Paris Observatory (OPAR) Data Center

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Abstract

This report summarizes the OPAR Data Center activities in 2010. Included is information about functions, architecture, status, and future plans of OPAR Data Center.

1. OPAR Data Center Functions

The Paris Observatory (OPAR) has provided a Data Center for the International VLBI Service for Geodesy and Astrometry (IVS) since 1999. The OPAR is one of the three IVS Primary Data Centers together with CDDIS and BKG. Their activities are done in close collaboration for collecting files (data and analysis files), and making them available to the community as soon as they are submitted.

The three data centers have a common protocol and each of them:

- has the same directory structure (with the same control file),

- has the same script,

- is able to receive all IVS files (auxiliary, database, products, documents),

- mirrors the other ones every three hours,

- gives free FTP access to the files.
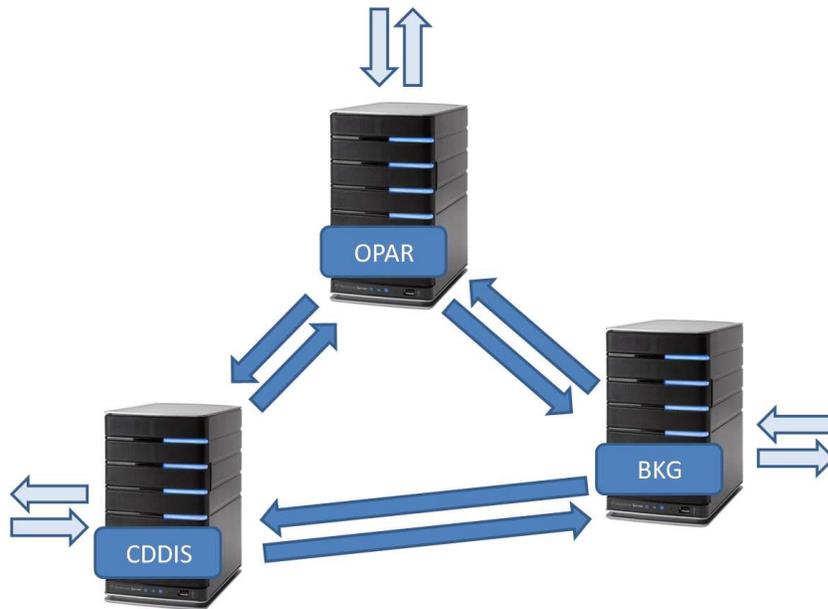
Figure 1. Mirroring among the primary Data Centers.

This protocol gives the IVS community a transparent access to a data center through the same directory and permanent access to files in case of a data center breakdown.

2. Architecture

To be able to put a file in a Data Center, Operation and Analysis Centers have to be registered by the IVS Coordinating Center. The file names have to conform to the name conventions. A script checks the file and puts it in the right directory. The script undergoes permanent improvement and takes into account the IVS components' requests.

The structure of IVS Data Centers is:

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ivscontrol/          : provides the control files needed by the data center
                       (session code, station code, solution code...)
ivscontrol_new/      : temporary test directory
ivscontrol_old/      : temporary test directory
ivsdocuments/        : provides documents and descriptions about IVS products
ivsdata/             : provides files related to the observations:
   aux/              :    auxiliary files (schedule, log...)
   db/               :    observation files in data-base CALC format
   ngs/              :    observation files in NGS format
   sinex/            :    observation files in SINEX format
ivsproducts/         : provides results from Analysis Centers:
  eopi/              :    Earth Orientation Parameters, Intensive sessions
  eops/              :    Earth Orientation Parameters, sessions of 24h
  crf/               :    Celestial Reference Frame
  trf/               :    Terrestrial Reference Frame
  daily_sinex/       :    Time series solutions in SINEX format of Earth
                          orientation and site positions
  int_sinex/         :    Daily Intensive solutions in SINEX format, mainly
                          designed for combination
  trop/              :    Tropospheric time series (starting July 2003)
 ivs-iers/           : provides products for IERS Annual Report
 ivs-pilot2000/      : provides products of 2000 for special investigations
 ivs-pilot2001/      : provides products of 2001 for special investigations
 ivs-pilottro/       : provides tropospheric time series for Pilot Project
                         (until June 2003)
 ivs-pilotbl/        : provides baselines files
 ivs-special/        : specific studies
 raw/                : original data (not writable at OPAR Data Center)
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3. Current Status

The OPAR Data Center is operated on a PC Server (PowerEdge 2800 - Xeon 3.0 GHz) at Paris Observatory running the Fedora Linux operating system.

To make all IVS products available on-line, the disk storage capacity was significantly increased, and the server is equipped now with a RAID 3 TB disk extensible up to 4.7 TB.

The OPAR server is accessible 24 hours per day, seven days per week through Internet connection with 2 Mbit/s rate. Users can get the IVS products by using the FTP protocol. Access to this server is free for users.

FTP access:
> ivsopar.obspm.fr
> username : anonymous
> password : your e-mail
> cd vlbi (IVS directory)

This year, 25 distinct users regularly put/got data on/from the FTP OPAR ivsincoming. There were also 3273 distinct users of the Web OPAR server. We provide more statistical information about the OPAR Data Center access in Figure 2.

4. Future Plans

The OPAR staff will continue to work with the IVS community and in close collaboration with the two other Primary Data Centers in order to provide public access to all VLBI related data.

To obtain information about the OPAR Data Center please contact: ivs.opa@obspm.fr
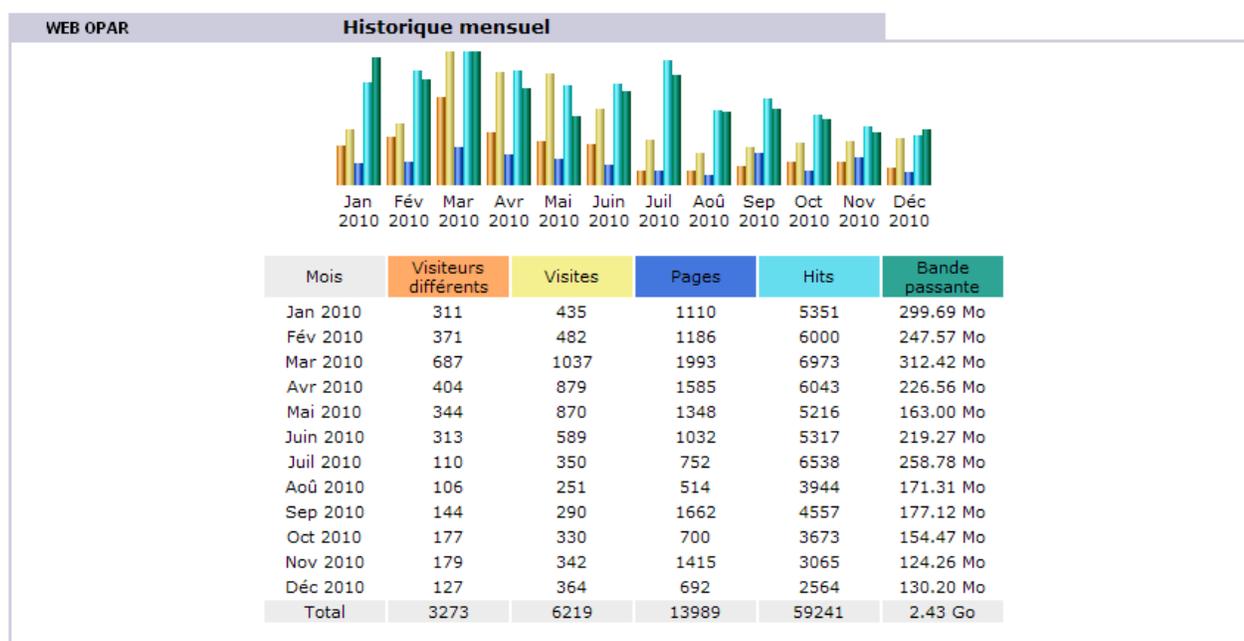
Figure 2. Monthly access of the Data Center during 2010. For each month in column 1, columns 2 through 6 show, in order, the number of different visitors, the total number of visits, the number of pages viewed, the number of accesses of the Web site, and the downloaded bandwidth in megabytes (Mo) or gigabytes (Go).