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DE ENGENHARIA CIVIL

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RADE – Second Experience on Image Streaming and Remote Visualization of Data Acquisition Using Remote Access

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LABORATÓRIO NACIONAL
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RADE – Second Experience on Image Streaming and Remote Visualization of Data Acquisition Using Remote Access

1 INTRODUCTION

The present report describes the laboratory experience on image streaming and data remote access during physical model tests for a 3D model, performed at a wave tank (TOI3) of LNEC. The experience took place on the 21th of May 2014 and 21 participants took part on it.

This is the 9th experience taken at the maritime hydraulic installations of the Harbour and Maritime Structures Division, of the Hydraulic and Environmental Department of the National Laboratory of Civil Engineering. Previous tests were performed on the 27th of January, 27th April, 6th of June and 26th of September, 15th October 2012, 6th of March 2013 and 16th December 2013. Those experiences were previously described in [1], [2], [3], [4], [5], [6] and [7].

This work is made on the framework of the project RADE, a Joint Research Activity of HYDRALAB IV – More than Water. RADE (Remote Access to Data and Experiments) will develop a robust set of information systems to improve access to experiments and data through the innovative use of modern data management, curation and communication technologies.

In this report, the aim is to describe the methodology to visualize real-time acquisition data coming from a physical experiment and to enable the communication between partners as to share results of those experiments. A demonstration of remote access video streaming was added on the 21st of May, to improve the video image of the current physical tests. In this experience, several partners of the RADE project, and some Brazilian researchers, took part on it.

After the objectives (Section 2), Section 3 and 4 of the present report describe the experience made at the 3D model wave tank and the results obtained during the experiences, respectively. In Section 5, conclusions and future work are presented.

2 OBJECTIVES

The objective of the work reported in this document is to describe a methodology for remote visualisation of data acquisition during scale model tests, as well as real-time image streaming. The laboratory experiences took place at a 3D wave tank (TOI3) in the maritime hydraulic premises of the Harbours and Maritime Division (NPE).

21 researches from Europe and South America participated in this experience, being some of them partners of the RADE project and the other from Brazil.

3 DESCRIPTION OF THE REMOTE ACCESS EXPERIENCE

3.1 Maritime hydraulic experimental facilities of the Harbour and Maritime Structures Division

A testing hall for hydraulic tests with an area of 6,500 square meters was used. This hall is mostly occupied with testing flumes and basins for hydraulic model studies. Basins are used for three-dimensional studies of structure stability and wave penetration. Flumes are used for stability and overtopping tests of maritime structures. In the next sections we briefly describe the TOI3 tank, used in the present remote access experience.

TOI3 is tank used for studying directional irregular waves over a variable bed and their interaction with a 3D maritime structure. As in the case of the flumes, it is possible to construct all kinds of 3D foreshore bathymetries in this tank, both fixed bed and mobile bed foreshores, to ensure the wave behaviour in the model will be accurately reproduced according to the prototype. Mobile, 6.0 m long, irregular wave generators for use in the wave basins are available and may produce either regular (periodic) and irregular (random) waves. Passive absorption of wave reflections is provided. An overview of this tank is shown in Figure 1**Figure 1.**

Figure 1 - Overview of the TOI3 tank

3.2 Physical equipment

3.2.1 Remote visualization of data acquisition equipment

The equipment necessary to accomplish the experience was (Figure 2):

- laptop computer with the following characteristics:
  - TOSHIBA SATELLITE - Pentium ® Dual-Core CPU T 4500 @2.3 GHz, 4GB RAM
- Logitech Webcam
  - Enhanced VGA sensor for crisp, colourful video and snapshots at up to 1.3-megapixels
  - Integrated microphone with noise-cancelling RightSound Technology for clear conversations.
- Logitech Headphones
  - Plug-and-play USB connection: Simply plug the headset into the PC for quick and easy stereo audio
  - Rotating boom microphone: Reduces background noise for clear chats, rotates up and hides away when you're listening to music

- Lightweight adjustable headband and foam ear cups for a feel-good fit

Figure 2 - Laptop computer, webcam and phones headset used for the second experience

- Data acquisition system with the following main characteristics:
  - Make and model: HBM Quantum MX840A data acquisition board, enabling simultaneous measurement acquisition in eight channels with high sampling rate at 16-bit resolution and selectable digital filters, Figure 3:

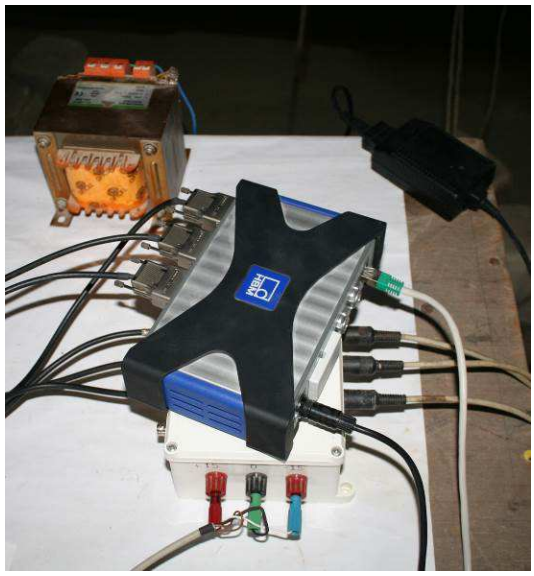


Figure 3 - HBM Quantum MX840A data acquisition equipment

- Measurement acquisition from three gauges, Figure 4:

Figure 4 - Position of the gauges in the 3D physical model

3.2.2 Image streaming equipment

The equipment needed for this experience was, Figure 5:

- Camera with the following characteristics:
  - Canon 600D digital camera with video capabilities: PAL 720p, 25 fps and a lens with a zoom lens with 18-55 mm focal distance and 3.5/f aperture.
- One laptop computer with the following characteristics:
  - Make and model: Dell Latitude E6500 - Intel Core 2 Duo Processor T9600 (2.8GHz, 1066MHz FSB, 3GB RAM)

- Video acquisition hardware:
  - Conceptronics CHVIDEOCR A/D Convertor DAQ board with provided cables
- Flexible tripod “Joby Gorillapod SLR Zoom”

Figure 5 - Physical equipment used for the second experience

3.3 Software Equipment

3.3.1 Microsoft’s Expression Encoder 4

The software used in the video decoding and streaming was the Microsoft’s Expression Encoder 4 (free version), Figure 6. Encoding was established with the following video and audio characteristics:

1. Video 25 fps, 1000 Kb/s
2. Audio 128 Kb/s (2-channel 16-bit 48 kHz)

A free version of this software was used in all experiences (**Error! Reference source not found.**) as occurred with experiments reported in [1], [2], [3], [4], [5], [6] and [7].

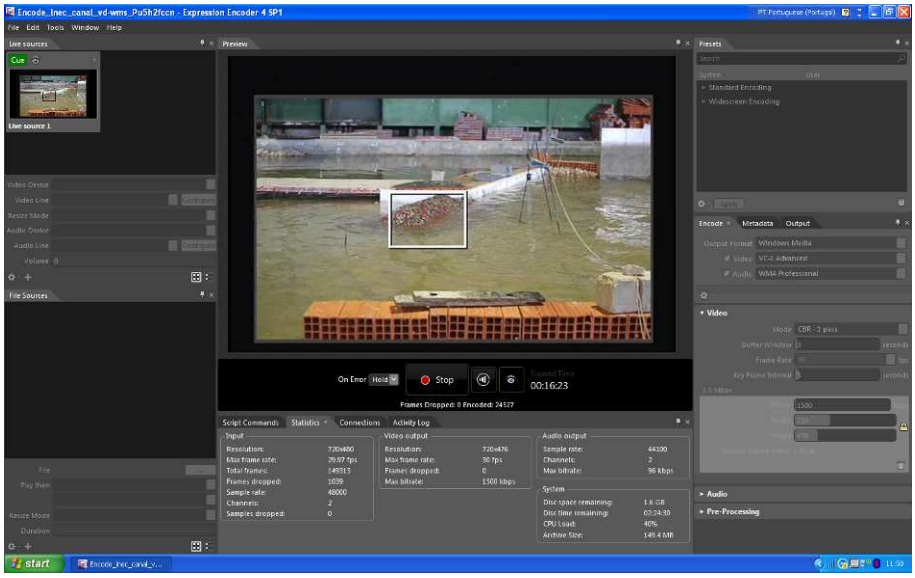
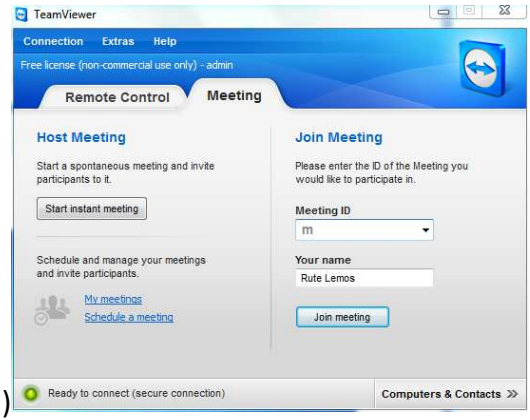


Figure 6 - Software equipment

3.3.2 TeamViewer (free version)

For the **remote visualisation of data acquisition**, the "all-In-one" software for remote support and online meetings TeamViewer was used. This software also enables the remote control of client computers via the internet, through a password-coded session provided by the client computer, Figure 7.

a)



b)

Figure 7 - TeamViewer initial window. a) Meeting b) Remote control

Teamviewer can be downloaded at:

http://www.teamviewer.com/en/download/windows.aspx

- If you are hosting the meeting the *All-In-One TeamViewer full version* shall be downloaded. This download can establish connections as well as wait for incoming connections (Figure 8);

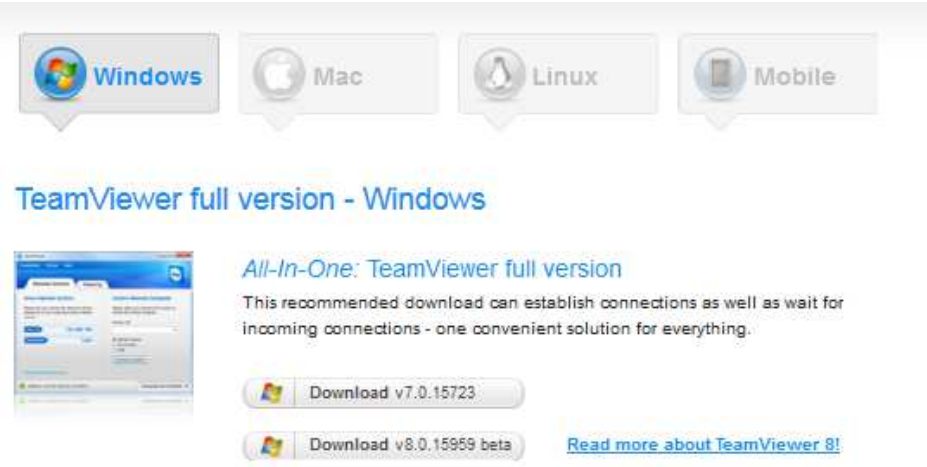


Figure 8 - Free download of TeamViewer full version

- If you are the instant client, you should download TeamViewer Quick Support, a small costumer module which does not require administrative privileges (Figure 9).

Figure 9 - Free download of TeamViewer QuickSupport

Selecting the setup icon *TeamViewer_Setup_pt-dix.exe*, you will be conducted to the setup window (Figure 10).

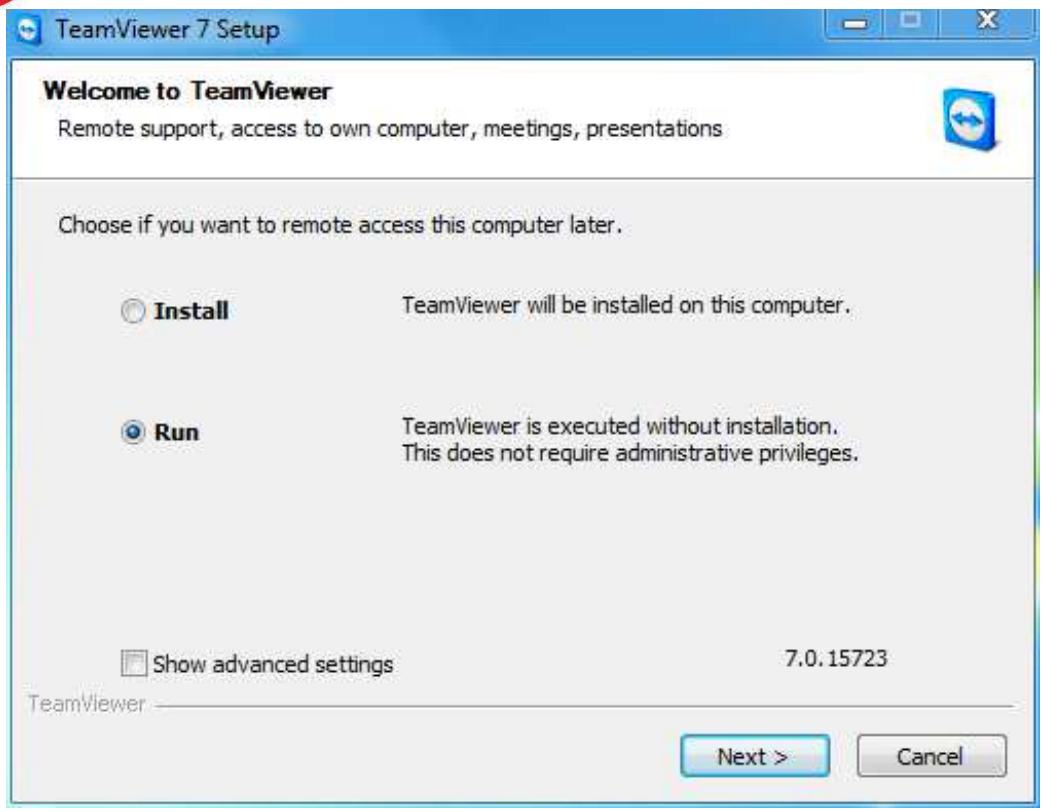


Figure 10 – TeamViewer setup window

Here, the user can choose the option "install" or "run". Selecting the first option, it will install TeamViewer on the computer. Clicking the *TeamViewer* icon (Figure 11) it will lead the user to its initial window (Figure 12).

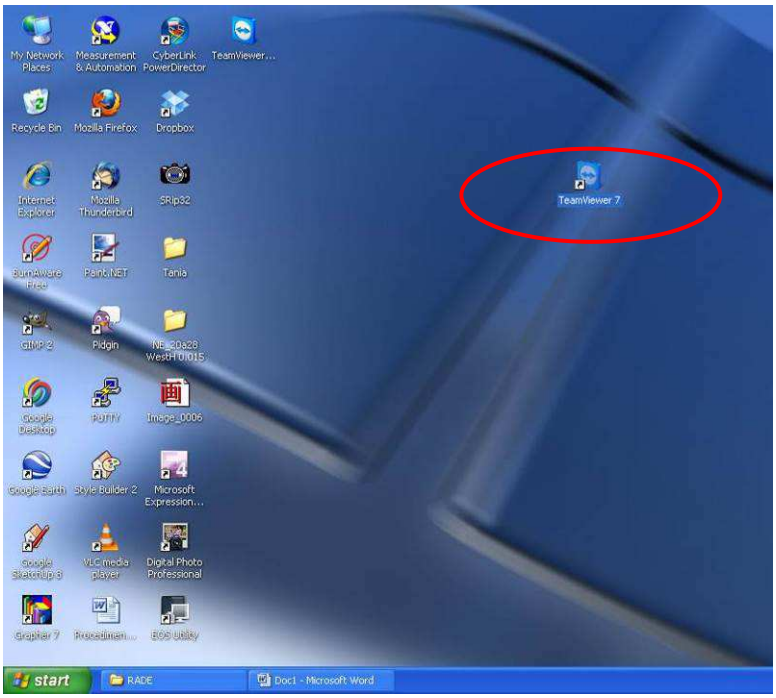


Figure 11 – Executing TeamViewer

Alternatively, by choosing “run”, the TeamViewer will be executed without installation and no administrative privileges will be required, Figure 10.

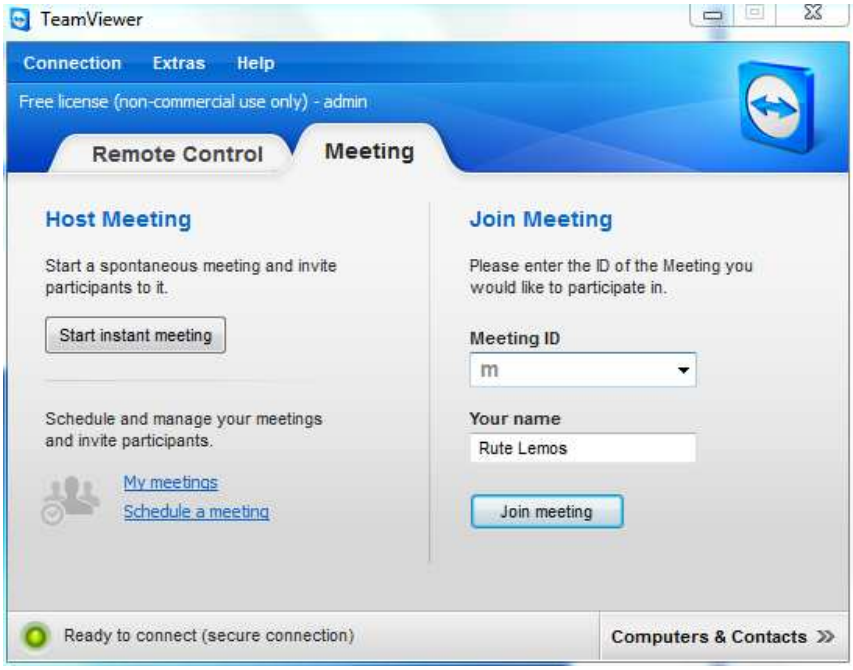


Figure 12 - TeamViewer initial window

The *Remote Control* Feature

The host user is able to remotely control his partner’s (client) computer (as long as the partner allows it), by entering his ID, selecting the option “connect to partner” (**Figure 13**and then entering the password provided by partner (Figure 13).

The correct authentication will open a window with the partner´s desktop, where the host will be able to perform remote maintenance, spontaneous support, access to unattended computers, home office, online meetings, presentations, training sessions and team work (Figure 14).

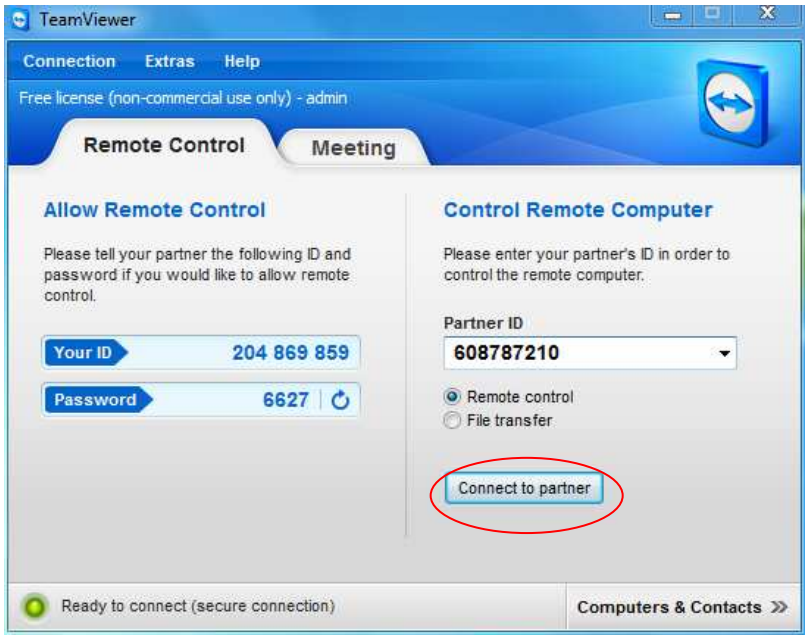


Figure 13 - Connecting to a partner

Figure 14 - Team Viewer authentication

Some of the features listed in the bar on the top of this window (Figure 15) are only available for the host participant, as rebooting a remote computer, record the session, take screenshots or switch sides with a partner enabling him to access its computer and lead the session.

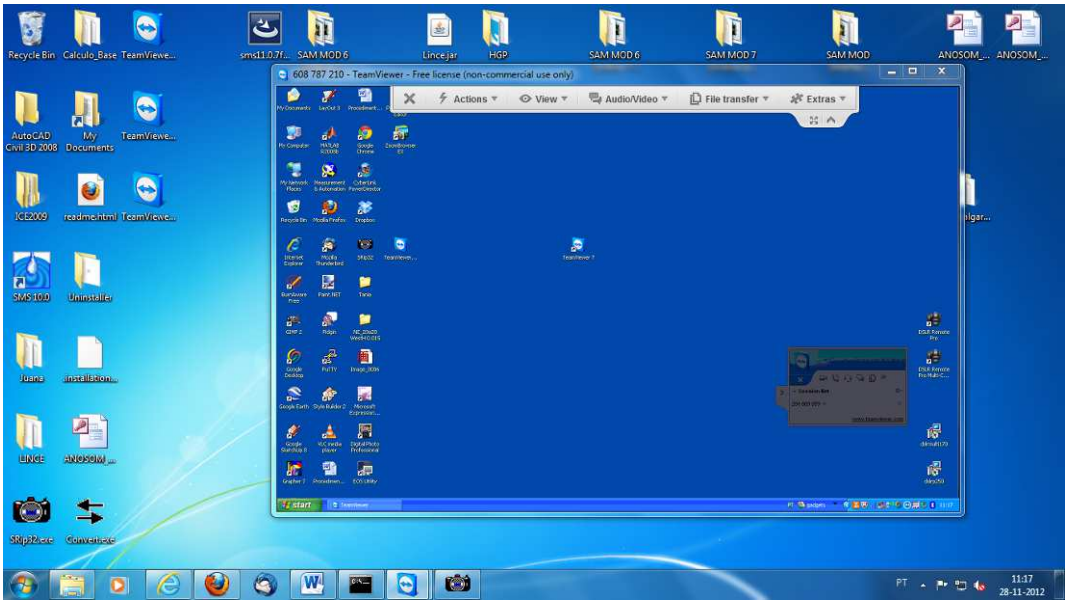


Figure 15 - Host accessing a partner desktop

All the features listed in the session panel (Figure 16) are available for all the participants and include:

- All the participants can see and hear each other. During a meeting, they are connected via **Voice over IP** and **web cam;**
- Using the **conference call** feature, the host participant can call participants at different locations during the meeting, using the integrated teleconferencing number or send out your own teleconferencing data using an invitation;
- It is possible to present a movie by connecting a camera to the PC;
- With instant messaging (**chat**) messages can purposefully be sent to individual persons or to all the participants;
- All the participants can easily copy files or entire folders to and from the remote computer, both using the **file box** or simply using the drag & drop feature (Figure 17);

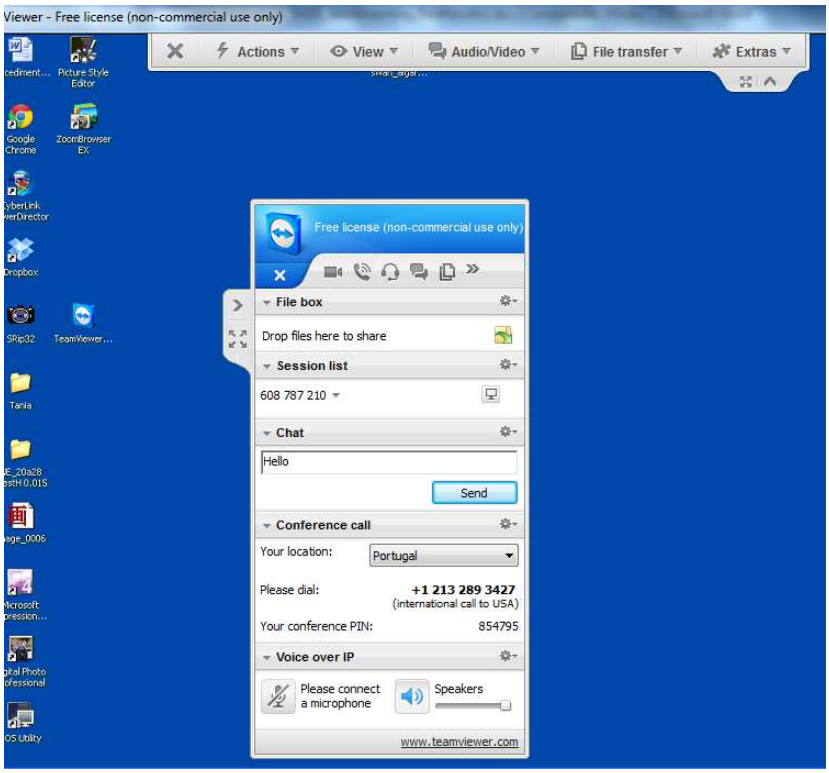


Figure 16 – Features presented in the Session Panel

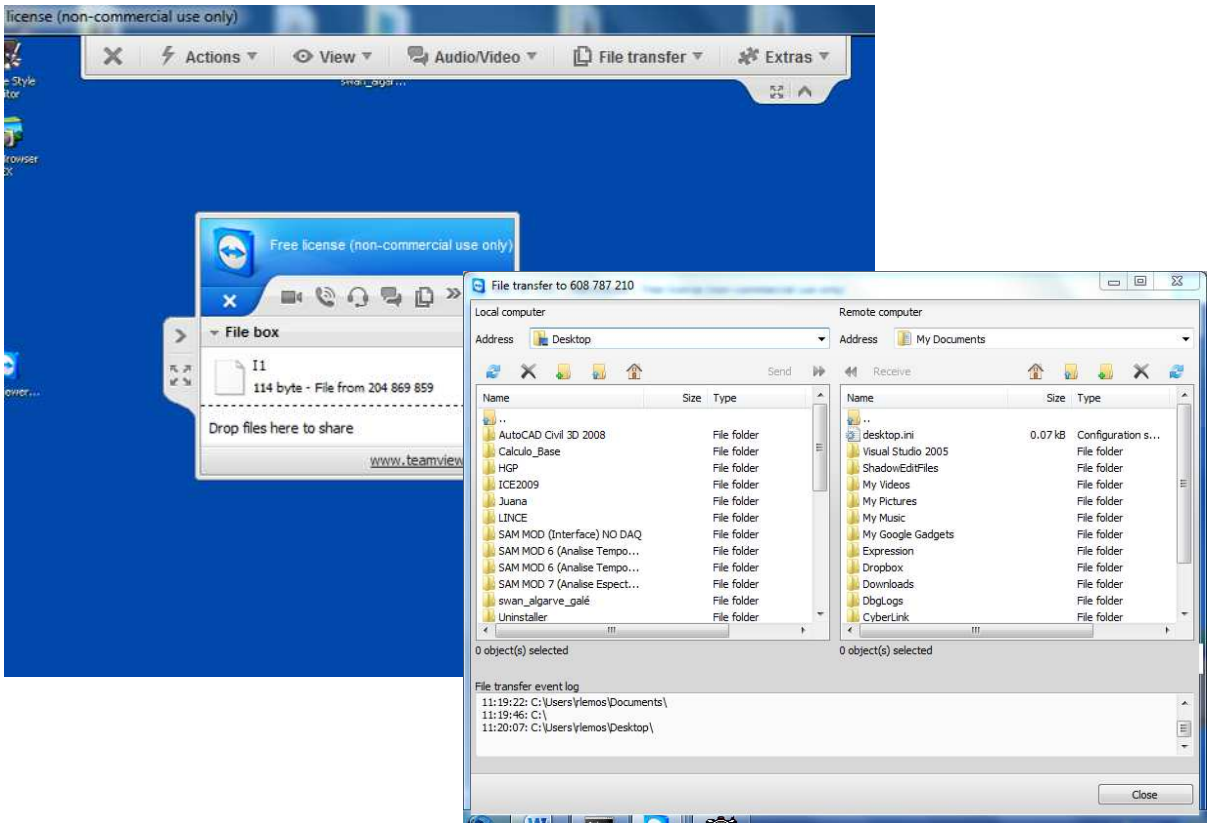


Figure 17 - Transferring files using the file box or the drag and drop feature

The meeting feature

The meeting feature can be started from the TeamViewer initial window. The host of the meeting only need to choose “Start Instant Meeting” (Figure 18).

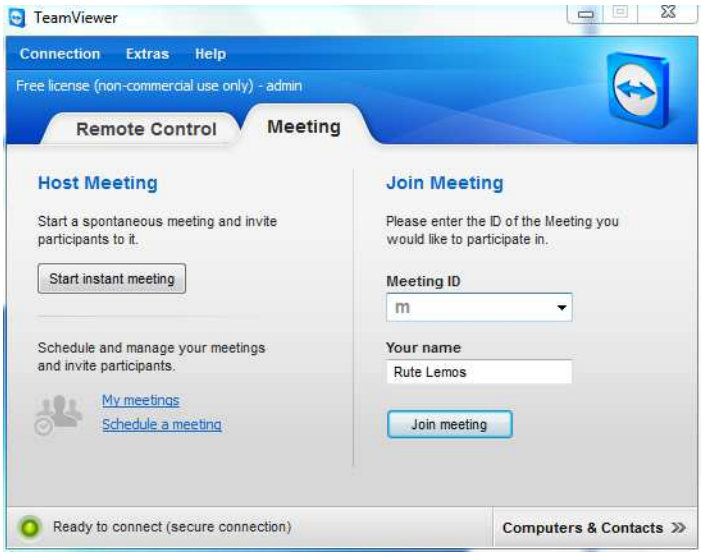


Figure 18 – TeamViewer initial window

This action will open the session panel (Figure 19). By choosing “invite”, the host will be able to send an e-mail with a link to select all participants in order to instruct or conduct them to the meeting.

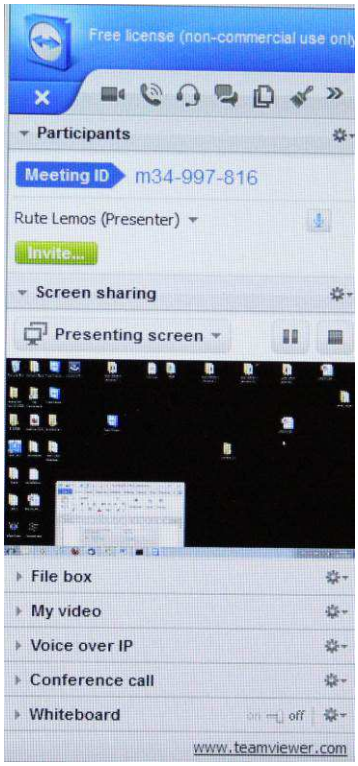


Figure 19 - Session panel

3.4 Description of the Experience

3.4.1 Remote Visualization of Data Acquisition

The experience aimed to test the meeting feature for remote visualisation of data acquisition during a scale model test in the TOI3 wave tank. During the experiences, the following steps were taken:

1. Connection of data acquisition system (HBM Quantum MX840A) to the "host" laptop and starting the Computer;

2. Running the proprietary data acquisition software (HBM CatmanEasy) (Figure 20)

Figure 20 – Running the HBM CatmanEasy software

3. **Starting the meeting**: The meeting started with the host of the meeting clicking "Start Instant Meeting", which opens the session panel. The host shall invite the participants by clicking "Invite" (Figure 21).

Figure 21 - Session panel

This action will open an invitation window (Figure 22).

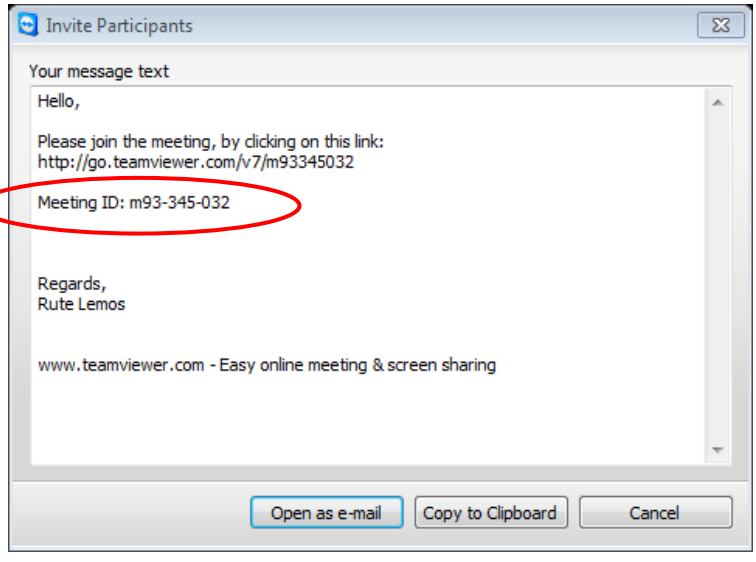


Figure 22 - Invitation window

By selecting "open as e-mail", the host can add all the participant contacts providing them with a link that will conduct them to the session (Figure 23).

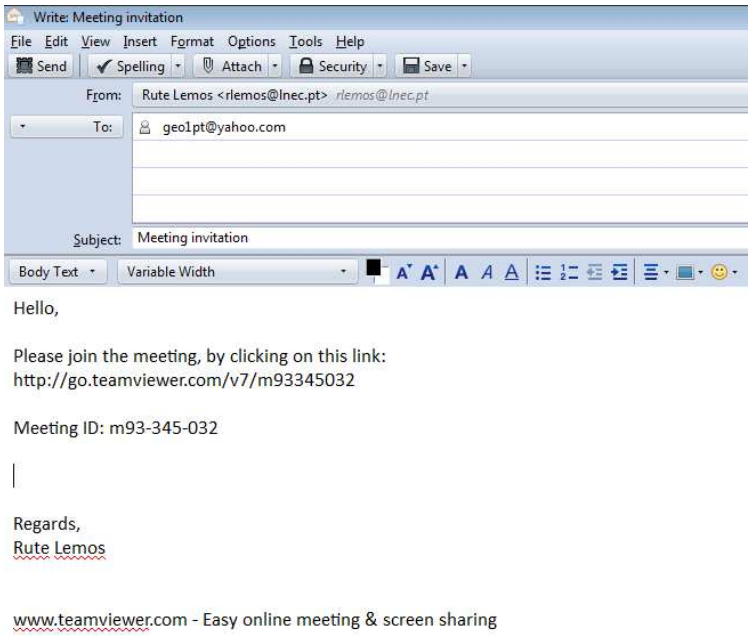


Figure 23 - Invitation e-mail.

4. **Participants joining the meeting**: If necessary, i.e. for clients with Temviewer not installed, by clicking the link provided by e-mail (Figure 24), the *TeamViewer QuickSupport* for instant costumer will be automatically downloaded on the participants PC's. (Figure 25).

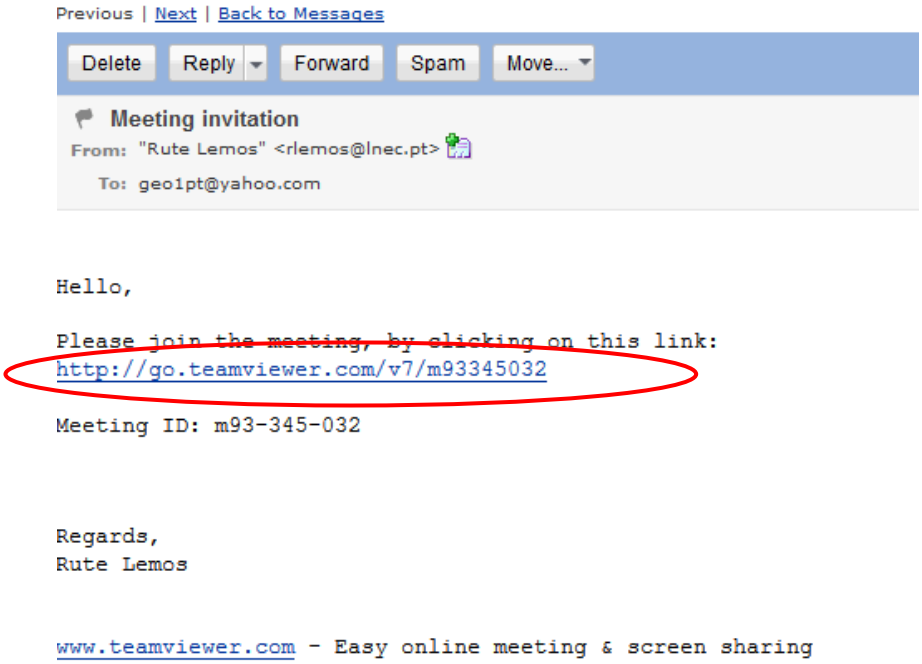


Figure 24 – Meeting invitation received by participants

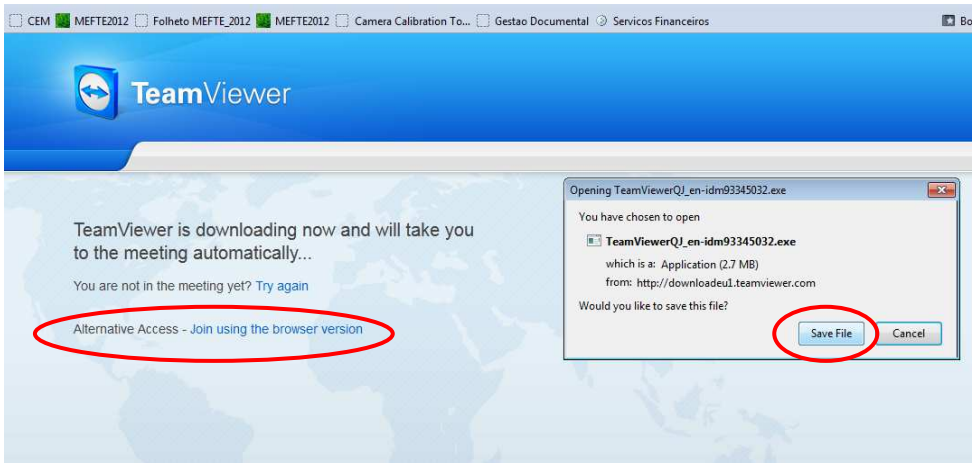


Figure 25- Automatic download of *TeamViewer QuickSupport*

- **Saving the ".exe file"** or clicking in the "join using the browser version" link, participants will be immediately conducted to a joining session window. Clicking "Join" (Figure 25) enables to access the host desktop (Figure 26).

Figure 26 - Joining session window

5. **Activation of the wave generator at the wave tank in order to produce waves** (Figure 27):

Figure 27 – Wave generator

6. **Starting data acquisition**. All the joined meeting participants were by now allowed to visualize the host desktop and remotely access the test progression (Figure 28).

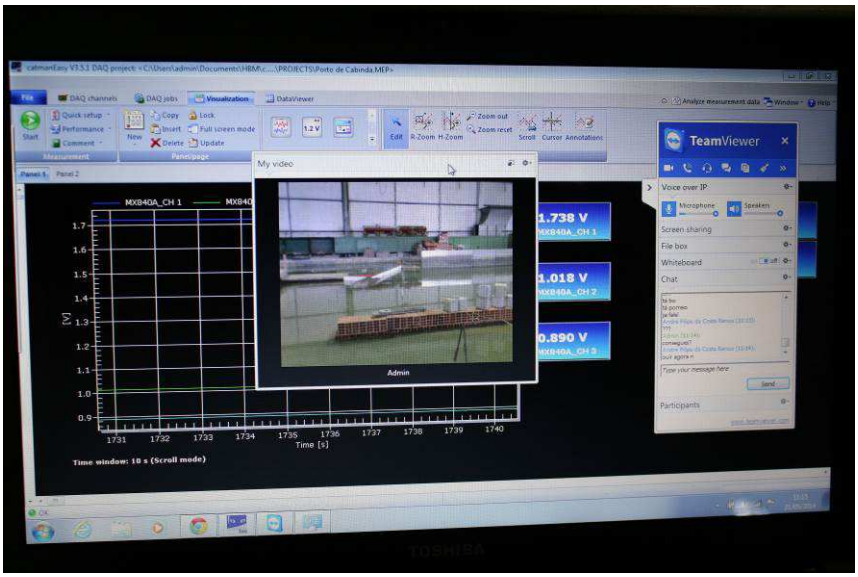


Figure 28 - Data acquisition. Meeting participants (left) visualizing the host desktop (right)

7. **Two-way communication between participants.** If allowed by the meeting host, communication between participants either isolated or in group is possible and is highly recommended in order to have a better experience of data sharing. This includes real-

time chatting, VOIP conversation, video sharing and file sharing (Figure 29). Figures 30 to 34 illustrate some online meeting and image streaming software features.

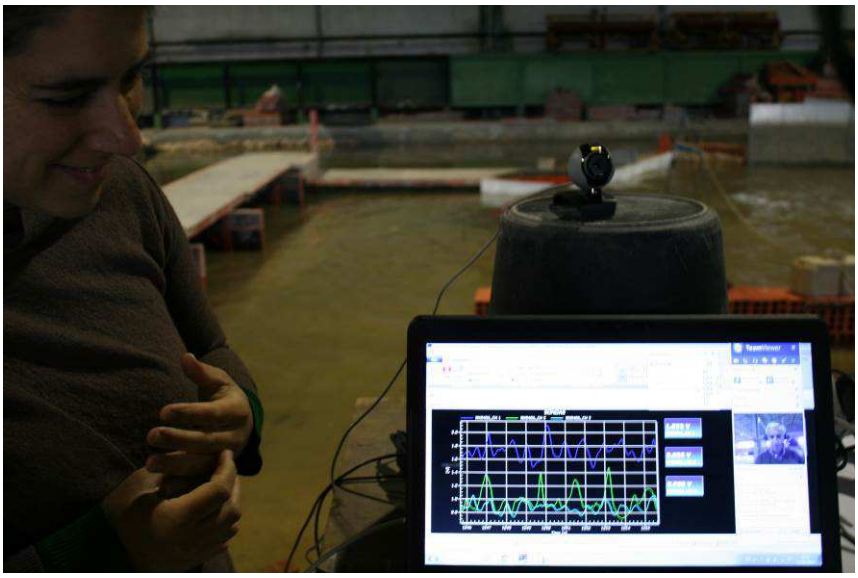


Figure 29 – Online meeting software showing data acquisition on the host computer

Figure 30 - Testing chat communication between participants

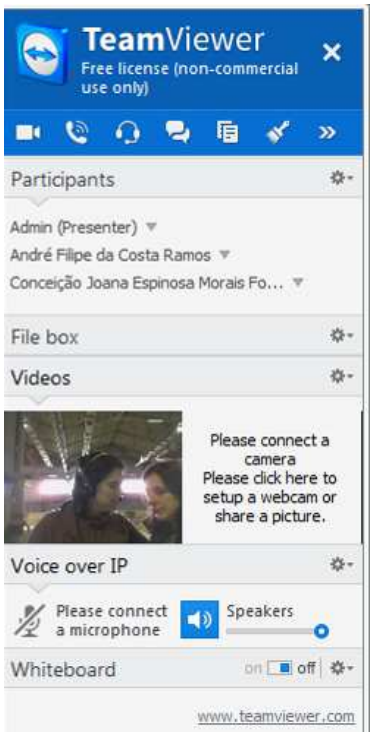
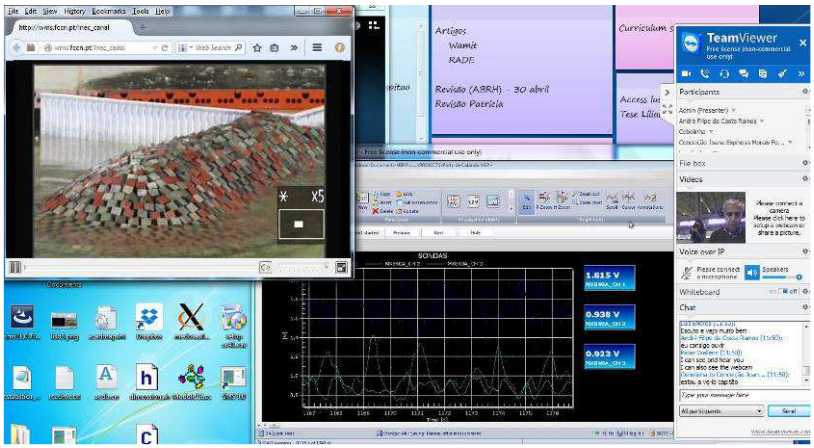


Figure 31 – Adjusting the voice over IP levels to improve the communication



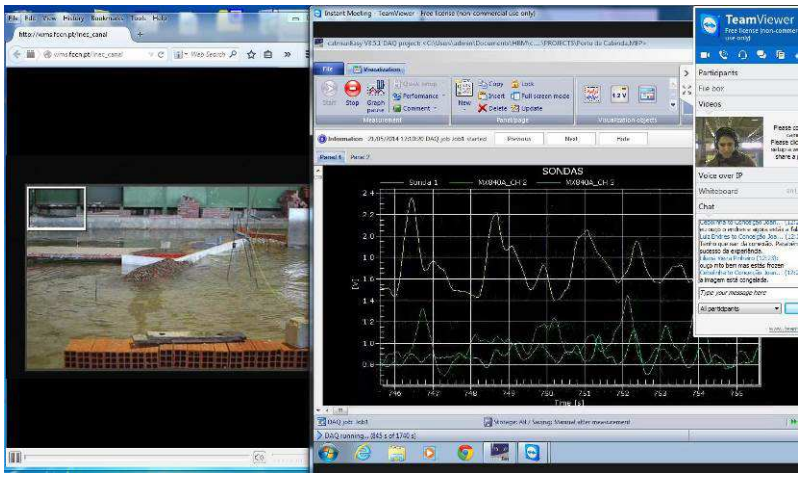


Figure 32 - Image streaming and online meeting software showing data acquisition on two different participant´s computers

Figure 33 - Joining session window with two participants during the video conference

8. Record meeting tool: During the meeting, the host computer partially recorded the meeting, using the record meeting tool (Figure 34).

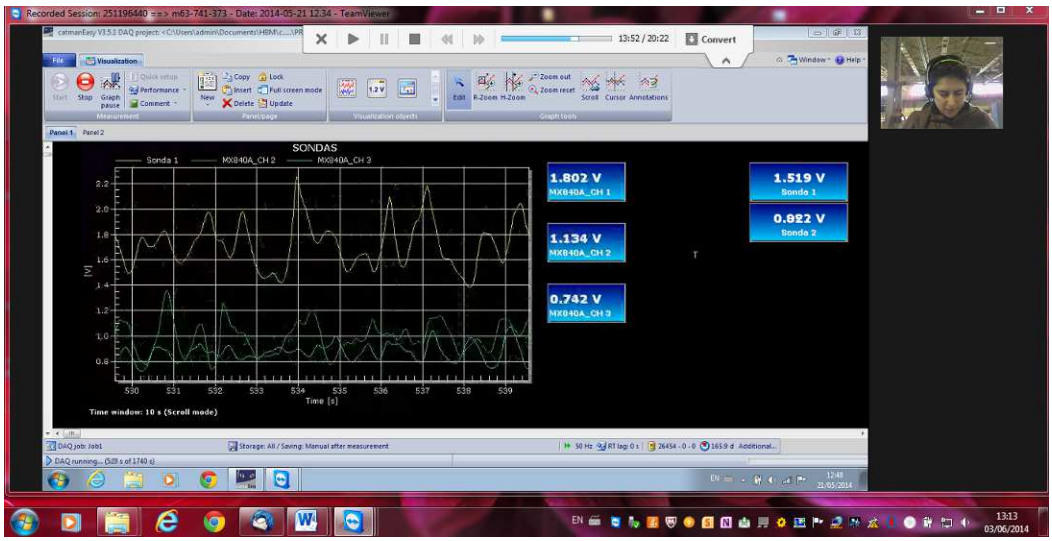


Figure 34 – Screen capture image from the recorded meeting

3.4.2 Image streaming

This experience aimed to test video streaming to enable access to scale model tests of remote clients.

Video streaming was achieved by connecting a digital SLR camera (Canon EOS 600 D) to a second laptop, using a Conceptronics A/D Convertor DAQ board (Figure 35).

Figure 35 - Cable connections between camera and computer

Starting the free version of Microsoft's® Expression Encoder 4 software (http://www.microsoft.com/expression/products/EncoderPro_Overview.aspx) described previously in [1], [2], [3], [4], [5], [6] and [7], will begin the video streaming at the *http://wms.fccn.pt/lnec_canal* server publishing point.

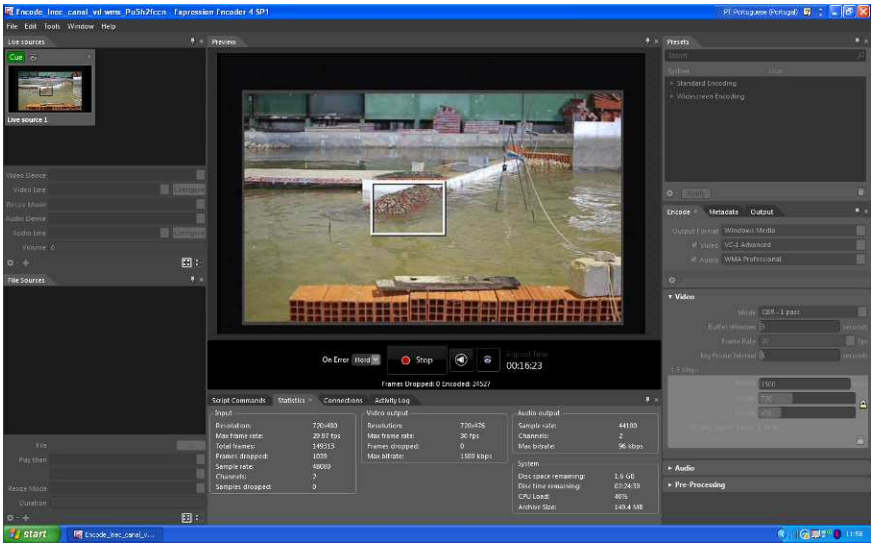


Figure 36 - Video streaming on Microsoft's® Expression Encoder 4 software

4 RESULTS

During the remote visualization of data acquisition, an external webcam was used, that enabled to easily switch the image during video conference between participants and the testing model, Figure 37.

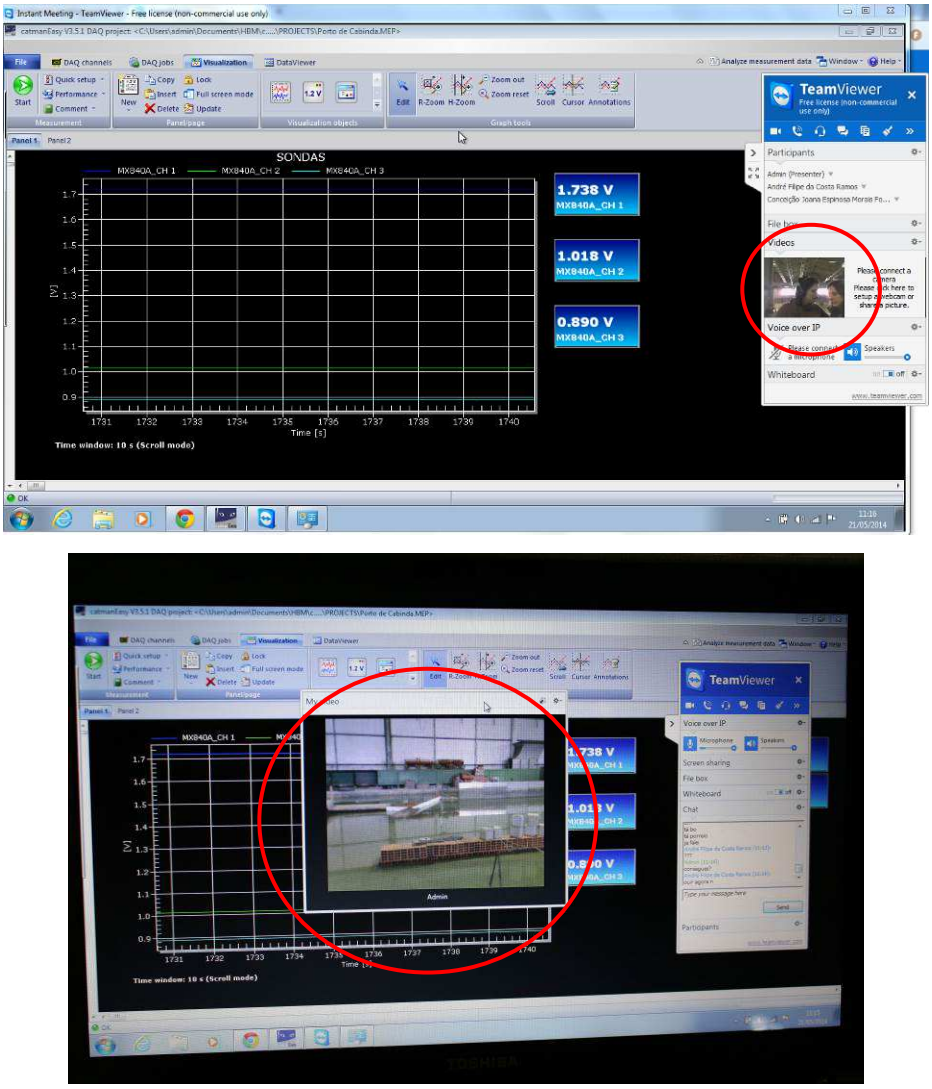


Figure 37 – Switching images during the data acquisition experience, using an external webcam

A good image quality was attained. Nevertheless, occasional image freezing occurred, interfering with of the signal image of the acquisition gauges (Figure 38).

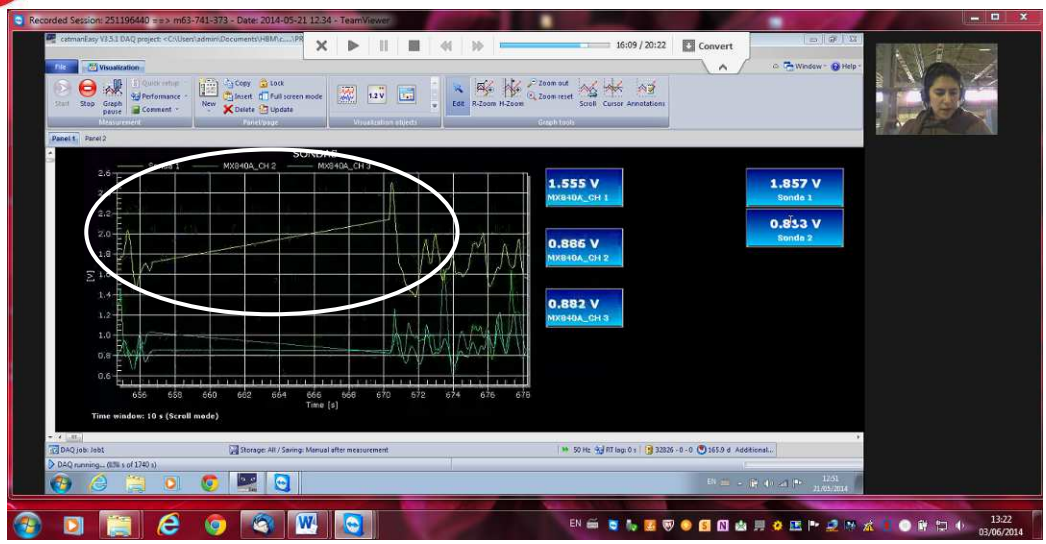


Figure 38 – Image freezing registered by the record meeting feature

During this experience, 21 participants from several locations in Europe (partners of RADE project) and in Brazil were connected. They evaluated the quality of the video images and data remote visualisation.

Computer characteristics and a simple evaluation of the experience are presented in Annex I. Comments from the participants are shown in Annex II.

5 CONCLUSIONS

This report describes the second set of experiences on remote access and data acquisition visualisation, made at LNEC's TOI3 wave tank, for a 3D model, on the 21th May 2014. 21 researchers from several locations in Europe (partners of RADE project) and Brazil participated on this experience.

In what concerns to remote access to data acquisition the main conclusions were:

- Two-way communication with TeamViewer software as a remote access technique revealed to be a simple task, providing a good image quality, without no significant delay;
- TeamViewer software package provided free capabilities of online meeting, presentation and team work. Other capabilities of the system, such as remote

maintenance and access to unattended computers and home office, were not used in this work;

- Participants do not need to install software to take part in presentations using this software. All it takes to view the host desktop is a web browser and an internet connection. It also optimizes the quality and speed of the display based on your network connection, providing the best possible performance from DSL to mobile connections;
- The use of a headphone enabled a reasonable to good audio communication between participants. Nevertheless, the communication quality decreases with the increase of the number of participants (a total of 21 participated in this experience, simultaneously);
- An external, portable, webcam enabled one to easily switch images between participants and the model being tested;
- The record meeting feature showed to be a valuable tool, enabling one to offer to the client a recording file of the meeting;
- Several instances of image freezing were identified. These interfere with the signals of the acquisition gauges. Clearly, network Bandwidth can influence negatively the quality of the access if several computers are connected at the same time.

In what respects the video streaming experience, as in previous tests described in [1], [2], [3] , [4], [5], [6] and [7] , one found:

- An adequate image quality of the video images;
- A delay varying from 30 to 60 s, depending on the user´s location.

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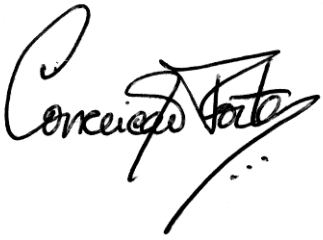

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[2] Capitão, R.; Fortes, J.; Lemos, R. (201b). "HYDRALAB IV – Remote Access to Experimental Facilities. RADE - Second and Third Experiences on Remote Access" - NPE, LNEC, June.

[3] Lemos, R.; Fortes, J.; Capitão, R. (2012a). "HYDRALAB IV – Remote Access to Experimental Facilities. RADE – Fourth and Fifth Experiences on Remote Access" - NPE, LNEC, October.

[4] Lemos, R.; Fortes, J.; Capitão, R. (2012b). "HYDRALAB IV – Remote Access to Experimental Facilities. RADE – First Experiences on Data Sharing Using Remote Access" - NPE, LNEC, December.

[5] Lemos, R; Fortes, J; Capitão, R. (2013a). "HYDRALAB IV – Remote Access to Experimental Facilities. RADE – 6th Experience on Remote Access" - NPE, LNEC, March

[6] Lemos, R; Fortes, J; Capitão, R. (2013b). "HYDRALAB IV – Remote Access to Experimental Facilities. RADE – 7th Experience on Remote Access" - NPE, LNEC, June

[7] Lemos, R; Fortes, J; Capitão, R. (2013c). "HYDRALAB IV – Remote Access to Experimental Facilities. RADE – 8th Experience on Remote Access" - NPE, LNEC, December

Annex I

Participant Computer Characteristics

INSTITUTION	LNEC
LOCATION	Lisboa, Portugal
USER	Admin
COMPUTER CHARACTERISTICS	Type: TOSHIBA SATELLITE - Pentium ® CPU: Dual-Core CPU T 4500 @2.3 GHz RAM: 4 GB
INTERNET CHARACTERISTICS	Type: Internal network wireless Speed: 100 Mbit
OCCURRENCE OF IMAGE FREEZING	A couple of times as higher the number of participants
TRANSMISSION TIME DELAY	Don't know
REAL-TIME IMAGE STREAMING QUALITY	Good.
MEETING IMAGE QUALITY	Good.
DATA ACQUISITION GRAPHICS QUALITY	
SOUND QUALITY	Not good, but I could hear what was being said from André and Claudio only.

INSTITUTION	Aalto University
LOCATION	Espoo, Finland
USER	Rüdiger U. Franz von Bock und Polach
COMPUTER CHARACTERISTICS	Type: Desktop CPU: Intel 2Quad 2.67 GHz RAM: 4GB
INTERNET CHARACTERISTICS	Type: Broadband, DSL Speed: 115Mbps
OCCURRENCE OF IMAGE FREEZING	no
TRANSMISSION TIME DELAY	very marginal for the time history plots
REAL-TIME IMAGE STREAMING QUALITY	very good, no problems
MEETING IMAGE QUALITY	- (did not participate)
DATA ACQUISITION GRAPHICS QUALITY	very good
SOUND QUALITY	- (did not use it)

INSTITUTION	Deltares
LOCATION	Delft, the Netherlands
USER	Peter Wellnes
COMPUTER CHARACTERISTICS	Type: HP Workstation CPU: Intel Core i7 RAM: 16 GB
INTERNET CHARACTERISTICS	Type: Internal network Speed: 100 Mbit
OCCURRENCE OF IMAGE FREEZING	A couple of times at start-up
TRANSMISSION TIME DELAY	Don't know
REAL-TIME IMAGE STREAMING QUALITY	Good.
MEETING IMAGE QUALITY	Poor.
DATA ACQUISITION GRAPHICS QUALITY	Reasonable. Volts is not a very useful output.
SOUND QUALITY	Not good, but I could hear what was being said.

INSTITUTION	**Universidade Federal do Rio Grande do Sul**
LOCATION	Porto Alegre, Brasil
USER	Luiz Endres
COMPUTER CHARACTERISTICS	Type: notebook CPU: Intel – Centrino (duo) RAM: 4 GB *Utilizei o microfone embutido do computador e não utilizei fones de ouvido. Não utilizei a câmera do computador.*
INTERNET CHARACTERISTICS	Type: banda larga – conexão com cabo Speed: 10 Mb/s (nominal) *Participei da transmissão conectado a partir de minha casa*.
OCCURRENCE OF IMAGE FREEZING	Imagem congelada no TeamViewer passados 10 minutos do início da transmissão. No outro link a imagem correu normalmente durante toda a transmissão.
TRANSMISSION TIME DELAY	Não sei ao certo quanto à imagem, mas o áudio não tinha atraso.
REAL-TIME IMAGE STREAMING QUALITY	ver "**OCCURRENCE OF IMAGE FREEZING**"
MEETING IMAGE QUALITY	O áudio e o "chat" funcionaram muito bem, mas a imagem no TeamViewer esteve congelada.
DATA ACQUISITION GRAPHICS QUALITY	A visualização dos gráficos na tela estava regular, no início da transmissão. Após o ajuste de cores nas curvas de cada sonda não restavam mais quaisquer dúvidas. Não sei informar se havia atraso nesta visualização.
SOUND QUALITY	Boa qualidade, sem eco ou ruído, apesar de outros participantes terem relatado este problema.

INSTITUTION	**LNEC**
LOCATION	Lisboa, Portugal
USER	Roger Matsumoto Moreira
COMPUTER CHARACTERISTICS	Type: Notebook Apple Mac Book-Pro CPU: Intel i7 2.7GHz RAM: 16GB
INTERNET CHARACTERISTICS	Type: conexão por cabo Speed: desconheço
OCCURRENCE OF IMAGE FREEZING	Sim, tive que reiniciar o sistema pelo menos em 3 ocasiões.
TRANSMISSION TIME DELAY	Desconhecido.
REAL-TIME IMAGE STREAMING QUALITY	As imagens eram nítidas apesar de terem "congelado" algumas vezes.
MEETING IMAGE QUALITY	As imagens eram nítidas.
DATA ACQUISITION GRAPHICS QUALITY	Não fiz aquisição de nenhum dado. Apenas observei na tela os gráficos, que eram claros.
SOUND QUALITY	Consegui no início ouvir bem o Capitão porém depois a qualidade do som ficou pior.

INSTITUTION	LNEC
LOCATION	Lisbon, Portugal
USER	Liliana Pinheiro
COMPUTER CHARACTERISTICS	Type: Intel Core I7 2600 CPU: CPU T 3.4 GHz RAM: 6 GB
INTERNET CHARACTERISTICS	Type: Internal network Speed: 100 Mbps
OCCURRENCE OF IMAGE FREEZING	a couple of times in the beginning
TRANSMISSION TIME DELAY	No delay noticeable
REAL-TIME IMAGE STREAMING QUALITY	Very Good.
MEETING IMAGE QUALITY	Fairly good
DATA ACQUISITION GRAPHICS QUALITY	Fairly good
SOUND QUALITY	Very noisy, but when the person speaks it is understandable although with some interferences.

INSTITUTION	LNEC
LOCATION	Rui Capitão's office
USER	Rui Capitão
COMPUTER CHARACTERISTICS	Type: Windows 7 64-bit CPU: Intel Core i7 @3.07 GHz RAM: 6 GB
INTERNET CHARACTERISTICS	Type: Local Area Connection (Ethernet cable) Speed: 100 Mbps
OCCURRENCE OF IMAGE FREEZING	No - in the realtime image streaming Yes - in the data acquisition transmission
TRANSMISSION TIME DELAY	I forgot to measure. Maybe 30 sec?
REAL-TIME IMAGE STREAMING QUALITY	Good (but not outstanding)
MEETING IMAGE QUALITY	Good
DATA ACQUISITION GRAPHICS QUALITY	Average (flickering is observed from time to time; curves legibility sometimes deteriorate)
SOUND QUALITY	Mediocre. A metallic noise and cut phrases was experienced.

INSTITUTION	University of Coimbra
LOCATION	Dep. Of Civil engineering
USER	Rita Carvalho
COMPUTER CHARACTERISTICS	Type: Toshiba Personal computer CPU: Intel® Core (T) i5-2520M CPU@2.5GHz RAM: 8 GB
INTERNET CHARACTERISTICS	Type: LAN/WAN Speed: 100 M upload/download
OCCURRENCE OF IMAGE FREEZING	no
TRANSMISSION TIME DELAY	no
REAL-TIME IMAGE STREAMING QUALITY	Very good
MEETING IMAGE QUALITY	Very good
DATA ACQUISITION GRAPHICS QUALITY	Very good
SOUND QUALITY	reasonable

INSTITUTION	LNEC
LOCATION	Lisbon, Portugal
USER	André Ramos
COMPUTER CHARACTERISTICS	Type: notebook CPU: Pentium Dual-Core T4500 2.30GHz RAM: 4 GB
INTERNET CHARACTERISTICS	Type: Internal network Speed: 100 Mbps
OCCURRENCE OF IMAGE FREEZING	Some times
TRANSMISSION TIME DELAY	No delay noticeable
REAL-TIME IMAGE STREAMING QUALITY	Good.
MEETING IMAGE QUALITY	Fairly good
DATA ACQUISITION GRAPHICS QUALITY	Fairly good
SOUND QUALITY	Some background noise, but the person that speaks is understandable, despite some interference.

INSTITUTION	LNEC
LOCATION	NEC
USER	Julio Tomás Aquije Chacaltana
COMPUTER CHARACTERISTICS	Type: Studio XPS CPU: Core2Duo 2.4Ghz RAM: 4.00 GB
INTERNET CHARACTERISTICS	Type: wireless Speed: 9.1Mbps
OCCURRENCE OF IMAGE FREEZING	O congelamento da imagem ocorreu em vários momentos da conexão.
TRANSMISSION TIME DELAY	Ocorreram atrasos na transmissão do vídeo.
REAL-TIME IMAGE STREAMING QUALITY	O fluxo da qualidade da imagem foi comprometido, não apareceram todas as janelas.
MEETING IMAGE QUALITY	A qualidade foi comprometida pelo congelamento da imagem.
DATA ACQUISITION GRAPHICS QUALITY	Não apareceu.
SOUND QUALITY	A qualidade do som foi terrível, não dava para entender

INSTITUTION	Hamburgische Schiffbau-Versuchsanstalt GmbH
LOCATION	Hamburg - Deutschland / Germany
USER	Kalle Evers
COMPUTER CHARACTERISTICS	Laptop Type: HP Compaq 6710b MS Windows XP / CPU: Intel®Core™2 Duo CPU T7300@2.00GHz / RAM: 1.99 GHz 1.99 GB RAM
INTERNET CHARACTERISTICS	Unknown
OCCURRENCE OF IMAGE FREEZING	Unknown
TRANSMISSION TIME DELAY	Unknown
REAL-TIME IMAGE STREAMING QUALITY	Unknown
MEETING IMAGE QUALITY	Unknown
DATA ACQUISITION GRAPHICS QUALITY	Unknown
SOUND QUALITY	Unknown

INSTITUTION	Federal University of Rio de Janeiro
LOCATION	São Paulo
USER	Claudio F. Neves
COMPUTER CHARACTERISTICS	Type: Dell Inspiron 7520 CPU: Intel Core i7 – 3612QM – 2.10GHz RAM: 8 Mb
INTERNET CHARACTERISTICS	Type: Wi-Fi Speed:
OCCURRENCE OF IMAGE FREEZING	Yes
TRANSMISSION TIME DELAY	There were several types of delays, either between my computer and other participants, or between my computer and the LNEC site.
REAL-TIME IMAGE STREAMING QUALITY	After the first moment, when the image was frozen, it ran ok after restarting.
MEETING IMAGE QUALITY	Good.
DATA ACQUISITION GRAPHICS QUALITY	The graphics quality was good, but the initial choice of colors was not. After changing colors, it was very good.
SOUND QUALITY	Too much background noise, perhaps due to different types of microphones.

Annex II

Comments from the participants

Dear Juana,

Thank you very much for the questionnaire.
Yesterday I had tried several times to get access to your server respectively to your session panel.
Unfortunately, the attempts were not successful, so I am very sorry that I can not make any comments for the experience report.

I am working with an "old" Laptop Type: HP Compaq 6710b MS Windows XP / CPU:
Intel®Core™2 Duo CPU T7300@2.00GHz /
RAM: 1.99 GHz 1.99 GB RAM

May be the reason for getting no access to the panel system is due to the old Laptop I am working with.

I'm looking forward to the experience report.

Best regards,

Kalle
--

Dipl.-Ing. Karl-Ulrich Evers
Senior Project Manager
Arctic Technology
HSVA Hamburgische Schiffbau-Versuchsanstalt GmbH
Hamburg Ship Model Basin
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Fax +49 (0)40 69 203-345
E-Mail Evers@hsva.de
Web www.hsva.de
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Sitz Hamburg
Amtsgericht Hamburg HRB 2163
Vorsitzender des Aufsichtsrats: Dr.-Ing. Herbert Aly
Geschäftsführer: Dipl.-Ing. Jürgen Friesch

Juana
On 22/05/2014 06:22, RUF von Bock und Polach wrote:
> hej Juana,
> I did not have much time, but I joined the experiment and joined the

> measurements the entire time even though I was not the whole time
> present to observe it. It has been working very well, with maybe a few
> minor hicks in the measurements, but overall very nice.
> I also showed to some of my colleagues and we hope to do similar
> things in future as well.

> Thank you and see you soon in Lisbon
> Saludos
>
> Rüdiger U. Franz von Bock und Polach
> Ice Tank Laboratory Manager / Research Scientist, Dipl.-Ing.
> Aalto University
> School of Engineering
> Applied Mechanics / Marine Technology
> PO Box P.O. Box 15300
> FI-00076 AALTO
> FINLAND

Documento preenchido em anexo.

Parabéns pelo sucesso nessa experiência e obrigado pela oportunidade de rever o laboratório e de ver e ouvir o Rui e a Rute. Troquei algumas palavras com a Ana e acho que ouvi a voz da Juana, mas não tenho certeza.

Um abraço a todos,

--
Luiz Endres

Juana
On 22/05/2014
06:22, RUF von Bock und Polach wrote:
> hej Juana,
> I did not have much time, but I joined the experiment and joined the
> measurements the entire time even though I was not the whole time
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> FI-00076 AALTO
> FINLAND
> Tietotie 1a,
> Espoo
> t. +358 504 059 030

Juana,

Existem diferenças de qualidade, de velocidade ou de configuração entre as versões gratuita e paga do TeamViewer?

No caso do Skype, existem diferenças.

O mais estranho era o som metálico de fundo. Parecia aquele filme Viagem ao Fundo do Mar. A qualquer momento, parecia que o Capitão Nemo entraria na conversa.

Minha sugestão é colocar um pouco de "ordem na casa", estabelecendo algumas regras de funcionamento:
1) testar comunicação apenas com microfones direcionais USB, ou apenas microfones multidirecionais de computador;
2) testar compartilhamento gradual de vídeos;
3) testar ligar e desligar recursos alternadamente;
4) estabelecer previamente uma sequência de ações (falas e/ou imagens)
5) seria desejável que houvesse sinalizadores do tipo "Participante N levanta a mão para falar" -- isto é coisa comum em softwares de EAD e teleconferência.

A transmissão dos registros foi muito boa, especialmente depois que se trocou a cor azul-marinho pelo traço amarelo.

Mas suspeito que a transmissão daquela imagem (registro em tempo real) haja sobrecarregado muito a transmissão.

Em geral, esta comunicação foi MUITO mais complexa do que a anterior. Consequentemente, houve um salto significativo de desafios.

Abraço

Claudio (Cebolinha)

Olá Juana,

Não necessariamente a internet via cabo vai melhorar.

O software também pode contribuir. Não sei se vocês tinham aí no LNEC a versão paga ou a versão gratuita, suspeito que tenha sido a gratuita ... :-(

Senti falta de um botãozinho "levantar a mão".

Desconfio que a direcionalidade do microfone seja crucial no ambiente do laboratório, pois há muito ruído ambiente.

Eu ouvia o Endres muito bem, sem eco, sem interrupções.

Vou conversar com a turma aqui da UFRGS para organizar uma comunicação do IPH para o LNEC na próxima semana. Pode ser? Você deve andar próximo à velocidade da luz com o Hydralab ... mas talvez a Ana e o Capitão possam participar (além do Roger e do Julio).

Informações de hardware:
microfone e fone de ouvido Microsoft LifeChat LX-3000 (conexão USB)
Computador Dell Inspiron, com Windows 7, processador intel COREi7, 64bits

Abraço

Claudio
PS: acho que escutei os risos da Ana quando ela identificou quem era o Cebolinha :-)

Dear All

We have today made another experience on video anda data aquisition remote access in our facilities in the framework of the RADE project.

I would like to thank very much your participation.

we will make a report on this experience and send it to all.

Thank you very much

best regards

juana

Documento preenchido em anexo.

Parabéns pelo sucesso nessa experiência e obrigado pela oportunidade de rever o laboratório e de ver e ouvir o Rui e a Rute. Troquei algumas palavras com a Ana e acho que ouvi a voz da Juana, mas não tenho certeza.

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I'm looking forward to the experience report.

Best regards,

Kalle

Subject: Fwd: Remote Access
From: "Francisco Taveira Pinto" <fpinto@fe.up.pt>
Date: Thu, July 3, 2014 10:02 am
To: "Juana Fortes" <jfortes@lnec.pt>

OCCURRENCE OF IMAGE FREEZING Sim, quase sempre, exceto nos grÃ¡ficos, em geral
TRANSMISSION TIME DELAY Sim
REAL-TIME IMAGE STREAMING QUALITY Boa, mas estÃ¡tica em geral
MEETING IMAGE QUALITY Idem
DATA ACQUISITION GRAPHICS QUALITY 26/11/2009
SOUND QUALITY Bom em geral quando existia