Overview on ATLAS Blacklisting

work done by many
presented by Jose Caballero <jcaballero@bnl.gov>

This talk is just a summary...

This talk only provides for an summary of policies, monitoring tools, etc. For more detailed information relevant for site admins, check the twikies or contact the experts:

HammerCloud:	https://twiki.cern.ch/twiki/bin/view/IT/HammerCloudTutorialATLASsiteAdmins
	atlas-adc-hammercloud-support@cern.ch
For DDM Support:	atlas-adc-ddm-support@cern.ch
Switcher:	https://twiki.cern.ch/twiki/bin/view/AtlasComputing/SwitcherBlacklisting
	atlas-adc-autoexclusion-support@cern.ch

Topics covered in this talk

1. Queues Blacklisting
    - 1.1. HammerCloud
        - 1.1.1. Production and Analysis Blacklisting
        - 1.1.2. Event Service Blacklisting
        - 1.1.3. How To
    - 1.2. Switcher
        - 1.2.1. Overview of new policies
    - 1.3. Manual Blacklisting
    - 1.4. Monitoring and Troubleshooting
2. DDM Blacklisting

Queues Blacklisting: HammerCloud

Analysis and Production Blacklisting: reminder of policies

HC automatically excludes from brokerage queues when Functional Tests are failing (Blacklist), and re-enable them when the Tests succeed (Whitelist).

A queue is blacklisted if

- the last 3 jobs of one Template
- the last 2 jobs of one Template and the last job from another Template
- the last job from each of 3 Templates

failed during

- the past 3 hours for Analysis Queues
- the past 4 hours for Production Queues

Runs every 30 minutes.

Analysis and Production Blacklisting: reminder of policies (ii)

Exceptions to the previous rules:

- HC only works on Queues in "ONLINE" and "TEST" status. Queues in "OFFLINE", "BROKEROFF" or any other status are excluded from testing.

- A queue may also be Blacklisted even though the Functional Tests ran OK. This happens when the queue is a "slave" one, and the corresponding "master" queue has been Blacklisted.

  There is one, and only one, "master" queue for ATLAS Site and type ("analysis" vs "production"), set via AGIS parameter *is_default=True*.

Event Service Blacklisting: policies

Applies to queues with jobseed "es" or "all".

An Event Service queue is Blacklisted if any of these conditions are true:

- too many jobs failed
  - current policy is at least 50% of total jobs
- for a minimum number of jobs finished in past 2 hours, not enough events were processed
  - current policy is 500 jobs and 100 events
- an "jobseed=all" queue has been blacklisted for Production Functional Test

Event Service Blacklisting: policies (ii)

Blacklisting an ES queue means

jobseed	action
es	status = TEST
all	jobseed = std

Queues are unconditionally Whitelisted after 6 hours.

However, if a Queue is Blacklisted 4 times in a row within 24 hours, it is not Whitelisted back anymore, and left for the site admins to investigate.

Event Service Blacklisting: queues recovery

In the past, when the value of jobseed was changed manually in AGIS while the queue was Blacklisted, it entered in a "undefined" state, leaving the queue Blacklisted forever.

A mechanism has been implemented to detect these cases and recover the queue back to a "known" state.

	Undefined status	Interpretation	Recovery action
case 1	jobseed = all status = TEST comment = "HC.ESblacklist.set.test"	attempt to convert a ES-only queue into a ES+Prod queue	status = ONLINE jobseed = all no comment
case 2	jobseed = std status = TEST comment = "HC.ESblacklist.set.test"	attempt to convert a ES-only queue into Production-only queue	status = ONLINE comment = "HC.Test.Me"

Event Service Blacklisting: ESBlacklisting due evictions in Opportunistic Queues

Common issue in Opportunistic Resources.

- Should we suppress Blacklisting on Opportunistic Resources?
  - Still important to blacklist when jobs fail for real...
- Should we have more relaxed policies?
- Maybe custom, queue by queue, parameters?
  - They should be set in AGIS...
- When batch system uses specific signals for eviction, is pilot passing them to PanDA? If yes, is PanDA still marking the jobs as failed?
- ???

HammerCloud How To: enable blacklisting of a PanDA queue

1. **is_default**=True for max 1 PQ of type=production, and max 1 PQ of type=analysis per PanDA site

   The “master queue” responsible which PFT/AFT test results we blacklist master + slave PQs of the same PanDA site per PQ type

2. **hc_param** in [‘AutoExclusion’, ‘OnlyExclude’]

3. **hc_suite** in [‘PFT’, ‘AFT’]

HammerCloud How To (ii): trigger testing/blacklisting on a new PanDA Queue

- Are HC inputs available? ⇒ PQ Associated DDM Storages: Pilot Read (READ LAN)
  - if HC inputs missing, get in touch with DDM Ops
- Is my new master PQ registered in HC? https://hc-ai-core.cern.ch/testdirs/atlas/agis_pandaresources.json
- Is my new master PQ already getting HC test jobs? http://hammercloud.cern.ch/hc/app/atlas/siteoverview/select
  - if no jobs yet, follow up with HC support
- set the PQ to 'TEST' for a few hours
https://atlas-agis-api.cern.ch/request/pandaqueuestatus/update/set_probestatus/?html&pandaqueue=CERN-P1-OpenStack&value=TEST&reason=HC.Test.Me&probe=manual&expiration=2h
- set PQ to 'AUTO' for HC and Switcher to take over
https://atlas-agis-api.cern.ch/request/pandaqueuestatus/update/set_probestatus/?html&pandaqueue=CERN-P1-OpenStack&value=AUTO&reason=HC.Test.Me&probe=manual

How fast can I get the first HC jobs?

1. within less than 1 hr: HC inputs are available & PQ is not OFFLINE/BROKEROFF
2. within 24 hrs: HC inputs are available, but the PQ is OFFLINE/BROKEROFF
3. within days to weeks: HC inputs are not available and there is an issue transferring them there

HammerCloud How To (iii): other actions

For other actions on a PanDA Queue other than Blacklisting, check this talk

https://indico.cern.ch/event/692124/contributions/2899914/attachments/1611506/2559099/BlacklistingOverview_ATLASSiteJamboree20180306_jschovan.pdf

- Add a new Queue
- Trigger Tests on a Queue
- Decommission a Queue
- etc

Queues Blacklisting: Switcher

Switcher3

Switcher excludes Queues from brokering based on scheduled downtimes of underlying CEs or SEs.

Documentation can be found in this twiki:

https://twiki.cern.ch/twiki/bin/view/AtlasComputing/SwitcherBlacklisting

When there is a downtime scheduled for a PanDA queue, the queue is first set to status BROKEROFF a few hours before, then to OFFLINE.

Switcher3: how many hours before downtime a Queue is Blacklisted?

		Production		Analysis	
downtime length	**type**	**set brokeroff**	**set offline**	**set brokeroff**	**set offline**
< 4 hrs	all	-	-	-	-
4 - 48 hrs	CE	-	12	8	4
	DDM	-	12	8	4
> 48 hrs	CE	-	12	8	4
	DDM	-	48	120	72

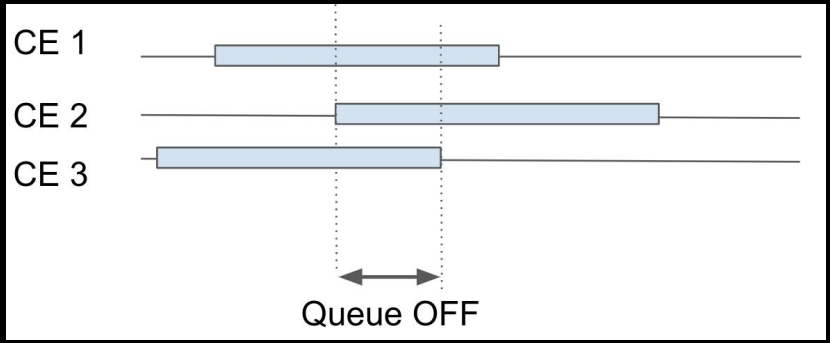
Switcher3: new policies for Blacklisting based on CE's downtime

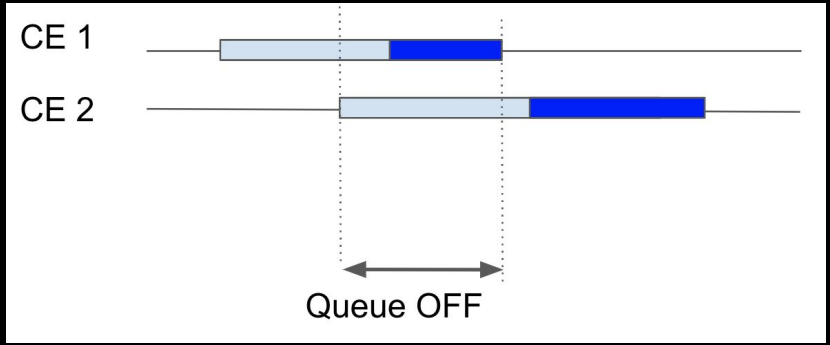
A Queues will be Blacklisted only if
all associated CEs are disabled at the same time.

Switcher will disable in AGIS each individual
CE that is scheduled for downtime:
new status INACTIVE.

Current policy is to disable a CE
2 hours before its scheduled downtime.

To Blacklist a Queue,
it takes into account the entire
period of time the CEs are INACTIVE.





Switcher3: new policies for Blacklisting based on DDM's downtime

Current algorithm to decide which DDM endpoint to use for Queue's Blacklisting:

- Switcher3 will check information from 2 different views in AGIS:
  - the pandaqueues view (a.k.a. schedconfig) http://atlas-agis-api.cern.ch/request/pandaqueue/query/list/?json&preset=schedconf.all
  - the ddmendpoints view http://atlas-agis-api.cern.ch/request/ddmendpoint/query/list/?json&preset=dict

- for each panda queue:
  1. check for the first (higher priority) active spacetoken in the "write_lan" activity in the "astorages" block. Usually is "write_lan/0" in AGIS
  2. search for that spacetoken in the DDMEndpoints view
  3. in block "arprotocols", search for the "write_lan" one. If it does not exist, use "write_wan"
  4. first endpoint for that protocol (higher priority) will be associated to the panda queue

Switcher3: new policies for Blacklisting based on DDM's downtime

pandaqueue get assigned DDM endpoint

AGIS pandaqueues (a.k.a. schedconfig)

```
{
    "AGLT2_LMEM_SL7-condor": {
        ...
        "astorages": {
            ...
            "write_lan": [
                "AGLT2_DATADISK",
                "AGLT2_CALIBDISK",
                "AGLT2_LOCALGROUPDISK",
                "AGLT2_SCRATCHDISK"
            ]
        }
    },
    ...
```

AGIS ddmendpoints

```
"AGLT2_DATADISK": {
    ...
    "arprotocols": {
        ...
        "write_wan": [
            {
                "endpoint": "srm://head01.aglt2.org:8443/srm/managerv2?SFN=",
                "flavour": "SRMv2",
                "id": 256,
                "path": "/pnfs/aglt2.org/atlasdatadisk/rucio/"
            },
            {
                "endpoint": "davs://head01.aglt2.org:2880",
                "flavour": "WEBDAV",
                "id": 257,
                "path": "/atlasdatadisk/rucio/"
            }
        ]
        ...
    }
}
```

Switcher3: new policies for Blacklisting based on DDM's downtime

pandaqueue get assigned DDM endpoint

AGIS

```
{
    "AGLT2_LMEM_SL7-condor": {
        ...
        "astorages": {
```

Associated DDM Storages

Name	State	Experiment Site	Activities
AGLT2_CALIBDISK	ACTIVE	AGLT2	read_lan/1, write_lan/1
AGLT2_DATADISK	ACTIVE	AGLT2	read_lan/0, write_lan/0
AGLT2_LOCALGROUPDISK	ACTIVE	AGLT2	read_lan/2, write_lan/2
AGLT2_PERF-MUONS	DISABLED	AGLT2	write_lan/3
AGLT2_PHYS-HIGGS	DISABLED	AGLT2	write_lan/4
AGLT2_PHYS-SM	DISABLED	AGLT2	write_lan/5
AGLT2_SCRATCHDISK	ACTIVE	AGLT2	read_lan/3, write_lan/6
AGLT2_SUPERDISK	DISABLED	AGLT2	write_lan/7
AGLT2_USERDISK	DISABLED	AGLT2	write_lan/8
CERN-PROD_ES	ACTIVE	CERN-PROD	es_events/0, es_failover/0
OSIRIS_LOG	ACTIVE	AGLT2	pls/0

AGIS ddmendpoints

```
"AGLT2_DATADISK": {
    ...
    "arprotocols": {
        ...
        "write_wan": [
            {
                'endpoint": "srm://head01.aglt2.org:8443/srm/managerv2?SFN=",
                "flavour": "SRMv2",
                "id": 256,
                "path": "/pnfs/aglt2.org/atlasdatadisk/rucio/"
            },
            {
                "endpoint": "davs://head01.aglt2.org:2880",
                "flavour": "WEBDAV",
                "id": 257,
                "path": "/atlasdatadisk/rucio/"
            }
        ]
        ...
    }
}
```

Switcher3: no Queue left behind

It uses now this URL to check the current value of the Switcher probe for each PanDA Queue:

http://atlas-agis-api.cern.ch/request/pandaqueuestatus/query/list/?json

As it includes all PanDA Queues with a value for probe Switcher, whether it was the last active probe or not, it won't leave Queues in OFFLINE status forever as it happened sometimes in the past.

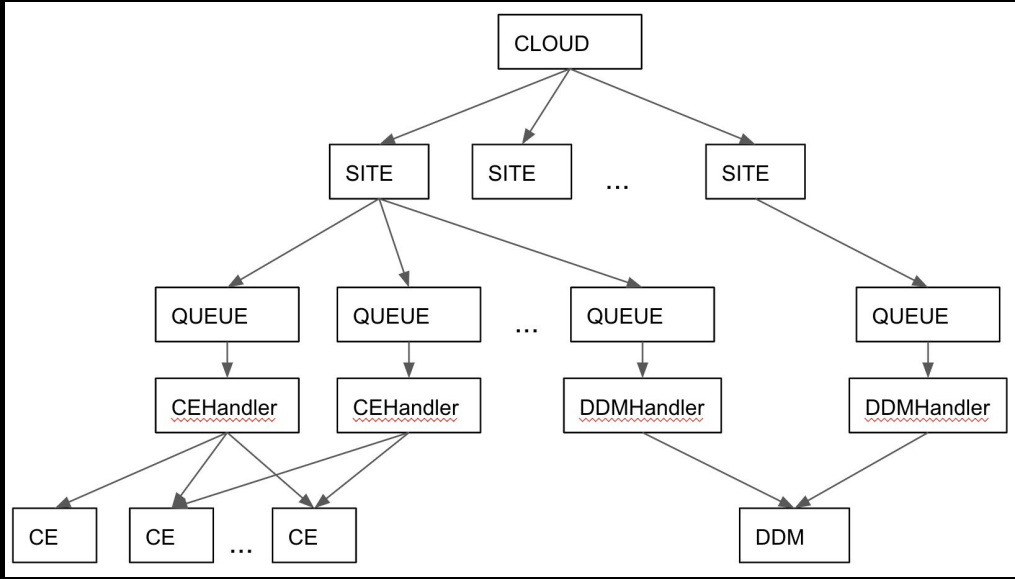
Switcher3: new code for new policies

The new policies required two radical changes in the code:

1. more complex time calculations
2. isolate topology entities from each other

To address these needs, I wrote Switcher3. New code(*), not only addresses the new requests, but will allow to implement more easily new ones when needed.

Switcher3 went into production on Feb 20th.



(*) a more technical talk during next ADC TCB meeting.

Queues Blacklisting: Manual

Manual Probe How To: Force the status of a PanDA Queue

Use an URL like this:

https://atlas-agis-api.cern.ch/request/pandaqueuestatus/update/set_probestatus/?html&pandaqueue=CERN-P1-OpenStack&value=TEST&reason=I+am+testing+something+leave+me+alone&probe=manual&expiration=5h

- N.B.: you need to set the **expiration** parameter! e.g. expiration=5h or expiration=1d or expiration=1w or expiration=2018-03-06+11:15:00 (in UTC!)
  - Once the period expires, the given value is excluded from the final status calculation

- **pandaqueue** … name of the PanDA queue (not PanDA resource)
- **value** in [‘TEST’, ‘ONLINE’, ‘OFFLINE’, ‘BROKEROFF’]
- **reason** is a way to set comment, e.g. you can put ‘HC.Test.Me’ here, or whatever string you want
- **probe**=manual

In case you make a typo or forget about a parameter, do not worry, AGIS will suggest what to fix

History log: http://atlas-agis.cern.ch/agis/pandablacklisting/table_view/

Manual Probe How To (ii): re-enable automatic probes (HC, Swicher)

https://atlas-agis-api.cern.ch/request/pandaqueuestatus/update/set_probestatus/?html&pandaqueue=CERN-P1-OpenStack&value=AUTO&reason=HC.Test.Me&probe=manual

- **expiration** is not compulsory parameter to set AUTO mode!
  - i.e. AUTO may never expire, by default
- **pandaqueue** name of the PanDA queue (not PanDA resource)
- **value**=AUTO
- **reason** is a way to set a comment, e.g. you can put ‘HC.Test.Me’ here, or whatever string you want
  - the “comment” is important for any status other than ONLINE! i.e. TEST, AUTO, ...
- **probe**=manual

History log: http://atlas-agis.cern.ch/agis/pandablacklisting/table_view/

Manual Probe How To (iii): agis-set-queue-status

Alessandra wrote an script that facilitates setting a PanDA Queue status.

```
[bash][atlas]:workdir > agis-set-queue-status
Either status or queue are not set
########################################

Usage: /cvmfs/atlas.cern.ch/repo/ATLASLocalRootBase/x86_64/adctools/0.2.1/adctools-0.2.1/bin/agis-set-queue-status status:set_online_date queue
[comment]

status values = AUTO,BROKEROFF,TEST,OFFLINE

AUTO means the system can set the queue online once the tests have been passed

set_online_date: this is the date by which the system will set online (AUTO) *any* queue, whatever their
usage and HC settings. The format is the same as the date command: N hour(s), N days(s), N week(s),
N month(s), N year(s). AUTO doesn't need this to be set. For TEST queues use 20 years as they should
never be reset.

queue values = UKI-NORTHGRID-MAN-HEP_SL6,
               UKI-NORTHGRID-MAN-HEP_MCORE
               else look at http://atlas-agis.cern.ch/agis/pandaqueue/table_view

comment = use comment when setting the queue to any state but AUTO

Example

agis-set-queue-status AUTO UKI-NORTHGRID-MAN-HEP_MCORE
agis-set-queue-status TEST:'10 years' ANALY_MANC_TEST Site.Test.Queue
agis-set-queue-status BROKEROFF:'5 days' UKI-NORTHGRID-MAN-HEP_VAC Brokeroff.Reason

Queues will appear on the AGIS blacklisting page http://atlas-agis.cern.ch/agis/pandablacklisting/list/
```

Queues Blacklisting: Monitoring and Troubleshoting

Final Queue Status

AGIS will make a final decision based on the actions from the 3 probes, with this priority order:

1. Manual
2. Switcher
3. HammerCloud

To see the values from all probes, enable the corresponding columns in AGIS. The "give me url of this page" link makes the URL bookmarkable with the filters activated.

Final Queue Status (ii)

ATLAS Grid Information System

RC Site ATLASSite DDMEndpoint PANDA Queue Service Central Services DDM Groups **PandaQueue combined resources** Docs TWiki OLD

Show 200 entries First Previous 1 Next Last

give me url of this page *hold shift + click column for Multi-column ordering* VO ATLAS Site PanDA Site Template PanDA Resource PanDA Queue state Final Status Manual HC Switcher type capability rtype CLOUD TIER use newmover DAL deprecate oldmover

atlas | ANALY_AGLT2_TEST_SL6-condor | ACTIVE

VO	ATLAS Site	PanDA Site	Template	PanDA Resource	PanDA Queue	state	Final Status	Manual	HC	Switcher	type	capability	CLOUD	TIER	use newmover	deprecate oldmover
atlas	AGLT2	GreatLakesT2	GreatLakesT2_VIRTUAL	ANALY_AGLT2_TEST_SL6-condor	Clone ANALY_AGLT2_TEST_SL6-condor	ACTIVE	TEST	AUTO	TEST	ONLINE	analysis	score	US	T2D	True	true

Showing 1 to 1 of 1 entries

ATLAS Grid Information System

RC Site ATLASSite DDMEndpoint PANDA Queue Service Central Services DDM Groups **PandaQueue combined resources** Docs TWiki OLD JSON

Show 200 entries First Previous 1 Next Last

give me url of this page *hold shift + click column for Multi-column ordering* VO ATLAS Site PanDA Site Template PanDA Resource PanDA Queue state Final Status Manual HC Switcher type capability rtype CLOUD TIER use newmover DAL deprecate oldmover

atlas | analy_bnl_local | ACTIVE

VO	ATLAS Site	PanDA Site	Template	PanDA Resource	PanDA Queue	state	Final Status	Manual	HC	Switcher	type	capability	CLOUD	TIER	use newmover	deprecate oldmover
atlas	BNL-ATLAS-OPP	BNL-ATLAS-T3	BNL_VIRTUAL	ANALY_BNL_LOCAL	Clone ANALY_BNL_LOCAL	ACTIVE	OFFLINE	OFFLINE	ONLINE	ONLINE	analysis	score	US	T3	True	true

Showing 1 to 1 of 1 entries

Final Queue Status (iii): examples

HC probe	Switcher probe	Manual probe	Final status
ONLINE	ONLINE	OFFLINE	OFFLINE
ONLINE	OFFLINE	AUTO	OFFLINE
TEST	ONLINE	AUTO	TEST
TEST	OFFLINE	ONLINE	ONLINE
TEST	OFFLINE	AUTO	OFFLINE

Final Queue Status (iv): history of Blacklisting

http://atlas-agis.cern.ch/agis/pandablacklisting/table_view/?&show_8=1

ATLAS Grid Information System

RC Site ATLASSite DDMEndpoint PANDA Queue Service Central Services DDM Groups

Show 200 entries

First Previous 1 2 3 4 Next Last

give me url of this page *hold shift + click column for Multi-column ordering*

Time ATLAS Site PanDA

bnl

PanDA Queue	Probe	Value	Reason	Expiration	DN
BNL_LOCAL-condor	hammercloud	ONLINE	HC.ESblacklist.set.online	Never	/DC=ch/DC
BNL_PROD-condor	hammercloud	ONLINE	HC.Blacklist.set.online.to.mitigate.massive.blacklisting.event	Never	/DC=ch/DC
BNL_ATLAS_2-condor	hammercloud	ONLINE	HC.Blacklist.set.online.to.mitigate.massive.blacklisting.event	Never	/DC=ch/DC
ANALY_BNL_MCORE-condor	hammercloud	ONLINE	HC.Blacklist.set.online.to.mitigate.massive.blacklisting.event	Never	/DC=ch/DC
ANALY_BNL_SHORT-condor	hammercloud	ONLINE	HC.Blacklist.set.online.to.mitigate.massive.blacklisting.event	Never	/DC=ch/DC
ANALY_BNL_LONG-condor	hammercloud	ONLINE	HC.Blacklist.set.online.to.mitigate.massive.blacklisting.event	Never	/DC=ch/DC
BNL_LOCAL-condor	hammercloud	TEST	HC.ESblacklist.set.test	Never	/DC=ch/DC
BNL_PROD-condor	hammercloud	TEST	HC.Blacklist.set.test	Never	/DC=ch/DC
BNL_ATLAS_2-condor	hammercloud	TEST	HC.Blacklist.set.test	Never	/DC=ch/DC
ANALY_BNL_MCORE-condor	hammercloud	TEST	HC.Blacklist.set.test	Never	/DC=ch/DC
ANALY_BNL_SHORT-condor	hammercloud	TEST	HC.Blacklist.set.test	Never	/DC=ch/DC
ANALY_BNL_LONG-condor	hammercloud	TEST	HC.Blacklist.set.test	Never	/DC=ch/DC
BNL_LOCAL-condor	hammercloud	ONLINE	HC.ESblacklist.set.online	Never	/DC=ch/DC
BNL_LOCAL-condor	hammercloud	TEST	HC.ESblacklist.set.test	Never	/DC=ch/DC
ANALY_BNL_SHORT-condor	hammercloud	ONLINE	HC.Blacklist.set.online	Never	/DC=ch/DC
ANALY_BNL_SHORT-condor	hammercloud	TEST	HC.Blacklist.set.test	Never	/DC=ch/DC
ANALY_BNL_SHORT-condor	hammercloud	ONLINE	HC.Blacklist.set.online	Never	/DC=ch/DC
ANALY_BNL_MCORE-condor	hammercloud	ONLINE	HC.Blacklist.set.online	Never	/DC=ch/DC
ANALY_BNL_LONG-condor	hammercloud	ONLINE	HC.Blacklist.set.online	Never	/DC=ch/DC
ANALY_BNL_SHORT-condor	hammercloud	TEST	HC.Blacklist.set.test	Never	/DC=ch/DC
ANALY_BNL_MCORE-condor	hammercloud	TEST	HC.Blacklist.set.test	Never	/DC=ch/DC

Final Queue Status (v)

The current active probes, and their expiration times

http://atlas-agis.cern.ch/agis/pandablacklisting/list/

ATLAS Grid Information System

RC Site | ATLASSite | DDMEndpoint | PANDA Queue | Service | Central Services | DDM Groups

Prioritized list of probes: manual (A) | switcher (A) | hammercloud (A) | hctest1 (D)

State values: OFFLINE | TEST | BROKEROFF | PAUSED | ONLINE

Experiment Site	PandaQueue	Status default
AGLT2	ANALY_AGLT2_TEST_SL6-condor	hammercloud
ANLASC	ALCF_Cooley	manual
	ALCF_Theta	manual
	ALCF_Theta_ES	manual
ARNES	ANALY_ARNES_DIRECT	hammercloud
	ARNES	manual
Australia-ATLAS	ANALY_AUSTRALIA_TEST	manual
	Australia-ATLAS_MCORE	manual +
	Australia-ATLAS_MCORE_TEST	manual
	Australia-ATLAS_TEST	manual
BEIJING-LCG2	BEIJING-CS-TH-1A_MCORE	manual
	BEIJING-ERAII_MCORE	manual
	BEIJING-TIANJIN-TH-1A_MCORE	manual
BNL-ATLAS	ANALY_BNL_Test_2_CE_1-condor	hammercloud
	BNL_PROD_CONTR_TEST-condor	hammercloud
	BNL_Test_2_CE_1-condor	hammercloud
	ES_ORNL_Titan	manual
	HARVESTER_APF_BNL_TEST	hammercloud

Documentation: TW

PandaBlacklisting H

0. Make sure
PQ status ca

Change PQ s
1. Init

$ vo
$ ex

2. Pe

$ cu
api.

Change PQ s
1. En
2. Co

http
html

Accepted UR
pand
site (
value
reaso
prob
expir
expira

HammerCloud web monitoring page

http://hammercloud.cern.ch/hc/app/atlas/

It displays several views of aggregated data.

Next slides show a couple of examples.

Home | Tests | Robot | Overviews | PanDA Dashb. | More HC... | Help | Administration

Welcome to HammerCloud-ATLAS.

Running and Scheduled AFT/PFT Tests

State	Id	Host	Template	Start (Europe/Zurich)	End (Europe/Zurich)	Sites	subm jobs	run jobs	comp jobs	fail jobs	fail %	tot jobs
running	20131779	hammercloud-ai-75	841: PFT mc15 Sim_tf 19.2.3.6 clone.691	24/Feb, 19:52	25/Feb, 17:54	AGLT2_TEST, ARC-TEST, ARNES, 226 more...	109	114	3498	888	19	4609
running	20131784	hammercloud-ai-76	957: PFT mc16 Sim_tf 21.0.16	24/Feb, 21:34	25/Feb, 21:16	AGLT2_TEST, ARC-TEST, ARNES, 226 more...	118	99	3699	890	19	4806
running	20131800	hammercloud-ai-73	1013: AFT AthDerivation 21.2.33.0	25/Feb, 8:06	26/Feb, 9:44	ANALY_ARNES, ANALY_ARNES_DIRECT, ANALY_AUSTRALIA, 137 more...	50	73	1595	180	9	1898
running	20131802	hammercloud-ai-72	952: AFT Eventloop 21.2.1 Analy	25/Feb, 8:06	26/Feb, 9:58	ANALY_ARNES, ANALY_ARNES_DIRECT, ANALY_AUSTRALIA, 137 more...	38	63	2276	226	9	2603
running	20131804	hammercloud-ai-78	839: PFT mc15 Sim_tf 20.7.5.1 clone.813	25/Feb, 9:50	26/Feb, 7:51	AGLT2_TEST, ARC-TEST, ARNES, 226 more...	117	105	1565	321	15	2108
running	20131810	hammercloud-ai-76	883: AFT PlottingJobOptions_ExampleCode 21.0.8	25/Feb, 14:14	26/Feb, 15:32	ANALY_ARNES, ANALY_ARNES_DIRECT, ANALY_AUSTRALIA, 137 more...	50	72	725	65	7	912

Running and Scheduled Stress Tests

State	Id	Host	Template	Start (CET)	End (CET)	Cloud	Sites	subm jobs	run jobs	comp jobs	fail jobs	fail %	tot jobs
running	20131806	hammercloud-ai-77	1050: A.F.T. AthDerivation 21.2.33.0 RUCIO MOVER analysis	25/Feb, 10:35	26/Feb, 10:35	US, NG_PANDA, T0_PANDA, 3 more...	ANALY_AGLT2_SL7-condor, ANALY_ARNES, ANALY_ARNES_DIRECT, 37 more...	4	7	19	18	38	48

Running and Scheduled Functional Tests

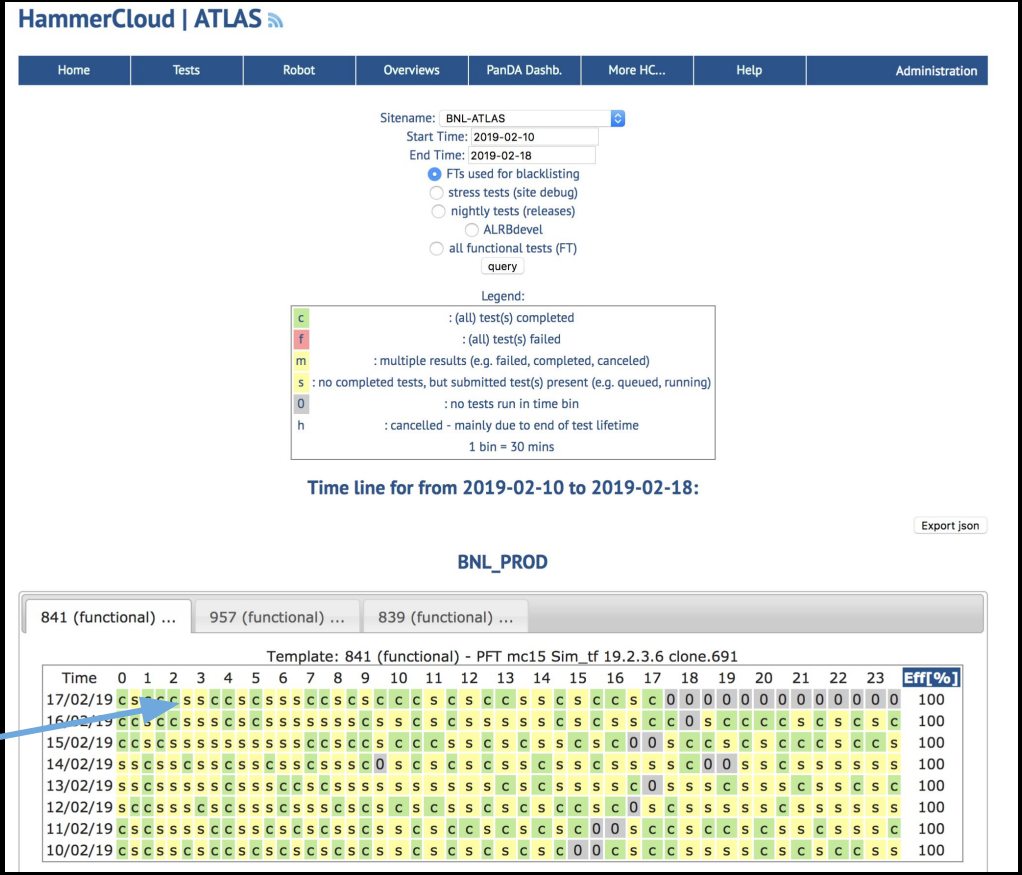
State	Id	Host	Template	Start (CET)	End (CET)	Cloud	Sites	subm jobs	run jobs	comp jobs	fail jobs	fail %	tot jobs
running	20131725	hammercloud-ai-72	1028: PTEST P.F.T. clone 916 -- mc16 Sim_tf 21.0.14 container test	23/Feb, 13:20	02/Mar, 22:49	UK_PROD, DE_PROD, US_PROD, 1 more...	UKI-NORTHGRID-MAN-HEP_TEST_SL7, DESY-HH_UCORE, FZK-LCG2, 8 more...	4	3	368	53	12	428
running	20131770	hammercloud-ai-12	1032: A.F.T. AtlasDerivation 20.7.6.4 clone.808 clone.845 EULAKE folder CERN - for AZ	24/Feb, 16:50	25/Feb, 16:58	T0_PANDA	ANALY_CERN-PROD_DATALAKES_TESTA_PNPI, ANALY_CERN-PROD_DATALAKES_TESTB_PNPI, ANALY_CERN-PROD_DATALAKES_TESTC_PNPI, 9 more...	12	0	23	14	29	49
running	20131774	hammercloud-ai-11	1060: A.F.T. AtlasDerivation 20.7.6.4 clone.808 clone.845 EULAKE folder CERN ABC	24/Feb, 19:14	25/Feb, 18:20	FR_PANDA	ANALY_LAPP_TEST	1	0	8	0	0	9
running	20131775	hammercloud-ai-70	964: P.F.T. clone 916 -- mc16 Sim_tf 21.0.14 RUCIO MOVER	24/Feb, 19:30	25/Feb, 17:36	US_PROD, NG_PROD, FR_PROD, 8	AGLT2_TEST, ARC-TEST, ARNES, 138 more...	29	3	153	46	20	231

HammerCloud web monitoring page (ii)

http://hammercloud.cern.ch/hc/app/atlas/siteoverview/

Example 1: sites overview

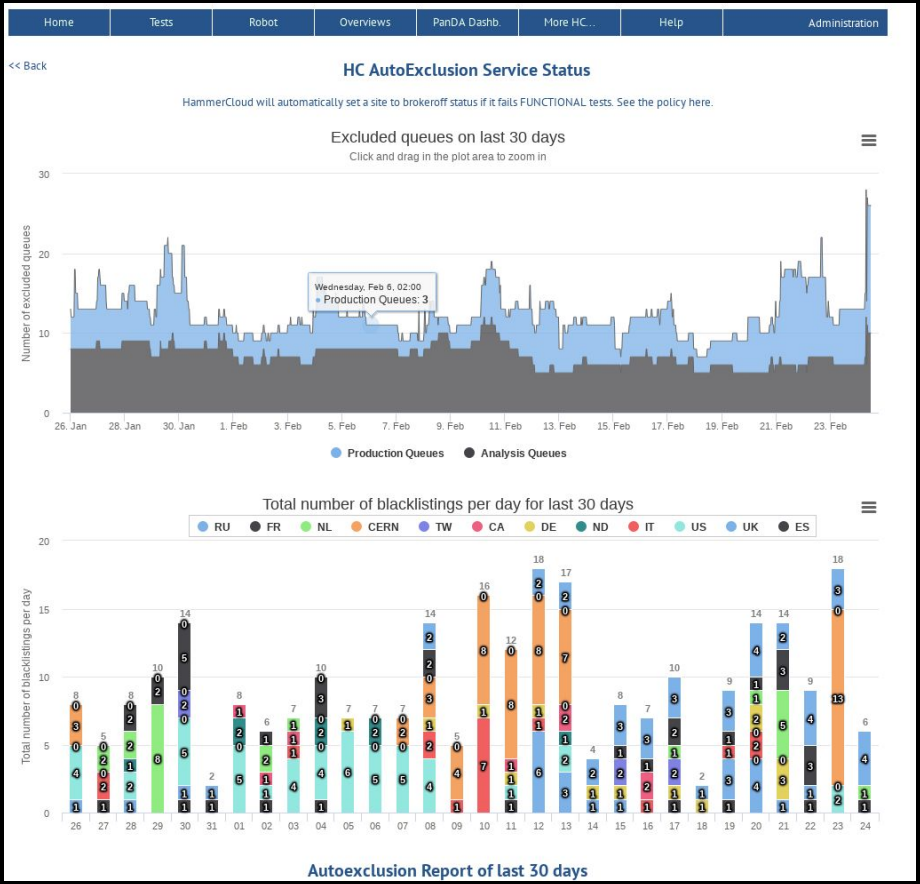
links to PanDA monitor



HammerCloud web monitoring page (iii)

http://hammercloud.cern.ch/hc/app/atlas/robot/autoexclusion/

Example 2: global view of excluded queues



Deeper troubleshooting: HammerCloud logs in Kibana

https://monit-timber-hammercloud.cern.ch/kibana/app/kibana#/discover?_g=()

Time	data.filename	data.log_level	data.log_message
February 25th 2019, 11:01:12.905	/var/log/celery/daemon.worker.celery.daemon.worker.celery.log	WARNING	File "/usr/lib64/python2.7/re.py", line 151, in sub
February 25th 2019, 11:01:12.905	/var/log/celery/daemon.worker.celery.daemon.worker.celery.log	WARNING	value=re.sub(testid_hash, testid_value, value)
February 25th 2019, 11:01:12.905	/var/log/celery/daemon.worker.celery.daemon.worker.celery.log	WARNING	TypeError: expected string or buffer
February 25th 2019, 11:01:12.903	/var/log/celery/daemon.worker.celery.daemon.worker.celery.log	WARNING	value=re.sub(testid_hash, testid_value, value)
February 25th 2019, 11:01:12.903	/var/log/celery/daemon.worker.celery.daemon.worker.celery.log	WARNING	Traceback (most recent call last):
February 25th 2019, 11:01:12.903	/var/log/celery/daemon.worker.celery.daemon.worker.celery.log	WARNING	value=re.sub(testid_hash, testid_value, value)
February 25th 2019, 11:01:12.903	/var/log/celery/daemon.worker.celery.daemon.worker.celery.log	WARNING	File "/data/hc/apps/atlas/python/scripts/submit/jobconfig.py", line 119, in configure
February 25th 2019, 11:01:12.903	/var/log/celery/daemon.worker.celery.daemon.worker.celery.log	WARNING	TypeError: expected string or buffer
February 25th 2019, 11:01:12.903	/var/log/celery/daemon.worker.celery.daemon.worker.celery.log	WARNING	return _compile(pattern, flags).sub(repl, string, count)

To fix broken queues in AGIS

When a PanDA Queues in AGIS doesn't have the write combination of parameters HammerCloud may not be able to behave correctly.

To validate, and correct when needed, your queues, this table can be extremely handy:

https://hc-ai-core.cern.ch/testdirs/atlas/check_agis_config.html

Not secure | https://hc-ai-core.cern.ch/testdirs/atlas/check_agis_config.html

SUMMARY as of 2018-11-29T15:00:19.002801

SUMMARY of PanDA queues possibly mis-configured for blacklisting

Cloud	PanDA queue	Change this or a different PQ?	Which PanDA queue to change?	What change?	URL

SUMMARY of PanDA queues possibly mis-configured for testing

Cloud	PanDA queue	Perform this change	Current hc_suite	Desired hc_suite	Capability in AGIS	URL
CERN	ANALY_CERN-PROD_DATALAKES_TESTA	add AFT		AFT	score	https://atlas-agis-api.cern.ch/request/pandaqueue/update/set_attributes/?name=ANALY_CERN-PROD_DATALAKES_TESTA&hc_suites=1
CERN	ANALY_CERN-PROD_DATALAKES_TESTA_PNPI	add AFT		AFT	score	https://atlas-agis-api.cern.ch/request/pandaqueue/update/set_attributes/?name=ANALY_CERN-PROD_DATALAKES_TESTA_PNPI&hc_suites=1
CERN	ANALY_CERN-PROD_DATALAKES_TESTA_RU	add AFT		AFT	score	https://atlas-agis-api.cern.ch/request/pandaqueue/update/set_attributes/?name=ANALY_CERN-PROD_DATALAKES_TESTA_RU&hc_suites=1
CERN	ANALY_CERN-PROD_DATALAKES_TESTA_RU_RAIN6	add AFT		AFT	score	https://atlas-agis-api.cern.ch/request/pandaqueue/update/set_attributes/?name=ANALY_CERN-PROD_DATALAKES_TESTA_RU_RAIN6&hc_suites=1
CERN	ANALY_CERN-PROD_DATALAKES_TESTB	add AFT		AFT	score	https://atlas-agis-api.cern.ch/request/pandaqueue/update/set_attributes/?name=ANALY_CERN-PROD_DATALAKES_TESTB&hc_suites=1
CERN	ANALY_CERN-PROD_DATALAKES_TESTB_PNPI	add AFT		AFT	score	https://atlas-agis-api.cern.ch/request/pandaqueue/update/set_attributes/?name=ANALY_CERN-PROD_DATALAKES_TESTB_PNPI&hc_suites=1
CERN	ANALY_CERN-PROD_DATALAKES_TESTB_RU	add AFT		AFT	score	https://atlas-agis-api.cern.ch/request/pandaqueue/update/set_attributes/?name=ANALY_CERN-PROD_DATALAKES_TESTB_RU&hc_suites=1
CERN	ANALY_CERN-PROD_DATALAKES_TESTB_RU_RAIN6	add AFT		AFT	score	https://atlas-agis-api.cern.ch/request/pandaqueue/update/set_attributes/?name=ANALY_CERN-PROD_DATALAKES_TESTB_RU_RAIN6&hc_suites=1
CERN	ANALY_CERN-PROD_DATALAKES_TESTC	add AFT		AFT	score	https://atlas-agis-api.cern.ch/request/pandaqueue/update/set_attributes/?name=ANALY_CERN-PROD_DATALAKES_TESTC&hc_suites=1
CERN	ANALY_CERN-PROD_DATALAKES_TESTC_PNPI	add AFT		AFT	score	https://atlas-agis-api.cern.ch/request/pandaqueue/update/set_attributes/?name=ANALY_CERN-PROD_DATALAKES_TESTC_PNPI&hc_suites=1
CERN	ANALY_CERN-PROD_DATALAKES_TESTC_RU	add AFT		AFT	score	https://atlas-agis-api.cern.ch/request/pandaqueue/update/set_attributes/?name=ANALY_CERN-PROD_DATALAKES_TESTC_RU&hc_suites=1
CERN	ANALY_CERN-PROD_DATALAKES_TESTC_RU_RAIN6	add AFT		AFT	score	https://atlas-agis-api.cern.ch/request/pandaqueue/update/set_attributes/?name=ANALY_CERN-PROD_DATALAKES_TESTC_RU_RAIN6&hc_suites=1
CERN	ANALY_CERN-PROD_DATALAKES_TESTD	add AFT		AFT	score	https://atlas-agis-api.cern.ch/request/pandaqueue/update/set_attributes/?name=ANALY_CERN-PROD_DATALAKES_TESTD&hc_suites=1
CERN	ANALY_CERN-PROD_DATALAKES_TESTD_PNPI	add AFT		AFT	score	https://atlas-agis-api.cern.ch/request/pandaqueue/update/set_attributes/?name=ANALY_CERN-PROD_DATALAKES_TESTD_PNPI&hc_suites=1
CERN	ANALY_CERN-PROD_DATALAKES_TESTD_RU	add AFT		AFT	score	https://atlas-agis-api.cern.ch/request/pandaqueue/update/set_attributes/?name=ANALY_CERN-PROD_DATALAKES_TESTD_RU&hc_suites=1
CERN	ANALY_CERN-PROD_DATALAKES_TESTD_RU_RAIN6	add AFT		AFT	score	https://atlas-agis-api.cern.ch/request/pandaqueue/update/set_attributes/?name=ANALY_CERN-PROD_DATALAKES_TESTD_RU_RAIN6&hc_suites=1
CERN	CERN-PROD_EOS	add PFT		PFT	ucore	https://atlas-agis-api.cern.ch/request/pandaqueue/update/set_attributes/?name=CERN-PROD_EOS&hc_suites=2
Cloud	PanDA queue	Perform this change	Current hc_suite	Desired hc_suite	Capability in AGIS	URL
ES	UAM-LCG2_CREAM_HTCONDOR_MCORE	add PFT	PFT_MCORE	PFT_MCORE_PFT	ucore	https://atlas-agis-api.cern.ch/request/pandaqueue/update/set_attributes/?name=UAM-LCG2_CREAM_HTCONDOR_MCORE&hc_suites=32

DDM Blacklisting

DDM Blacklisting

DDM Blacklisting is integrated into AGIS. Aimed to automatically exclude DDMEndpoint from operations for various DDM activities (e.g. data read, write, upload, delete, etc.) by setting appropriate DDMEndpoint Status values.

Decision are made based on values from various probes:

- space and quota usage from Rucio (DISKSPACE, QUOTASPACE),
- downtimes from AGIS,
- Manual,
- etc.

Supports reach configuration spaces policies:

- various thresholds per space token,
- tier_level,
- phys_group,
- etc.

DDM Blacklisting

Current status can be seen here http://atlas-agis.cern.ch/agis/ddmblacklisting/list/

ATLAS Site	DDMEndpoint	Status																
		Delete	DELETE LAN	DELETE WAN	Fetch	Pilot Log Write	Pilot Read	Pilot Write	Read	READ LAN	READ WAN	Subscription	default SRM	Third party copy	Upload	Write	WRITE LAN	WRITE WAN
BNL-ATLAS	BNL-OSG2_PHYS-HI														QUOTASPACE	QUOTASPACE		
CERN-PROD	CERN-PROD_DERIVED														manual	manual		
	CERN-PROD_PERF-EGAMMA														QUOTASPACE	QUOTASPACE		
	CERN-PROD_PERF-FLAVTAG														QUOTASPACE	QUOTASPACE		
	CERN-PROD_PERF-JETS														QUOTASPACE	QUOTASPACE		
	CERN-PROD_PHYS-HIGGS														QUOTASPACE	QUOTASPACE		
	CERN-PROD_PPSTAPE	manual			manual				manual			manual			manual	manual		
	CERN-PROD_RAW														manual	manual		
	CERN-PROD_TRIG-DAQ														QUOTASPACE	QUOTASPACE		
	CERN-PROD_TZDISK														manual	manual		
FZK-LCG2	FZK-LCG2_PERF-IDTRACKING														QUOTASPACE	QUOTASPACE		
	FZK-LCG2_PERF-TAU														QUOTASPACE	QUOTASPACE		
IN2P3-CC	IN2P3-CC_PERF-MUONS														QUOTASPACE	QUOTASPACE		
NDGF-T1	NDGF-T1_GROUPTAPE_PHYS-TOP														QUOTASPACE	QUOTASPACE		
NIKHEF-ELPROD	NIKHEF-ELPROD_LOCALGROUPDISK														DISKSPACE	DISKSPACE		
RO-02-NIPNE	RO-02-NIPNE_DATADISK	AGIS			AGIS				AGIS						AGIS	AGIS		
	RO-02-NIPNE_LOCALGROUPDISK	AGIS			AGIS				AGIS						AGIS	AGIS		
	RO-02-NIPNE_SCRATCHDISK	AGIS			AGIS				AGIS						AGIS	AGIS		
TOKYO-LCG2	TOKYO-LCG2_PERF-MUONS														QUOTASPACE	QUOTASPACE		
TUDresden-ZIH	TUDRESDEN-ZIH_LOCALGROUPDISK	manual			manual				manual			manual			manual +	manual +		