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Automated VLBI data analysis with VieVS

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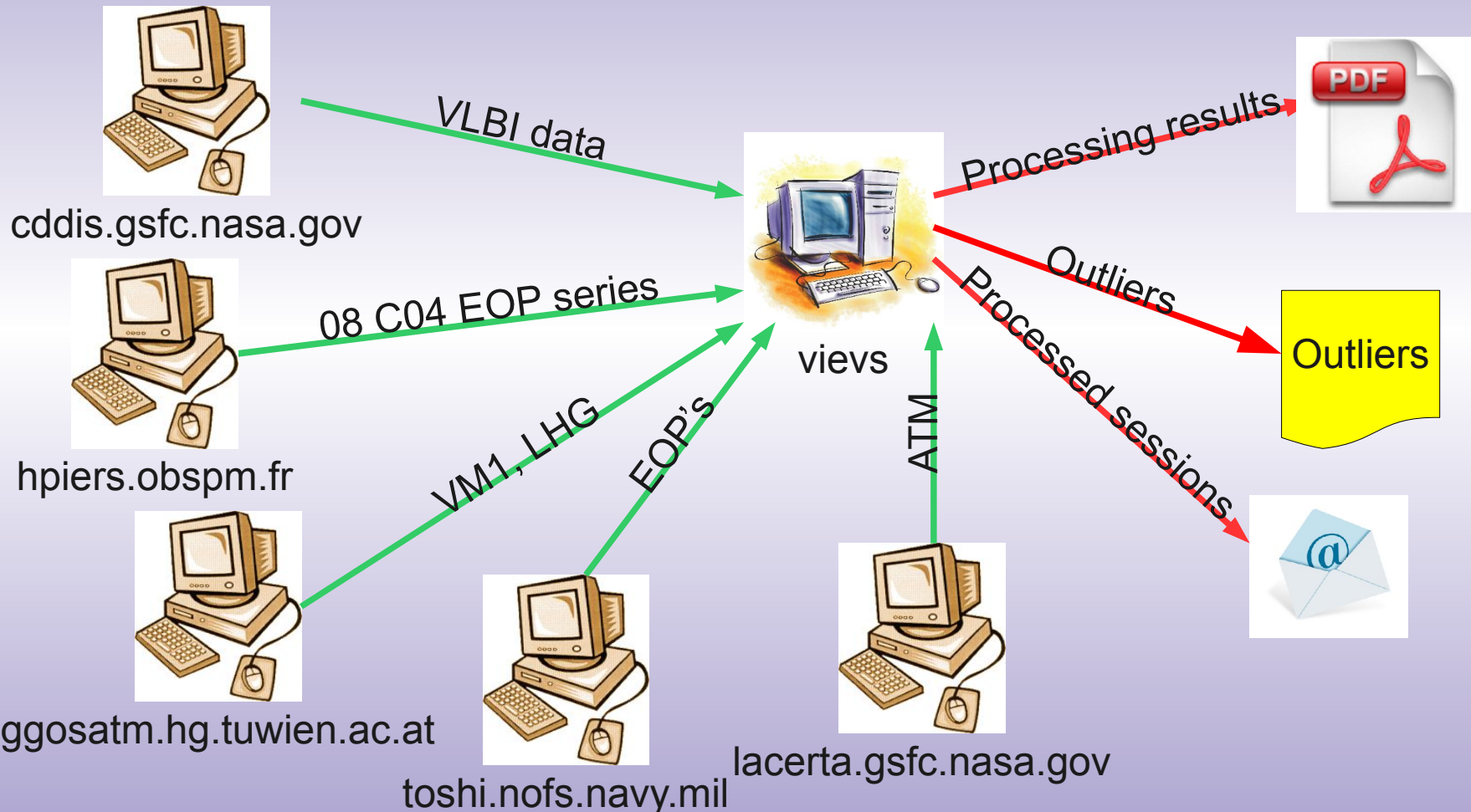
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Automatic processing

- Every night, the VieVS Linux server at TU Vienna downloads the data from the latest VLBI session and makes a first simple processing.
- Thus the archive of NGS files on the server will be up-to-date.
- The results from the first simple processing of a session help in identifying problems (clock breaks etc.)

Automated download



What is done, step by step

Every night at 03:03 a script (**get_ngs.sh**) is started (using crontab) on the VieVS server. This is what this script does, step by step:

- 1) Log in to an IVS server (e.g. *cddis.gsfc.nasa.gov*) using ftp
- 2) Make a list of all NGS files on the IVS server
- 3) Compare this list of the local inventory of NGS files on the VieVS server.
Make a list of missing files
- 4) Download the missing files
- 5) Log in to *hpiers.obspm.fr* using ftp
- 6) Get the latest IERS 08 C04 file (**eopc04_IAU2000.62-now**)
- 7) Add a '%' to the beginning of the header lines, rename it to **C04_08_1962_now.txt** and put it in the **EOP** directory.

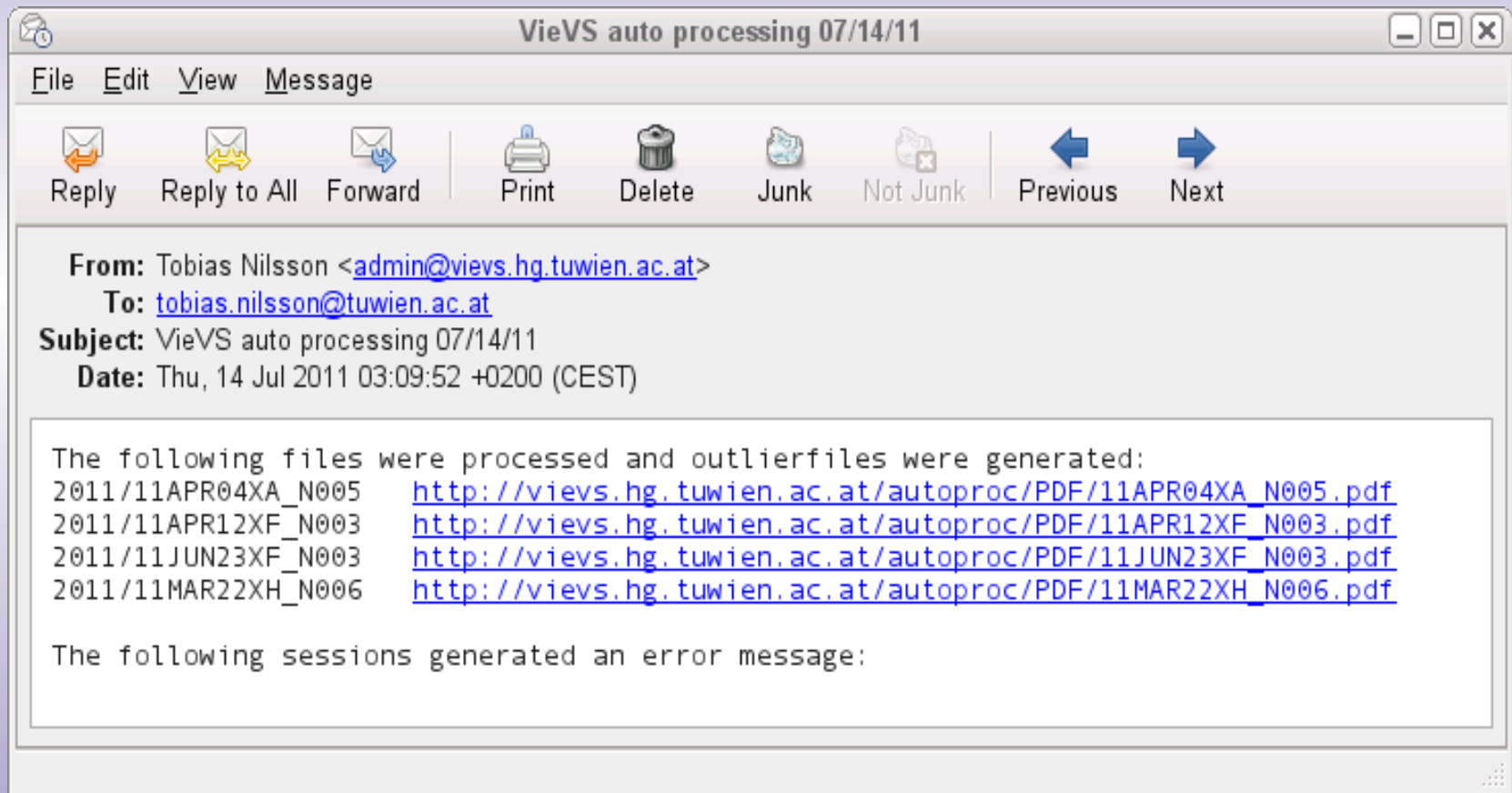
What is done, step by step (II)

- 8) Ftp to *toshi.nofs.navy.mil* and download the latest rapid EOP data file (for the intensives). Convert it to VieVS EOP format.
- 9) Download the latest Vienna Mapping Function (VM1) and Linear Horizontal Gradients (LHG) files from *ggosatm.hg.tuwien.ac.at*.
- 10) Start MATLAB
- 11) Convert the downloaded VM1 files to .mat format
- 12) Go through the list of downloaded NGS files. Split the list into two parts, one for Intensive sessions, and one for 24 hour sessions

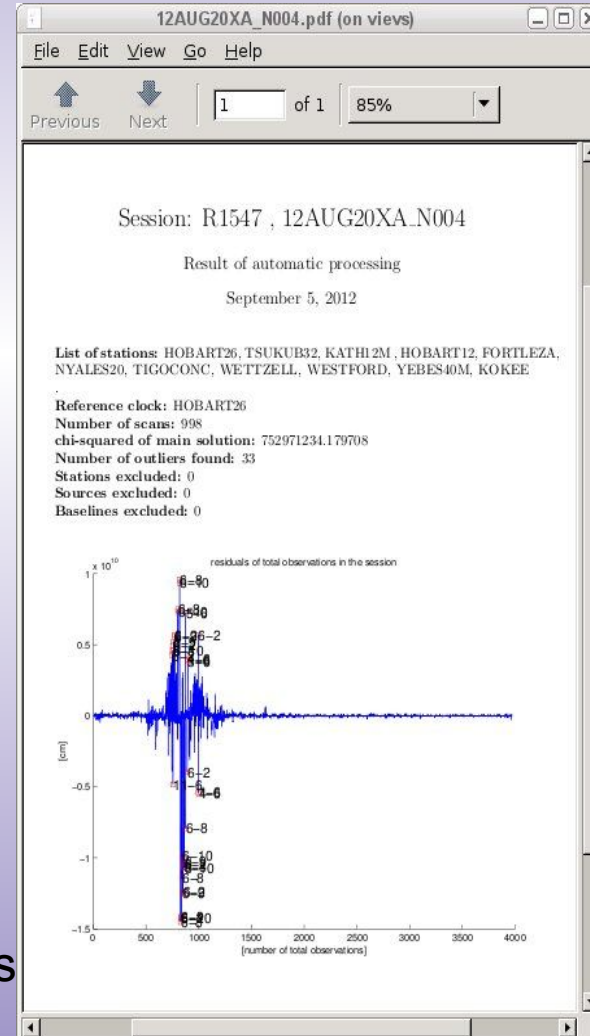
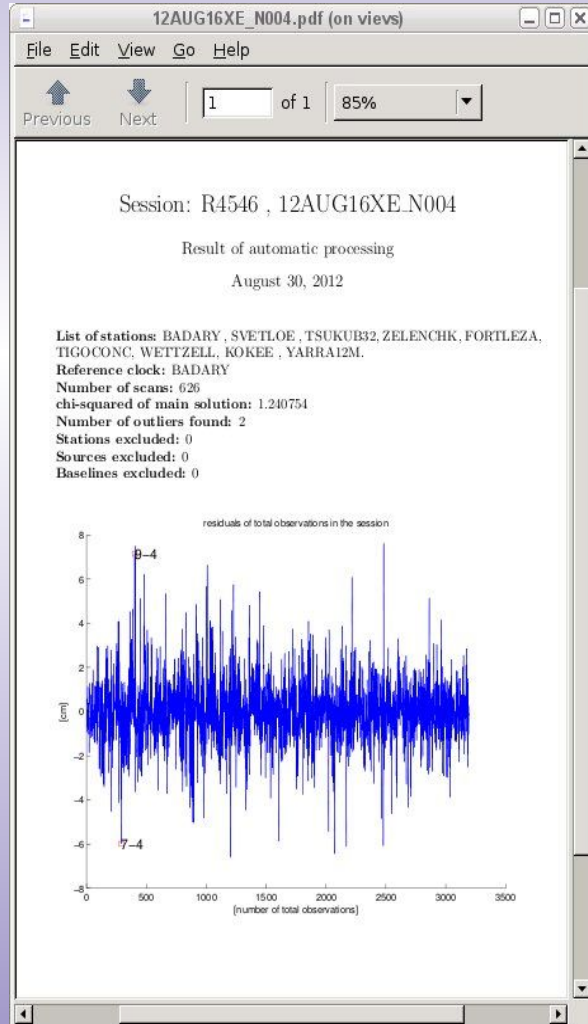
What is done, step by step (III)

- 13) Process the new 24 hour sessions using a predefined parameter file (**auto_proc20**).
- 14) For each session, make a simple report file in PDF format. Save it in **OUT/PDF**
- 15) Process the new intensive sessions using a predefined parameter file (**int_auto20**).
- 16) Add the DUT1 estimates from the intensives to the file **int_dut1.txt**
- 17) Make a plot of DUT1 from the Intensives for the last 30 days. Save it.
<http://vievs.hg.tuwien.ac.at/dut1.png>
- 18) If new 24 hour sessions have been processed, send an email reporting this

Report email



Examples of reports



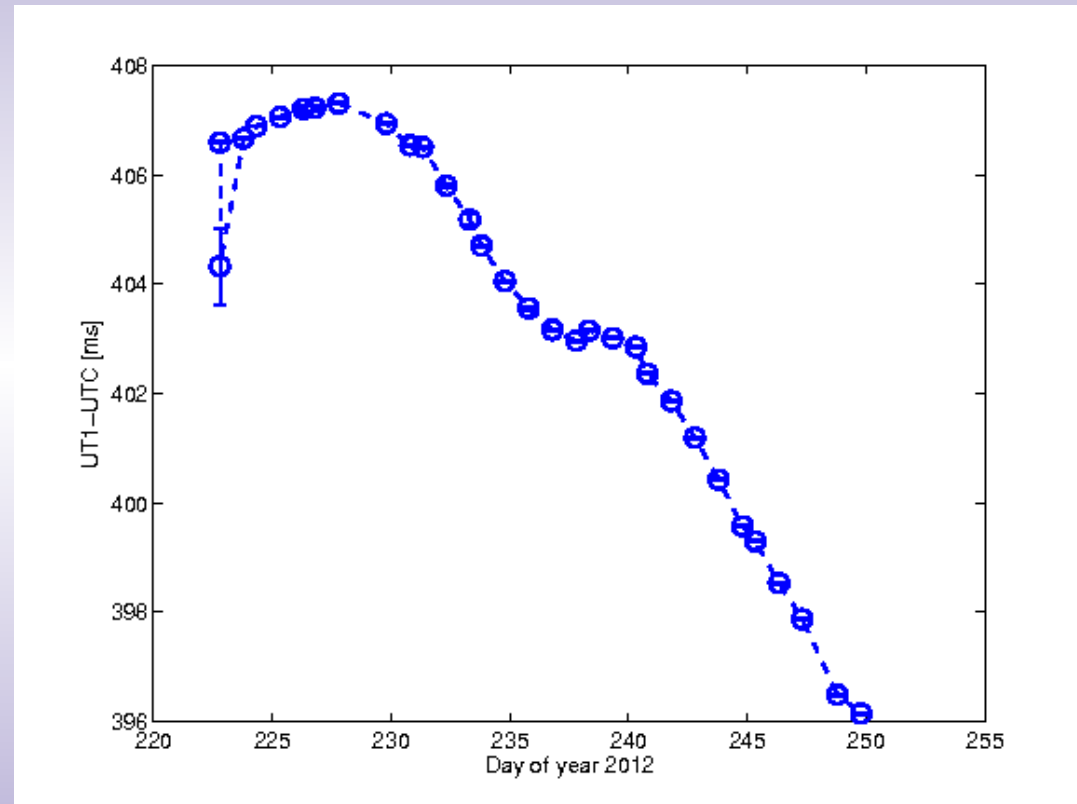
User Works

DUT1 from Intensives





 Plot for the last 30 days

 Available at:

<http://views.hg.tuwien.ac.at>



Summary

-  The Automated download of NGS-files etc. keeps the local inventory up to date
-  Outlier files automatically created
-  The results of the automatic processing helps detecting which sessions have problems
-  Processing of intensives gives rapid DUT1 estimates