The EUMETSAT Network of Satellite Application Facilities

NWC SAF

Support to Nowcasting and Very Short Range Forecasting

SMHI

without binaries, with pip and virtualenv

PPS Installation

- I am familiar with pip and virtualenv

- I use python

- I am used to easy-install and setting python paths

PIP (for installation of python software)

- PIP :
  - Replaces easy-install
  - Installation tool/method for python packages
  - Has uninstall

- Examples:
  - pip install numpy
  - pip install numpy -- upgrade
  - pip install numpy==1.6.1,
  - pip uninstall numpy

- Packages:
  - python-pip

I might try PIP.

Python virtual environment

- Python virtual environment:
  - Handels all path-things for installation in non standard directories.
  - No need to set Python-path
  - Makes it possible to use PIP as usual for installation
  - After creation, it is always activated with a single source-command
- Useful when:
  - no permission to install under /usr
  - different versions of python packages needed for different applications
  - Keep an application immune to future upgrades of python packages
- Packages needed:
  - python-virtualenv

This virtualenv seems useful for me.

Installation of python third party software

- Call virtualenv.py to create a directory for the PYTHON packages:
  - python /usr/lib/python2.6/site-packages/virtualenv.py /local_disk/pps/PYTHON --system-site-packages
- Activate the environment, (needed also before you run pps):
  - source /local_disk/pps/PYTHON/bin/activate
- Install packages needed by pps, choose version or get latest:
  - pip install numpy==1.6.1
  - pip install scipy==0.10.1
  - pip install h5py==2.0.1
  - pip install pyproj==1.9.0
  - pip install pyresample==0.7.13
  - pip install NetCDF4==1.0.2
  - pip install PIL==1.1.6
  - pip install argparse

I will try this method for python installations

More third party software

- GRIB_API: https://software.ecmwf.int/wiki/display/GRIB/Home
- Pygrib (need som env variables):
  - export JASPER_DIR=/usr
  - export PNG_DIR=/usr
  - export GRIBAPI_DIR=/data/opt/GRIB_API/1_9_9_jasper/
  - pip install pygrib==1.9.8
- HLHDF (need to know where hdf5 library and numpy are):
  - mkdir /local_disk/opt/HLHDF
  - make clean
  - ./configure --prefix=/local_disk/opt/HLHDF -with-hdf5=/usr/include, /usr/lib --with-numpy=/local_disk/pps/PYTHON/lib/python2.6/site-packages/numpy/core/include/numpy/
  - make
  - make install
- RTTOV:
- AAPP (global metop): http://nwpsaf.eu/deliverables/aapp

PPS: ahamap pps_nwp

- AHMAP (use gfortran compiler, need to know where proj is)
  - export F77=gfortran
  - ./configure --prefix=/local_disk/opt/AHAMAP/ahamap --with-proj=/usr/include,/usr/lib64 -with-aapp=no
  - make clean
  - make
  - make install

- PPS_NWP (with pip):
  - pip install /local_disk/pps_nwp

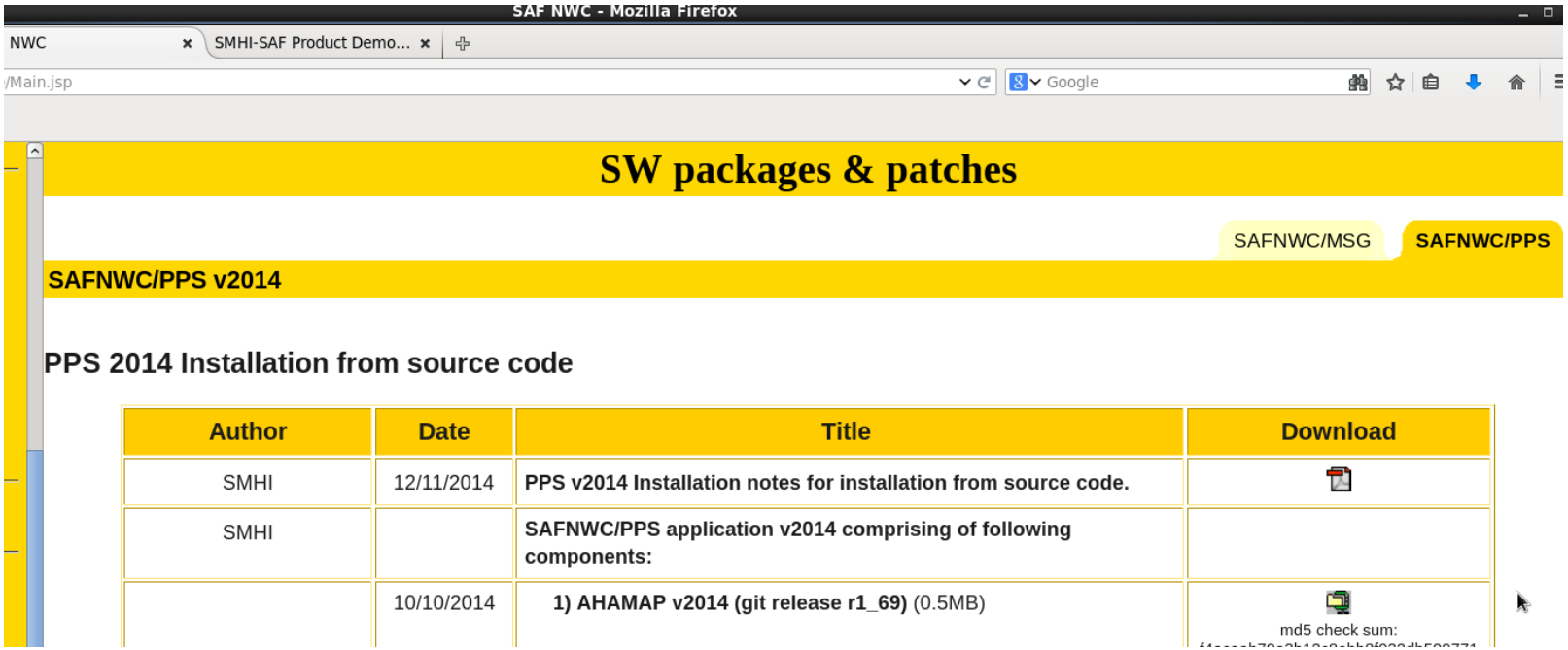
I notice PIP can be used also for PPS_NWP!

PPS: acpg cpp

- ACPG (need to know where to find: HLHDF, ahamap, rttov and proj)
  - ./configure --prefix=/local_disk/opt/ACPG --with-hlhdf=/local_disk/opt/HLHDF --with-aapp=no --with-ahamap=/local_disk/opt/AHAMAP/ahamap --with-rttov=/data/opt//RTTOV11/11_1 --with-proj=/usr/include,/usr/lib64 --datadir=/local_disk/pps/data/SAFNWC_PPS --sysconfdir=/local_disk/pps/data/www -with-gac=yes
  - make
  - make check
  - make install
  - make install-data

- CPP (need to know where to find acpg and hlhdf):
  - ./configure --prefix=/local_disk/opt/ACPG –-with-hlhdf=/local_disk/opt/HLHDF --disable-msg
  - make
  - make install
- CPP data: in data/import/CPP_data/source
  - tar xvfz cpp_ancdata-v4.2.2tgz

Read again about pip and installation tips in installation notes, at webpage:



Tips and Tricks

- **Make sure you have needed development packages**
- Grib_api
  - Ex: grib_api-devel-19.16-3.el6
- Blas
  - Ex: atlas-devel-3.8.4-2
- Proj
  - Ex: proj-devel-4.7.0.el6
- Netcdf
  - Ex: netcdf-devel-4.1.1-3.el6.2
- Hdf5

Pygrib uninstall

For uninstallation of pygrib remove also the build directory:
pip uninstall pygrib
rm -r /local_disk/pps/PYTHON/build/pygrib/

I could use a break