

# Offline Analysis Framework

## OAF

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# Main Objective

- By Automatic Reports [AR] we mean here documents automatically generated on a regular basis from data stored in the Logging/Measurement DB.
- The basic principle would be daily Cron tasks, gathering, analysing and synthetizing Beam Instruments records in DB stored during the last 24h, and sending the corresponding summary reports automatically by mail to the corresponding experts or responsible.

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# Disclaimer

- This tool will only look at what happened...
- It can only help us to:
  - Be aware that something went wrong in our instrument:
    - No usage
    - Bad usage
    - Over usage
    - Breakage...
  - Be aware that something is aging:
    - Calibration evolution
    - Status evolution...
- It will still be up to us to be proactive with this.

# Anaconda & JPyPy:

- 125+ of the most popular Python packages for science, math, engineering, data analysis ( NumPy, SciPy, Pandas, IPython, Matplotlib, Numba, Blaze, Bokeh..)
- Completely free - including for commercial use
- Cross platform on Linux, Windows, Mac
- Installs into a single directory and doesn't affect other Python installations on your system. Doesn't require root or local administrator privileges
- Spyder, Ipython
- We use Jpypy for java – python integration
- Installed on bdidev2



# Panda & Spyder

The screenshot displays the Spyder Python IDE interface. The top window shows the code editor with a Python script:

```
1 # -*- coding: utf-8 -*-
2 """
3 Created on Mon Mar 23 11:01:00 2015
4
5 @author: bkolad
6 """
7 from numpy import random
8 import pandas as pd
9
10 ts = pd.Series(random.randn(1000), index=pd.date_range('1/1/2000', periods=1000))
11
12 ts = ts.cumsum()
13
14 ts.plot() #import matplotlib.pyplot as plt
15
16 print "hello"
17
18 from jpye import *
19 startJVM(getDefaultJVMPath(), "-ea", "-Djava.class.path=tmp/Jpye/sample")
20 java.lang.System.out.println("Hello World!!")
21 shutdownJVM()
22
```

The bottom-left pane shows the IPython console with the following output:

```
Portland      300.000000
San Francisco 366.666667
dtype: float64

In [2]: runfile('/nfs/cs-ccr-nfsdev/vol1/u1/bkolad/PythonWorkspace/PandaExamples/Panda0.py', wdir='/nfs/cs-ccr-nfsdev/vol1/u1/bkolad/PythonWorkspace/PandaExamples')
hello
```

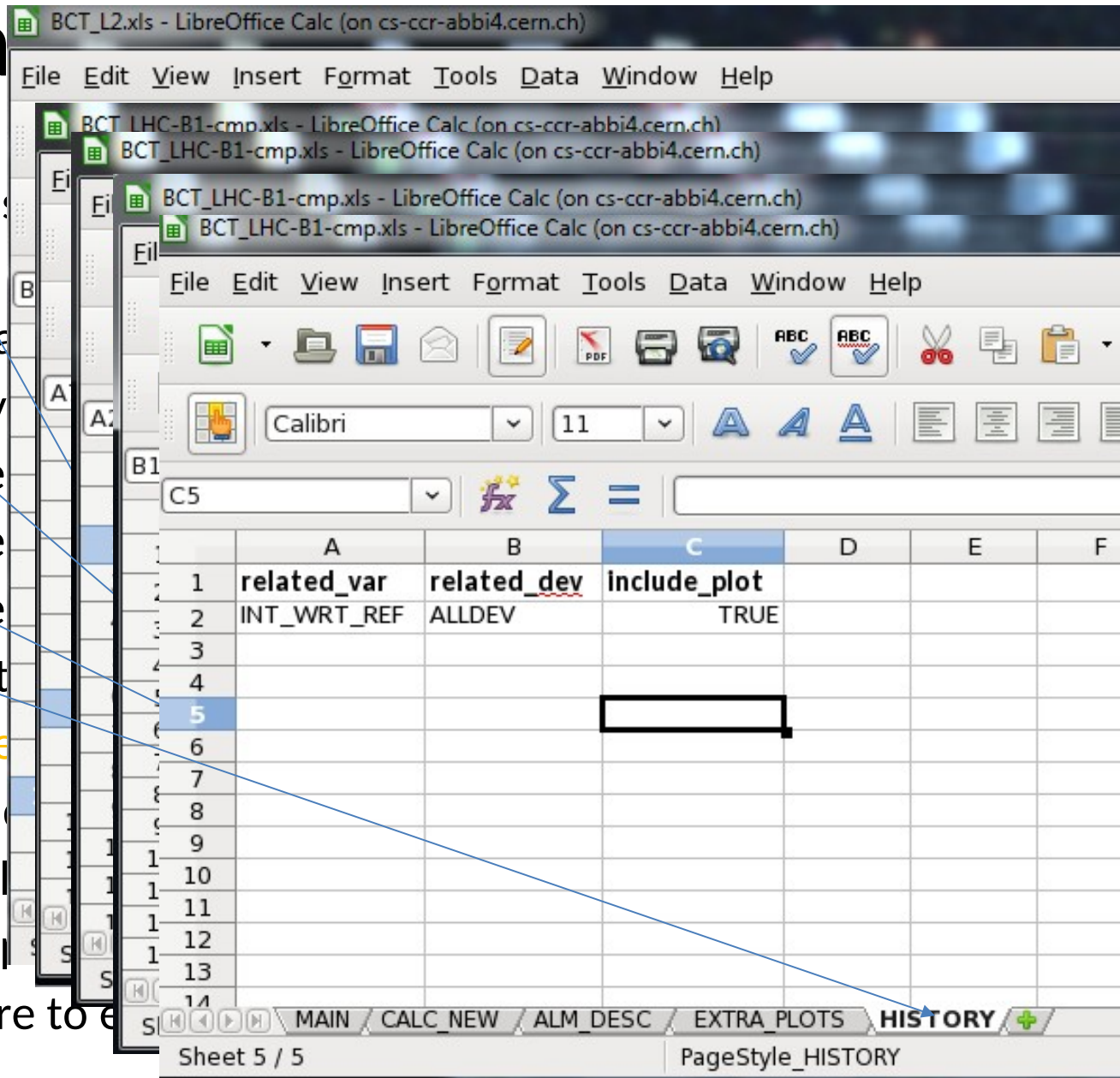
The bottom-right pane shows a line plot of the cumulative sum of random noise over time, with the x-axis labeled from Jan 2000 to Jul 2002 and the y-axis ranging from -35 to 5.

The interface also includes a file explorer showing a directory structure with files like 'anaconda', 'basd.py', and 'file.csv'. The bottom status bar indicates 'Memory: 55 %'.



# Main Fra

1. `extract_data()` # Get the s
2. `compute_extra_data()` #
3. `make_front_figure()` # Ma
4. `analyse_alarms()` # Analy
5. `display_alarms()` # make
6. `make_dft_plots()` # make
7. `make_ext_plots()` # make
8. `make_histo()` # makes 'hist
9. `run_exp_code()` # run exper
10. `close_report()` # close and
11. `inform()` # send info mail
12. `show_plots()` # shows the p
13. `clean_all()` # clean all before to e



- **Green:** Based on config file <inst>\_<dataset>
- **Orange:** Under internal discussion. Not operational yet

# Timber-Snapshots

TIMBER v6.0.12

jjgras Data Source Preferences: MDB\_PRO Time Zone: LOCAL\_TIME Correction RAW

Query Output Query Fill Search Fundamental Browser Acquired Parameters Variable Hierarchies Variable Search Variable Lists Snapshots Settings Help

Snapshot Selection

Public User

Snapshots Filters

Name: %  
Description: %  
Owner: jjgras

Search Results

Name	Owner
BI_BLM_LHC-temp	jjgras
BI_BLM_LHCSEM	jjgras
BI_BLM_temp-aux	jjgras
BI_BOFSU_LHC-status	jjgras
BI_BOFSU_LHC-tune	jjgras
BI_BPM_LHC-temp	jjgras
BI_BPM_LHC1	jjgras
BI_BPM_LHC2	jjgras
BI_BSRT_B2	jjgras
BI_BWS_LHC-B1	jjgras
BI_BWS_LHC-B2	jjgras
BI_BWS_LHC-H-inj	jjgras
BI_BWS_LHC-H-status	jjgras
BI_BWS_LHC-H-test	jjgras
BI_BWS_LHC-H-test2	jjgras
BI_BWS_LHC-H-test3	jjgras
BI_BWS_LHC-H-test4	jjgras
BI_BWS_LHC-H-test5	jjgras
BI_BWS_LHC-H-top	jjgras
BI_BWS_LHC-V-status	jjgras
BI_BWS_LHC-inj-jitter	jjgras
BI_BWS_LHC-top-jitter	jjgras
BI_BWS_LHC BWS1	jjgras
BI_BWS_PS	jjgras
BI_BWS_PS-H-status	jjgras
BI_BWS_PS-V-status	jjgras
BI_BWS_PSB-H-status	jjgras
BI_BWS_PSB-R1	jjgras
BI_BWS_PSB-R1Test	jjgras
BI_BWS_PSB-R2	jjgras
BI_BWS_PSB-R2-all	jjgras
BI_BWS_PSB-R3	jjgras
BI_BWS_PSB-R4	jjgras
BI_BWS_PSB-V-R1	jjgras
BI_BWS_PSB-V-R2	jjgras

Snapshot Details

Name: BI\_BCT\_LHC-B1-cmp  
Owner: jjgras  
Visible to public:   
Dynamic Time:

Dynamic Options: 1 days prior to Start of day Filter Fills  Filter Beam Modes

Description: Some Snapshot Description

Attribute	Value
Chart Type	Versus Time
Data Source Preferences	LDB_PRO
Derivation Selection	BEST_AT_SPECIFIED_TIME
Derivation Time	2015-06-05 17:31:19.875
Dynamic Duration	1
End Time Dynamic	true
Prior Time	Start of day
Selected Variables	[HX:BMODE, LHC.BCTDC.A6R4.B1:BEAM_INTENSITY, LHC.BCTDC.A6R...
Selection Output	Chart
Time	DAYS
Time Zone	LOCAL_TIME

Load Save snapshot Delete Snapshot

10:35:13 - Start time set



# Main Tools: Cron Tasks

- The tasks configured in cron task file will be executed sequentially.
- We have now cron task sequence executed every morning at 8:00. These are based on dynamic snapshot of DB data covering the full previous day
- We could have in addition cron task sequence executed every week or hours if useful...

	A	B	C	D	E	F	G	H
1	<b>Instrument</b>	<b>Source</b>	<b>DataSet</b>	<b>UserId</b>	<b>email</b>	<b>DftPlot</b>	<b>ExpCode</b>	
2	BCT	LDB	L2	<u>jjgras</u>	TRUE	TRUE	None	
3	BCT	LDB	<u>LHC-B1-cmp</u>	<u>jjgras</u>	TRUE	TRUE	None	
4	BCT	LDB	<u>LHC-B2-cmp</u>	<u>jjgras</u>	TRUE	TRUE	None	
5	BWS	LDB	<u>LHC-B1-cmp</u>	<u>jjgras</u>	TRUE	TRUE	None	
6	BWS	LDB	LHC-B2	<u>jjgras</u>	TRUE	TRUE	None	
7	BWS	LDB	PS	<u>jjgras</u>	TRUE	TRUE	None	
8	BWS	LDB	PSB-R1	<u>jjgras</u>	TRUE	TRUE	None	
9	BWS	LDB	PSB-R2	<u>jjgras</u>	TRUE	TRUE	None	
10	BWS	LDB	PSB-R3	<u>jjgras</u>	TRUE	TRUE	None	
11	BWS	LDB	PSB-R4	<u>jjgras</u>	TRUE	TRUE	None	
12	BWS	LDB	SPS-414	<u>jjgras</u>	TRUE	TRUE	None	
13	BWS	LDB	SPS-416	<u>jjgras</u>	TRUE	TRUE	None	

# Main Tools:

## Report Repository

- Mail sent will contain in addition to a summary of the alarm report:
  - A link towards the new report
  - A link towards the repository where all reports are stored ([http://bewww/~bdisoft/bi\\_report/](http://bewww/~bdisoft/bi_report/))
  - A link towards the repository where most recent reports are referred ([http://bewww/~bdisoft/bi\\_report/RECENT/](http://bewww/~bdisoft/bi_report/RECENT/))
  - A link towards the repository where most recent reports with alarms are referred ([http://bewww/~bdisoft/bi\\_report/RECENT\\_WITH\\_ALM/](http://bewww/~bdisoft/bi_report/RECENT_WITH_ALM/))
  - A link towards the repository where most recent reports without alarms are referred ([http://bewww/~bdisoft/bi\\_report/RECENT\\_WITHOUT\\_ALM/](http://bewww/~bdisoft/bi_report/RECENT_WITHOUT_ALM/))

# Main Tools: Report Repository



The screenshot shows a Mozilla Firefox browser window displaying a directory index for the path ~/bdisoft/bi\_report. The browser's address bar shows the URL bwww/~bdisoft/bi\_report/. The page title is "Index of ~/bdisoft/bi\_report". Below the title, there is a table with columns for Name, Last modified, Size, and Description. The table lists several subdirectories, each with a folder icon and a link. The subdirectories are: Parent Directory, BCT/, BLW/, BOFSU/, BPM/, BPMHISTO/, BSRT/, BWS/, OAF/, RECENT/, RECENT\_WITHOUT\_ALM/, and RECENT\_WITH\_ALM/. The last modified dates range from May 8, 2015, to June 16, 2015. At the bottom of the page, there is a footer that reads "Apache/2.2.15 (Red Hat) Server at bwww Port 80".

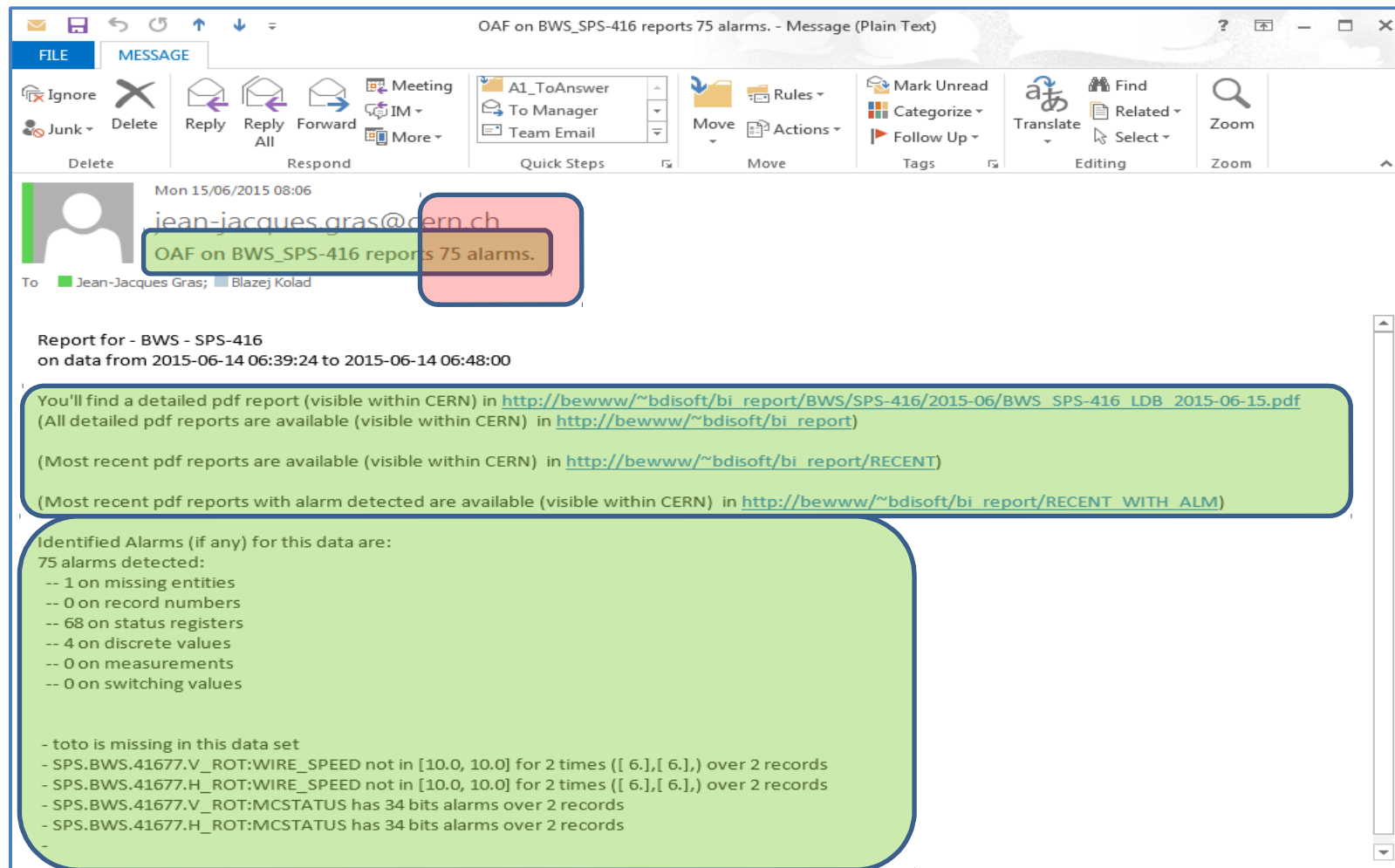
Index of ~/bdisoft/bi\_report

Name	Last modified	Size	Description
<a href="#">Parent Directory</a>	-	-	-
<a href="#">BCT/</a>	15-Jun-2015 10:39	-	-
<a href="#">BLW/</a>	14-Jun-2015 08:20	-	-
<a href="#">BOFSU/</a>	13-May-2015 10:21	-	-
<a href="#">BPM/</a>	15-Jun-2015 21:45	-	-
<a href="#">BPMHISTO/</a>	13-Jun-2015 23:07	-	-
<a href="#">BSRT/</a>	08-May-2015 22:35	-	-
<a href="#">BWS/</a>	14-Jun-2015 08:04	-	-
<a href="#">OAF/</a>	13-May-2015 08:00	-	-
<a href="#">RECENT/</a>	16-Jun-2015 08:05	-	-
<a href="#">RECENT_WITHOUT_ALM/</a>	16-Jun-2015 08:05	-	-
<a href="#">RECENT_WITH_ALM/</a>	16-Jun-2015 08:05	-	-

Apache/2.2.15 (Red Hat) Server at bwww Port 80

# Main Tools: emailing

- Once report is done, informative email will be sent to configured recipient with link towards report and summary of alarms



# It's working

The screenshot shows the Mozilla Thunderbird interface with the 'Alarms' window open. The window title is 'Alarms - Mozilla Thunderbird'. The interface includes a top toolbar with 'Get Messages', 'Write', 'Chat', 'Address Book', 'Tag', and 'Quick Filter'. Below the toolbar, there are navigation icons for 'Unread', 'Starred', 'Contact', 'Tags', and 'Attachment'. A search bar is present with the text 'Filter these messages... <Ctrl+Shift+K>'. The main area is a table of alarms with columns for 'Subject', 'From', and 'Date'. The 'Subject' column lists various alarm types such as 'OAF on BWS\_LHC-H-status reports -1 alarms.', 'OAF on BWS\_LHC-V-status reports -1 alarms.', 'OAF on BCT\_LHC\_cmp-B2 reports 0 alarms.', etc. The 'From' column consistently shows 'jean-jacques.gras@cern.ch'. The 'Date' column shows a range of dates from 06/12/2015 to 08/08/2015. On the left side, there is a folder tree showing 'blazej.ko...@cern.ch', 'Inbox (423)', and 'Alarms (452)'. The 'Alarms (452)' folder is expanded, showing sub-folders like 'Bamboo (2)', 'BLMScri... (230)', 'Crucible (5)', 'Kajetan', 'Marcin&...i (11)', 'Stephen (4)', and 'Drafts (7)'. The 'Local Folders' section shows 'Trash' and 'Outbox'. At the bottom right, there is a status bar with the text 'Unread: 452 Total: 464 Today Pane'.

Subject	From	Date
OAF on BWS_LHC-H-status reports -1 alarms.	jean-jacques.gras@cern.ch	06/12/2015 09:45 PM
OAF on BWS_LHC-V-status reports -1 alarms.	jean-jacques.gras@cern.ch	06/12/2015 09:45 PM
OAF on BCT_LHC_cmp-B2 reports 0 alarms.	jean-jacques.gras@cern.ch	06/12/2015 09:45 PM
OAF on BCT_LHC-B1-cmp reports 1 alarms.	jean-jacques.gras@cern.ch	06/12/2015 09:50 PM
OAF on BCT_LHC-B2-cmp reports 1 alarms.	jean-jacques.gras@cern.ch	06/12/2015 09:50 PM
OAF on BWS_LHC-B2 reports -1 alarms.	jean-jacques.gras@cern.ch	06/12/2015 09:50 PM
OAF on BWS_P5 reports 285 alarms.	jean-jacques.gras@cern.ch	06/12/2015 09:52 PM
OAF on BWS_P5B-R1 reports 309 alarms.	jean-jacques.gras@cern.ch	06/12/2015 09:50 PM
OAF on BWS_P5B-R2 reports 362 alarms.	jean-jacques.gras@cern.ch	06/12/2015 09:54 PM
OAF on BWS_P5B-R3 reports 412 alarms.	jean-jacques.gras@cern.ch	06/12/2015 09:57 PM
OAF on BWS_P5B-R4 reports 666 alarms.	jean-jacques.gras@cern.ch	06/12/2015 10:03 PM
OAF on BCT_LHC-B1-cmp reports 1 alarms.	jean-jacques.gras@cern.ch	06/12/2015 10:03 PM
OAF on BCT_LHC-B2-cmp reports 1 alarms.	jean-jacques.gras@cern.ch	06/13/2015 08:00 AM
OAF on BWS_LHC-B2 reports 1429 alarms.	jean-jacques.gras@cern.ch	06/13/2015 08:00 AM
OAF on BWS_P5 reports 205 alarms.	jean-jacques.gras@cern.ch	06/13/2015 08:01 AM
OAF on BWS_P5B-R1 reports -1 alarms.	jean-jacques.gras@cern.ch	06/13/2015 08:02 AM
OAF on BWS_P5B-R2 reports -1 alarms.	jean-jacques.gras@cern.ch	06/13/2015 08:02 AM
OAF on BWS_P5B-R3 reports -1 alarms.	jean-jacques.gras@cern.ch	06/13/2015 08:03 AM
OAF on BWS_P5B-R4 reports -1 alarms.	jean-jacques.gras@cern.ch	06/13/2015 08:03 AM
OAF on BWS_P5 reports 204 alarms.	jean-jacques.gras@cern.ch	06/13/2015 08:03 AM
OAF on BLM_LHC-temp1 reports 51 alarms.	jean-jacques.gras@cern.ch	06/13/2015 03:44 PM
OAF on BLM_LHC-temp1 reports 51 alarms.	jean-jacques.gras@cern.ch	06/13/2015 03:56 PM
OAF on BLM_LHC-temp1 reports 51 alarms.	jean-jacques.gras@cern.ch	06/13/2015 04:07 PM
OAF on BLM_LHC-temp1 reports 51 alarms.	jean-jacques.gras@cern.ch	06/13/2015 04:10 PM
OAF on BLM_LHC-temp1 reports 51 alarms.	jean-jacques.gras@cern.ch	06/13/2015 04:28 PM
OAF on BLM_LHC-temp1 reports 51 alarms.	jean-jacques.gras@cern.ch	06/13/2015 04:31 PM
OAF on BLM_LHC-temp1 reports 51 alarms.	jean-jacques.gras@cern.ch	06/13/2015 04:34 PM
OAF on BLM_LHC-temp reports 54 alarms.	jean-jacques.gras@cern.ch	06/13/2015 05:17 PM
OAF on BPM_LHC-temp reports 2 alarms.	jean-jacques.gras@cern.ch	06/13/2015 05:37 PM
OAF on BPM_LHC-temp reports 2 alarms.	jean-jacques.gras@cern.ch	06/13/2015 05:55 PM
OAF on BPM_LHC-temp reports 2 alarms.	jean-jacques.gras@cern.ch	06/13/2015 05:56 PM
OAF on BPM_LHC-temp reports 2 alarms.	jean-jacques.gras@cern.ch	06/13/2015 06:05 PM
OAF on BPM_LHC-temp reports 2 alarms.	jean-jacques.gras@cern.ch	06/13/2015 06:10 PM
OAF on BPM_LHC-temp reports 2 alarms.	jean-jacques.gras@cern.ch	06/13/2015 06:20 PM
OAF on BPM_LHC-temp reports 2 alarms.	jean-jacques.gras@cern.ch	06/13/2015 06:30 PM
OAF on BPM_LHC-temp reports 2 alarms.	jean-jacques.gras@cern.ch	06/13/2015 06:36 PM
OAF on BPM_LHC-temp reports 2 alarms.	jean-jacques.gras@cern.ch	06/13/2015 06:46 PM
OAF on BPM_LHC-temp reports 2 alarms.	jean-jacques.gras@cern.ch	06/13/2015 06:55 PM
OAF on BPM_LHC-temp reports 2 alarms.	jean-jacques.gras@cern.ch	06/13/2015 07:10 PM
OAF on BPM_LHC-temp reports 2 alarms.	jean-jacques.gras@cern.ch	06/13/2015 07:13 PM
OAF on BPM_LHC-temp reports 2 alarms.	jean-jacques.gras@cern.ch	06/13/2015 07:22 PM
OAF on BPM_LHC-temp reports 2 alarms.	jean-jacques.gras@cern.ch	06/13/2015 07:52 PM
OAF on BPM_LHC-temp reports 2 alarms.	jean-jacques.gras@cern.ch	06/13/2015 10:31 PM
OAF on BPM_LHC-temp reports 2 alarms.	jean-jacques.gras@cern.ch	06/13/2015 10:48 PM
OAF on BPM_LHC-temp reports 2 alarms.	jean-jacques.gras@cern.ch	06/13/2015 11:07 PM
OAF on BPM_LHC-temp reports 2 alarms.	jean-jacques.gras@cern.ch	06/13/2015 11:09 PM
OAF on BPM_LHC-temp reports 2 alarms.	jean-jacques.gras@cern.ch	06/13/2015 11:32 PM
OAF on BPM_LHC-temp reports 2 alarms.	jean-jacques.gras@cern.ch	06/13/2015 11:41 PM
OAF on BPM_LHC-temp reports 2 alarms.	jean-jacques.gras@cern.ch	06/14/2015 12:00 AM
OAF on BCT_LHC-B1-cmp reports 1 alarms.	jean-jacques.gras@cern.ch	06/14/2015 12:12 AM
OAF on BCT_LHC-B1-cmp reports 1 alarms.	jean-jacques.gras@cern.ch	06/14/2015 12:20 AM
OAF on BCT_LHC-B1-cmp reports 1 alarms.	jean-jacques.gras@cern.ch	06/14/2015 12:23 AM
OAF on BCT_LHC-B2-cmp reports 1 alarms.	jean-jacques.gras@cern.ch	06/14/2015 08:00 AM
OAF on BWS_LHC-B2 reports -1 alarms.	jean-jacques.gras@cern.ch	06/14/2015 08:01 AM
OAF on BWS_P5 reports 3585 alarms.	jean-jacques.gras@cern.ch	06/14/2015 08:04 AM
OAF on BWS_P5B-R1 reports 410 alarms.	jean-jacques.gras@cern.ch	06/14/2015 08:07 AM
OAF on BWS_P5B-R2 reports 418 alarms.	jean-jacques.gras@cern.ch	06/14/2015 08:10 AM
OAF on BWS_P5B-R3 reports 52 alarms.	jean-jacques.gras@cern.ch	06/14/2015 08:11 AM
OAF on BWS_P5B-R4 reports 1131 alarms.	jean-jacques.gras@cern.ch	06/14/2015 08:16 AM
OAF on BLM_LHC-temp reports 46 alarms.	jean-jacques.gras@cern.ch	06/14/2015 08:20 AM
OAF on BCT_LHC-B2-cmp reports 1 alarms.	jean-jacques.gras@cern.ch	08:00 AM
OAF on BWS_LHC-B2 reports 112 alarms.	jean-jacques.gras@cern.ch	08:01 AM
OAF on BWS_P5 reports 2742 alarms.	jean-jacques.gras@cern.ch	08:04 AM
OAF on BWS_P5B-R1 reports -1 alarms.	jean-jacques.gras@cern.ch	08:04 AM
OAF on BWS_P5B-R2 reports -1 alarms.	jean-jacques.gras@cern.ch	08:04 AM
OAF on BWS_P5B-R3 reports -1 alarms.	jean-jacques.gras@cern.ch	08:04 AM
OAF on BWS_P5B-R4 reports -1 alarms.	jean-jacques.gras@cern.ch	08:04 AM
OAF on BLM_LHC-temp reports 50 alarms.	jean-jacques.gras@cern.ch	08:08 AM

# Coming Next

- New stuff, so expect bugs, missing features... but let give it a try and chance as is to cover correctly its first purpose (status and aging) before seeking for more (absolute perf assessment). JJ is available to discuss and implement your wishes for status/aging reports for this first stage. Probably a lot of useful things can already be done there.
- Possible complains from CO/DM due to our new activity on their DB.
  - We spoke to them. They are aware on our development and methods and will tell us first if they see issues coming on their side. They already also showed that they can help us when we share some interest on the request.
- Data extraction prevented by data size
  - CO/DM recognize a problem on their side preventing extraction when it should be possible. They are working on it. Some progress done already...
  - We should understand on our side that having a lot of details in the DB will slow down or even prevent useful automatic reporting. We should have a good understanding of all the DB configuration features and go for the good compromises.

# The Next Steps

- Missing and foreseen features:
  - History features for easy long term monitoring on NUMERICS and VECTORNUMERICS
  - Handling of images (especially with dynamic dimensions)
  - Low resolution reports.
  - When aging/status reports will be properly covered by a stabilized framework, open the door (via a maintainable/efficient solution) to the configurable introduction of dedicated code by <instr/dataset> developed by expert...

# Potential Extra Usage

- We could try also to use this tool 'ONLINE' during MD
  - We could define a short time (ie 15 mn) dynamic DB snapshot to look at the last 15 mn DB recording to check that things are going well
  - We could define before the MD a DB snapshot covering the entire MD time frame and play this snapshot during the MD to already see in realtime the data analysis we prepared before.



Reports..

# **ANNEXES**



Main Framework Sequence: make\_front\_figure

**Purpose:**

Makes the report front pages with title, description of dataset, list of variables extracted...

# Main Tools: Naming Conventions

- In order to make things possible and a little organised, we used (and impose to work with OAF) the following naming conventions.
- Each set of data (not when, only what) will be identified by an **<instrument ID>** and a **<data set ID>**
- <dataSet ID> must not contain the '\_' or '' characters
- <instrument ID>. Must belong to a predefined list that the OAF team is maintaining
- The corresponding Timber 'snapshot' (see later) must be 'Public' and called: **BI\_<instr ID>\_<dataSet ID>**

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# Anaconda packages ...

```
_license 1.1 py34_0
abstract-rendering 0.5.1 np19py34_0
anaconda 2.2.0 np19py34_0
argcomplete 0.8.4 py34_0
astropy 1.0.1 np19py34_0
bcolz 0.8.1 np19py34_0
beautiful-soup 4.3.2 py34_0
beautifulsoup4 4.3.2 <pip>
binstar 0.10.1 py34_3
bitarray 0.8.1 py34_0
blaze 0.7.3 <pip>
blaze-core 0.7.3 np19py34_0
blz 0.6.2 np19py34_0
bokeh 0.8.1 np19py34_1
boto 2.36.0 py34_0
certifi 14.05.14 py34_0
cffi 0.9.2 py34_0
clyent 0.3.4 py34_0
colorama 0.3.3 py34_0
conda 3.10.0 py34_0
conda-build 1.11.0 py34_0
conda-env 2.1.3 py34_0
configobj 5.0.6 py34_0
cryptography 0.8 py34_0
```

# Anaconda packages ...

```
_license 1.1 py34_0
abstract-rendering 0.5.1 np19py34_0
anaconda 2.2.0 np19py34_0
argcomplete 0.8.4 py34_0
astropy 1.0.1 np19py34_0
bcolz 0.8.1 np19py34_0
beautiful-soup 4.3.2 py34_0
beautifulsoup4 4.3.2 <pip>
binstar 0.10.1 py34_3
bitarray 0.8.1 py34_0
blaze 0.7.3 <pip>
blaze-core 0.7.3 np19py34_0
blz 0.6.2 np19py34_0
bokeh 0.8.1 np19py34_1
boto 2.36.0 py34_0
certifi 14.05.14 py34_0
cffi 0.9.2 py34_0
clyent 0.3.4 py34_0
colorama 0.3.3 py34_0
conda 3.10.0 py34_0
conda-build 1.11.0 py34_0
conda-env 2.1.3 py34_0
configobj 5.0.6 py34_0
cryptography 0.8 py34_0
```



