

UbuntuNet-Connect 2013 - Kigali, Rwanda

A SOFTWARE-BASED SOLUTION FOR
DISTRIBUTING AND DISPLAYING **UHD VIDEO**
OVER NETWORKS WITH APPLICATIONS TO
TELEMEDICINE AND CULTURE



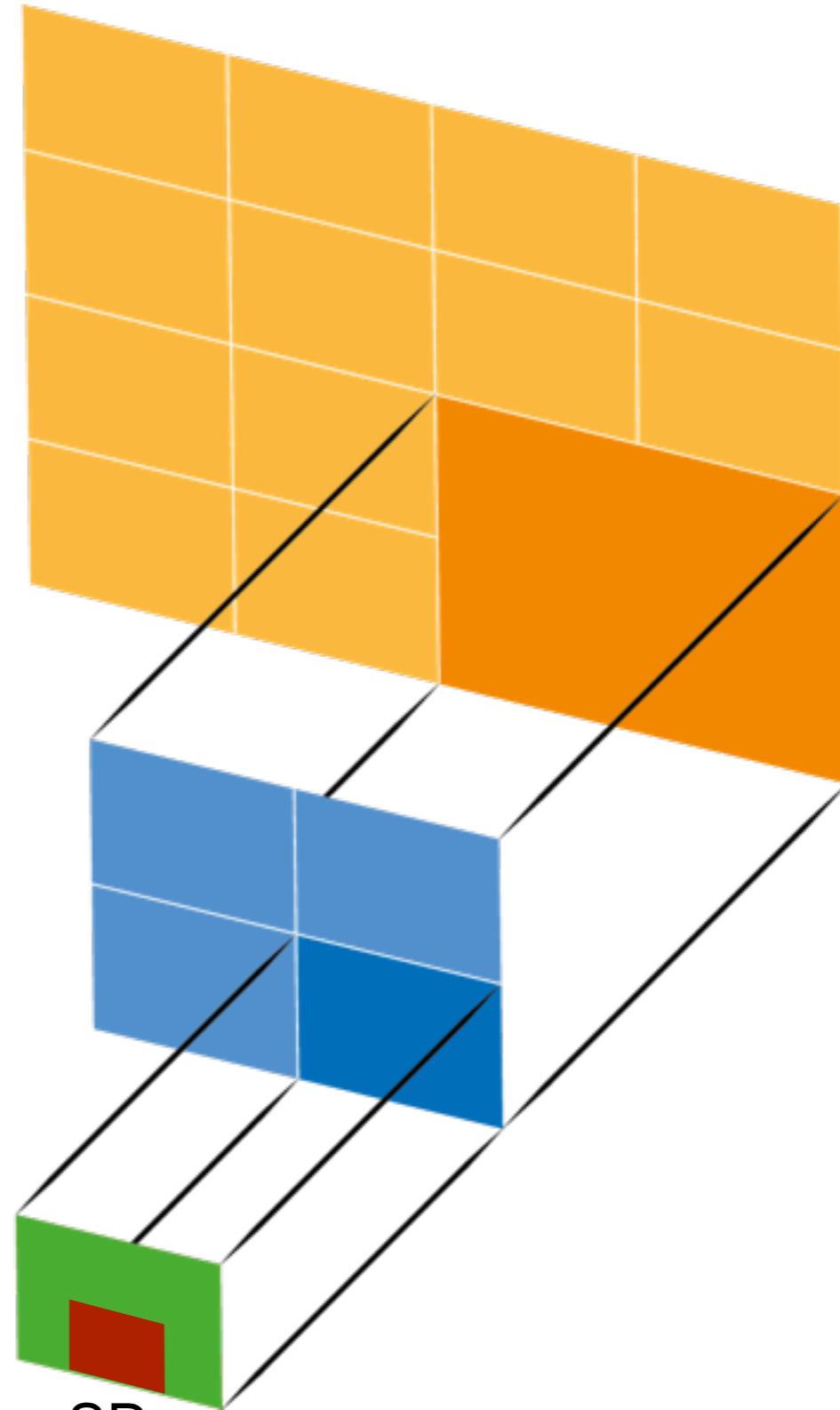
UHD

8K
7680×4320

4K
4096×2160

Full HD
1920×1080

SD
720×576



FILE 2009 IN SÃO PAULO: HD VIDEOCONFERENCING WORLD PREMIÈRE OF 4K FEATURE FILM

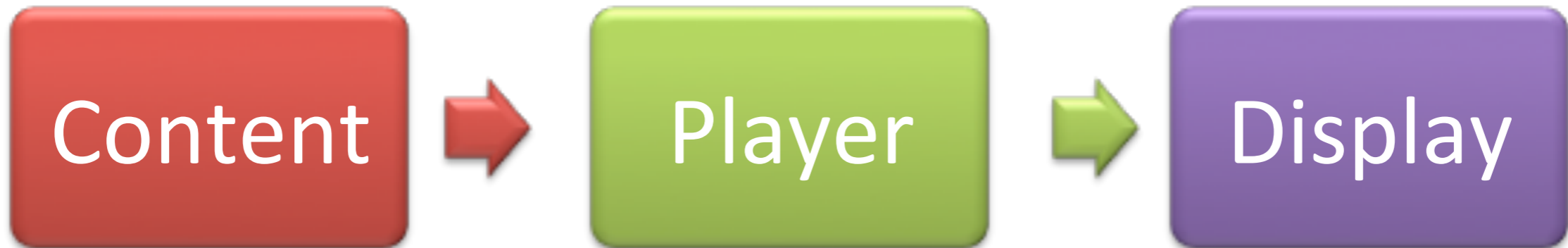


Keio Univ, Japan

UCSD, California

FIESP-SESI Auditorium, São Paulo

R&D PROGRAMME ON VISUALIZATION



FOGO PLAYER



Intel Xeon E5-2640 2.5GHz
Asus Rampage IV Formula X79
32GB RAM DDR3 1600MHz
Power supplier Thermaltake 1000W ATX
HD 600 GB, 10000 rpm



Intel X520-DA2



2x
NVIDIA GeForce GTX 550 Ti

or

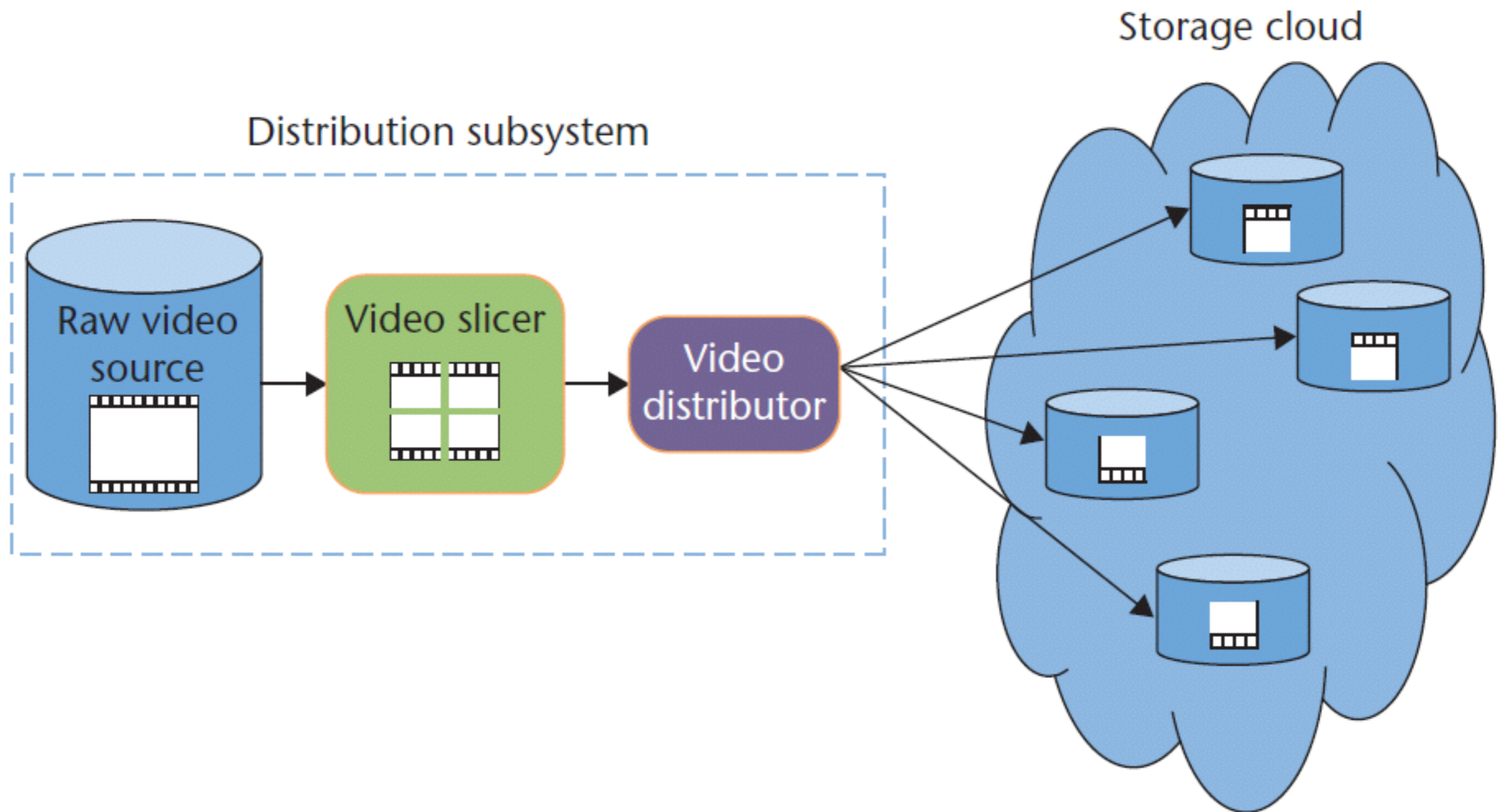


2x
ATI FirePro V7900



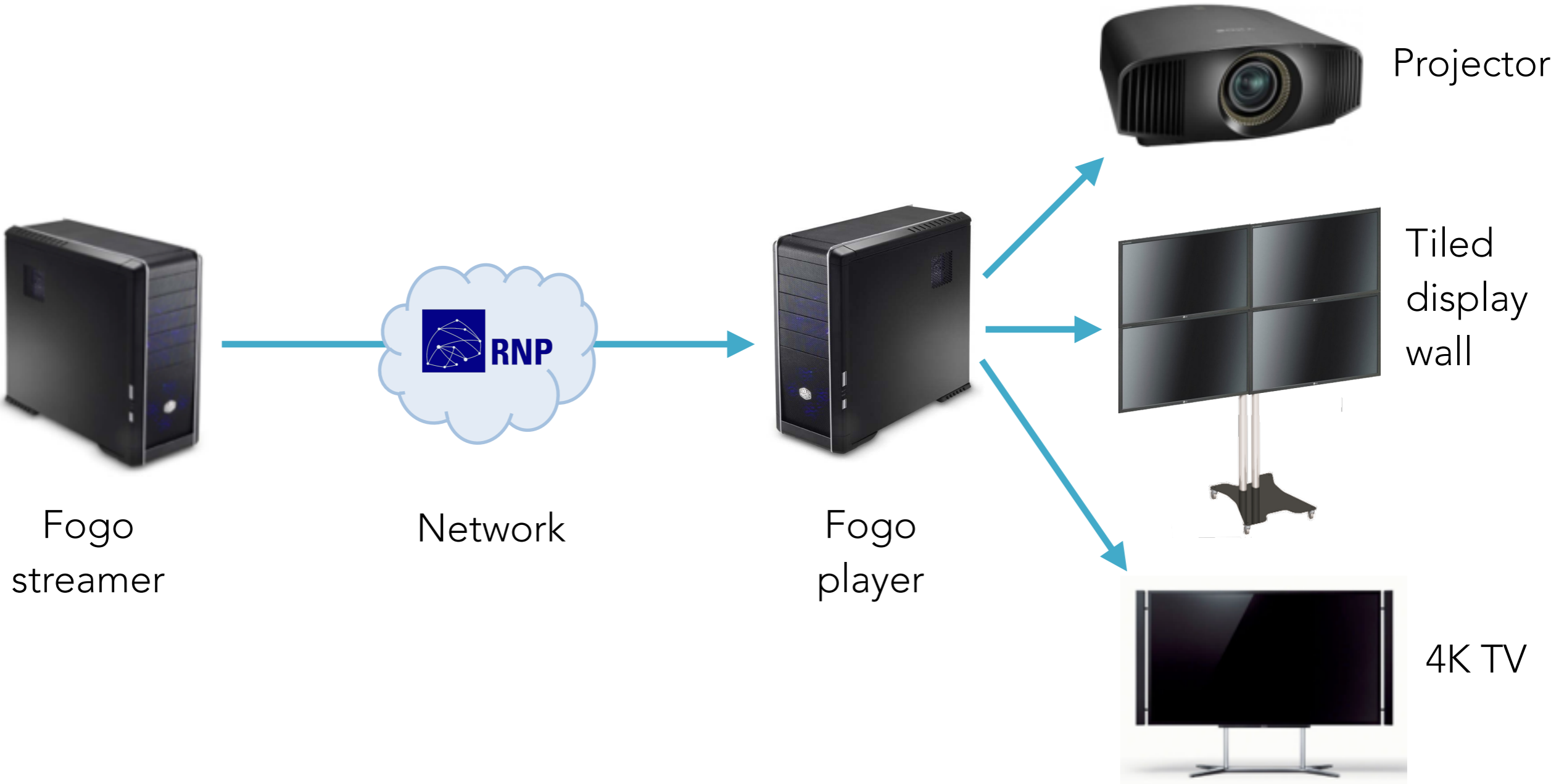
synchronization module

VIDEO SLICING AND ARCHIVING IN THE JIT CLOUD

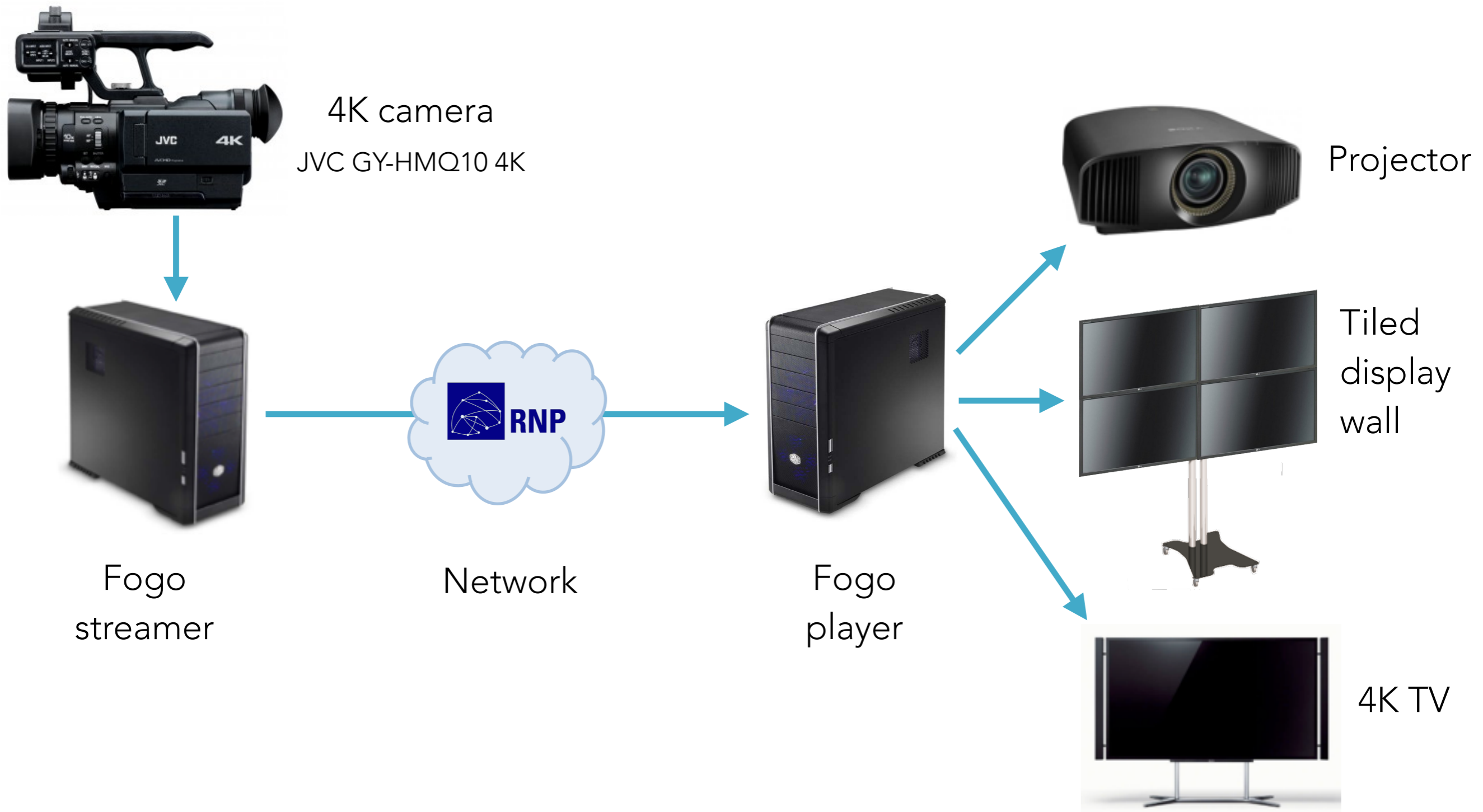


Based in H.323 codec

CONTENT STREAMING



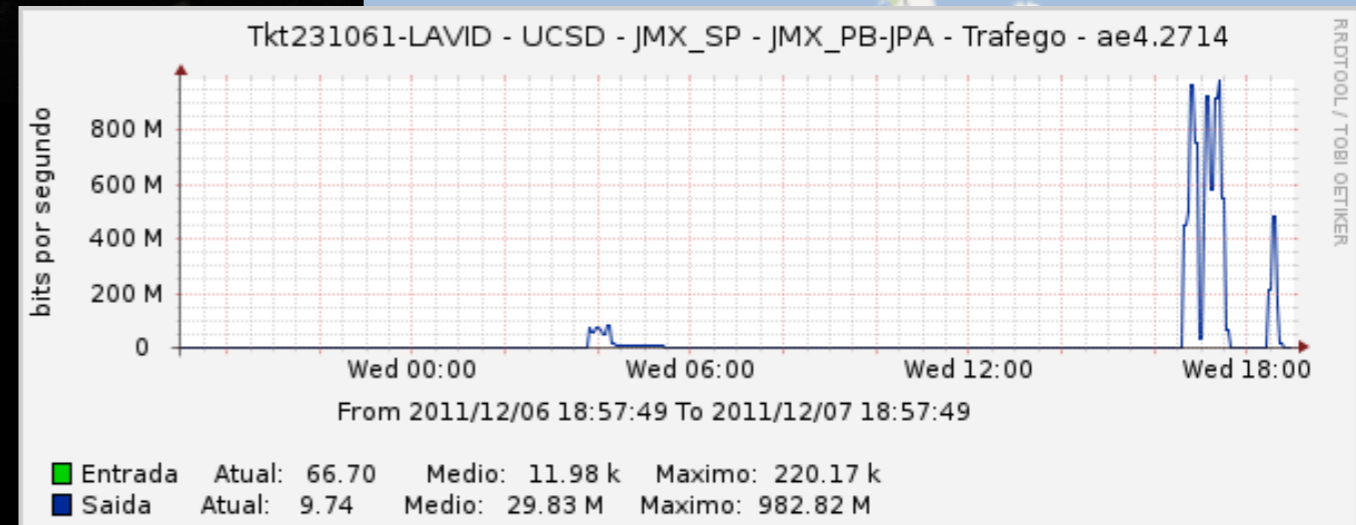
LIVE STREAMING



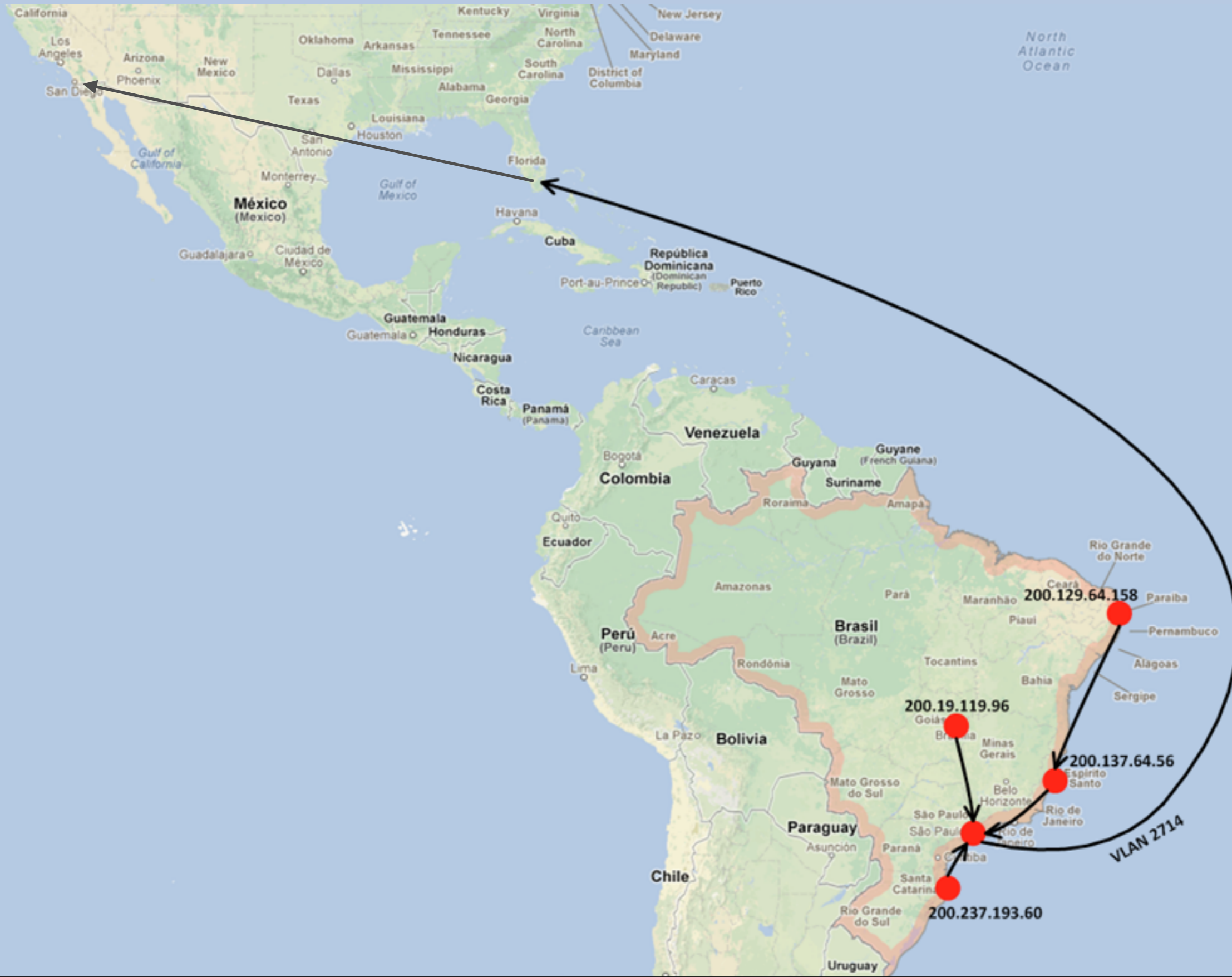
DEMO AT 2011 CINEGRID WORKSHOP



DEMO AT 2011 CINEGRID WORKSHOP



DEMO AT 2012 CINEGRID WORKSHOP



CULTURE

NETWORK OF DIGITAL CINEMAS



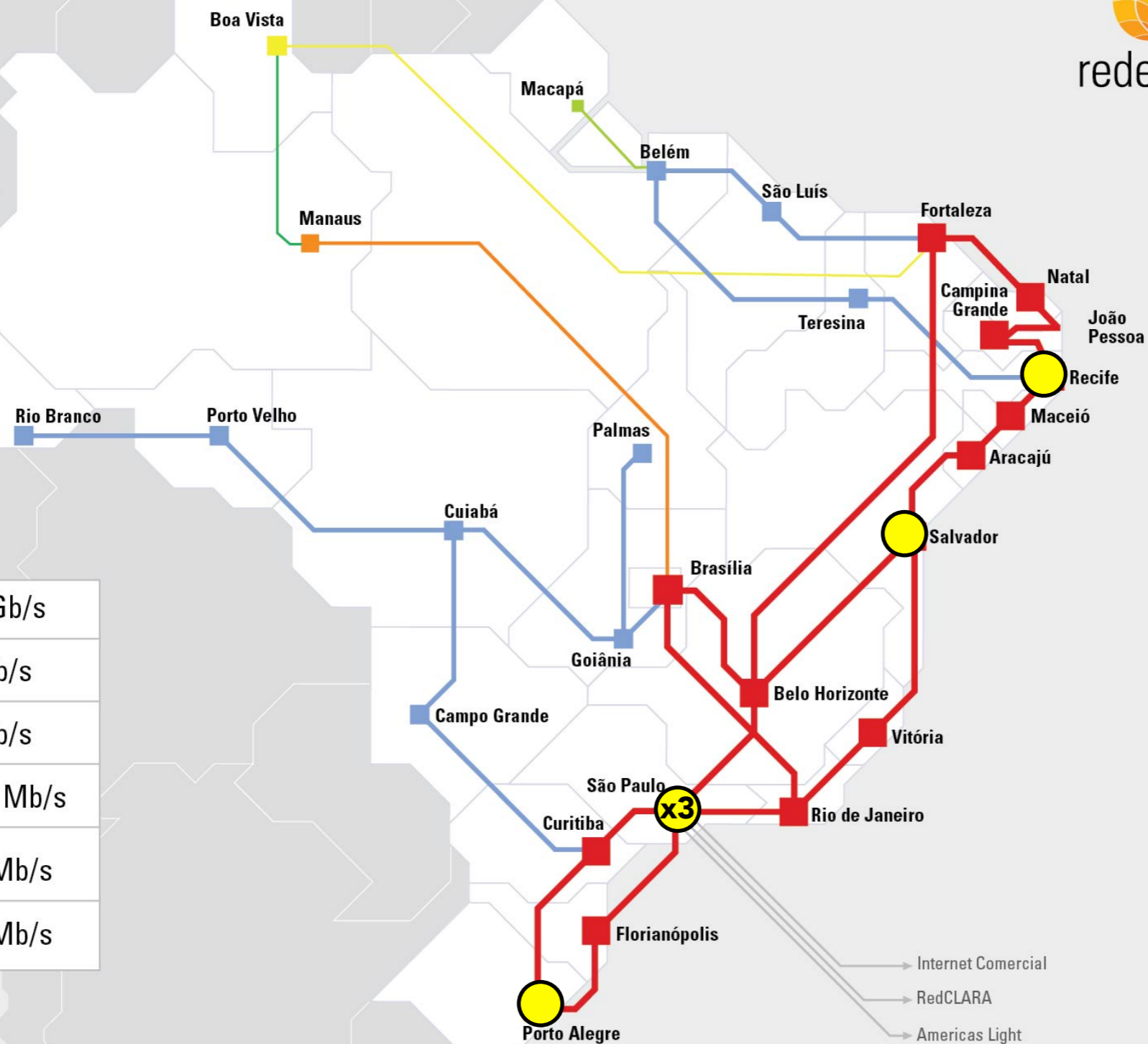
Brazilian Cinematheque, Sao Paulo, 11/05/2012. Streaming from Joao Pessoa (PB) to Sao Paulo (SP)

NETWORK OF CINEMAS

Situação em setembro de 2013



	10 Gb/s
	3 Gb/s
	1 Gb/s
	100 Mb/s
	68 Mb/s
	40 Mb/s



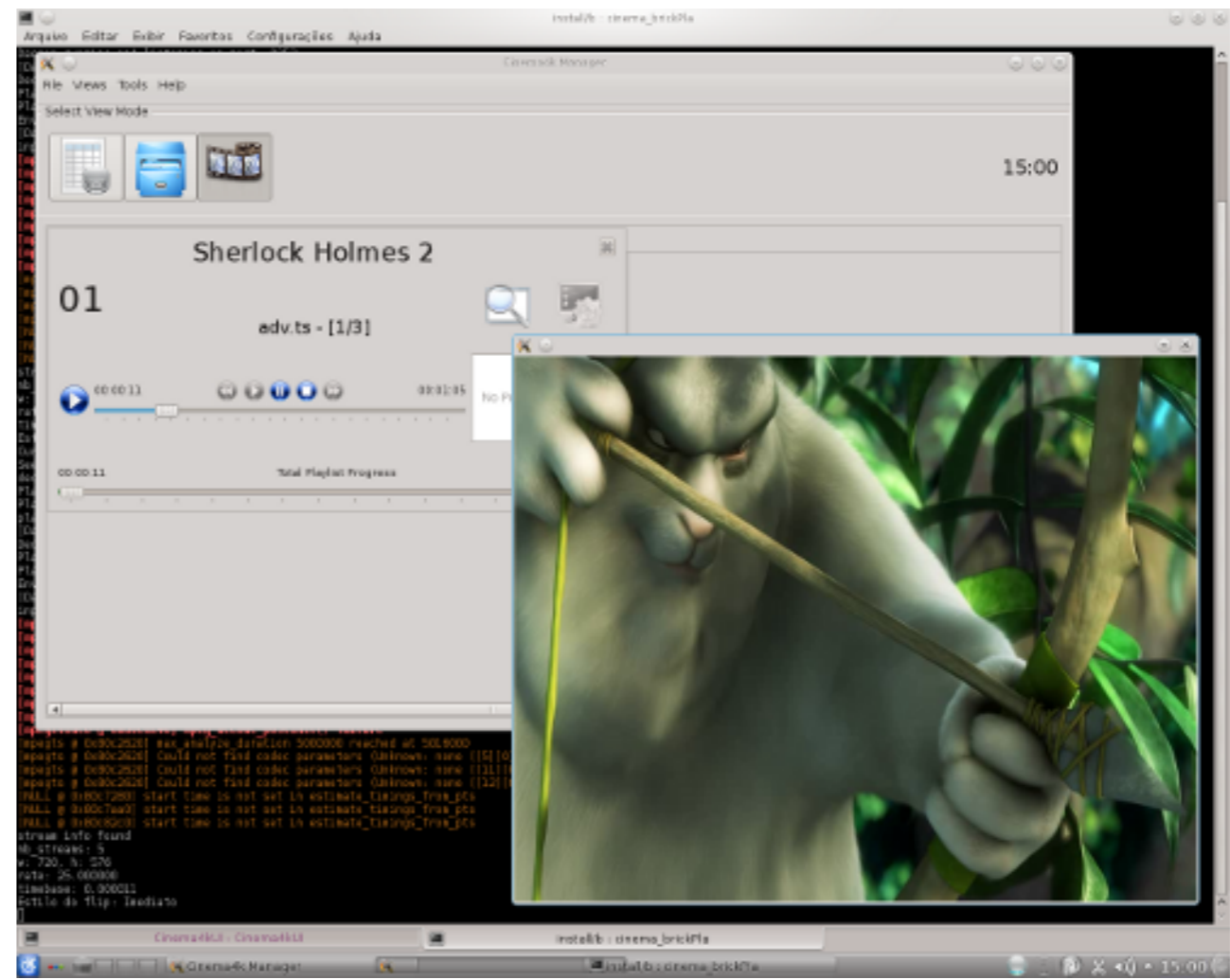
- Internet Comercial
- RedCLARA
- Americas Light

COMPONENTS - CINEMA CONTROLLER



ID	Status	Nome do Arquivo	Nome	Tamanho (MB)	Progresso	Recebido (MB)	Tempo Gasto
362552	Finalizado	CINEMA-Master-327602_CINEMA...	Paranormal Activity 4 - Official Trailer 1080p.tsu...	101.16	100%	101.16	-
374052	Finalizado	CINEMA-Master-325952_CINEMA...	The Avengers - Official Trailer 1080p.tsfullhd_h2...	120.37	100%	120.37	-
380852	Finalizado	CINEMA-Master-346652.3...	Conan.The.Barbarian.20...	2054.91	100%	2054.91	-
381052	Finalizado	CINEMA-Master-329252_CINEMA...	Yosemite HD 2K.tsfullhd_h264.ts	243.12	100%	243.12	-
381102	Finalizado	CINEMA-Master-333002_CINEMA...	big_buck_bunny_1080p...	628.17	100%	628.17	-
381152	Finalizado	CINEMA-Master-318202_CINEMA...	tears_of_steel_1080p.tsf...	775.60	100%	775.60	-
381202	Finalizado	CINEMA-Master-316102_CINEMA...	sintel-2048-surround.tsfullhd_h264.ts	986.15	100%	986.15	-

COMPONENTS - 2K PLAYER



SUPPORTED FORMATS

MPG MPEG MPE MP1 MP2 MP4 DAT
VOB AVI ASF WMV QT MOV VIVO VIV
FLI RM NUV YUV FIL FILM ROQ OGG
OGM SDP PVA GIF 3GP FLV DV WMV TS

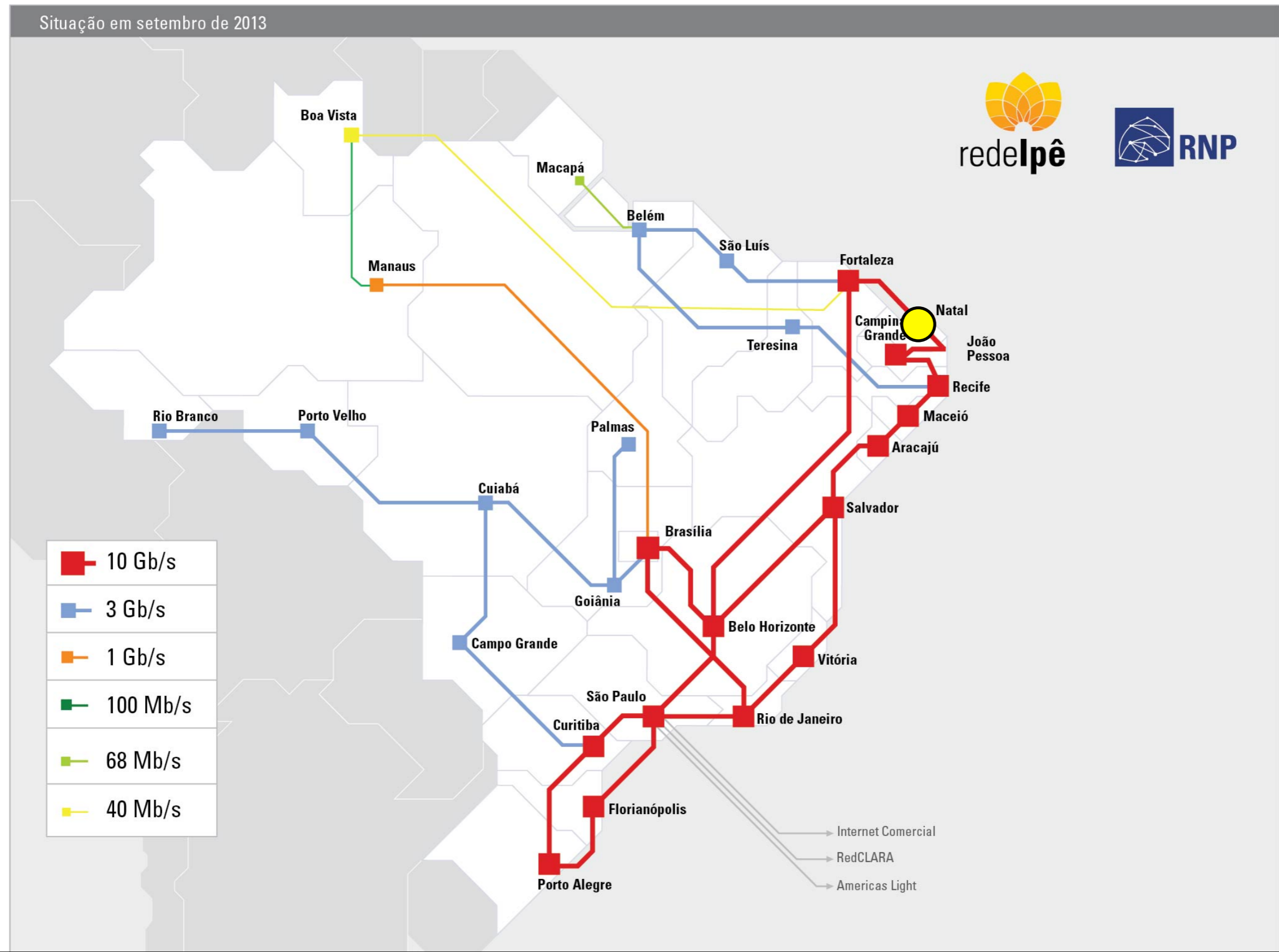
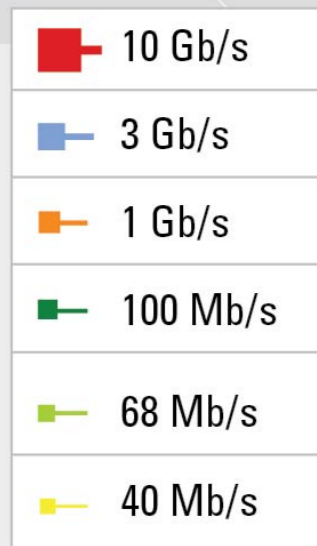
TELEMEDICINE

LIVE CARDIAC SURGERY STREAMED IN UNCOMPRESSED 4K



LIVE CARDIAC SURGERY DEMO

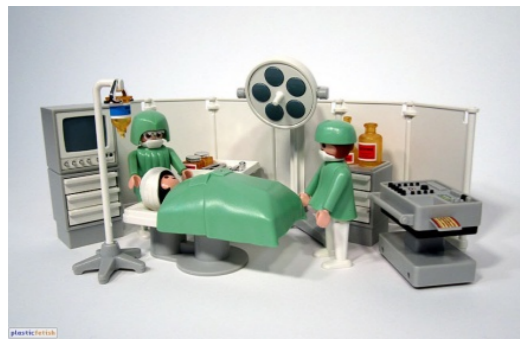
Situação em setembro de 2013



LIVE CARDIAC SURGERY DEMO

HUOL

University Hospital



**JVC 4K
Camera**



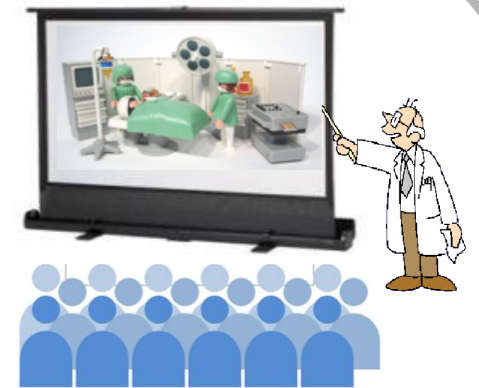
**FOGO streamer
(uncompressed)**



UFRN

Visualization Room

4K Projector

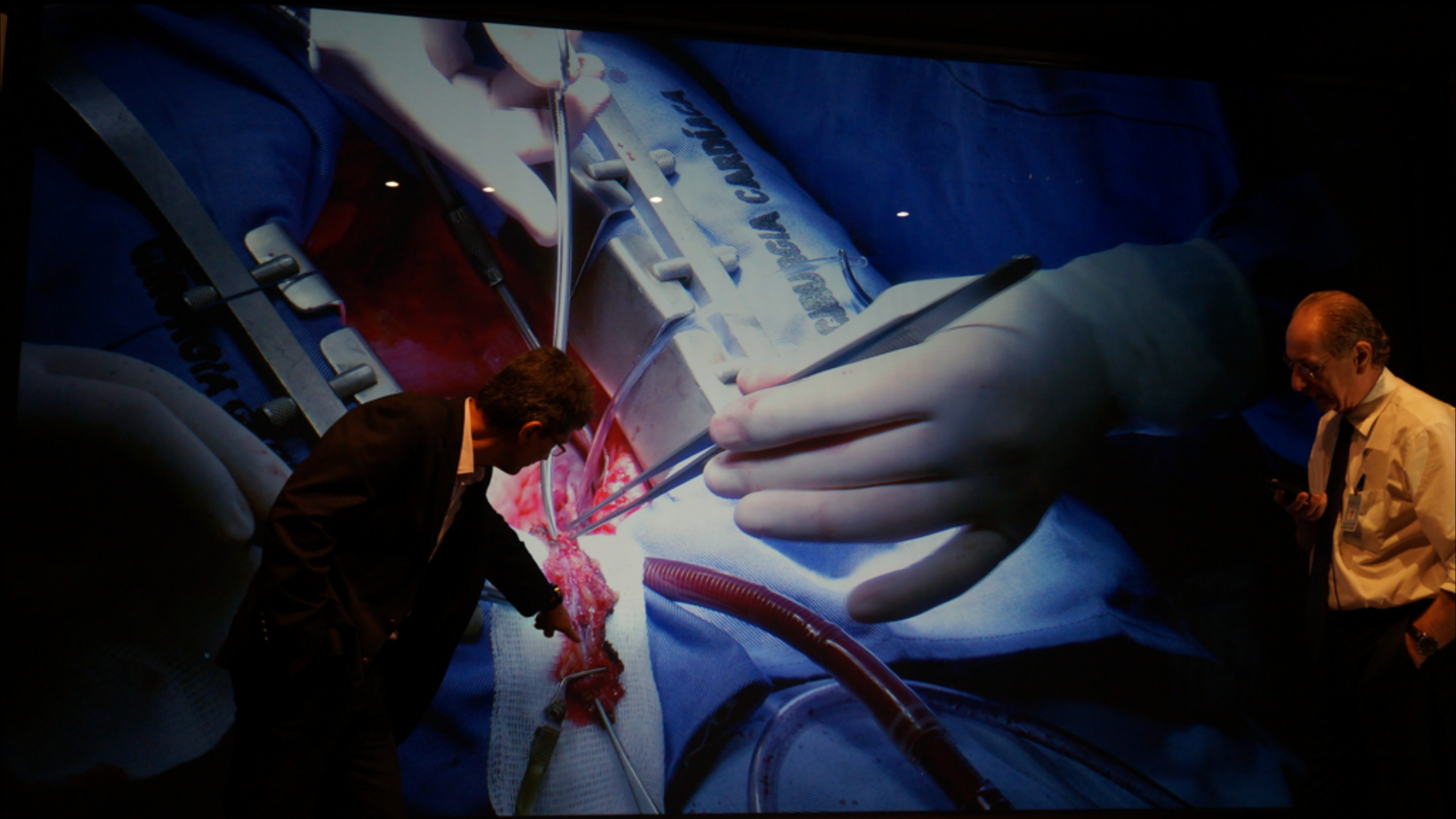


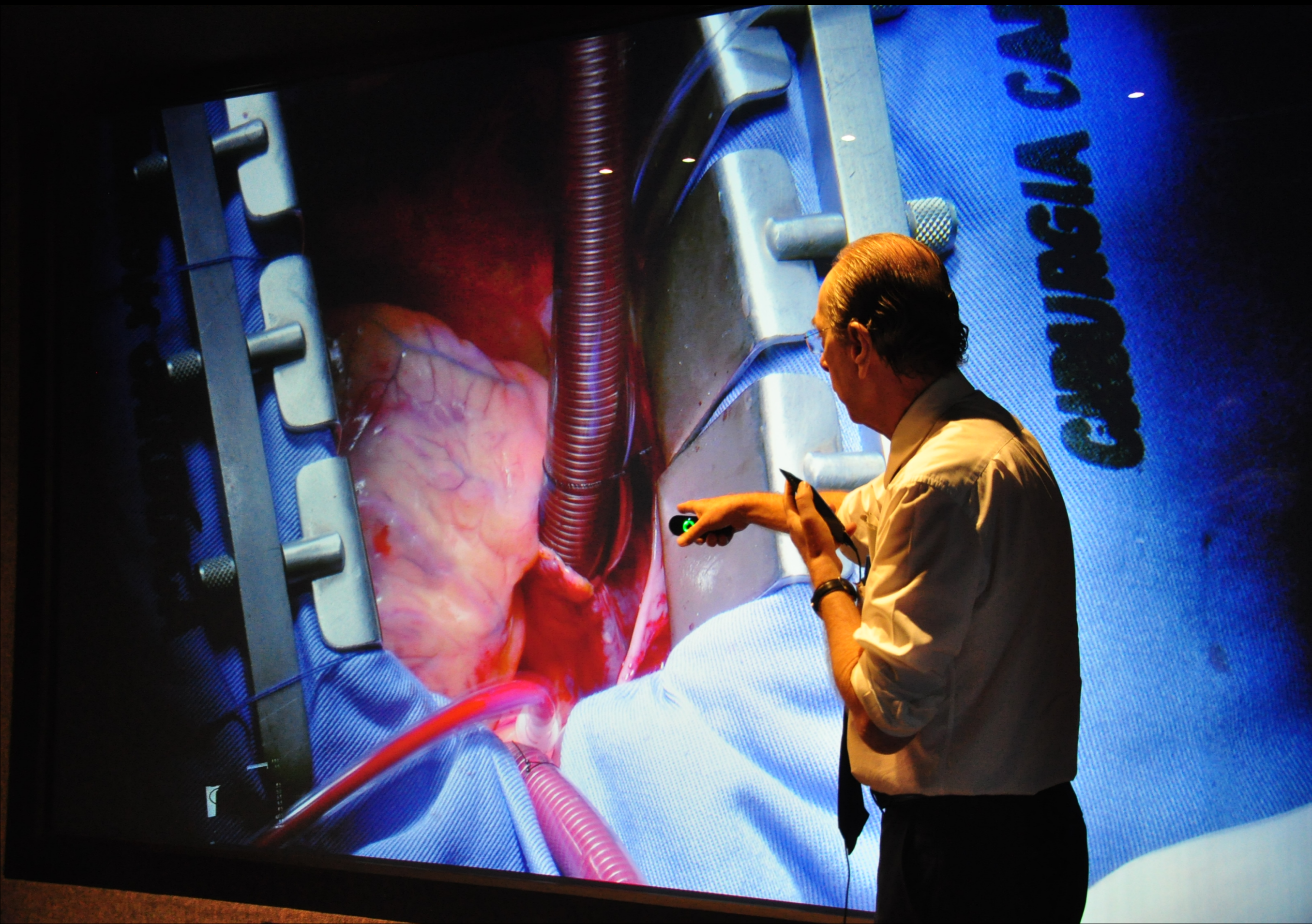
FOGO Player



30 Km apart

3.5 Gbps for uncompressed 4K







CONCLUDING REMARKS



CONCLUDING REMARKS



CONCLUDING REMARKS



Brazilian Embassy at London - 26/07/2012

Presidenta Dilma Rousseff conhece projeto de Visualização Avançada

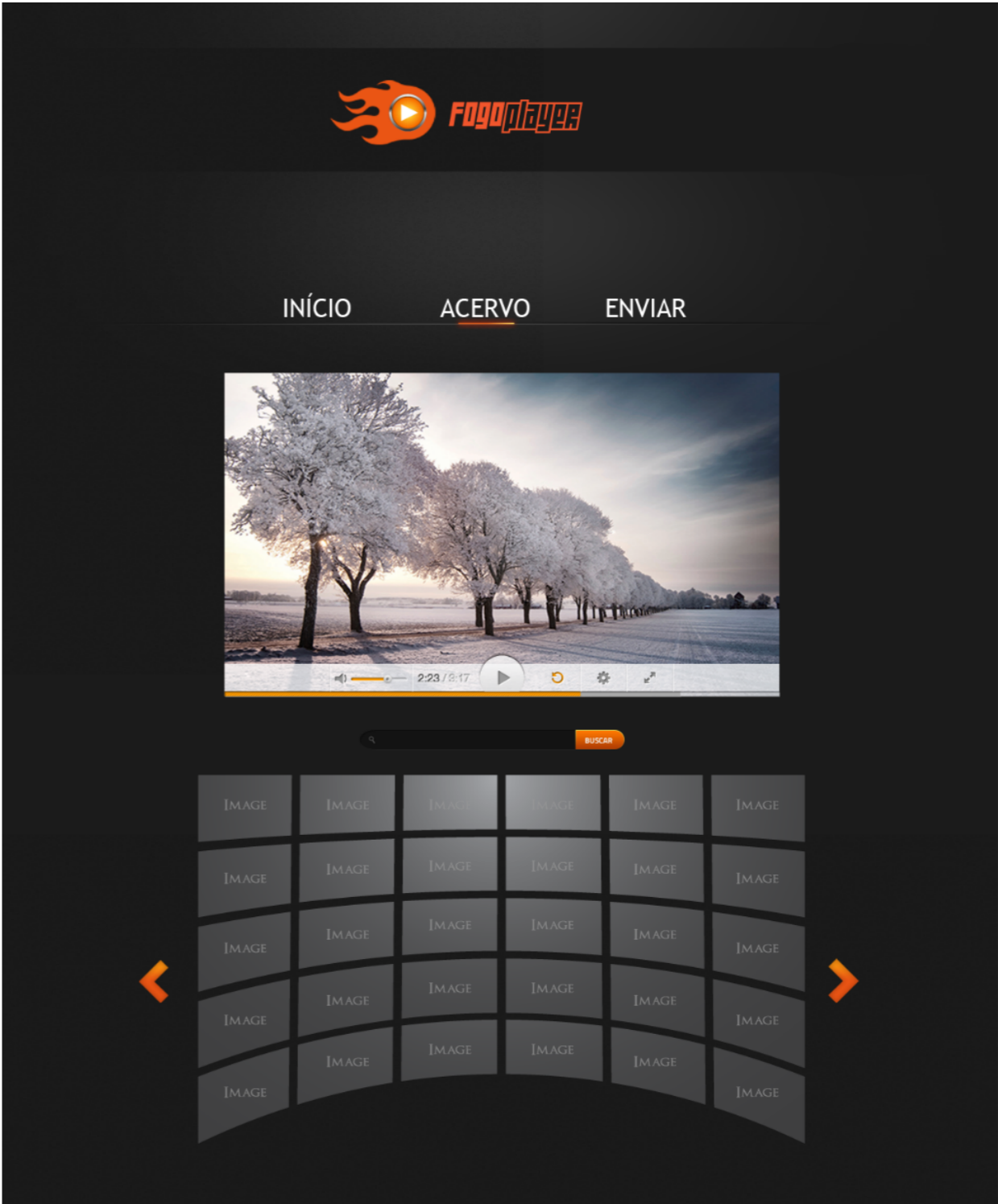
ciceroinaciodasilva + Inscrever-se 100 vídeos ▾

0:22 / 3:40

Gostei Adicionar a Compartilhar 3508

You Tube <http://www.youtube.com/watch?v=783tjTqmlhM>

CONCLUDING REMARKS



A SOFTWARE-BASED SOLUTION FOR DISTRIBUTING AND DISPLAYING UHD VIDEO CONTENT OVER PACKET NETWORKS WITH APPLICATIONS TO TELEMEDICINE AND CULTURE

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- ➔ <http://wiki.rnp.br/display/vraa>
- ➔ <http://culturadigital.br/cinemasemrede>
- ➔ <http://rute.rnp.br>

Acknowledgment:



Ministério da
Cultura

Ministério da
Saúde

Ministério da
Educação

Ministério da
**Ciência, Tecnologia
e Inovação**

