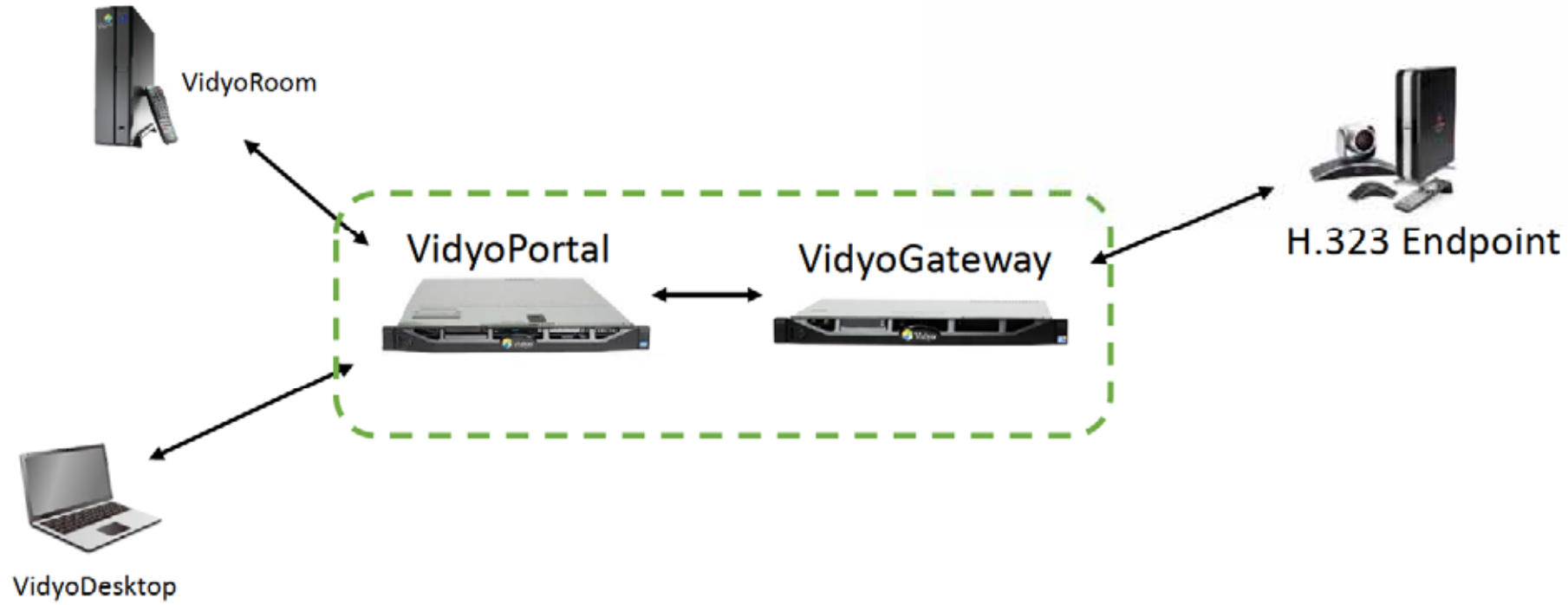
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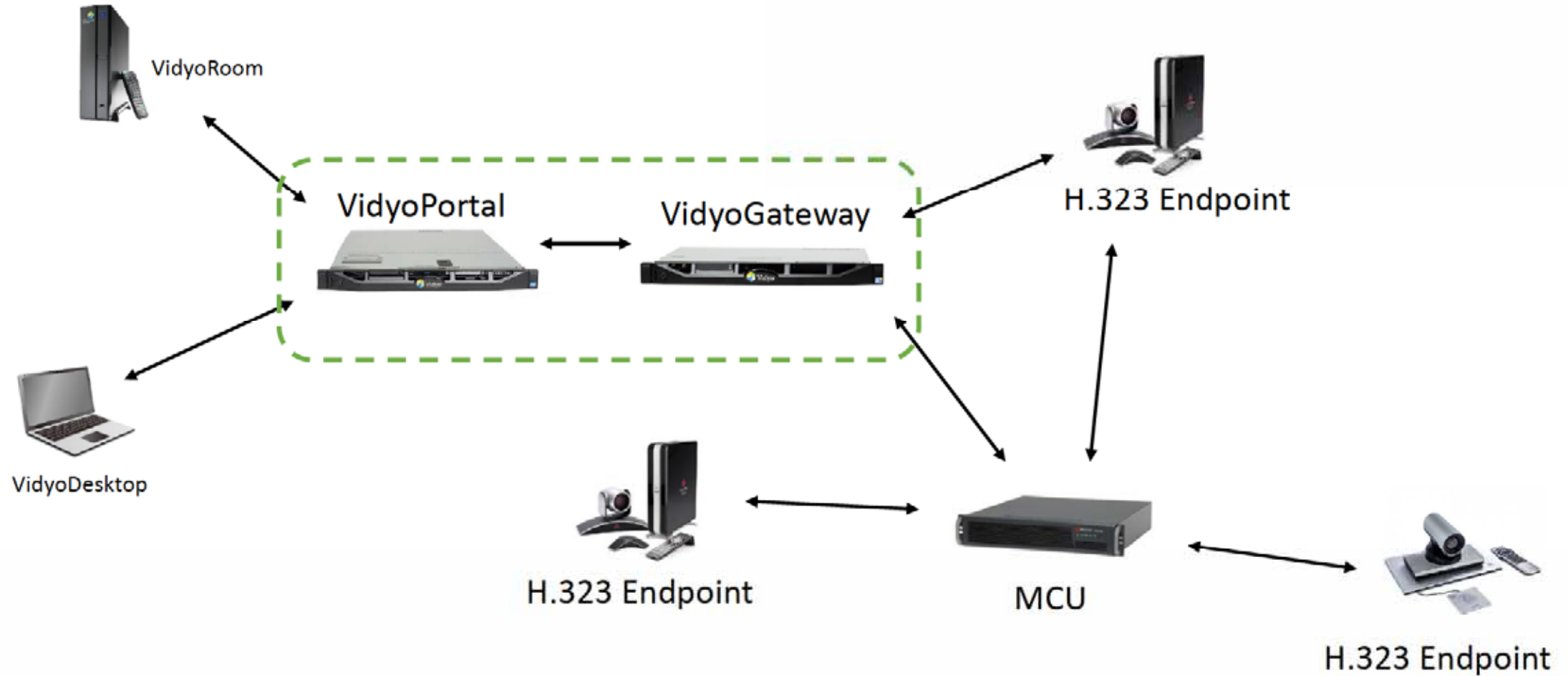
System Solutions Learned during the Program

Interconnections



System Solutions Learned during the Program

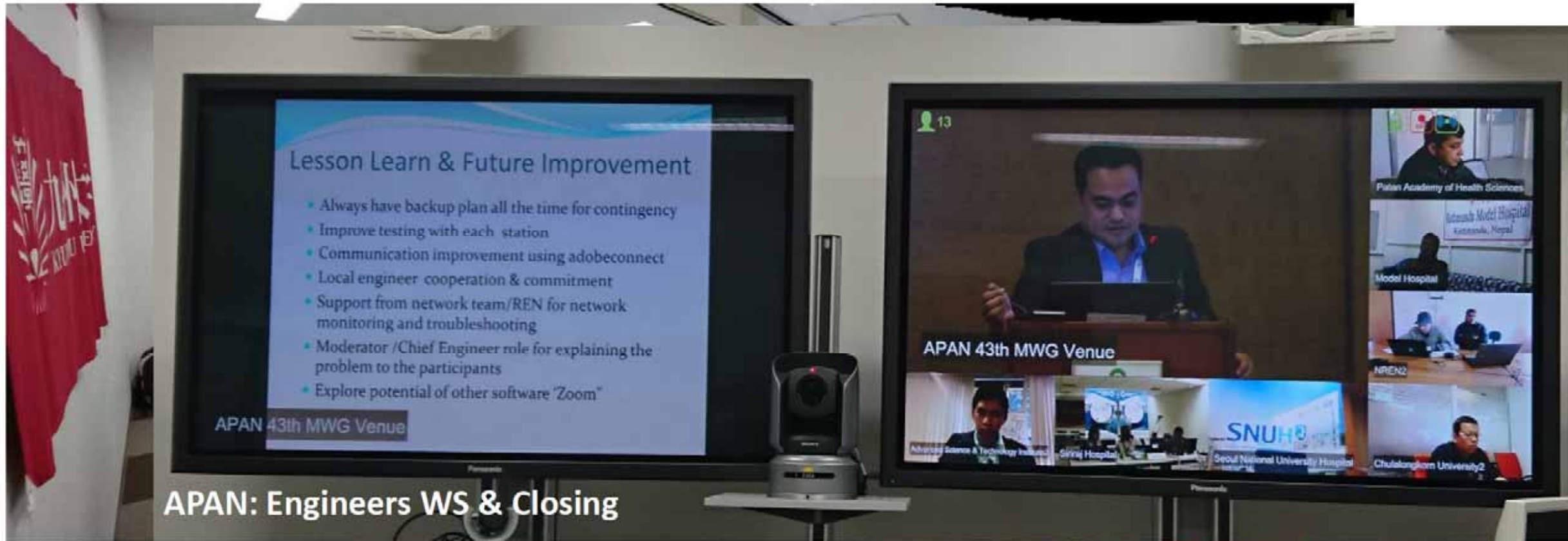
Interconnections



Now....Some Connection Tests !!!



More Images → **APAN 43**



APAN: Engineers WS & Closing

APAN: Endoscopy Sess



APAN: Dental Session

More Images → Working



More Images → Working



Japan: Experience of a Lifetime



Japan: Experience of a Lifetime



Japan: Experience of a Lifetime



Japan: Experience of a Lifetime



Japan: Experience of a Lifetime



Future Plans

- Inform about this experience to the Faculty Authorities (Dean and Director os Medicine School) and let them know how Telemedicine works and it's importance.
- Prepare a report about this experience (what we learned during this program) and share it with other engineers (Latin American) to let them know what is it about.
- Prepare an Endoscopy Telemedicine session with Mexico, Brazil and Chile (hopefully Argentina, Costa Rica and Colombia too) for July 2017 inviting our medical authorities.



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