

Teledoctorate UNESCO

Responsible: S. Pupolin

Outline

- Proposal
- Course design
- Network implementation
- Course delivering
- Course monitoring
- Follow-up
- Conclusions

Proposal

- Submission: March 2002
- Approval: April 12, 2002
- Contract signed: September 2002
- Amount US\$ 90.000

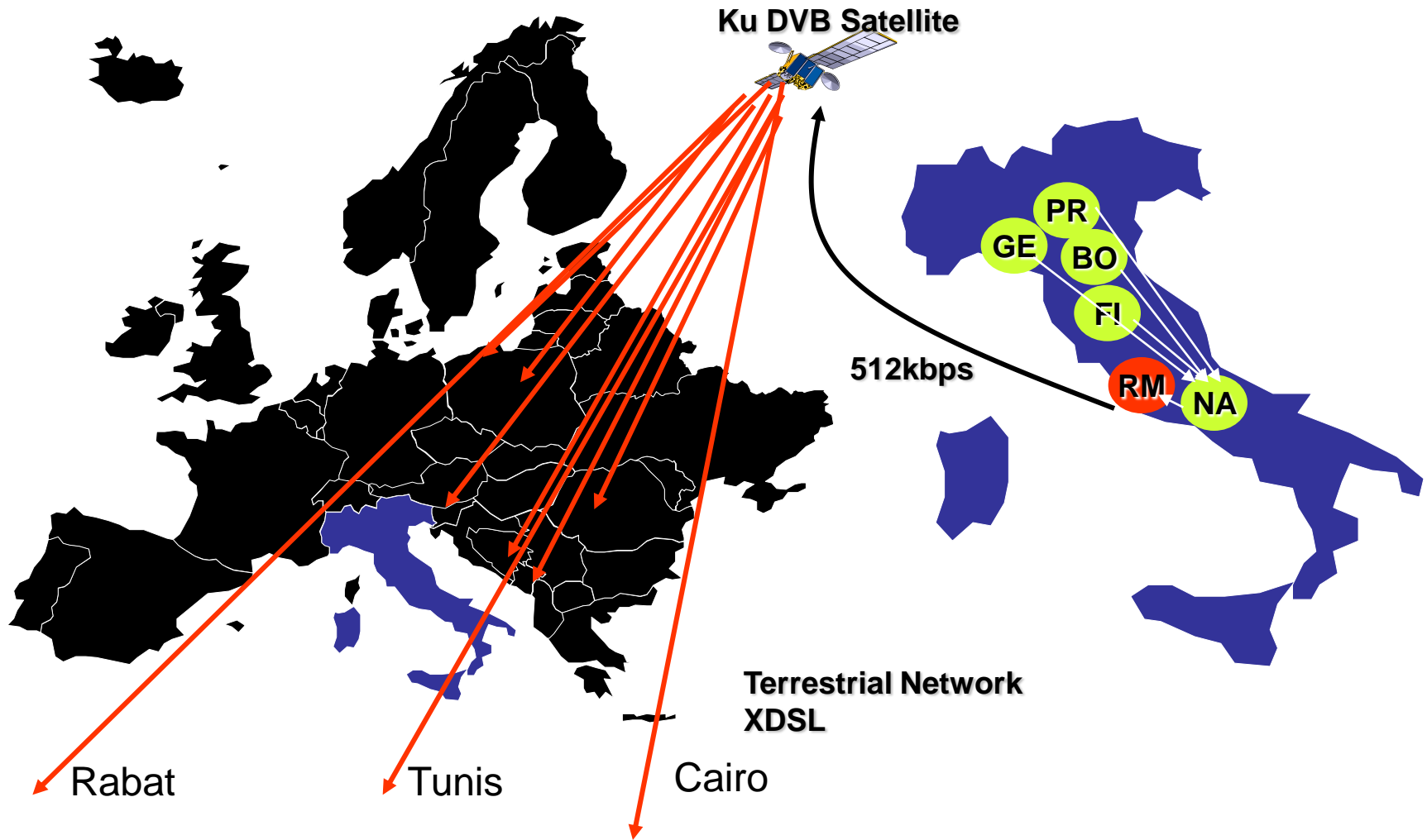
Course design

- 1. Definition of participant institutions
- 2. Definitions of Networks architecture
- 3. Definition of modules to be delivered
- 4. Acquisition of PC's, Software and hardware
- 5. Delivering of material to participating institutions
- 6. Delivering of modules
- 7. Evaluation of the course

Participant Institutions

- ENSIAS, Rabat, Morocco
- University of Montenegro, Podgorica, Yugoslavia
- TU Warsaw, Warsaw, Poland
- Institute Joseph Stefan, Ljubljana, Slovenia
- Polytechnic of Tirana, Albania
- Ain Shams University, Cairo, Egypt
- TU Gdansk, Gdansk, Poland
- State Univ. Targoviste, Romania
- SUPCOM, Tunisi, Tunisia

Network Architecture



Definition of Modules

- All site responsible have been contacted proposing 10 modules, 5 of them will be delivered on the basis of most preferences.
- Advanced Receivers for CDMA Systems, P. Castoldi
- Fundamentals of Mobile Radio Communication Systems, M. Chiani, A. Conti
- Emerging Technologies for Mobile Communications: Smart Antennas and Software Radio, E. Del Re
- Control Techniques for Performance Optimization of Telecommunication Networks, F. Davoli, R. Minciardi
- Multimedia systems for the Cultural Heritage, V. Cappellini

Acquisition PC and accessories

- Have been bought 9 pieces of:
- PC Dell
- DVB-IP PC card
- Microsoft Office
- Receiving DVB satellite antenna and amplifier
- All the material have been sent to the partner Institutions

Technique used for delivering

- We used SDR, VIC-RAT and MPPT to deliver multicast signals.
- Also, we set-up a video streaming through Internet in real-time

Delivering of modules

- In September 2003 the modules have been delivered.
- All the modules have been recorded by using Real products. Records are available from Internet at CNIT server in Naples. To access login-password is needed.

Evaluation of Courses

- At the end of each module a form has been submitted to all the students for an evaluation of their satisfaction.

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- **MODULE N° 2: Fundamentals of Mobile Radio Communication Systems**
- Teachers: Prof. Marco Chiani and Andrea Conti, University of Bologna
- **UNESCO Teledoctorate EVALUATION FORM**
- Student's School: Department of EE, University of Montenegro, Podgorica
- Please score each question with an integer vote from 1 to 10 following the criterion:
- 1 (very bad)....., 5 (sufficient)....., 8 (good)....., 10 (excellent)
- - Total hours of the module lectures followed:
- - SERVICE OFFERED
- Quality of the received images
- Quality of the audio signal
- Quality of the slides
-
- How you get the module? By satellite via Internet
- - INTERACTIVITY WITH THE TEACHERS
- Do you sent any email posing questions to the teacher? Yes No
- - MODULE CONTENT
- 1 (elementary).....5(average).....10(very difficult)
- Evaluate the content of the module:
- Evaluate the content of the presentation
- Interactivity enable you to have a more rapid acquisition of knowledge? Yes No
- - EXPECTATIONS
- Was the module (content and presentation) as you expected? Yes No
- In case of negative answer please write what was your expectation
- Suggestions and remarks for future courses:
-
- Thank you for the cooperation.
- Please mail the electronic form filled in all its part to:
- pupolin@dei.unipd.it
- Prof. Silvano Pupolin, Course director

Problems Encountered

- **Customs:** To pass the custom was a pain. In some cases we are still *playing* to deliver the material.
- **Quality of the sites:** Some CNIT sites have a poor audio quality. We need to stress in order to each site will have a professional place were to deliver the modules.

Problems Encountered II

- **Quality of received transmission:** Even in Ku band storms severely degrade the reception of the video.

Comments from the sites

- Most of the sites that have been able to receive the modules appreciate the modules.
- The criticism was devoted to several things:
- -modules have been prepared with the style used for classroom, it is not the most appropriated for distance learning

Comments from the sites II

- -Suggestion was: Introduce some animation in order to catch the student attention.
- -reduce to ONE the hours per teacher

Comments to the modules

Number of Students: 5

Multimedia systems for the Cultural Heritage

Teacher : Prof. VITO CAPPELLINI, Università di Firenze

Number of Students: 16

Fundamentals of Mobile Radio Communication Systems

Teacher : Prof. Marco Chiani and Andrea Conti, University of Bologna

Number of Students: 17

Emerging Technologies for Mobile Communications: Smart Antennas and Software Radio

Teacher : Prof. Enrico Del Re, University of Firenze

Number of Students: 11

Control Techniques for Performance Optimization of Telecommunication Networks

Teacher : Prof. Franco Davoli and Riccardo Minciardi, University of Genova

Number of Students: 11

Advanced Receivers for CDMA Systems

Teacher : Prof. Piero Castoldi, Scuola Superiore S. Anna, Pisa

Comments to the modules

Number of Students:

Multimedia systems for the Cultural Heritage

Teacher : Prof. VITO CAPPELLINI, Università di Firenze

Score evaluation rule: 1 (very bad)..., 5 (sufficient)..., 8 (good)..., 10 (excellent)

SERVICE OFFERED

Quality of the received images

Quality of the audio signal

Quality of the slides

How you get the module?

1 (elementary).....5(average).....10(very difficult)

MODULE CONTENT

Evaluate the content of the module

Evaluate the content of the presentation

Interactivity enable you to have a more rapid acquisition of knowledge?

EXPECTATIONS

Was the module (content and presentation) as you expected?

Follow-up

- I am completing a visit of some sites.
- This enable a knowledge of the local problem and to have an idea how to proceed
- It is possible to have a meeting with Italian Embassy personnel for a support for new initiatives
- We are ready to meke a new proposal to UNESCO ROSTE in Venice.

Conclusions

- Teledoctorate had a good success
- It enables to have a meeting with Italian Embassies and to introduce CNIT to them
- It enables to have a knowledge of a completely new reality to begin a new form of cooperation.

Acknowledgements

- I wish to thank the CNIT technicians which help me in the organization, set-up and support of the network