



## Express Production Real-time e-VLBI Service

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# 3<sup>rd</sup> Annual Review

- Minutes for 2009, November 18

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### Project Information

Project Acronym	EXPReS
Project Full Title	Express Production Real-Time e-VLBI Service
Proposal/Contract number	DG-INFSO #026642

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### Section 1.0- Agenda

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All presentations are available in the protected section of the project wiki:

[http://www.jive.nl/dokuwiki/doku.php/expres:management:mt:final\\_project\\_review](http://www.jive.nl/dokuwiki/doku.php/expres:management:mt:final_project_review).

Please contact Kristine Yun <kyun@jive.nl> if you need assistance with username/logins.

### Section 2- Minutes

Attendees:

EC Officers:

Dr. Jean-Luc Dorel (Project Officer)

Reviewers:

Dr. Fulvio Casali (Socrate Medical SRL, Italy)

Drs. Ken Kellerman (National Radio Astronomy Observatory, USA)

Drs. Victor Castelo (Consejo Superior de Investigaciones Cientificas, ES)

EXPREs:

Arpad Szomoru (Activity leader SA1, JIVE, NL)

Francisco Colomer (Activity leader SA2, CNIG-IGN, ES)

Charles Yun (Project Manager, JIVE, NL)

Zsolt Paragi (EXPREs Senior Support Scientist, IVE, NL)

Ralph Spencer (acting director of the Jodrell BankCentre for Astrophysics (JBCA), UniMan, UK)

Administrative assistant: Yvonne Kool (JIVE, NL)

#### 1 Introductions

Introduction by Dr. Dorel

Dr. Dorel opened the meeting and welcomed all the attendees in Brussels.

The reviewers are the same as the last review.

Introduction by Arpad Szomoru

Arpad Szomoru introduced himself and the participants representing EXPREs. He also explained why Huib van Langevelde could not be present.

## 2 EXPReS Summary for past 18 months

### NA1/NA2/NA3/NA4

Charles Yun gave a presentation about NA1 – NA4

Drs. Kellerman asked if the activities in the overview with the stars were triggered externally. Charles Yun explained that the activities were not a part of regularly scheduled EVN sessions.

Dr. Dorel asked what the overlap with SKADS/SKA is. Charles Yun started explaining, Drs. Kellerman and Ralph Spencer also contributed to the discussion.

The conclusion was that once you know that EXPReS works, you can use it for SKA as well.

### NA2

Dr. Dorel wanted to know what type of battle the EXPReS team had to win, as he knows that normally is discussion between owner and user of a product; sharing is one of the most complicated things.

Charles Yun explained that “battle” is an incorrect description, it was more shifting and nurture. The project participants already have a long history of working together through the VLBI network, therefore it just was the right time to take effort to change existing operations. In the end it turned out that changing procedures turned out easier than expected.

Dr. Dorel had a question out policy for triggered observations. Both Zsolt Paragi and Arpad Szomoru explained the details. Fundamentally, triggered proposals are requested in advance while target of opportunity observations depend on recent/new information.

### SA1

Arpad Szomoru gave a presentation.

Dr. Dorel wanted to know whether we were able to demonstrate reliability of connectivity. Arpad Szomoru confirmed this.

Dr. Dorel was interested in the connectivity of Russia. The EC is in discussion with Russia about upgrading the infrastructure. Dr. Dorel would like to know more about the locations of the stations in Russia that became member of EVN. Paco Colomer promised to send the information that was discussed at the EVN Board of Directors to Dr. Dorel. **Action Paco Colomer**

Dr. Dorel wanted to know what the main issues were in case of connectivity. Arpad Szomoru explained that TCP and correlator software are the biggest problems.

Dr. Dorel asked about interfaces and digitalization. Arpad Szomoru explained.

Drs. Castello asked whether collaborations from NREN was needed.

Paco Colomer and Charles Yun clarified that the relation with the NREN's has matured through discussions held. At the moment we know how they work and they know how we work, and we receive regular updates from NREN when something special happens.

### SA2

Paco Colomer gave a presentation.

Dr. Dorel wanted to know whether Yebes was the first Spanish telescope to participate. Paco Colomer confirmed this.

Drs. Castello explained about NOVA, the new project of NREN.

Dr. Dorel asked about the connection of Latvia (VIRAC). Paco Colomer answered that VIRAC is connected but the equipment is not operational.

Dr. Dorel asked why the cable was not in the design of the telescope, as the telescope is rather new. Paco Colomer explained the design was made 20 years ago. The fiber is commercial, Yebees pays monthly rent. EXPReS paid for the connectivity and the rent of the fiber operation (4 months). After ending the project the rent is included in the operational costs. Yebees is just starting, and at this moment it is good that they don't have to do maintenance on the fiber.

There was a short discussion about connectivity through private operators. Dr. Dorel mentioned the Argentina model, where a lump sum was paid for dark fiber and operator owned connectivity. Charles Yun mentioned that it is good to know that the EC is open to options. This is important for the e-VLBI community. The EC acknowledges it is a long term investment.

### **JRA1**

Ralph Spencer gave a presentation.

Dr. Dorel asked about the flexibility of the iBob. Ralph Spencer answered that the iBob could support additional functionality, but it has not yet been programmed.

Permission to use the networks for high data rate transfers does not have to be sought, however networks should be warned as a high rate of UDP transfers could be interpreted as a denial of service attack.

Drs. Castello had a question about distributed correlation. This triggered a discussion about working with dedicated clusters and infrastructure on demand.

### **Science**

Zsolt Paragi gave a presentation.

Drs. Kellerman had a question about time schedules. Ralph Spencer explained how it works.

Drs. Kellerman wanted to know what the most important result was, that has been achieved with real time VLBI.

According to Zsolt Paragi it was watching a supernova flare.

e-VLBI speeds up the correlation, not analyzing. It improves the utilization of the instrument and it is improving prioritization of things.

Drs. Castello asked whether astronomers are informed about procedures.

Zsolt Paragi clarified that a global EVN newsletter with proposal details is sent out; it is an open instrument/system.

### **3 Comments from EC on morning**

The reviewers chose to ask questions during the presentations. There were no additional questions raised during the comment period.

### **4 Financial Overview for past 18 Months**

Charles Yun gave a presentation about the financial situation.

Drs. Kellerman did not understand the process of eligible costs. Dr. Dorel clarified that the EC expected the participants also invest in the project and therefore the project total is higher than the total of EC contribution.

Dr. Dorel noticed that the amounts for connectivity were much lower than expected at the beginning of the project. He asked whether that meant that the EC contribution also would reduce.

After a short discussion it became clear to Dr. Dorel that connectivity is only a small part of the total budget and therefore the requested EC contribution will not be reduced.

## **5 Open Discussion**

Dr. Dorel stated that all information had been clear; none of the reviewers had any additional questions.

## **6 Accomplishments as foundation for future science**

Arpad Szomoru gave a presentation.

Dr. Dorel asked for more information about SKA. Both Ralph Spencer and Drs. Kellerman gave explanations. Drs. Kellerman also clarified a lot about storage of data.

Dr. Dorel mentioned that there are 3 criteria for the new proposal that are crucial; these are defined in the call for proposals.

Dr. Dorel also mentioned that for this proposal it is very crowded, so it is important to have a high score on all 3 criteria as well as avoid having a large budget.

## **7 Reviewer Internal Meeting**

The reviewers had an internal meeting.

## **8 Conclusion / First Feedback to the team**

Dr. Dorel gave feedback on behalf of the reviewers.

All members of the review committee were impressed and appreciated the progress of the project. The overall impression was positive, and Dr. Dorel highlighted the points that the committee found to be special:

- work we developed with NREN
- establishment of advisory group
- technology developments, especially service involved
- the challenge we had working in this environment was well appreciated
- moving into more
- science: approved Nature publications

The committee looks forward into future developments. Connectivity will still be there after the end of the project, and new telescopes are still coming in.

After a question from Drs. Kellerman Arpad Szomoru confirmed that the monthly meetings/reports will continue.

Drs. Kellerman also advised to sustain the website if possible.

Dr. Dorel stated that the committee was surprised as the project was going further than expectations, and that is very rare.

The report will be positive and can be expected mid December.

The final payment will be done after all financial paperwork has been received.

## **9 End of review / Conclusion**

Dr. Dorel mentioned that the EXPReS participants had done a good job, and he thanked the team for coming and putting in all the efforts and the presentations.

Charles Yun thanked the EC and the reviewers for their comments and positive feedback.

**Section 3- Summary of Action Items**

#	Description	Responsible Party	Due
1	Send information about Russian EVN membership to Dr. Dorel	Paco Colomer	ASAP