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# **decisionengine modules**

***Release 2.0.0***

**Fermi Research Alliance, LLC.**

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## CONTENTS

<b>1</b>	<b>Release Notes</b>	<b>3</b>
<b>2</b>	<b>Developer Documentation</b>	<b>23</b>
<b>3</b>	<b>Jenkins CI pipeline</b>	<b>25</b>
<b>4</b>	<b>Source code</b>	<b>31</b>
<b>5</b>	<b>Indices and tables</b>	<b>33</b>



The decisionengine\_modules package contains provider specific implementations of base classes provided by the [decision engine framework](#).



## RELEASE NOTES

### 1.1 Release 2.0.6

Improved separation and compatibility with GlideinWMS Frontend package. Improved GCE billing and set hep-bill-calculator to 0.2.3.

#### 1.1.1 Issues fixed in this release

-[DEM 513](#): Updated documentation for release 2.0.4 -[DEM 516](#): Refactor Existing Test Script and Add New Unit Tests for GCE Billing

#### 1.1.2 Full list of commits since version 2.0.4

46bfc52: Refactor Existing Test Script and Add New Unit Tests for GCE Billing (#516)

b7accf0: Updated setuptools in gh-pages workflow

993e380: Update gh-pages workflow and install sphinx as user, not as root

### 1.2 Release 2.0.4

This release brings a new packaging with RPM packages for dependencies and system files, and a Python wheel for the Python code. There are also new Prometheus metrics and a few bug fixes like the superfacility API and AWS and GCE billing.

#### 1.2.1 Issues fixed in this release

-[DEM 444](#): Add CodeQL workflow for GitHub code scanning (@lgtm-com) -[DEM 445](#): Added CPU Metrics. (@Redjacket45) -[DEM 456](#): Upgrading isort version to fix pre-config install error w/ poetry (@mambelli) -[DEM 461](#): Eliminate escaping of double quotation marks to conform with NEWT API's changed behavior (@namrathurs) -[DEM 459](#): Disabling Python 3.6 and Fixing 3.9 Unit Tests in CI Workflow (@namrathurs) -[DEM 462](#): Feature/vito pandas2 updates (@vitodb) -[DEM 463](#): Fixed Google dependency to work fine in Python 3.9 (@mambelli) -[DEM 457](#): Making CONTINUE\_IF\_NO\_PROXY attribute configurable (@namrathurs) -[DEM 465](#): Update tests (@vitodb) -[DEM 472](#): Adding DE modules EL9 CI container based on AlmaLinux9 (@vitodb) -[DEM 468](#): New Nersc Source Module using SuperFacilityApi (@hyunwoo18) -[DEM 474](#): fix test\_refresh\_entry\_token unit test (@vitodb) -[DEM 473](#): Adding Jenkinsfile for EL9 (@vitodb) -[DEM 477](#): Adding one line (@hyunwoo18) -[DEM 481](#): Refactor DEConfigSource and configure\_gwms\_frontend (@BrunoCoimbra) -[DEM 482](#): Components

of decisionengine dashboards (@skylerfoster67) -[DEM 484](#): Change glideclient advertisement logic (@BrunoCoimbra) -[DEM 485](#): Fix a typo in glideids\_to\_advertise (@BrunoCoimbra) -[DEM 487](#): Fix configure\_gwms\_frontend tests (@BrunoCoimbra) -[DEM 486](#): Re-enable flake8 linter (@vitodb) -[DEM 492](#): Do not test external dependencies with flake8 (@vitodb) -[DEM 489](#): Added new metrics to job\_q and source (@IlyaBaburashvili) -[DEM 493](#): Add dem\_htcondor\_cores\_count and dem\_htcondor\_cores\_histogram metrics to source.py (@IlyaBaburashvili) -[DEM 498](#): Added unit tests for dem\_htcondor\_slots\_status\_count, dem\_htcondor\_cores\_count, dem\_htcondor\_memory\_count. Fixed issues in source.py. (@IlyaBaburashvili) -[DEM 496](#): New Figure of Merit Metric (@skylerfoster67) -[DEM 499](#): Two dashboards for cores, slots, and runtimes (@IlyaBaburashvili) -[DEM 503](#): In Jenkins pipeline config use podman instead of docker (@vitodb) -[DEM 502](#): add new method of determining token expiration instead of relying on jwt.decode error code (@StevenCTimm) -[DEM 507](#): Refactor time\_left in security module (@BrunoCoimbra) -[DEM 505](#): Migrating GCE Billing to BigQuery based Bill Calculations (@namrathurs) -[DEM 506](#): DEConfigSource converts nested dicts to OrderedDicts (@BrunoCoimbra) -[DEM 510](#): Add retry functionality to NerscSFApi (@vitodb) -[DEM 511](#): Packaging with uv and pyproject.toml (@mambelli) -[DEM 512](#): Added codespell in pre-commit and fixed files to compliance (@mambelli)

## 1.2.2 Full list of commits since version 2.0.2

[c481f85](#): Added codespell in pre-commit and fixed files to compliance

[3bf56ab](#): Packaging with uv and pyproject.toml

[5577e9e](#): [pre-commit.ci] auto fixes from pre-commit.com hooks

[230627f](#): Add retry functionality to NerscSFApi

[b820998](#): DEConfigSource converts nested dicts to OrderedDicts

[8e78900](#): [pre-commit.ci] auto fixes from pre-commit.com hooks

[a85edeb](#): migrating to using bigquery for GCE billing

[c4d0bc1](#): Refactor time\_left in security module

[a42d3bd](#): [pre-commit.ci] auto fixes from pre-commit.com hooks

[5305f59](#): remove the extraneous print statements

[b57507b](#): changing the way that the NERSC SFApi access token expiration is calculated to not rely on jwt.decode() exit value

[c500a73](#): In Jenkins pipeline config use podman instead of docker

[aa975b8](#): Added dashboards for cores, slots, and runtimes

[af1003b](#): New Figure of Merit Metric (#496)

[fb4c3f9](#): Remove extra line from dep5

[63adb86](#): Add unit tests for metrics, fix issue in source.py

[4f590a6](#): Fixed commit history

[21ac8c4](#): Remove include Histogram

[aae8638](#): Remove debugging statements

[b673c4a](#): Fix PR 489

[7601451](#): For flake8 skip build folder

[9980e3a](#): Make the test flake8 compliant

[85e6487](#): Do not test external dependencies

[8a07b0e](#): Add licence info to flake8 config file



97f6f63: Re-enable flak8 linter  
a28c97d: Update test\_configure\_gwms\_frontend.py  
01c9c40: Fix configure\_gwms\_frontend tests  
5eb2f2b: Fix a typo in glideids\_to\_advertise  
cb19a5b: Fix glideclient advertisement logic  
9c1f8e5: Added json files on Channel and Source Data dashboards with specific naming  
ea00e39: Adding license information for dashboard files because JSON does not allow comments  
c11a7e2: [pre-commit.ci] auto fixes from pre-commit.com hooks  
92b72b6: Refactor config source for configure\_gwms\_frontend  
02ab367: Adding one line  
32d6114: Added directory for Grafana dashboards  
5a5fb8b: Adding Jenkinsfile for EL9  
aa59c49: required jwt functionalities are provided by PyJWT  
2df1fc5: Updated documentation for 1.7.5 release  
cf81d56: Last update to setup.py  
8bc6d24: Last update to add KeyError  
85604ef: Removed remaining hardcoded strings from the code  
8117652: Implementing Marco requests in the review  
1d59d49: Fixed pre-commit issues and jwt package  
b107c06: New Nersc Source Module using SuperFacilityApi  
e917838: Adding DE modules EL9 CI container based on AlmaLinux9  
a5a2bae: Update GH actions  
bdb70b0: Enable some GH actions only on DE 1.7 branch  
6a22f44: Update runtime and devel python module versions in setup.py  
842fdc9: CONTINUE\_IF\_NO\_PROXY True by default  
8906538: added changes to make CONTINUE\_IF\_NO\_PROXY configurable  
5a7bc0d: Fixed Google dependency to work fine in Python 3.9. Install via PIP succeeds  
d315736: With pandas 2.x DataFrame.append() has been deprecated, use pandas.concat() instead  
0484401: Address a pandas deprecation warning: FutureWarning: Calling float on a single element Series is deprecated and will raise a TypeError in the future. Use float(set.iloc[0]) instead. The warning is due to glidein\_cpus that is a single element series.  
07292a4: updated as per second round of review comments  
947e9b8: updated as per PR review comments  
e3608a0: fixes for python 3.6 and 3.9 unit tests failing in the CI workflow  
d8de2da: updated as per PR#461 comment  
e6044f7: removed escaping of quotes to conform with new API behavior  
4a59acc: Upgrading isort version to fix install error w/ poetry

7b96d46: Started to add startd\_manifests (glidein) metrics (TotalCpus, TotalSlotCpus, TotalSlots)

2ab707f: Started moving metrics into global dict

58e62a4: Added Number\_of\_jobs metric.

5a8a641: Added license info

## 1.3 Release 2.0.3

Release tag skipped

## 1.4 Release 2.0.2

This is mainly a bug fix release.

Some features were added: - Monitoring of the glideinwms module via Prometheus - Initial version of a Rigetti source  
- More flexible LogicEngine: Factory Entries categories are now configurable

### 1.4.1 Issues fixed in this release

- 428 : Decision engine 1.7.3 bug too many open file descriptors in glide\_frontend\_element.py
- 427 : Set CONTINUE\_IF\_NO\_PROXY to False to allow hybrid configuration

### 1.4.2 Full list of commits since version 2.0.0

16e1751: update GWMS transforms This update improves handling of factory-entries data product.

0296667: Add initial Rigetti source

9d199a5: Update refresh\_entry\_token to use context managers

d45b799: [pre-commit.ci] auto fixes from pre-commit.com hooks

7b37e83: Renamed Variables (REQ\_IDLE\_GLIDEINS & REQ\_MAX\_GLIDEINS) and stored them into a global dictionary.

d7d0849: Started moving metrics into global dict

b1e56f0: added req\_idle\_glidens & req\_max\_glidens metrics

cee9652: Started to add NUMBER\_OF\_JOBS, NAME\_OF\_GROUPS, STATUS\_OF\_JOB METRICS

893137c: Added Number\_of\_jobs metric.

e530c10: Docker container and test setup for EL8

ea02fc8: Test case with no glideins.

4ae0bab: One monolithic factory-entries data product.

cc6b01a: Merge pull request #436 from vitodb/vito\_fix\_de\_client\_call

a6744f1: Fix de\_client call This is required to allow de\_client to get its output returned as text string rather than using a logger.

f2057d1: Merge pull request #433 from jcpunk/coverage

4f6dffid: Merge branch 'master' into coverage

0922c6d: No longer need to pin coverage version

57a5599: Set upper limit version for flake8. This is needed to have pytest-flake8 and flake8 versions working together.

6bf9b48: Set default glidein params on GlideFrontendElement

3ce646a: Set CONTINUE\_IF\_NO\_PROXY to False

2290fb4: Updated release notes for 2.0.1 and porting of 1.7.3

## 1.5 Release 2.0.1

Patch level (bug fix) release.

### 1.5.1 Issues fixed in this release

### 1.5.2 Full list of commits since version 2.0.0

6f2db85: Fix coverage reporting.

a764562: Silence warnings that are beyond our control or are irrelevant.

cc481e9: Test that duplicate column names and empty dataframes are properly handled.

76e1085: Fix NERSC FOM test.

f67df9d: Cleanup tests.

51c6e75: Work around pylint bug.

3eb1e92: Ensure setuptools is up-to-date in GitHub actions; also update actions.

bfe45e5: in dataframe\_for\_entrytype take care of empty datablocks

5223daf: Enable token proxy hybrid GWMS configuration

265dc8e: Fix pre-commit node version to 17.9.0, the last to support SL7.

7f5922f: Single point of maintenance for entry types.

0125962: Support additional queries according to the entrytype/logic-engine fact.

f685f24: Use Pandas concepts.

331a284: Testing cleanups.

05b605e: Remove unnecessary code.

0b9e6c7: Fix pyupgrade version for python 3.6 compatibility

9f8dddb: Further cleanups for testing glidein frontend element.

0292842: Remove unnecessary testing classes.

fcd1a40: Added cross-package link in the documentation

a35c2e8: Updated 2.0 release notes and indexes, ready for 2.0.0

## 1.6 Release 2.0.0

This release series follows 1.7. A lot started to happen in 1.7.0 and has happened since, so we felt it was proper to change the major version number. We are proud to introduce Decision Engine 2.0.0 to outside users: it provides a friendlier installation procedure and configuration samples to test it on all resources supported by the GlideinWMS Factory, like OSG, some HPC resources and commercial cloud providers. The `decisionengine_modules` is the standard library of modules distributed to support the main sources, transformations and publishers of the Decision Engine. See also the Release Notes of `decisionengine`, the Decision Engine framework.

This release features:

- Adopt new Framework architecture for the sources
- Separation from the GlideinWMS Frontend. Decision Engine still shares some libraries with GlideinWMS but you don't need any more to install and configure the Frontend.
- Structured logging. Improved python logging and adoption of structured logs format that will increase the semantic content of the messages and ease the export of information for dashboards and Elastic Search.
- Monitoring via Prometheus.
- Added support of CentOS8 (RHEL7 is still out main platform)
- Configuration example using HTC resources via GlideinWMS Factory
- Decision Engine is distributed under the Apache 2.0 license
- We increased our CI tests including also code auto-formatting and license compliance. We introduced integration tests and we are proud of our over 95% unit test coverage.

### Note

`decisionengine_modules` now requires GlideinWMS 3.9.4. The vofrontend installation and configuration is no more needed, `decisionengine_modules` now depends from the GlideinWMS `vofrontend-lib`. Check the new instructions for the changed configuration of the `glideinwms` module.

### 1.6.1 Issues fixed in this release

- [353](#) : yum update `decisionengine-standard-library` doesn't detect and pull in `decisionengine_modules`
- [282](#) : Decision Engine classad encoding problems make multiple exceptions in the factory
- [349](#) : Minor issue setup tools `decisionengine_modules`
- [363](#) : Replace `AWSOccupancy` and `AWSSpotPrice` classes with `SourceProxy` + transforms
- [253](#) : Different modules are using different retry parameters in config
- [348](#) : Name convention on `bill_calculator_hep` vs. `billing_calculator_hep`
- [361](#) : `glide_frontend_element.py` throws logger exception in 1.7.0rc3

## 1.6.2 Full list of commits since version 1.7.0

d605ab0: Added changelog file for developers curated list of changes

cc0b18a: Adding 1.7.2 release information

eb40d1e: Updated release notes, ready for 2.0.0 RC4

53b2fe4: The rpm-build workflow has been updated to include the workflow\_dispatch action mechanism. This allows to trigger this action through a GitHub API or directly through the action dashboard, This PR also customize the RPM artifact file name.

cd52b39: Catch exceptions when no VMs running in GCE

9044b64: Add token authentication to the glideinwms module

97ca32a: Modified pre-commit bot suggestions. Avoid pyupgrade that requires python 3.7

95a7d7b: Test the arguments used to call publish\_to\_htcondor.

27f0f4b: Adjust code-coverage configuration to display code in browser.

3addf20: Make sure variables are defined before they're used.

75381df: Improve fe\_group\_classads test.

ed2a8b4: Check DecisionEngineMonitorManifests for empty DFs

e7a247b: Fix GlideClientGlobal create\_invalidate\_constraint

f0819b1: pin pytest version

ad59fed: [pre-commit.ci] pre-commit autoupdate

0fc20e5: Added unlinked release notes for DEM 2.0.0

123dd2b: Drop extra lines

0177318: Rename product so that translation is not necessary.

94e334c: Explicitly pass .coveragerc to pytest.

04456a9: Updated documentation for 1.7.1 release

240d937: [pre-commit.ci] pre-commit autoupdate

f054532: Use pre-commit.ci rather than local actions

e2bc8d8: Update GlideinWMS dependencies

4dfefb1: Add SPDX blurbs.

a0889aa: Update pre-commit hook versions and accommodate python-debian issue.

7fd1c9c: Change gwmw module to read cfg from DE framework

d57ac6e: Set Apache 2.0 license and added REUSE compliance

cf43119: Set fail-fast to false to allow py3.6 tests to complete also when higher version fail. Temporarily downgraded from py3.10 to py3.9 because the condor dependency is not available yet for py3.10.

e2707e5: Ignoring E203, whitespace after ':', since black is adding the whitespace

b0e3526: Remove modules that inherit from SourceProxy. Inheritance from SourceProxy has been forbidden by PR#526. In this commit it has been removed the SourceProxy module GCEResourceLimits that is not used.

208a660: Revert "Add jsonnetfmt hook"

efbf6b9: Add jsonnetfmt hook

9140330: Recasting AWSOccupancy, AWSSpotPrice and associated unit tests as Transforms AWSOccupancy and AWSSpotPrice source proxies will be handled at config level

81adb29: Start testing against python 3.10

a9c1f3c: Support retries for contacting Graphite.

3bd68e4: Fix some errors, most caught by lgtm.

89e21f0: Simplify some code paths

63f6315: Homogenize parameter-naming.

325ea37: Update pre-commit hooks via *pre-commit autoupdate*

ee7d45c: More logging improvements.

901291c: Take advantage of simplified logging.

f4752ab: Fixup pre-commit hooks

ad66754: Add Linters task

ca61ae3: Update to latest setuptools\_scm

3ad934b: Fixed project name

ec2a94e: Added 1.1 release notes

## **1.7 Release 1.7.5**

Added support for NERSC SuperFacility API.

### **1.7.1 Issues fixed in this release**

- 234 : Prepare code for new NERSC “superfacility” api

### **1.7.2 Full list of commits since version 1.7.4**

a85098a: Last update to add KeyError

defb011: New Nersc SuperFacility code in the branch 1.7

83e6b88: Updated release notes for 1.7.4

## **1.8 Release 1.7.4**

This release fixes token+proxy hybrid configuration.

### 1.8.1 Issues fixed in this release

- 428 : Decision engine 1.7.3 bug too many open file descriptors in glide\_frontend\_element.py
- 434 : Set CONTINUE\_IF\_NO\_PROXY to False to allow hybrid configuration

### 1.8.2 Full list of commits since version 1.7.3

80d9041: Update refresh\_entry\_token to use context managers

62a51f3: Merge pull request #434 from BrunoCoimbra/1.7

2833e82: Set default glidein params on GlideFrontendElement

ac427d9: Set CONTINUE\_IF\_NO\_PROXY to False

245f316: Updated release notes for 1.7.3

## 1.9 Release 1.7.3

Enable token+proxy hybrid configuration, to send a proxy in addition to tokens to support OSG Gratia probes.

### 1.9.1 Full list of commits since version 1.7.2

da693a7: Enable token proxy hybrid GWMS configuration

3c75da5: Updated release notes, ready for 1.7.2

## 1.10 Release 1.7.2

This release features:

- Add token authentication to the glideinwms module.

### 1.10.1 Full list of commits since version 1.7.1

82119a2: Add token authentication to the glideinwms module

## 1.11 Release 1.7.1

Patch level (bug fix) release.

### 1.11.1 Issues fixed in this release

- 369 : Add retries to all publishers that contact Graphite ([e1c28e7](#))

### 1.11.2 Full list of commits since version 1.7.0

[dd4fb50](#): Homogenize parameter-naming.

[e1c28e7](#): commit da19f6fd3c81d5a8518dc6e6028fd5853df91279 Author: Kyle Knoepfel <[knoepfel@fnal.gov](mailto:knoepfel@fnal.gov)> Date: Thu Sep 30 21:45:50 2021 +0000

[e56c4d2](#): Fixing issues reported by flake8 and by unit tests for 1.7 branch

## 1.12 Release 1.7.0

This release features:

- Adopt new produces-consumes decorators introduced in the Framework
- Added structured logging. Improved python logging and adoption of structured logs format that will increase the semantic content of the messages and ease the export of information for dashboards and Elastic Search.
- Migrated to setuptools package development library. This build system is the standard vanilla python build system provided with the python distribution. Build configurations have been updated and rpm packaging remains the primary distribution method.
- The `billing_calculator` is now hosted in HEPCloud's GitHub organization

#### Note

The RPM package was renamed from `decisionengine-standard-library` to `decisionengine_modules`. rpm/yum updates from the old RPM will work correctly.

#### Note

The “`channel_name`” key in the Source Proxy config dictionaries needs to be changed to “`source_channel`”. “`channel_name`” is now being used to describe the name of the channel itself, not the name of the channel the Source Proxy is getting information from.

### 1.12.1 Issues fixed in this release

- 354 : Interior log messages from decision engine modules subroutines are missing;
- 348 : Name convention on `bill_calculator_hep` vs. `billing_calculator_hep`
- 333 : DE modules entrypoint script always pick DE default branch, this becomes an issue when testing DE modules branches enhancement
- 325 : Follow up for 323 unit test inside correction map logic
- 323 : Need to be able to add the conversion map to the `factory_entries` source `onmachine_patch` operations



### 1.12.2 Full list of commits since version 1.6.0

4d2c9fe: Updated documentation for 1.7.0 release  
7451799: Updated release notes for 1.7.0 RC4 (1.6.99.post8)  
34d2d74: Added module logger for functions in glide\_frontend\_element.py outside the class  
41e1060: fixes to tests  
ab0c739: Update release\_notes\_1.7.rst  
cc94791: Updated release notes for 1.7.0 RC3 (1.6.99.post7)  
076371a: changes needed for structured logging  
77a79ad: Use latest version of bill calc  
385266c: Fix requirements to match our usage  
56e2d9e: Add config for lgtn  
31d9d77: Rename bill\_calculator\_hep imports  
2cd29c4: Updated release notes for 1.7.0 RC2 (1.6.99.post6)  
f8c4c73: standardizing logging  
160e3b8: Added a note to the release notes about the RPM name change  
456003b: Release notes ready for v1.7.0  
f8eef94: changes for structured logging  
8a8c3dc: Set more firm version requirements for setup.py  
3b44f36: Allow use of custom DEframework branch to test DE modules pick DEframework branch from DE modules branch  
d454093: Legacy boto isn't used internally any longer  
e87e1fb: Don't package tests at top level  
76f3ae1: Fix GlideinWMS RPM requirement  
5f9534f: Move packaging to develop  
267995b: Implementing PEP8 issues  
2a4d266: Adding new test for correction map  
1c60be8: Update Jenkins file to cope with setuptools  
a674626: Migrate to setuptools  
7efbe56: Preparing 1.7, ready for 1.6.99.post2  
5c3f8b3: Add in Jenkinsfile pipeline configuration a timeout at stage level  
bd83afa: bill-calculator-hep now on official pypi  
518ffdc: Fix coding error.  
68d6441: Fix typos encountered during integration testing.  
5435707: Check for configuration error.  
4f7fc04: Accommodate breaking changes introduced by the framework.  
a27f92a: Added 1.6.2 release notes, from branch 1.6

c7351ca: Merge pull request #329 from jcpunk/billing\_calc  
82c7b33: Add billing-calculator into CI environment  
6658c62: Merge pull request #327 from knoepfel/produces-consumes-configuration  
5a1ab2b: Address Marco's comments.  
0e2a005: Upgrade to new produces/consumes/supports\_config interface  
e8fd175: Python cleanups  
5edf1f5: Remove unneeded files  
4a30632: Merge pull request #324 from hyunwoo18/t323  
1f80c4a: Correction map implemented too  
9ce3b1c: Fix import (#321)  
5449e00: fix typo  
7c0752f: bump trrunk version

## **1.13 Release 1.6.2**

Patch level (bug fix) release.

Correction map for GlideinWMS Factory Entries added. (#323, PR#324) Fixed imports and a typo.

### **1.13.1 Full list of commits since version 1.6.1**

4f6e313: Correction map implemented too  
bdf4324: releasing 1.6.2-0.1.rc1  
53c7d6c: getting ready to release 1.6.2  
9a9f99d: Fix import (#321)  
d502bf1: fix typo

## **1.14 Release 1.6.0**

In this release:

- Adapt to decisionengine framework migration to setuptools.
- Drop cmake step before running unit tests.
- Enhanced logging.
- Bug fixes.

### 1.14.1 Issues fixed in this release

275 : (b639a74)

### 1.14.2 Full list of commits since version 1.5.0

f93831c : enhanced logging and error handling in util directory (#320)

798972f : replaced method\_whitelist with allowed\_methods (as former os deprecated) (#319)

b8af4b3 : Update Jenkins pipeline configuration (#318)

b639a74 : Handle KeyError exception (#317)

4c9e25e : Add about.py for useful names (#310)

48e725f : update unittest document

36b799e : Configure DE Modules to use DE Framework with setuptools (#316)

45fc425 : Move to raw flake8 test action (#315)

478b0a5 : Update gh-actions to best practices (#311)

6285f49 : Drop obsolete github action (#309)

911fef7 : Do a limited pin on dependencies (#308)

ab096a8 : Sync-up .gitignore (#304)

cd7e668 : Move to raw github actions (and codecov.io) (#298)

4a997d4 : Remove building of C++ Logic Engine from unit tests

## 1.15 Release 1.5.0

In this release:

- New AWS bill calculator
- Bug fixes

### 1.15.1 Issues fixed in this release

- 271 : Change configuration so the bill-calculator-hep-mapsacosta library doesn't write stuff to stdout (5410c46)
- 283 : Change DEAccountConstants.py to allow more variables through (7a65032)
- 293 : Unit test tests/test\_job\_q.py is failing (f5006fb)
- 263 : Python3 encodes hex strings differently, resulting in malformed htcondor classads (c16f0)
- 289 : Travis CI fails after decisionengine transitioned to pybind11 (2bec1da)
- 281 : New exception in NERSC newt get\_usage (398dc42)

### 1.15.2 Full list of commits since version 1.4.2

5410c46 : new bill calculator package (#303)  
7a65032 : Resolving issue 283 (#301)  
1a2c3e4 : Fix syntax errors and pylint bits (#300)  
976c4a4 : Minor linting of actions (#297)  
c43f311 : Drop redundant action, pep8speaks is already doing this (#296)  
10691e4 : Add support to use custom docker layer as base of the docker image (#295)  
f5006fb : fix for unit test test\_job\_q issue 293 (#294)  
0b588ef : Update workflow per changes at github (#292)  
7841d19 : Updated Jenkins configuration documentation (#291)  
c08ffce : edited release notes  
c16f0ac : Another fix to malformed strings (#288)  
2bec1da : Fix #289 where TravisCI is missing changes from <https://github.com/HEPCloud/decisionengine/commit/ea7ade57ca825afb0afbfa5ebd49820b16786d8b> (#290)  
8647bb2 : Update to current python test matrix (#287)  
234a78e : update release notes  
398dc42 : decisionengine\_modules/NERSC/util: Added more 5xx codes to retry (#285)  
d2df861 : force docker pull when building the docker container to make sure to use an updated base layer (#280)  
9a78d22 : added 1.4.0 release notes  
5d3b7ec : Updating Dockerfile for unittest (#279)  
e16531e : Provide default for util function. (#278)  
02f1738 : set RPM version number to 1.5.0rc and drop py3 suffix (#277)  
664b9fe : Add timeout support for unit test on Jenkins for DE modules repo (#274)  
e392a3c : Added initial unit test for glide\_frontend\_element.py (#269)  
2f0069f : Updated DE modules Jenkins documentation

## 1.16 Release 1.4.2

In this release:

- Bug fixes to 1.4.1 release

### 1.16.1 Issues fixed in this release

- [282](#) : Decision Engine classad encoding problems make multiple exceptions in the factory ([c16f0ac](#))

### 1.16.2 Full list of commits since version 1.4.1

[c16f0ac](#) : Another fix to malformed strings (#288)

## 1.17 Release 1.4.1

In this release:

- Bug fixes to 1.4.0 release

### 1.17.1 Issues fixed in this release

- [281](#) : New exception in NERSC newt get\_usage ([4d1301e](#))

### 1.17.2 Full list of commits since version 1.4.0

[4d1301e](#) : decisionengine\_modules/NERSC/util: Added more 5xx codes to retry (#285)

## 1.18 Release 1.4.0

In this release:

- Works with python3 glideinWMS package
- Uses new AWS bill calculator
- Improved Jenkins CI pipeline

### 1.18.1 Issues fixes in this release

- [59](#) : Replace AWS Billing and GCE Billing modules with revamped bill Calculator code ([71f25ea](#))
- [246](#) : Modify NERSCAllocation main() so that it can be run standalone ([11ce772](#))
- [263](#) : Python3 encodes hex strings differently, resulting in malformed htcondor classads ([13a24e4](#))
- [255](#) : Add option to config of condor/sources/job\_q.py and slots.py ([6f65af4](#))

## 1.18.2 Full list of commits since version 1.3.0

42f62d3 : remove py3 from package name  
6e56c4d : bump version number  
6433dba : Add support to test any branch in Jenkins for DE modules repo (#276)  
60db1b3 : Accommodate breaking changes to framework's configuration system. (#273)  
13a24e4 : Fix263 (#272)  
a866e47 : Correct 'file\_cache is unavailable when using oauth2client >= 4.0.0' (#267)  
2c82064 : Fix requirements.txt for #266 (#268)  
6f65af4 : A more generic solution for the issue 255 (#265)  
df08cb4 : Speed up tests. (#264)  
057e578 : Update Jenkins pipeline to properly test closing PR (#262)  
a28f272 : Adding Jenkins pipeline documentation (#261)  
71f25ea : T59 (#258)  
90b6580 : Updating Jenkins pipeline configuration (#260)  
b4bd759 : dealing with 2 columnsindividually (#257)  
11ce772 : decisionengine\_modules/NERSC: Can run NerscAllocationInfo.py without (#256)  
4a70465 : doc: add release notes

## 1.19 Release 1.3.0

In this release:

- Introduced Jsonnet based configuration system
- Improved error handling

### 1.19.1 Full list of commits since version 1.2.0

e8c8e24 : Update to split a tuple key into two separate keys, this allows python config file to be JSON compliant config file (#254)  
fbb5d28 : add jsonnet dependency in build/scripts/utlis.sh for unit tests (#252)  
95a0a32 : decisionengine\_modules/glideinwms: Added retry to factory queries (#250)  
77f894a : Aws (#249)  
3be5be1 : Set theme jekyll-theme-slate  
a73e7f8 : Doc (#247)  
f8aa96d : Adding editor config file, see <https://editorconfig.org/> (#248)  
1ab1720 : Issue no. 237 (#245)  
5edc8f9 : Issue 227 (#243)  
e6047f2 : GCE channel goes OFFLINE on a timeout (#242)

63e3627 : Aws billing (#241)  
c3626b9 : 1.1.3/fix (#239)  
ae7c5a6 : Jenkins pipeline improvements (#236)  
310befd : T198 (#235)  
a65886d : Fix import as reported in : <https://github.com/HEPCloud/decisionengin...> (#232)  
93711cc : Run coveralls even if tests fail (#229)  
03d763a : Jenkins pipeline improvements (#230)  
f48d30f : Fix/223 (#228)  
c8aa262 : github ticket 199 (#222)  
0323bda : Address : [https://github.com/HEPCloud/decisionengine\\_modules/issues/224](https://github.com/HEPCloud/decisionengine_modules/issues/224) (#226)  
62e4df6 : Add support to run CI on Jenkins (#221)  
5ab1541 : bump master version to 1.2.0 (for now) (#219)  
bc19c65 : decisionengine\_modules/NERSC: Added retry loop for NERSC API Calls (#220)  
41a50de : Sync up pep8speaks and run\_pylint.sh with decisionengine settings (#218)  
db4634f : silence pylint error (#217)  
1b95141 : Fix whitespace around operator error  
746ea38 : ignore W503  
8a8b5f4 : remove unused variable  
a6668bf : fix PEP8 warnings  
13773ee : address pep8 warnings  
6bea4ca : silence pylint error  
f589895 : Pass sort=True parameter to fix future warning (#215)  
a1d0507 : fixing pep8 warning  
a10bd17 : debugging one import error  
ec501ad : make coveralls.io links work  
deab1a7 : T201 (#204)  
69f2645 : Add coveragerc  
6d8a5f5 : decisionengine\_modules/NERSC: Make Nersc API call backward-compatible with old config (#196)  
a7e0af9 : Only run Github Actions for python3.6 (#24)

## 1.20 Release 1.2.0

In this release:

- Switched to python3
- NERSC newt interface adapted to changed NERSC RESTful API
- Improved unit tests
- Added Jenkins CI pipeline

### 1.20.1 Patches:

30d928b : clone version 1.2.0 of decisionengine

ae7c5a6 : Jenkins pipeline improvements (#236)

310befd : T198 (#235)

a65886d : Fix import as reported in : <https://github.com/HEPCloud/decisionengin...> (#232)

93711cc : Run coveralls even if tests fail (#229)

03d763a : Jenkins pipeline improvements (#230)

f48d30f : Fix/223 (#228)

c8aa262 : github ticket 199 (#222)

0323bda : Address : [https://github.com/HEPCloud/decisionengine\\_modules/issues/224](https://github.com/HEPCloud/decisionengine_modules/issues/224) (#226)

62e4df6 : Add support to run CI on Jenkins (#221)

5ab1541 : bump master version to 1.2.0 (for now) (#219)

bc19c65 : decisionengine\_modules/NERSC: Added retry loop for NERSC API Calls (#220)

41a50de : Sync up pep8speaks and run\_pylint.sh with decisionengine settings (#218)

db4634f : silence pylint error (#217)

1b95141 : Fix whitespace around operator error

746ea38 : ignore W503

8a8b5f4 : remove unused variable

a6668bf : fix PEP8 warnings

13773ee : address pep8 warnings

6bea4ca : silence pylint error

f589895 : Pass sort=True parameter to fix future warning (#215)

a1d0507 : fixing pep8 warning

a10bd17 : debugging one import error

ec501ad : make coveralls.io links work

deab1a7 : T201 (#204)

69f2645 : Add coveragerc

6d8a5f5 : decisionengine\_modules/NERSC: Make Nersc API call backward-compatible with old config (#196)



a7e0af9 : Only run Github Actions for python3.6 (#24)

## 1.21 Release 1.1.0

In this release:

- Fixed. [https://github.com/HEPCloud/decisionengine\\_modules/issues/62](https://github.com/HEPCloud/decisionengine_modules/issues/62). “Update Nersc Allocation Info source for new NERSC API “
- significant code cleanup and pep8 compliance
- unit test work
- CI (GitHub actions and Travis) is introduced

### 1.21.1 Patches:

6455c93 : 1.1 (#203)

375bec5 : clone specific branch of decisionengine (#202)

36c66a8 : set version to 1.1.0

40f31bb : Use sparse checkout for first checkout to get ./github/actions (#23)

b2933d7 : Remove unpackaged files (#22)

fee64ea : remove python shebang, fix logging-too-many-args, fix unsubscriptable-object (#21)

fbf4eb6 : Fixes pep8 warnings. (#20)

9f26659 : Hyunwoo2to3 (#19)

6870b0b : travis-ci: install boto3, htcondor and execute test in one directory above decisionengine\_modules (#18)

22ed8b9 : Fixup condor-classad (#17)

c9edb09 : Add unit test github action. Run as non-root uid. Install python packages in virtualenv. (#14)

b41257d : Setup pep8speaks (#16)

b3bbe28 : Transitioned NERSC API to new IRIS API for accounting data. (#15)

267ec14 : Setup travis (#13)

4151a9a : unittest: Fix GCEResourceLimits so that it does not depend on configuration (#12)

5a44018 : Update decisionengine\_modules rpmbuild and pylint actions. (#9)

c562696 : Update entrypoint.sh (#8)

6d953f2 : rpm spec: remove unwated directory (#7)

474c39c : unittest: make htcondor\_query test pass (#6)

f0ff5a9 : unittest improvements (#5)

e928059 : AWS: fix all but one unit tests

182b582 : fix unit tests, light formatting

bb4a9e4 : Cache venv directory instead.

d805129 : Test pip cache

b64e85d : Add Github Actions

## DEVELOPER DOCUMENTATION

The developer documentation is in the [GitHub Wiki](#)



## JENKINS CI PIPELINE

### 3.1 Decisionengine modules CI with Jenkins pipeline

Jenkins dashboard with Decisionengine modules CI results is available [here](#).

A CI build is triggered any time a PR is created/closed or a commit is made to an existing PR. There are also *nightly CI builds* to test a list of predefined branches.

The Jenkins pipeline runs *pep8*, *pylint* and *unit\_tests* test suites alongside the *rpmbuild* stage. The Jenkins dashboard looks like this:

**Build History**

Build Number	Branch	Time	Status
#258	PR#258	Sep 2, 2020 4:14 PM	Success
#258	PR#258	Sep 2, 2020 3:31 PM	Success
#258	PR#258	Sep 2, 2020 3:05 PM	Success
#260	PR#260	Sep 1, 2020 1:38 PM	Success
#184	master	Sep 1, 2020 2:31 AM	Success
#183	master	Aug 31, 2020 2:31 AM	Success
#182	master	Aug 30, 2020 2:31 AM	Success
#181	master	Aug 29, 2020 2:31 AM	Success
#180	master	Aug 28, 2020 2:31 AM	Success
#179	master	Aug 27, 2020 3:54 PM	Success
#178	master	Aug 27, 2020 3:54 PM	Success
#177	master	Aug 27, 2020 3:39 PM	Success
#176	master	Aug 27, 2020 3:39 PM	Success

**Stage View**

Stage	Declarative: Checkout SCM	DE modules tests	pep8	pylint	unit_tests	rpmbuild
Average stage times: (Average full run time: ~25min)	903ms	66ms	4min 28s	22min 26s	10min 36s	3min 16s
#189#PR#258	1s	72ms	14min 10s	34min 22s	22min 31s	14min 52s
#188#PR#258	539ms	112ms	4min 53s	24min 50s	11min 13s	6min 3s
#187#PR#258	850ms	79ms	3min 35s	24min 7s	10min 50s (failed)	1min 19s
#186#master	1s	58ms	3min 27s	21min 55s	9min 3s	22s
#185#PR#260	777ms	54ms	7s (failed)	25s (failed)	5s (failed)	4s (failed)
#184	494ms	36ms	2min 49s	22min 16s	8min 53s	21s
#183	618ms	78ms	3min 36s	23min 3s	9min 2s	28s

On the bottom left side there is the list of recent CI builds that are named after the PR or the branch tested.

On the bottom right side the dashboard shows for each CI build detailed status for each test suite.

Hovering the mouse over the *status box* for each CI build stage, a tool-tip with a button to access log details shows up.

Next to the build number the symbol  gives access to a menu with the list of artifacts stored for that build. Those artifacts include logs and the tarball with RPMs.

From the panel on the left side it is possible to access the PR on GitHub by clicking on the PR icon that looks like this  #258.

On occasion it could be useful to trigger a manual CI build to test a branch on the official DE GitHub repository or on the user fork. For this purpose, on the top left panel the user can click on the  **Build with Parameters** button, and this panel shows up

# Pipeline decisionengine\_modules\_pipeline

This build requires parameters:

DOCKER_IMAGE	<input type="text" value="vitodb/decision-engine-modules-ci:jenkins"/> Docker image name to use. Default is: vitodb/decision-engine-modules-ci:jenkins
DE_MOD_REPO	<input type="text" value="https://github.com/HEPCloud/decisionengine_modules"/> Decisionengine modules repo. Default is: https://github.com/HEPCloud/decisionengine_modules/
BRANCH	<input type="text" value="master"/> Branch to test. Default is: master
PYTEST_TIMEOUT	<input type="text" value="300"/> Timeout in seconds for unit_tests (it applies to individual unit test) Default is: 300

Build

the user can modify these parameters to customize what code to test with the CI build.

The *DE\_MOD\_REPO* parameter can point to the user fork or to the main repository.

The *BRANCH* parameter can point to the desired branch to test.

The *PYTEST\_TIMEOUT* parameter is the timeout in seconds for *unit\_tests*.

When ready, by clicking on the *Build* button, the CI build will start.

The [pipeline configuration](#) is part of the decisionengine\_modules repo.

## 3.1.1 Nightly CI build configuration

The nightly CI build for Decisionengine framework uses this [Jenkins project](#) that triggers a CI build using the Jenkins pipeline described above to test a list of predefined branches.

**Jenkins**

Jenkins > CI > decisionengine\_ci

[Back to Dashboard](#)

[Status](#)

[Changes](#)

[Workspace](#)

[Build Now](#)

[Configure](#)

[Delete Multi-configuration project](#)

[Rebuild Last](#)

[Job Config History](#)

[Rename](#)

[Set Next Build Number](#)

## Project decisionengine\_ci

Decision Engine CI running inside dedicated docker container

### Configurations

[BRANCH=master](#) [BRANCH=1.4](#)

### Subprojects

#### Static

[decisionengine\\_modules\\_pipeline\(non-blocking\)](#)  
[decisionengine\\_pipeline\(non-blocking\)](#)

### Permalinks

- [Last build \(#295\), 7 hr 6 min ago](#)
- [Last stable build \(#295\), 7 hr 6 min ago](#)
- [Last successful build \(#295\), 7 hr 6 min ago](#)
- [Last completed build \(#295\), 7 hr 6 min ago](#)

### Build History

[trend](#) ^

find

<a href="#">#295</a>	<a href="#">Nov 19, 2020 2:23 AM</a>
<a href="#">#294</a>	<a href="#">Nov 18, 2020 2:23 AM</a>
<a href="#">#293</a>	<a href="#">Nov 17, 2020 2:23 AM</a>

Branches to test are defined using the project matrix as shown in the picture below. Each branch in the list (here *master* and *1.4*) spawns an independent CI build.



The screenshot shows the Jenkins Configuration Matrix configuration page. The 'Configuration Matrix' tab is selected. Under the 'User-defined Axis' section, the 'Name' field is set to 'BRANCH' and the 'Values' field is set to 'master 1.4'. There is a red 'X' icon in the top right corner of the axis configuration area and a blue question mark icon next to the values field.

In the *Build* section of the configuration it is set the list of Jenkins subprojects to be triggered, in this case we have *decisionengine\_pipeline* and *decisionengine\_modules\_pipeline*.

The *Parameters* text box is used to override parameters of each Jenkins subproject with a custom value.

In total this Jenkins project triggers 4 CI builds, i.e. 2 branches X 2 Jenkins subprojects.

The screenshot shows the Jenkins Build configuration page. The 'Build' tab is selected. Under the 'Trigger/call builds on other projects' section, the 'Projects to build' field is set to 'decisionengine\_pipeline,decisionengine\_modules\_pipeline'. The 'Block until the triggered projects finish their builds' checkbox is unchecked. Under the 'Predefined parameters' section, the 'Parameters' field is set to 'BRANCH=\${BRANCH}'. There are red 'X' icons in the top right corner of the 'Trigger/call builds on other projects' and 'Predefined parameters' sections, and blue question mark icons next to the 'Projects to build' and 'Parameters' fields.

Finally the *Build Triggers* section is used to setup the schedule for the periodic build, in this case it is scheduled to run at about 2 AM.

Jenkins will choose the actual time depending on the actual load on the system.

General

Advanced Project Options

Source Code Management

Build Triggers

Configuration Matrix

Build Environment

Build

Post-build Actions

### Build Triggers

☐ Trigger builds remotely (e.g., from scripts)

☐ Build after other projects are built

☒ Build periodically

Schedule

H 2 \* \* \*

Would last have run at Wednesday, November 4, 2020 2:23:53 AM CST;  
would next run at Thursday, November 5, 2020 2:23:53 AM CST.

## SOURCE CODE

### 4.1 decisionengine\_modules documentation

Add your content using reStructuredText syntax. See the [reStructuredText](#) documentation for details.

#### 4.1.1 setup module



## INDICES AND TABLES

- `genindex`
- `modindex`
- `search`