



## Express Production Real-time e-VLBI Service

EXPReS is funded by the European Commission (DG-INFSO),  
Sixth Framework Programme, Contract #026642

# Monthly Report

- December 2006

Title: Monthly Report  
Sub-title: - December 2006  
Date: 2006 December 19  
Version: 1.0  
Filename: 2006-Dec-10.doc

Author: T. Charles Yun, Project Manager, JIVE  
Co-Authors EXPReS Management Team

Summary: EXPReS monthly update for December 2006.

Delivery Slip

	Name	Partner	Date	Signature
From	T. Charles Yun	JIVE		
Approved by	Huib Jan van Langevelde	JIVE		

Document Log

Version	Date	Summary of Changes	Authors
1.0	09 Jan 2007	Final	T. Charles Yun
0.8	08 Jan 2007	Draft	T. Charles Yun
0.1	17 Dec 2006	Initial draft	T. Charles Yun

Project Information

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

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### **Section 1.0- Introduction**

December was a short month due to the holidays. All of the activities reported limited work, but there were some notable exceptions in the lull. The report for this month will be a bit abbreviated- summaries of activities are reported. The deliverable tables will return in January's report.

### **Section 2.1- NA1- Management**

On 21 December 2006, Mike Garrett announced that he would take the position of ASTRON's General Director starting on 1 February 2007. In parallel with his local announcement, Garrett sent out emails to the JIVE staff, members of EXPReS's board, and to other projects with which he is associated announcing the change. Anton Zenzus, the Chair of JIVE and a member of EXPReS's board, followed up on Garrett's announcement with a note confirming JIVE's excellent financial standing as well as announcing Huib Jan van Langevelde as the Interim Director of JIVE. This period of transition falls as we are preparing for the annual review, however, we do not expect the change to have serious consequences to our progress.

At the moment, the transition to the Interim Director is proceeding smoothly. JIVE will soon open its search for a replacement director. The stated goal is to search for the best candidate- looking internally and externally, nationally and internationally. When JIVE selects a permanent Director, we will share the news both directly with the Commission via email as well as through our standard report.

In late November, a reminder was sent to all participants reminding them of the need for audited statements for the project year. Several organizations have reported completing end of calendar year audits (as part of standard procedure for their institutions) with others reporting hiring auditors or receiving quotes for the audit.

### **Section 2.2- NA2- EVN-NREN**

NA2's activities were limited for the past month. The following months will be spent preparing for the annual review. The next significant deliverable is the second EVN-NREN meeting scheduled for month 18.

### **Section 2.3- NA3- e-VLBI Science**

NA3's activities were limited for the past month. The following months will be spent preparing for the annual review. The next significant deliverable is the second eVSAG meeting scheduled for month 16.

### **Section 2.4- NA4- Public Outreach, Dissemination and Communications**

The past month has been focused on the ongoing creation of publication materials and maintenance of the website. The wiki continues to mature and respond to the needs of users. Plugins have been

added to allow for additional calendaring and math/symbol functionality. The EVN TOG (technical operations group) has also started to use the wiki in support of their activities.

The next large publication will be the upcoming brochure. The document is in draft and communication with the printer has been initiated.

### **Section 3.1- SA1- Production e-VLBI Correlation**

SA1 had two engineers begin work. At JIVE, Paul Boven starts as a Network/Linux specialist. Jonathon Hargreaves arrived at Jodrell Bank to work on coding FPGA. Both Paul and Jonathon started at the beginning of December.

Zsolt Paragi provided a summary of activities for 2006. Highlights included the first six station fringes at 256 Mbps (Cambridge, Jodrell Bank, Medicina, Onsala, Torun, and Westerbork) and the first ever European 512 Mbps e-VLBI fringes on the Jodrell Bank-Westerbork baseline, both in May of 2006. Operational improvements included the ability to remotely restart the Mark5A's, allowing greater flexibility and stability over the course of science runs. By August 2006, 512 Mbps fringes between three European stations (Cambridge, Onsala and Westerbork) were successfully observed. During this run, Medicina's new 5 GHz receiver was used to successfully obtain fringes. Further operational improvements were introduced during the October run with new correlator control computers and software. The highlight was a long, continued run at 256 Mbps.

The full report for the December science run is not yet available, but a quick summary was provided. The entire 24 hour observation period was filled with three science observations, all which completed successfully. Further, one of the scientists was on site for the observation and initial results were correlated and provided to him before the end of the science run.

### **Section 3.2- SA2- Telescope Network Connections**

Progress on connecting telescopes is also moving along. Onsala reports a progress on the move from 1 Gbps to 10 Gbps. TIGO also reports an increase in the connectivity to the REUNA backbone from 155 Mbps to 310 Mbps between Concepción and Santiago eliminating congestion. Short distance tests confirm improved performance and the link is currently being tested for high-latency optimization. TIGO also reports mechanical improvements to their TIGO/DTI fiber link based on the SMART-1 report.

Arpad Szomoru visited Shanghai Observatory and discussed the development of Chinese e-VLBI extensively with professors Hong Xiao-yu and Zhang Xiuzhong and Chen Zhong (the observatory network engineer). He also made a visit to Beijing and gave a presentation on EVN and e-VLBI at the China Science and Technology Network (CSTNET) center. Here he discussed the use of a lightpath connecting Hong Kong to SURFNet for e-VLBI with Jiangning Chen and Qin Gang. JIVE has regular contacts with the director of SURFNet, Cees Neggens, concerning connectivity to China. The hope is to connect Shanghai Observatory in early 2007, either via Hongkong or via the new EC-sponsored ORIENT network.

### **Section 4.1- JRA1- FABRIC**

JRA1 has filled its final open position with Yurii Pidopryhora's arrival at JIVE. Pidopryhora arrived in early December and will work on the distributed correlator work package.

The FABRIC team successfully tested the first version of the multiple-processor software correlator in mid December. The multiple-processor version was able to complete analysis with the results successfully compared against the hardware correlator. Further work needs to be done for optimization, but the consistency between the software and hardware correlator is an important success.