Express Production Real-time e-VLBI Service

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Monthly Report- March 2009

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Project Information

Project Acronym	EXPReS
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Section 1- Introduction

The project as a whole is moving along well. The operational activities continue without major issue and the research elements are progressing. The primary activity for the month related to the end of project meeting. There continue to be a variety of small details that require interaction with the LOC and SOC (Local and Scientific Organizing Committee). JIVE is also preparing for a short visit by one of the PSNC developers to test the last elements of the software correlator code that has been indevelopment (more on this next month one he arrives and begins work).

Section 2.1 – NA1 Management

The period 3 interim report is being assembled and text is arriving from each of the activities. The assembly of the report should be relatively straightforward. Financial data has been collected from just under half of the partners. The report will exist as a draft P3 report until the end of the 6 month extension. At that time, the final materials will be integrated in a single, larger report.

All participatnts have been encouraged to cross reference the deliverables table to ensure that their activities are in synchronization with the table. (Some participants have been posting to the wiki but not updating the table.)

A portion of the EXPReS secretary time is officially being transfered to NA3 (in terms of hours) as a large amount of time and energy is being spent in the preparation of the end of project science meeting. What was initialy thought to be a fairly light-weight support activity has balooned as the number of participants have been significantly higher than expected (more on this below).

The Project Manager participated in the DORII All Hands Meeting as part of the External Review Board. The meeting provided a useful insight into the way in which other projects are taking advantage of infrastructures. The Project Manager also hopes that his input was useful to the project. Additional details are available from the project's website: http://www.dorii.eu/events:ahm-11-03-2009

Section 2.2 – NA2 EVN-NREN

The EVN-NREN will hold their meeting in Yebes as part of the end of project workshop. John Cheevers sent out an announcement to the mailing list as well as to other interetsed parties. The meeting is now visible on the agenda. John Chevers, the leader of NA2, notes that this meeting will be the last major action for the NA2 activity excepting providing text for the final reports.

Section 2.3 – NA3 eVSAG

Communications with PoS (Proceedings of Science) to publish the workshop proceedings are nearly complete. The expectation is that papers from the meeting will be collected and published via PoS online, potentially with some hard copies printed for those who are interested. We expect the final text to be available before the end of the calendar year as it will take at least a few months to complete the final edit cycle for papers.

The upcoming eVSAG meeting has been under discussion by the project and the e-VLBI community as a whole for at least the past year. Specifically, the timing of the meeting as an EXPReS deliverable along with the regularly occuring e-VLBI Workshop series. Last year, the community agreed that the EXPReS meeting would take the place of/be simultaneous with the e-VLBI Workshop. This combination has proven quite useful for all groups. First, the meeting is now advertised to a wider population. Second, the combination of EXPReS and wider community has allowed the organizers to highlight/contrast the work accomplished within EXPReS. I naming of the meeting should highlight the combination-- "Science and Technology of Long Baseline Real-Time Interferometry: The 8th International e-VLBI Workshop."

An obvious result of the combination is the success the meeting organizers have seen with early registration. The number of registrants by the end of March was nearing the capacity of the original venue. For those who plan meetings, it is unusual for scientific meetings to have a large, early registration size. We believe we might be looking at another wave of registrations as we approach the conference and are planning accordingly.

Section 2.4 – Public Outreach

The end of project workshop was one of the Astron/JIVE Daily Images:

http://www.astron.nl/dailyimage/index.html?main.php?date=20090304

The workshop poster was highlighted on the page along with a description and link for the meeting.

A large effort is underway to prepare for "the 100 Hours of Astronomy," which is part of the International Year of Astronomy. For the 100 Hours event, JIVE will send a group to Amsterdam's NEMO (a museum in the heart of Amsterdam dedicated to Science and Technology) to give demonstrations, talks and demonstrate a specially timed e-VLBI observation. The event in Amsterdam is scheduled for Friday 4 April to Sunday 6 April. Also note that attendance at the museum will be particularly high as it is "Museum Weekend" in Amsterdam where entrance fees for museums are lifted.

EXPReS has submitted text for the second edition of the BELIEF Zero-In e-Magazine. The project was approached and asked to submit a short piece (about 2 pages of text) that could be used in the upcoming edition. The initial submission was accepted and the final text has been submitted. There is a strong focus on e-infrastructures and the way in which EXPReS is only possible due to e-infrastructures. We will share a link/copy once the edition is published.

Section 3.1 – Production e-VLBI

The March e-VLBI run was announced via email as normal by Paragi. Highlights include a triggered/ToO observation (the type that is made possible by e-VLBI) and 4x1024 Mbps observations. The network graph from the session, referenced in the email, is also attached below.

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Hi,

We had an e-EVN run at 5 GHz on 24-25 March.
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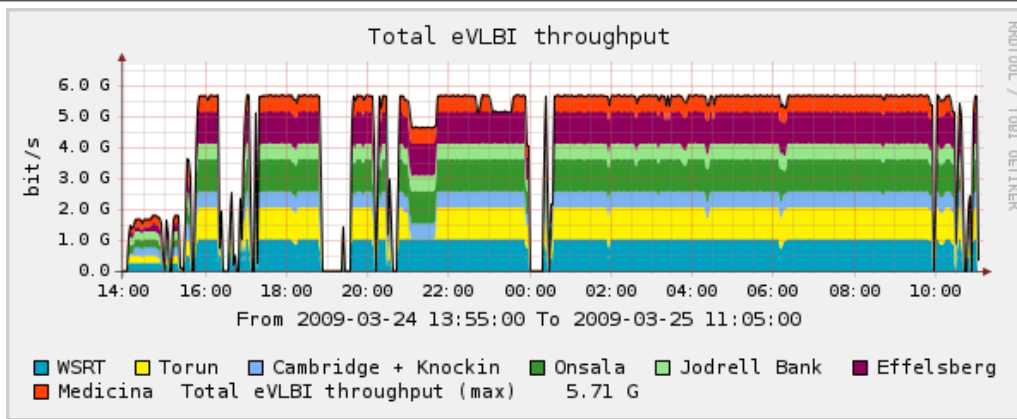
```
          The participating telescopes were Cm, Ef, Jb,
          Kn, Mc, On, Tr and Wb. There were two science
          projects observed, a regular proposal and a
          triggered one.

          The weather was not the greatest. It was windy
          and snowing and some of the stations had to stop
          for shorter or longer time. Additionally, there
          were technical problems as well. Some of that
          could have been prevented and this will be
          discussed at the TOG.

          On the positive side, we were able to transfer
          full 1024 Mbps data for Ef, On, Tr and Wb. This
          is a very important result. The antab files
          arrived in time and the FITS files and pipeline
          results were distributed to the PIs, who will
          surely be satisfied with the data in spite of
          the problems mentioned above. Especially, the
          pipeline analysis showed good data for all the
          1024 Mpbs telescopes.

          Please find attached a total network throughput
          graph for the experiment, produced by Paul Boven.

          With regards,
          Zsolt
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Announcement on succesful e-VLBI

Following quickly on the heels of the above experiment is the e-VLBI observation that will be part of the 100 Years of Astronomy. A great deal of time and energy was spent to clear schedules at the telescopes so that an observation could be held that would coincide with the IYA 2009 event. The observation will be completed at the beginning of April and additional updates should be available at that time.

Section 3.2 – Telescope Network Connections

No update at this time.

Section 4.1 – FABRIC

Plans for PSNC's Dominik Stoklosa to vist JIVE and work on FABRIC items have been confirmed. Dominik should arrive Monday 6 April and stay for about 7 weeks. The plan is currenlty to finalize the last details so that a software correlator demo can be executed in the late summer.

A slight aside, members of FABRIC recently discussed a news article about a proposed Google service to warehouse large quantities of scientific data. The project is interesting as the cost of long term storage is handed to Google, while access is provided to all users. e-VLBI and all data intensive sciences are facing the upcoming question of how to deal with the data. However, it is interesting to note that the Google project seems to talk of complete datasets that are in the 100s terabyte range. For e-VLBI, it would be more interested to talk about individual observations and petabytes of (short term) storage. Additionally, Google is apprently providing the equivalent of e-VLBI disk packs to move the large volumes of data. It will be interesting to see which elements of e-VLBI show up in Google's project (understanding that there may be little effective overlap in the two cases).

Please note that the documents "FABRIC Protocol" (deliverable 150) and "data Import/Export" posted to wiki earlier in the month have a typo in the date shown on the cover page (wrong year). The error has been noted and a corrected document should be provided and uploaded by the authors sometime in the next few weeks.