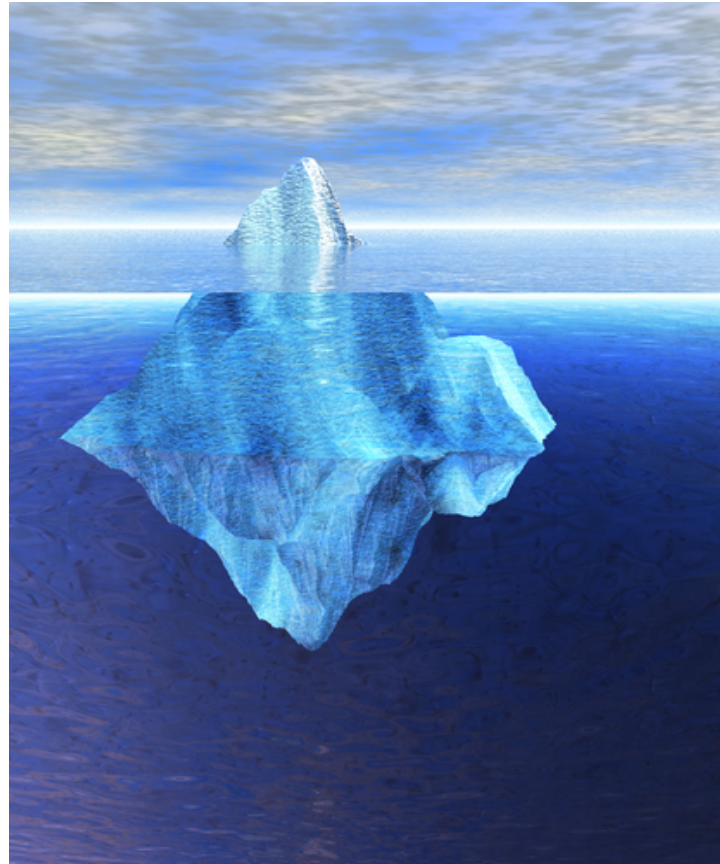


Ganga News User Monitoring & Support

Jakub T. Moscicki

CERN IT/ES

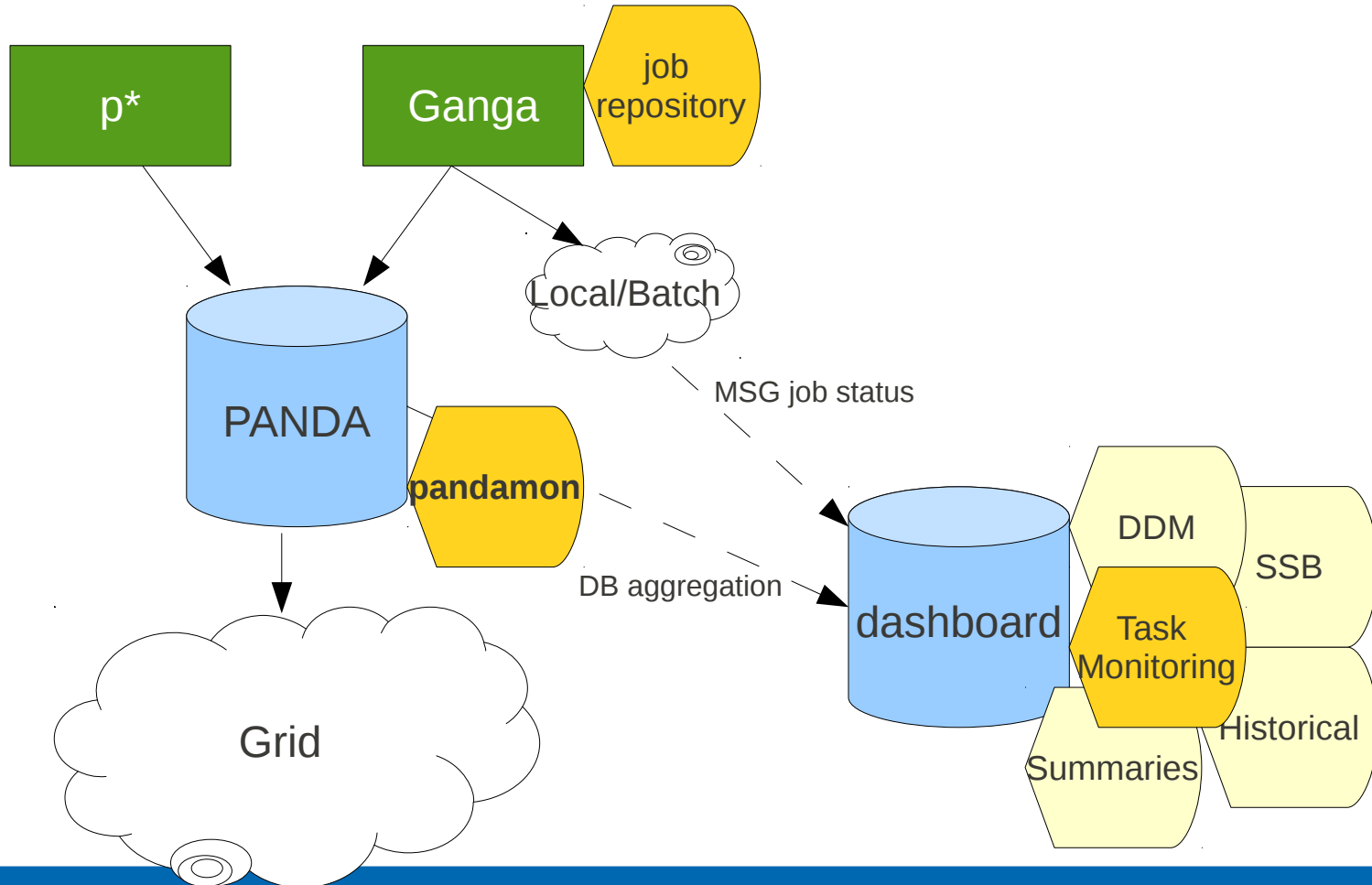


- Ganga news
- User monitoring
 - ATLAS Task Monitoring Dashboard
 - ganga --webgui
- User support
 - Error reporting tool
- Summary & conclusions

- Ganga Developer Days in Munich
 - 27-29 September 2010
- Ganga releases 5.5.14 - 5.5.18 (Aug-Dec)
 - Improved Athena.atlas_exetype=EXE workflow
 - Changed Job splitting algorithm for Panda jobs:
 - _ use **schedconfig maxinputsize** parameter (in many cases 14 GB) or
 - _ config.Athena.DefaultNumFilesPandaDirectDQ2JobSplitter=50 files
 - New options for **Panda** backend:
 - _ backend.**nobuild** parameter (True/False)
 - _ backend.requirements.**express** (True/False)
 - _ **--useChirpServer**
 - '--useChirpServer voatlas92.cern.ch' and the logs and ntuples smaller than 50MB are staged out to the chirp sever
 - Bugfixes and improvements in **GangaTasks** package
 - _ automatic job steering, throttling and chaining capability
 - Support for Panda **JobSets**
 - _ Jobs run at multi sites if input datasets are spread across sites
 - _ Output is always a container
 - _ j.backend.requirements.anyCloud. Default is True. Set to False if you want to limit the jobs to run in a single cloud.
 - Moved the EventPicking code to the new interface code provided in panda clients tools
 - Improvements in TAG workflow (will be covered in Mark's presentation)

User monitoring

- monitoring of tasks+jobs



- Shows **all** jobs: PANDA and submitted locally
- User-centric task view
 - “show all my tasks” from last N days
 - inspect status through text and charts
- Interactive Web 2.0 application
 - easy to use and navigate
 - interactive search
 - selection of graphical plots
 - bookmark favourite tasks
- Other views
 - Integrated with other Dashboard views (e.g. SSB)
 - Back-navigation to pandamon
- Builds upon existing Dashboard frameworks and services
 - Takes load away from PANDA servers
 - Stores information in a schema suitable for retrieving historical data

dashb-atlas-jobdev.cern.ch/templates/client/index.html#user=&from=&till=&timeRange=lastMonth&refresh=0&tid=&p=1

Pyhton LibRef | Delegate to Tod... | Google Bookmark | TeraGrid & You | Google - Bookm... | DIANE | ganga | tools | meteo

ATLAS dashboard USER [dropdown] TIME RANGE [dropdown]
REFRESH Disabled FROM [input] TILL [input] TIME RANGE Last Month [dropdown]

:: Users List

Search for user [input]

AaronAngerami22123
AaronArmbroster02014
AdamRoe
AdamYurkewicz343086
AdiAshkenazi
AdrienRenaud
AdvaitNagarkar597452
AgnieszkaLeyko
AhmedAliAbdelalim
AlaettinSerhanMete462708
AlbertOlariu
AlbertoAnnovi
AlbertoMengarelli
AldenStradling409738
AldoF.Saavedra
AlexKastanas
AlexanderMann
AlexanderMilov
AlexanderParamonov116891
AlexanderSharmazanashvili
AlexanderSood174891

:: Users List

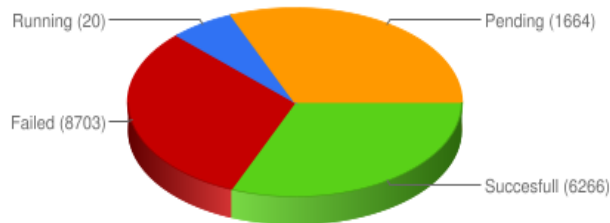
Search for user Andreas

AndreaDiSimone
AndreaNeusiedl
AndreasBattaglia
AndreasGeorgePetridis
AndreasRedelbach
AndreasReinsch280684
AndreasSalzburger
AndreasWildauer

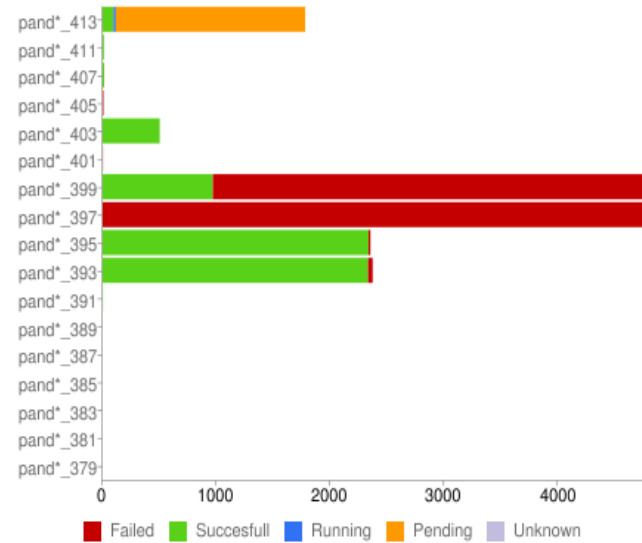
monitorTaskId	Num of Jobs	Pending	Running	Successful	Failed	Unknown	Graphically
⊕ panda_ana_AndreasSalzburger_41	1780	1672	22	86	0	0	
⊕ panda_ana_AndreasSalzburger_41	11	0	0	11	0	0	
⊕ panda_ana_AndreasSalzburger_40	14	0	0	14	0	0	
⊕ panda_ana_AndreasSalzburger_40	6	0	0	0	6	0	
⊕ panda_ana_AndreasSalzburger_40	501	0	0	501	0	0	
⊕ panda_ana_AndreasSalzburger_40	3	0	0	1	2	0	
⊕ panda_ana_AndreasSalzburger_39	4801	0	0	967	3834	0	
⊕ panda_ana_AndreasSalzburger_39	4797	0	0	1	4796	0	
⊕ panda_ana_AndreasSalzburger_39	2353	0	0	2336	17	0	
⊕ panda_ana_AndreasSalzburger_39	2373	0	0	2331	42	0	
⊕ panda_ana_AndreasSalzburger_39	2	0	0	2	0	0	
⊕ panda_ana_AndreasSalzburger_38	2	0	0	1	1	0	
⊕ panda_ana_AndreasSalzburger_38	2	0	0	1	1	0	
⊕ panda_ana_AndreasSalzburger_38	2	0	0	1	1	0	
⊕ panda_ana_AndreasSalzburger_38	2	0	0	1	1	0	
⊕ panda_ana_AndreasSalzburger_38	2	0	0	1	1	0	
⊕ panda_ana_AndreasSalzburger_37	2	0	0	1	1	0	

Da Charts

Status Overview

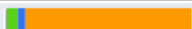


Graphical representation



Data Charts

Search:

monitorTaskId	Num of Jobs	Pending	Running	Successful	Failed	Unknown	Graphically
<input type="checkbox"/> panda_ana_AndreasSalzburger_41	1780	1602	74	104	0	0	
<ul style="list-style-type: none"> TaskMonitorId panda_ana_AndreasSalzburger_413 TaskId 563669431 TaskCreatedTimeStamp 2010-11-29 11:47:22 TaskType analysis Application atlas-16.2.0 ApplicationVersion atlas-16.2.0 Executable unknown InputCollection data10_7TeV.00152166.physics_MinBias.recon.ESD.r1297/ SubmissionTool pathena SubmissionTool Version unknown SubmissionType panda_server SubmissionUI unknown TargetCE unknown 							
<input type="checkbox"/> panda_ana_AndreasSalzburger_41	11	0	0	11	0	0	

monitorTaskId Num of Jobs Pending Running Successful Failed Unknown Graphically

Showing 1 to 2 of 2 entries (filtered from 17 total entries)

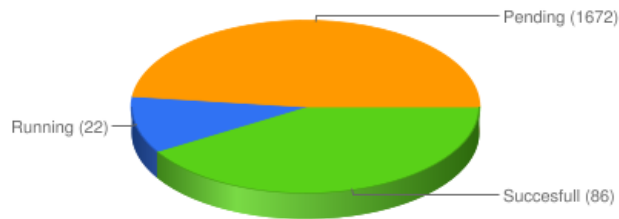
First Previous Page 1 of 1 Next Last

Data Charts

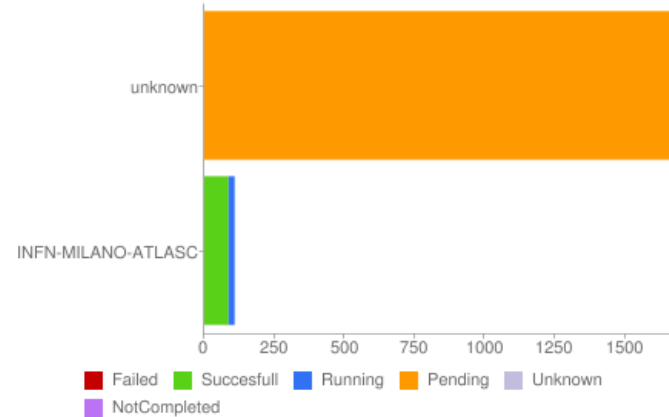
Search:

SchedulerJobId	Id in Task	Job Status	Appl Exit Code	Grid End Status	Retries	Site	Submitted	Started
panda1154147967	1154147967	Successfull	panda0	D	1	INFN-MILANO-ATLASC	2010-11-29 10:02:45	2010-11-29 10:06:43
panda1154147971	1154147971	Successfull	panda0	D	1	INFN-MILANO-ATLASC	2010-11-29 10:02:46	2010-11-29 10:18:23
panda1154147978	1154147978	Successfull	panda0	D	1	INFN-MILANO-ATLASC	2010-11-29 10:02:46	2010-11-29 10:20:31
panda1154147980	1154147980	Successfull	panda0	D	1	INFN-MILANO-ATLASC	2010-11-29 10:02:46	2010-11-29 10:20:32
panda1154147982	1154147982	Successfull	panda0	D	1	INFN-MILANO-ATLASC	2010-11-29 10:02:46	2010-11-29 10:20:32
panda1154147984	1154147984	Successfull	panda0	D	1	INFN-MILANO-ATLASC	2010-11-29 10:02:46	2010-11-29 10:26:46
panda1154147986	1154147986	Successfull	panda0	D	1	INFN-MILANO-ATLASC	2010-11-29 10:02:46	2010-11-29 10:26:53
panda1154147989	1154147989	Successfull	panda0	D	1	INFN-MILANO-ATLASC	2010-11-29 10:02:46	2010-11-29 10:28:48
panda1154147990	1154147990	Successfull	panda0	D	1	INFN-MILANO-ATLASC	2010-11-29 10:02:46	2010-11-29 10:29:02
panda1154147992	1154147992	Successfull	panda0	D	1	INFN-MILANO-ATLASC	2010-11-29 10:02:46	2010-11-29 10:31:00

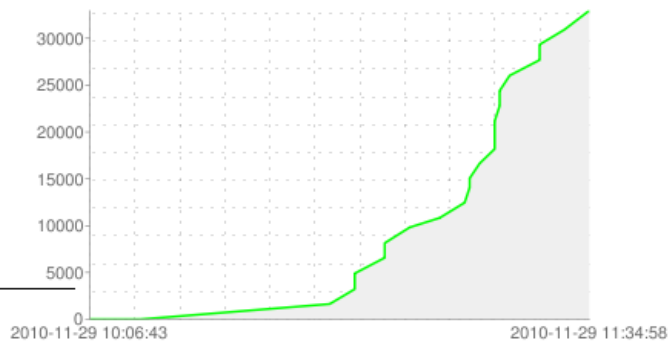
Status Overview



Jobs Distributed by Site



987 processed events out of 682754 in total. time interval - 88 minute



Application Failed Jobs by Reason of Failure

- web-based view of user's job repository
 - just start: `ganga --webgui`
 - and open a local link in your web browser
 - automatically refreshed and linked to Task Monitoring Dashboard and PANDA monitoring

```
$ ganga --webgui
```

```
*** Welcome to Ganga ***
```

```
Version: Ganga-5.5.18-pre
```

```
Documentation and support: http://cern.ch/ganga
```

```
Type help() or help('index') for online help.
```

```
Web gui monitoring server started successfully
```

```
You can monitor your jobs on the following link:
```

```
file:///.../5.5.18-pre/.../WebMonitoringGUI/client/index.html?port=8080#user=gangaat
```

```
In [1]:
```

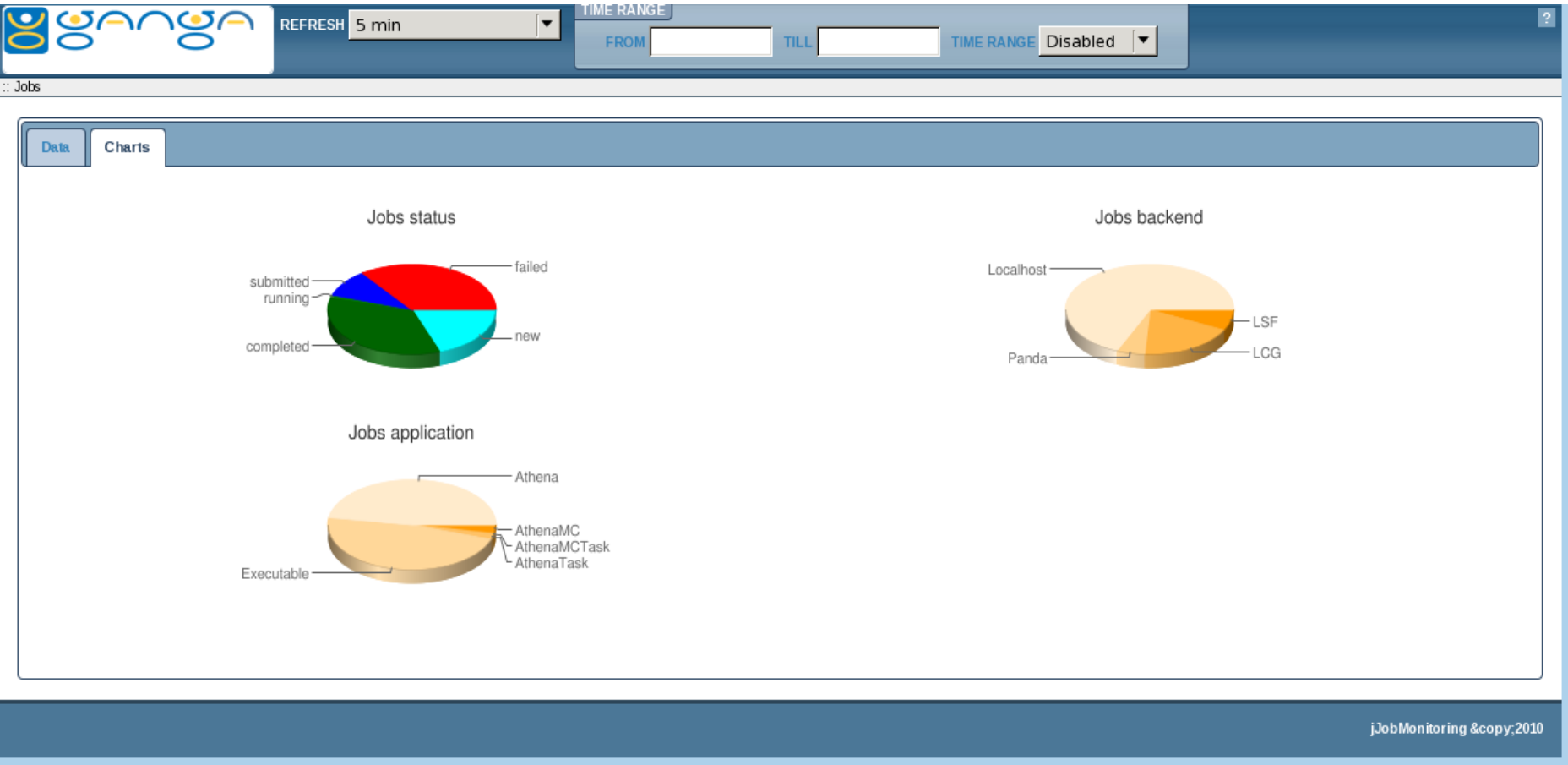

 REFRESH
 TIME RANGE FROM TILL TIME RANGE

Jobs

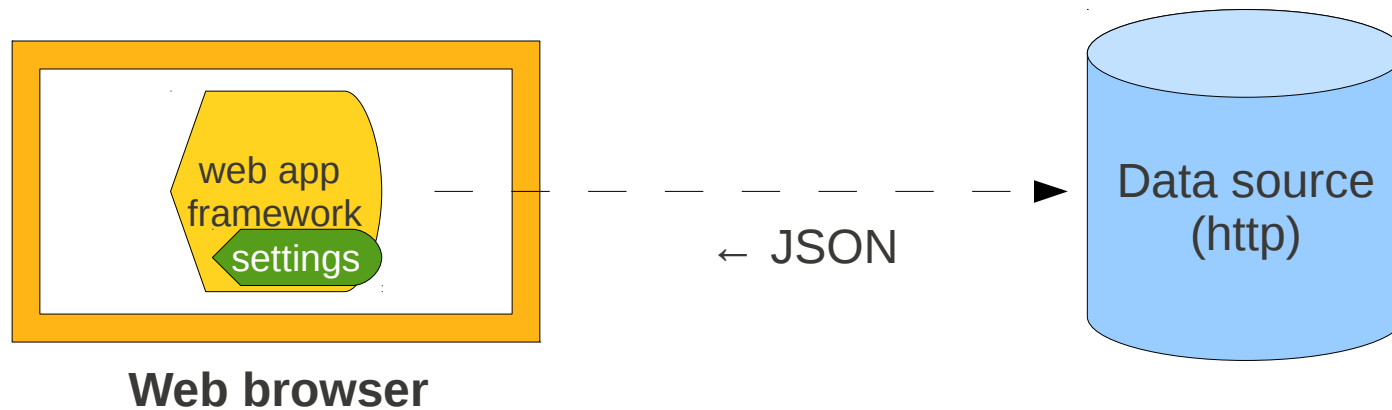
Data Charts

Search:

id	status	name	application	backend	subjobs	submitted	running	completed	failed	Graphicaly	link	actualICE
330	new		Athena	Panda	0	0	0	0	0			UNDEFINED
329	new		Athena	Panda	0	0	0	0	0			UNDEFINED
328	failed		Athena	Panda	5	0	0	0	5			UNDEFINED
inputdir		/afs/cern.ch/user/g/gangaat/gangadir/workspace/gangaat/LocalXML/328/input/										
outputdir		/afs/cern.ch/user/g/gangaat/gangadir/workspace/gangaat/LocalXML/328/output/										
uuid		22e2ccda-d9d5-4e6a-bffa-4866b0cef457										
327	new	T12:0 C1	AthenaTask	Panda	0	0	0	0	0			UNDEFINED
326	new		Executable	Localhost	0	0	0	0	0			
325	new		Executable	Localhost	0	0	0	0	0			
324	new		Executable	Localhost	0	0	0	0	0			
323	completed		Athena	Localhost	0	0	0	0	0			lxplus228.cern.ch
322	completed		Athena	Localhost	0	0	0	0	0			lxplus228.cern.ch
321	completed		Athena	Localhost	0	0	0	0	0			lxplus228.cern.ch
320	completed		Athena	Localhost	0	0	0	0	0			lxplus228.cern.ch
319	completed		Athena	Localhost	0	0	0	0	0			lxplus228.cern.ch



- Ganga --webgui & Task Monitoring Dashboard
 - same web 2.0 application framework
 - same look and feel... navigation... interactivity...
 - Model – View – Controller architecture
 - *suitable for displaying any 2-level hierarchical data*
 - highly customizable framework: add new charts, columns,...

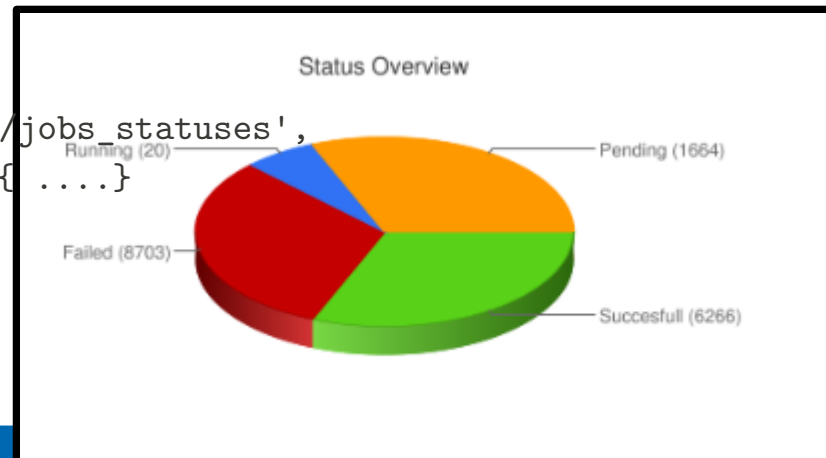


```
function Settings() {
  // Application specific settings - START
  this.Application = {
    'userSelection': true, // Display user selection page? (true|false)
    'jsonp': false, // allow requests to other hosts
    'pageTitle': 'ATLAS Task Monitoring', // Page title
    .....
  };

  this.Mains = {
    'dataURL': '/dashboard/request.py/gangataskstable', // Mains URL for ajax request
    'tblLabels': ['monitorTaskId', 'Num of Jobs', 'Pending', 'Running', 'Successful', 'Failed', 'Unknown', 'Graphically'],
    'charts': [
      {
        'ajax': true,
        'dataURL': '/dashboard/request.py/jobs_statuses',
        'dataURL_params': function(data) { ..... },
        'gChart': {
          'chtt': 'Status Overview',
          'cht': 'p3',
          'chs': '430x190',

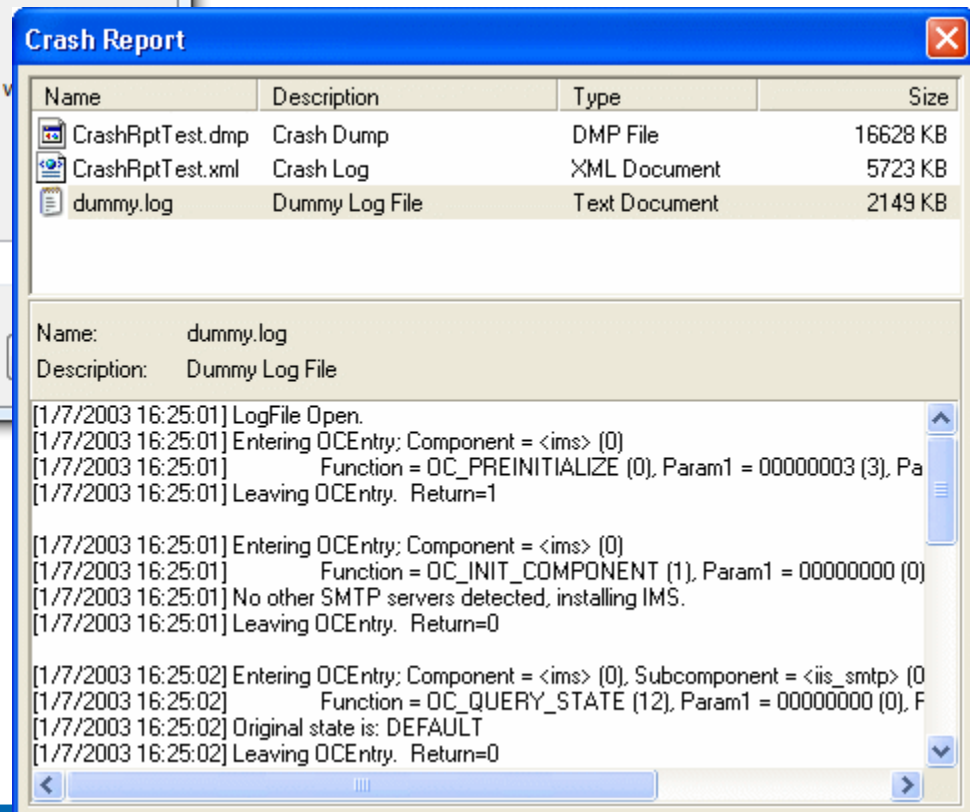
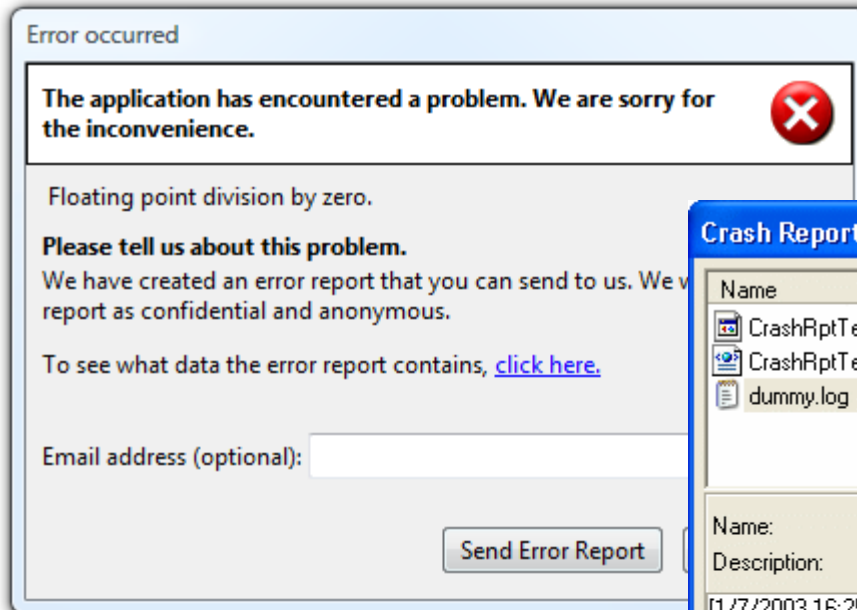
```

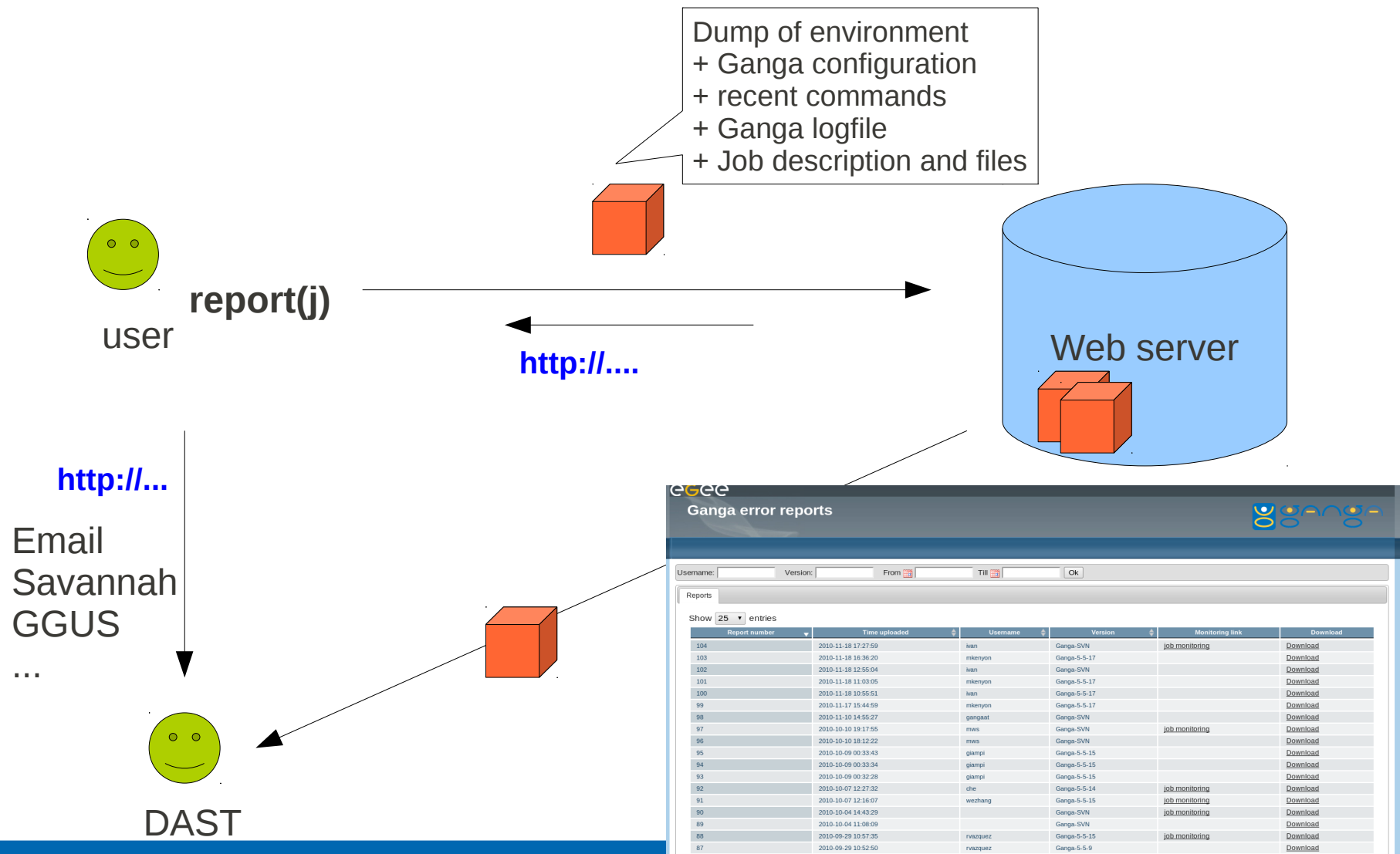
monitorTaskId	Num of Jobs	Pending	Running	Successful	Failed	Unknown	Graphically
panda_ana_AndreasSalzburger_41	1780	1672	22	86	0	0	
panda_ana_AndreasSalzburger_41	11	0	0	11	0	0	



User support

- **Problem:**
 - A sizeable fraction of errors in DA is due to local user environment, athena, configuration of tools, order of issued commands etc.
 - DAST: it is not obvious to understand the details of the user's environment without a long email chain asking for missing bits of information
- **Solution:**
 - Error reporting tool makes it very easy for users to upload snapshot of their environment and make it available through a URL to DAST





Summary & Conclusions

- Direct and indirect contributions to tools and services for ATLAS DA
 - benefiting from shared effort with other VOs, e.g.:
 - Error reporting: developed for Ganga, used also by CMS
 - Task Monitoring: developed for CMS, adapted for ATLAS
 - Ganga: developed jointly by ATLAS and LHCb
 - Hammercloud uses Ganga in the implementation layer
 - ...
 - Additionally, this allows pulling-in of external manpower through EU-funded projects, EGI and external partners

- DA tools and services developed jointly with IT
- Recently deployed
 - for end users
 - ATLAS Task Dashboard: pre-production
 - <http://dashb-atlas-jobdev.cern.ch/templates/client/index.html>
 - Ganga --webgui (available as of Ganga-5-5-18)
 - for DAST team
 - Error reporting: <http://gangamon.cern.ch/errorreports>
- It's a user-driven development
 - You can make it better!
 - Try out, give feedback