## **TS**

# **Bugfix**

• TransformationClient - fixes for processing of derived transformations

## Change

• TransformationClient - changed default timeout values for service calls

# Version v6r9p24

## **TS**

# **Bugfix**

• TransformationClient - in moveFilesToDerivedTransformation() set file status to Moved-<prod>

# Version v6r9p23

### Core

## **Bugfix**

• InstallTools - improper configuration prevents a fresh new installation

## **WMS**

## **Bugfix**

• PilotDirector - Operations Helper non-instantiated

# Version v6r9p22

### **WMS**

- PilotDirector allow to properly define extensions to be installed by the Pilot differently to those installed at the server
- Watchdog convert pid to string in ProcessMonitor

# TS

# **Bugfix**

• TransformationDB - splitting files in chunks

## **DMS**

## Change

• update dirac-dms-xxx commands to use the new RMS client, strip lines when reading LFNs from a file

#### Feature

• dirac-dms-create-removal-request command

# Version v6r9p21

## TS

# **Bugfix**

- Transformation(Client, DB, Manager) restored FileCatalog compliant interface
- TransformationDB fix in \_\_insertIntoExistingTransformationFiles()

# Version v6r9p20

## Core

## **Bugfix**

• ProxyUpload - an on the fly upload does not require a proxy to exist

# **DMS**

# **Bugfix**

• FailoverTransfer - recording the sourceSE in case of failover transfer request

## Change

• TransferAgent - use compareAdler() for checking checksum

## **WMS**

# **Bugfix**

• ProcessMonitor - some fixes added, printout when <1 s of consumed CPU is found

## **Transformation**

# Bugfix

• TransformationClient - fixed return value in moveFilesToDerivedTransformation()

## **RMS**

## **Bugfix**

• CleanReqDBAgent - now() -> utcnow() in initialize()

### Resources

# **Bugfix**

• ARCComputingElement - fix the parsing of CE status if no jobs are available

# Version v6r9p19

## **DMS**

## **Bugfix**

• FileCatalog/DirectoryMetadata - inherited metadata is used while selecting directories in findDirlDsByMetadata()

# Version v6r9p18

## **DMS**

## **Bugfix**

• FTSSubmitAgent, FTSRequest - fixes the staging mechanism in the FTS transfer submission

#### Feature

• TransferDBMonitoringHandler - added getFilesForChannel(), resetFileChannelStatus()

# **Accounting**

# **Bugfix**

• DataStoreClient - send accounting records in batches of 1000 records instead of 100

## DMS:

# **Bugfix**

- FailoverTransfer catalog name from list to string
- FTSSubmitAgent, FTSRequest handle FTS3 as new protocol and fix bad submission time
- FTSSubmitAgent, FTSRequest do not submit FTS transfers for staging files

### **WMS**

# **Bugfix**

- TaskQueueDB do not check enabled when TQs are requested from Directors
- TaskQueueDB check for Enabled in the TaskQueues when inserting jobs to print an alert

#### Feature

• TaskQueueDB - each TQ can have at most 5k jobs, if beyond the limit create a new TQ to prevent long matching times when there are way too many jobs in a single TQ

# Version v6r9p16

### **TS**

## **Bugfix**

• typos in TransformationCleaningAgent.py

### **DMS**

# **Bugfix**

• DownloadInputData - try to download only Cached replicas

### Change

• DownloadInputData - check the available disk space in the right input data directory

## Core

# **Bugfix**

• MySQL - do not decrease the retry counter after ping failure

## **DMS**

## **Bugfix**

• RemovalTask - fix error string when removing a non existing file (was incompatible with the LHCb BK client).

## Change

• FC/DirectoryMetadata - Speed up findFilesByMetadataWeb when many files match

### **WMS**

## **Bugfix**

- JobReport minor fix ( removed unused imports )
- JobMonitoring(JobStateUpdate)Handler jobID argument can be either string, int or long

## TS

## **Bugfix**

• FileReport - minor fix (inherits object)

## Change

• TransformationClient - change status of Moved files to a deterministic value

# Version v6r9p14

### **DMS**

# Change

• FTSDB - changed schema: removing FTSSite table. From now on FTS sites would be read from CS Resources

FIX: included fixes from v6r8p26 patch release

# Version v6r9p12

FIX: included fixes from v6r8p25 patch release

# Version v6r9p11

## **DMS**

## **Bugfix**

• FTSRequest - in \_\_resolveFTSServer() type "=" -> "=="

# Version v6r9p10

FIX: included fixes from v6r8p24 patch release

## Core

### Feature

• StateMachine utility

## **DMS**

# **Bugfix**

• in RegisterFile operation handler

## **Interfaces**

## **Bugfix**

• Dirac.py - in splitInputData() consider only Active replicas

# Version v6r9p9

# **RMS**

## **Bugfix**

• RequestDB - added getRequestFileStatus(), getRequestName() methods

## **DMS**

# **Bugfix**

• RequestDB - get correct digest ( short request description ) of a request

# Version v6r9p7

FIX: included fixes from v6r8p23 patch release

## **RSS**

## **Bugfix**

• SpaceTokenOccupancyPolicy - SpaceToken Policy decision was based on percentage by mistake

## **RMS**

## **Bugfix**

• FTSAgent - setting space tokens for newly created FTSJobs

### Feature

• new scripts dirac-dms-ftsdb-summary, dirac-dms-show-ftsjobs

# Version v6r9p6

## **DMS**

## **Bugfix**

• dirac-admin-add-ftssite - missing import

## **RMS**

### Feature

• RequestDB, ReqManagerHandler - added getRequestStatus() method

## **TS**

• fixes when using new RequestClient with the TransformationCleaningAgent

## **WMS**

## **Bugfix**

• typo in SandboxStoreHandler transfer\_fromClient() method

# Version v6r9p5

#### **DMS**

## **Bugfix**

• missing proxy in service env in the FTSManager service. By default service will use DataManager proxy refreshed every 6 hours.

## Resources

#### Feature

• StorageElement - new checkAccess policy: split the self.checkMethods in self.okMethods. okMethods are the methods that do not use the physical SE. The isValid returns S\_OK for all those immediately

# **RSS**

## **Bugfix**

• SpaceTokenOccupancyPolicy - Policy that now takes into account absolute values for the space left

## TS

## **Bugfix**

• TransformationCleaningAgent - will look for both old and new RMS

# Version v6r9p4

# Stager

### Feature

• Stager API: dirac-stager-monitor-file, dirac-stager-monitor-jobs, dirac-stager-monitor-requests, dirac-stager-show-stats

## **Transformation**

# **Bugfix**

• TransformationCleaning Agent status was set to 'Deleted' instead of 'Cleaned'

# Version v6r9p2

## **RSS**

## **Bugfix**

• removed old & unused code

#### Feature

- Added Component family tables and statuses
- allow RSS policies match wild cards on CS

### **WMS**

## **Bugfix**

• FailoverTransfer,JobWrapper - proper propagation of file metadata

# Version v6r9p1

### **RMS**

## Change

- FTSJob add staging flag in in submitFTS2
- Changes in WMS (FailoverTransfer, JobReport, JobWrapper, SandboxStoreHandler) and TS (FileReport) to follow the new RMS.

### Feature

- FTSAgent update rwAccessValidStamp, update ftsGraphValidStamp, new option for staging files before submission, better log handling here and there
- Full CRUD support in RMS.

### RSS

### Feature

- ResourceManagementDB new table ErrorReportBuffer
- new ResourceManagementClient methods insertErrorReportBuffer, selectErrorReportBuffer, deleteErrorReportBuffer

NEW: Refactored Request Management System, related DMS agents and FTS management components

# Version v6r8p28

## Core

## **Bugfix**

• RequestHandler - the lock Name includes ActionType/Action

## **DMS**

# **Bugfix**

• dirac-dms-filecatalog-cli - prevent exception in case of missing proxy

# Version v6r8p27

### **DMS**

## **Bugfix**

• dirac-dms-add-file - fixed typo item -> items

# Version v6r8p26

### Core

#### Feature

- RequestHandler added getServiceOption() to properly resolve inherited options in the global service handler initialize method
- FileCatalogHandler, StorageElementHandler use getServiceOption()

# Version v6r8p25

FIX: included fixes from v6r7p40 patch release

## Resources

# **Bugfix**

• SRM2Storage - do not account gfal\_ls operations

# Version v6r8p24

FIX: included fixes from v6r7p39 patch release

### Core

## **Bugfix**

• SiteSEMapping was returning wrong info

## **DMS**

## **Bugfix**

- FTSRequest choose explicitly target FTS point for RAL and CERN
- StrategyHandler wrong return value in \_\_getRWAccessForSE()

## Resources

# Change

• SRM2Storage - do not account gfal\_ls operations any more

# Version v6r8p23

FIX: included fixes from v6r7p37 patch release

## **TS**

# **Bugfix**

- TransformationDB allow tasks made with ProbInFC files
- TransformationCleaingAgent,Client correct setting of transformation status while cleaning

# Version v6r8p22

FIX: included fixes from v6r7p36 patch release

## **DMS**

# **Bugfix**

- FileCatalog/DirectoryMetadata even if there is no meta Selection the path should be considered when getting Compatible Metadata
- FileCatalog/DirectoryNodeTree findDir will return S\_OK( " ) if dir not found, always return the same error from DirectoryMetadata in this case.

### **RSS**

# **Bugfix**

• DowntimeCommand - use UTC time stamps

### **TS**

# **Bugfix**

• TransformationAgent - in \_getTransformationFiles() get also ProbInFC files in addition to Used

# Version v6r8p20

# Stager

#### **Feature**

• Stager API: dirac-stager-monitor-file, dirac-stager-monitor-jobs, dirac-stager-monitor-requests, dirac-stager-show-stats

# Version v6r8p19

## **Transformation**

## **Bugfix**

• TransformationCleaning Agent status was set to 'Deleted' instead of 'Cleaned'

# Version v6r8p18

## TS

• TransformationAgent - regression in \_\_cleanCache()

# Version v6r8p17

FIX: included fixes from v6r7p32 patch release

### **WMS**

## **Bugfix**

• StalledJobAgent - for accidentally stopped jobs ExecTime can be not set, set it to CPUTime for the accounting purposes in this case

# Version v6r8p16

FIX: included fixes from v6r7p31 patch release

### **WMS**

# **Bugfix**

• TaskQueueDB - fixed a bug in the negative matching conditions SQL construction

## **RSS**

# **Bugfix**

- Minor changes to ensure consistency if ElementInspectorAgent and users interact simultaneously with the same element
- SummarizeLogsAgent the logic of the agent was wrong, the agent has been re-written.

## Change

• removed DatabaseCleanerAgent ( to be uninstalled if already installed )

#### Feature

• improved doc strings of PEP, PDP modules ( part of PolicySystem )

# Version v6r8p15

#### Core

## **Bugfix**

• X509Chain - fix invalid information when doing dirac-proxy-info without CS (in getCredentials())

## **RSS**

### Feature

• PDP, PEP - added support for option "doNotCombineResult" on PDP

# Version v6r8p14

## Core

## **Bugfix**

• dirac-deploy-scripts - can now work with the system python

## **WMS**

## **Bugfix**

• Executor/InputData - Add extra check for LFns in InputData optimizer, closes #1472

#### Feature

• dirac-wms-cpu-normalization - added -R option to modify a given configuration file

## **Transformation**

## **Bugfix**

• TransformationAgent - bug in \_\_cleanCache() dict modified in a loop

## Change

• TransformationAgent - add possibility to kick a transformation (not skip it if no unused files), by touching a file in workDirectory

# Version v6r8p13

## **Transformation**

## **Bugfix**

• TransformationDB - restored import of StringType

# Version v6r8p12

NEW: Applied patches from v6r7p29

### **WMS**

# **Bugfix**

• JobDB - check if SystemConfig is present in the job definition and convert it into Platform

### **DMS**

# **Bugfix**

• ReplicaManager - do not get metadata of files when getting files in a directory if not strictly necessary

## **RSS**

#### Feature

• ported from LHCb PublisherHandler for RSS web views

# Version v6r8p11

NEW: Applied patches from v6r7p27

## **RSS**

#### Feature

- SpaceTokenOccupancyPolicy ported from LHCbDIRAC
- db.\_checkTable done on service initialization ( removed dirac-rss-setup script doing it )

## **Transformation**

## **Bugfix**

- TaskManager reset oJob for each task in prepareTransformationTasks()
- ValidateOutputDataAgent typo fixed in getTransformationDirectories()
- TransformationManagerHandler use CS to get files statuses not to include in processed file fraction calculation for the web monitoring pages

# Version v6r8p10

NEW: Applied patches from v6r7p27

## **DMS**

# **Bugfix**

• TransferAgent,dirac-dms-show-se-status, ResourceStatus,TaskManager - fixes needed for DMS components to use RSS status information

#### Feature

• ReplicaManager - allow to get metadata for an LFN+SE as well as PFN+SE

# Version v6r8p8

## **RSS**

## **Bugfix**

• dirac-rss-setup - added missing return of S\_OK() result

# Version v6r8p7

NEW: Applied patches from v6r7p24

### **DMS**

## **Bugfix**

• LcgFileCatalogClient - bug in addFile()

## **RSS**

## **Bugfix**

• fixed script dirac-rss-set-token, broken in the current release.

#### Feature

• Statistics module - will be used in the future to provide detailed information from the History of the elements

# Version v6r8p6

NEW: Applied patches from v6r7p23

## **Transformation**

# **Bugfix**

- TaskManager allow prepareTransformationTasks to proceed if no OutputDataModule is defined
- TransformationDB remove INDEX(TaskID) from TransformationTasks. It produces a single counter for the whole table instead of one per TransformationID

## **WMS**

# **Bugfix**

• WMSUtilities - to allow support for EMI UI's for pilot submission we drop support for glite 3.1

# Version v6r8p5

NEW: Applied patches from v6r7p22

# **RSS**

# Change

• removed old tests and commented out files

### **WMS**

# **Bugfix**

• PoolXMLCatalog - proper addFile usage

## **Transformation**

## Change

• TransformationAgent - clear replica cache when flushing or setting a file in the workdirectory

# Version v6r8p4

## **Transformation**

- The connection to the jobManager is done only at submission time
- Jenkins complaints fixes

# **WMS**

# **Bugfix**

- JobDB CPUtime -> CPUTime
- Jenkins complaints fixes

# Version v6r8p3

## **DMS**

## **Bugfix**

• LcgFileCatalogClient

# Version v6r8p2

# DMS:

# **Bugfix**

 LcgFileCatalogClient - remove check for opening a session in \_\_init\_\_ as credentials are not yet set

# **Transformation**

# Change

• reuse RPC clients in Transformation System

# Version v6r8p1

## Core

# **Bugfix**

• dirac-deploy-scripts - restored regression w.r.t. support of scripts starting with "d"

## **DMS**

# **Bugfix**

• LcgFileCatalogClient - two typos fixed

CHANGE: Several fixes backported from the v7r0 integration branch

### Core

## **Bugfix**

• X509Chain - proxy-info showing an error when there's no CS

# Change

• DictCache - uses global LockRing to avoid locks in multiprocessing

## **DMS**

# **Bugfix**

- TransferAgent inside loop filter out waiting files dictionary
- dirac-admin-allow-se there was a continue that was skipping the complete loop for ARCHIVE elements

#### Feature

• LcgFileCatalogClient - test return code in startsess lfc calls

# WMS:

## **Bugfix**

• OptimizerExecutor, InputData, JobScheduling - check that site candidates have all the replicas

## RSS:

## **Bugfix**

• ResourceStatus, RSSCacheNoThread - ensure that locks are always released

## **Transformation**

## **Bugfix**

- TaskManager site in the job definition is taken into account when submitting
- ValidateOutputDataAgent self not needed for static methods

### Feature

• Transformation - get the allowed plugins from the CS /Operations/Transformations/AllowedPlugins

# Version v6r7p40

## Resources

## **Bugfix**

• StorageElement class was not properly passing the lifetime argument for prestageFile method

# Version v6r7p39

## Core

## Change

• Grid - in executeGridCommand() allow environment script with arguments needed for ARC client

## **DMS**

## **Bugfix**

• DFC SEManager - DIP Storage can have a list of ports now

## Resources

## **Bugfix**

• ARCComputingElement - few fixes after debugging

# Version v6r7p38

### Core

### Feature

• DISET FileHelper, TransferClient - possibility to switch off check sum

# Resources

# **Bugfix**

• SSHComputingElement - use CE name in the pilot reference construction

### Feature

- ARCComputingElement first version
- StorageFactory possibility to pass extra protocol parameters to storage object
- DIPStorage added CheckSum configuration option

## **WMS**

# **Bugfix**

• StalledJobAgent - if ExecTime < CPUTime make it equal to CPUTime

# Version v6r7p37

## **Framework**

# **Bugfix**

• NotificationDB - typos in SQL statement in purgeExpiredNotifications()

## **WMS**

## Change

 JobWrapper - report only error code as ApplicationError parameter when payload finishes with errors

## Feature

- JobCleaningAgent added scheduling sandbox LFN removal request when deleting jobs
- SiteDirector possibility to specify extensions to be installed in pilots in /Operations/Pilots/Extensions option in order not to install all the server side extensions

## **DMS**

## Change

- FileCatalogFactory use service path as default URL
- FileCatalogFactory use ObjectLoader to import catalog clients

### **SMS**

## **Bugfix**

• StorageManagementDB, dirac-stager-monitor-jobs - small bug fixes (sic, Daniela)

# Resources

 StalledJobAgent - if pilot reference is not registered, this is not an error of the StalledJobAgent, no log.error() in this case

## Change

- DIPStorage added possibility to specify a list of ports for multiple service end-points
- InProcessComputingElement demote log message when payload failure to warning, the job will fail anyway

## **RMS**

## Change

• RequestTask - ensure that tasks are executed with user credentials even with respect to queries to DIRAC services ( useServerCertificate flag set to false )

# Version v6r7p36

### **WMS**

# **Bugfix**

• CREAMCE, SiteDirector - make sure that the tmp executable is removed

# Change

· JobWrapper - remove sending mails via Notification Service in case of job rescheduling

### **SMS**

### **Bugfix**

• StorageManagementDB - fix a race condition when old tasks are set failed between stage submission and update.

# Version v6r7p35

# Stager

#### Feature

• Stager API: dirac-stager-monitor-file, dirac-stager-monitor-jobs, dirac-stager-monitor-requests, dirac-stager-show-stats

## **Transformation**

# **Bugfix**

• TransformationCleaning Agent status was set to 'Deleted' instead of 'Cleaned'

# Version v6r7p33

## **Interfaces**

# **Bugfix**

• Job.py - in setExecutable() - prevent changing the log file name string type

# StorageManagement

# **Bugfix**

• StorageManagementDB - demote the level of several log messages

#### Feature

 StorageManagementDB(Handler) - kill staging requests at the same time as killing related jobs, closes #1510

# Version v6r7p32

## **DMS**

# **Bugfix**

• StorageElementHandler - do not use getDiskSpace utility, use os.statvfs instead

## Change

• StorageManagementDB - in getStageRequests() make MySQL do an UNIQUE selection and use implicit loop to speed up queries for large results

### Resources

## **Bugfix**

• Isfce remote script - use re.search instead of re.match in submitJob() to cope with multipline output

## **WMS**

# **Bugfix**

• SiteDirector - make possible more than one SiteDirector (with different pilot identity) attached to a CE, ie sgm and pilot roles. Otherwise one is declaring Aborted the pilots from the other.

# Version v6r7p30

## Core

# **Bugfix**

• InstallTools - in getSetupComponents() typo fixed: agent -> executor

# Change

• X509Chain - added groupProperties field to the getCredentials() report

# Version v6r7p29

## **DMS**

## **Bugfix**

• dirac-dms-fts-monitor - exit with code -1 in case of error

# Change

• FileCatalog - selection metadata is also returned as compatible metadata in the result of getCompatibleMetadata() call

#### **Feature**

- FileCatalog added path argument to getCompatibleMetadata() call
- FileCatalogClient added getFileUserMetadata()

### Resources

## **Bugfix**

• CREAMComputingElement - check globus-url-copy result for errors when retrieving job output

## **DMS**

# **Bugfix**

• FileCatalog/DirectoryMetadata - wrong MySQL syntax

# Version v6r7p27

### Core

# **Bugfix**

• Mail.py - fix of the problem of colons in the mail's body

## **Interfaces**

### Feature

• Job API - added setSubmitPools(), setPlatform() sets ... "Platform"

## **WMS**

# Bugfix

• TaskQueueDB - use SystemConfig as Platform for matching ( if Platform is not set explicitly

## Resources

# **Bugfix**

- SSHComputingElement use ssh host ( and not CE name ) in the pilot reference
- SSHGEComputingElement forgotten return statement in \_getJobOutputFiles()

## **Framework**

### Feature

• dirac-sys-sendmail - email's body can be taken from pipe. Command's argument in this case will be interpreted as a destination address

## **DMS**

# **Bugfix**

• ReplicaManager - status names Read/Write -> ReadAccess/WriteAccess

# Version v6r7p25

### Core

## Change

• X509Chain - in getCredentials() failure to contact CS is not fatal, can happen when calling dirac-proxy-init -x, for example

# Version v6r7p24

# **DMS**

## Feature

• FileCatalog - added getFilesByMetadataWeb() to allow pagination in the Web catalog browser

### **WMS**

## Change

• WMSAdministrator, DiracAdmin - get banned sites list by specifying the status to the respective jobDB call

# Version v6r7p23

## **Transformation**

## **Bugfix**

• TransformationDB - badly formatted error log message

## **RMS**

## Change

• RequestDBMySQL - speedup the lookup of requests

## **WMS**

## **Bugfix**

• dirac-dms-job-delete - in job selection by group

## **DMS**

# **Bugfix**

- LcgFileCatalogClient getDirectorySize made compatible with DFC
- LcgFileCatalogClient proper call of \_\_getClientCertInfo()

# Version v6r7p22

## **Transformation**

# Change

- InputDataAgent treats only suitable transformations, e.g. not the extendable ones.
- TransformationAgent make some methods more public for easy overload

# Version v6r7p21

## Core

## **Bugfix**

• Shifter - pass filePath argument when downloading proxy

# Version v6r7p20

## **DMS**

## **Bugfix**

• StorageElement, SRM2Storage - support for '\*Access' statuses, checking results of return structures

# Change

- StrategyHandler move out SourceSE checking to TransferAgent
- ReplicaManager, InputDataAgent get active replicas

# **RSS**

# **Bugfix**

• Synchronizer - moved to ResourceManager handler

#### Feature

- set configurable email address on the CS to send the RSS emails
- RSSCache without thread in background

# Version v6r7p19

### **DMS**

# **Bugfix**

• ReplicaManager - in putAndRegister() SE.putFile() singleFile argument not used explicitly

# Version v6r7p18

### **WMS**

# **Bugfix**

- StalledJobAgent do not exit the loop over Completed jobs if accounting sending fails
- JobManifest If CPUTime is not set, set it to MaxCPUTime value

#### Feature

• dirac-wms-job-delete - allow to specify jobs to delete by job group and/or in a file

# Version v6r7p17

### Resources

## **Bugfix**

• SRM2Storage - treat properly "22 SRM\_REQUEST\_QUEUED" result code

# Version v6r7p16

## **DMS**

- StrategyHandler do not proceed when the source SE is not valid for read
- StorageElement putFile can take an optional sourceSize argument
- ReplicaManager in removeFile() proper loop on failed replicas

## **RSS**

## **Bugfix**

SpaceTokenOccupancyCommand, CacheFeederAgent - add timeout when calling lcg\_util commands

## **WMS**

## **Bugfix**

• JobManifest - take all the SubmitPools defined in the TaskQueueAgent

### Feature

• StalledJobAgent - declare jobs stuck in Completed status as Failed

# Version v6r7p15

### Core

## **Bugfix**

• SocketInfo - in host identity evaluation

## **DMS**

## **Bugfix**

• FileCatalogHandler - missing import os

## **Transformation**

## Change

• JobManifest - getting allowed job types from operations() section

# Version v6r7p14

### **DMS**

- StorageElementProxy free the getFile space before the next file
- StorageElement added getPFNBase() to comply with the interface

## Change

• StorageElementProxy - removed getParameters(), closes #1280

## **Interfaces**

## Change

• Dirac API - allow lists of LFNs in removeFile() and removeReplica()

### **WMS**

# Change

• JobSchedulingAgent(Executor) - allow both BannedSite and BannedSites JDL option

## **RSS**

# **Bugfix**

- ElementInspectorAgent should only pick elements with rss token ( rs\_svc ).
- TokenAgent using 4th element instead of the 5th. Added option to set admin email on the CS.

# Version v6r7p13

## Core

## **Bugfix**

• Resources - in getStorageElementSiteMapping() return only sites with non-empty list of SEs

## **DMS**

## **Bugfix**

- StorageElement restored the dropped logic of using proxy SEs
- FileCatalog fix the UseProxy /LocalSite/Catalog option

### **Transformation**

## **Bugfix**

• TransformationDB - use lower() string comparison in extendTransformation()

## **WMS**

# **Bugfix**

• JobManifest - get AllowedSubmitPools from the /Systems section, not from /Operations

# Core

### Feature

• Resources helper - added getSites(), getStorageElementSiteMapping()

## **DMS**

## **Bugfix**

• ReplicaManager - do not modify the loop dictionary inside the loop

# Change

• StrategyHandler - use getStorageElementSiteMapping helper function

# Version v6r7p11

## Core

## Change

• Subprocess - put the use of watchdog in flagging

# Version v6r7p10

## Core

## **Bugfix**

- Subprocess returns correct structure in case of timeout, closes #1295, #1294
- Logger cleaned unused imports

## Change

• TimeOutExec - dropped unused utility

#### Feature

• Logger - added getLevel() method, closes #1292

## **RSS**

# Change

• ElementInspectorAgent - do not use mangled name and removed shifterProxy agentOption

# Version v6r7p9

### Core

## **Bugfix**

• InstallTools - MySQL Port should be an integer

# Version v6r7p8

## Core

# **Bugfix**

• Subprocess - consistent timeout error message

## **DMS**

## **Bugfix**

• StrategyHandler - check file source CEs

# Change

- DataIntegrityClient code beautification
- ReplicaManager do not check file existence if replica information is queried anyway, do not fail if file to be removed does not exist already.

#### Feature

• RemovalTask - added bulk removal

# Version v6r7p7

FIX: Several fixes to allow automatic code documentation

## Core

#### Feature

• InstallTools - added mysqlPort and mysqlRootUser

## **DMS**

# Change

- ReplicaManager set possibility to force the deletion of non existing files
- StrategyHandler better handling of checksum check during scheduling

# Version v6r7p6

## Core

## **Bugfix**

- dirac-install restore signal alarm if downloadable file is not found
- Subprocess using Manager proxy object to pass results from the working process

# DMS:

# **Bugfix**

• FTSMonitorAgent, TransferAgent - fix the names of the RSS states

# Change

- StorageElement removed overwride mode
- removed obsoleted dirac-dms-remove-lfn-replica, dirac-dms-remove-lfn

#### Feature

• FTSMonitorAgent - filter out sources with checksum mismatch

### **RSS**

### Feature

- ElementInspectorAgent runs with a variable number of threads which are automatically adjusted
- Added policies to force a particular state, can be very convenient to keep something Banned for example.
- policy system upgrade, added finer granularity when setting policies and actions

#### **WMS**

## Change

 JobDescription, JobManifest - take values for job parameter verification from Operations CS section

#### Feature

• SiteDirector- allow to define pilot DN/Group in the agent options

# Version v6r7p5

## **Interfaces**

## **Bugfix**

• dirac-wms-job-get-output - properly treat the case when output directory is not specified

# Version v6r7p4

## Core

# **Bugfix**

• Subprocess - avoid that watchdog kills the executor process before it returns itself

## **Framework**

# **Bugfix**

• ProxuManagerClient - wrong time for caching proxies

## **RSS**

## **Bugfix**

• removed obsoleted methods

## **DMS**

### Feature

• FileCatalog - added findFilesByMetadataDetailed - provides detailed metadata for selected files

# Version v6r7p3

## **DMS**

• FTSMonitorAgent - logging less verbose

## **Transformation**

# **Bugfix**

- TransformationAgent use the new CS defaults locations
- Proper agent initialization

#### Feature

• TransformationPlaugin - in Broadcast plugin added file groupings by number of files, make the TargetSE always defined, even if the SourceSE list contains it

# ResourceStatus

## **Bugfix**

• Added the shifter's proxy to several agents

### **RMS**

# **Bugfix**

• RequestContainer - the execution order was not properly set for the single files

## Framework:

## **Bugfix**

• ProxyManagerClient - proxy time can not be shorter than what was requested

# Version v6r7p2

### Core

## **Bugfix**

• dirac-configure - switch to use CS before checking proxy info

### Framework

#### Feature

- dirac-sys-sendmail new command
- SystemAdmininistratorCLI added show host, uninstall, revert commands

- SystemAdmininistratorHandler added more info in getHostInfo()
- SystemAdmininistratorHandler added revertSoftware() interface

# **Transformation**

# **Bugfix**

• TransformationCleaningAgent - check the status of returned results

# Version v6r7p1

### Core

# **Bugfix**

• Subprocess - finalize the Watchdog closing internal connections after a command execution

# Change

- add timeout for py(shell,system)Call calls where appropriate
- Shifter use gProxyManager in a way that allows proxy caching

# **Framework**

# Bugfix

• ProxyDB - replace instead of delete+insert proxy in \_\_storeVOMSProxy

#### Feature

• ProxyManagerClient - allow to specify validity and caching time separately

# **DMS**

# **Bugfix**

• dirac-dms-add-file - allow LFN: prefix for Ifn argument

#### Feature

• FTSMonitorAgent - made multithreaded for better efficiency

## **WMS**

## **Bugfix**

• TaskQueueDB - fixed selection SQL in \_\_generateTQMatchSQL()

• OptimizerExecutor - reduce diversity of MinorStatuses for failed executors

#### Feature

• dirac-wms-job-get-output, dirac-wms-job-status - allow to retrieve output for a job group

#### Resources

## **Bugfix**

• CREAMComputingElement - remove temporary JDL right after the submission

## Version v6r6p21

#### **DMS**

### **Bugfix**

• TransformationCleaningAgent - use the right signature of cleanMetadataCatalogFiles() call

# Version v6r6p20

#### **DMS**

## **Bugfix**

- RegistrationTask properly escaped error messages
- DirectoryMetadata use getFileMetadataFields from FileMetadata in addMetadataField()

#### Feature

• When there is a missing source error spotted during FTS transfer, file should be reset and rescheduled again until maxAttempt (set to 100) is reached

#### **WMS**

### **Bugfix**

• JobScheduling - fix the site group logic in case of Tier0

# Version v6r6p19

### **DMS**

## **Bugfix**

• All DMS agents - set up agent name in the initialization

### Core

## **Bugfix**

- Time proper interpreting of 0's instead of None
- Os.py protection against failed "df" command execution

## Change

- DISET use cStringIO for ANY read that's longer than 16k (speed improvement) + Less mem when writing data to the net
- PlotBase made a new style class

#### Feature

- Subprocess timeout wrapper for subprocess calls
- dirac-info prints lcg bindings versions
- Subprocess added debug level log message

#### Framework

### **Bugfix**

• dirac-proxy-init - always check for errors in S\_OK/ERROR returned structures

### Change

• Do not accept VOMS proxies when uploading a proxy to the proxy manager

#### Feature

- SystemAdministratorIntegrator client for collecting info from several hosts
- SystemAdministrator added getHostInfo()

## Configuration

- CE2CSAgent get a fresh copy of the cs data before attempting to modify it, closes #1151
- Do not create useless backups due to slaves connecting and disconnecting
- Refresher prevent retrying with 'Insane environment'

## **Accounting**

## **Bugfix**

• DBUtils - take into account invalid values, closes #949

#### Feature

• Accounting/Job - added validation of reported values to cope with the weird Yandex case

### **DMS**

### **Bugfix**

- FTSSubmitAgent file for some reason rejected from submission should stay in 'Waiting' in TransferDB.Channel table
- FTSRequest fix in the log printout
- FileCatalogCLI check the result of removeFile call
- LcgFileCatalogClient get rid of LHCb specific VO evaluation
- Restored StorageElementProxy functionality

#### Change

- dirac-dms-add-file removed, dirac-dms-add-files renamed to dirac-dms-add-file
- dirac-dms-add-file added printout

#### Feature

- New FileCatalogProxy service a generalization of a deprecated LcgFileCatalog service
- FileCatalog(Factory), StorageElement(Factory) UseProxy flag moved to /Operations and /LocalSite sections

#### RSS

## **Bugfix**

• dirac-admin-allow/ban-se - allow a SE on Degraded ( Degraded->Active ) and ban a SE on Probing ( Probing -> Banned ). In practice, Active and Degraded are "usable" states anyway.

#### Feature

• general reimplementation: New DB schema using python definition of tables, having three big blocks: Site, Resource and Node. MySQLMonkey functionality almost fully covered by DB module, eventually will disappear. Services updated to use new database. Clients updated to use new database. Synchronizer updated to fill the new database. When helpers will be ready, it will need an update. One ElementInspectorAgent, configurable now is hardcoded. New Generic StateMachine using OOP. Commands and Policies simplified. ResourceStatus using internal cache, needs to be tested with real load. Fixes for the state machine Replaced Bad with Degraded status ( outside RSS ). Added "Access" to Read|Write|Check|Remove SE statuses wherever it applies. ResourceStatus returns by default "Active" instead of "Allowed" for CS calls. Caching parameters are defined in the CS

#### **WMS**

## Bugfix

- OptimizerExecutor failed optimizations will still update the job
- JobWrapper do not attempt to untar directories before having checked if they are tarfiles

### Change

- JobDB do not interpret SystemConfig in the WMS/JobDB
- JobDB Use CPUTime JDL only, keep MaxCPUTime for backward compatibility
- JobWrapper use CPUTime job parameter instead of MaxCPUTime
- JobAgent use CEType option instead of CEUniqueID

#### Feature

- JobWrapper added LFNUserPrefix VO specific Operations option used for building user LFNs
- dirac-wms-job-status get job statuses for jobs in a given job group

#### **SMS**

### Bugfix

 StorageManagementDB - when removing unlinked replicas, take into account the case where a staging request had been submitted, but failed

### Resources

#### Feature

- glexecCE add new possible locations of the glexec binary: OSG specific stuff and in last resort looking in the PATH
- LcgFileCatalogClient in removeReplica() get the needed PFN inside instead of providing it as an argument

## **TS**

## Change

• Transformation types definition are moved to the Operations CS section

### **Interfaces**

## **Bugfix**

- Dirac.py CS option Scratchdir was in LocalSite/LocalSite
- Dirac.py do not define default catalog, use FileCatalog utility instead

# Version v6r6p19

### **DMS**

## **Bugfix**

• All DMS agents - set up agent name in the initialization

# Version v6r6p18

### **Transformation**

## Change

• /DIRAC/VOPolicy/OutputDataModule option moved to <Operations>/Transformations/OutputDataModule

## Resources

## **Bugfix**

• ComputingElement - properly check if the pilot proxy has VOMS before adding it to the payload when updating it

### **WMS**

## **Bugfix**

• JobSanity - fixed misspelled method call SetParam -> SetParameter

# Version v6r6p17

## **Transformation**

## **Bugfix**

• TransformationAgent - corrected \_\_getDataReplicasRM()

# Version v6r6p16

### **DMS**

## **Bugfix**

- Agents proper \_\_init\_\_ implementation with arguments passing to the super class
- LcgFileCatalogClient in removeReplica() reload PFN in case it has changed

## Version v6r6p15

## **Framework**

## **Bugfix**

• ErrorMessageMonitor - corrected updateFields call

### DMS:

#### Feature

• FTSMonitorAgent completely rewritten in a multithreaded way

## **Transformation**

## **Bugfix**

• InputDataAgent - proper instantiation of TransformationClient

## Change

• Transformation - several log message promoted from info to notice level

# Version v6r6p14

### **Transformation**

- Correct instantiation of agents inside several scripts
- TransformationAgent return an entry for all LFNs in \_\_getDataReplicasRM

- TransformationCleaningAgent added verbosity to logs
- TransformationAgent missingLFC to MissingInFC as it could be the DFC as well

#### **DMS**

## **Bugfix**

• TransferAgent - fix exception reason in registerFiles()

# Version v6r6p13

#### **DMS**

## Change

 TransferAgent - change RM call from getCatalogueReplicas to getActiveReplicas. Lowering log printouts here and there

# Version v6r6p12

## **DMS**

### **Bugfix**

• RemovalTask - Replacing "" by "" in error str set as attribute for a subRequest file. Without that request cannot be updated when some nasty error occurs.

# Version v6r6p11

#### RMS:

#### **Bugfix**

• RequestClient - log string formatting

#### **DMS**

## **Bugfix**

• RemovalTask - handling for files not existing in the catalogue

## **Transformation**

## **Bugfix**

• TransformationManager - ignore files in NotProcessed status to get the % of processed files

### **Interfaces**

## **Bugfix**

• Fixes due to the recent changes in PromptUser utility

# Version v6r6p10

### **RMS**

## **Bugfix**

• RequestDBMySQL - better escaping of queries

## **WMS**

## **Bugfix**

• SiteDirector - get compatible platforms before checking Task Queues for a site

# Version v6r6p9

### Core

## **Bugfix**

• Utilities/PromptUser.py - better user prompt

## **Accounting**

#### Feature

• Add some validation to the job records because of weird data coming from YANDEX.ru

## **DMS**

- ReplicaManager typo errStr -> infoStr in \_\_replicate()
- FTSRequest fixed log message

### **WMS**

## **Bugfix**

• SiteDirector - use CSGlobals.getVO() call instead of explicit CS option

## Version v6r6p8

## **Transformation**

## **Bugfix**

• TransformationDB - typo in getTransformationFiles(): iterValues -> itervalues

# Version v6r6p7

#### Resources

## **Bugfix**

- StorageFactory uncommented line that was preventing the status to be returned
- CE remote scripts should return status and not call exit()
- SSHComputingElement wrong pilot ID reference

## Version v6r6p6

#### **WMS**

### **Bugfix**

- TaskQueueDB in findOrphanJobs() retrieve orphaned jobs as list of ints instead of list of tuples
- OptimizerExecutor added import of datetime to cope with the old style optimizer parameters

## **Transformation**

## **Bugfix**

- TransformationAgent fix finalization entering in an infinite loop
- TransformationCleaningAgent treating the archiving delay
- TransformationDB fix in getTransformationFiles() in case of empty file list

#### Feature

• TransformationCLI - added resetProcessedFile command

# Version v6r6p5

### **Transformation**

## **Bugfix**

- TransformationAgent type( transClient -> transfClient )
- TransformationAgent self.\_logInfo -> self.log.info
- TransformationAgent skip if no Unused files
- TransformationAgent Use CS option for replica cache lifetime

## Change

• TransformationAgent - accept No new Unused files every [6] hours

# Version v6r6p4

### **DMS**

## Bugfix

- TransferAgent protection for files that can not be scheduled
- TransferDB typo (instIDList > idList ) fixed

## **Transformation**

#### **Bugfix**

• TransformationAgent - typo ( loginfo -> logInfo )

# Version v6r6p3

FIX: merged in patch v6r5p14

### Core

- X509Chain return the right structure in getCredentials() in case of failure
- dirac-deploy-scripts.py allow short scripts starting from "d"
- dirac-deploy-scripts.py added DCOMMANDS\_PPID env variable in the script wrapper
- ExecutorReactor reduced error message dropping redundant Task ID

## **Interfaces**

## **Bugfix**

• Dirac.py - allow to pass LFN list to replicateFile()

## **DMS**

## **Bugfix**

- FileManager extra check if all files are available in \_findFiles()
- FileCatalogClientCLI bug in DirectoryListing

## Version v6r6p2

FIX: merged in patch v6r5p13

## **WMS**

## **Bugfix**

• SiteDirector - if no community set, look for DIRAC/VirtualOrganization setting

### **Framework**

## Bugfix

- SystemLoggingDB LogLevel made VARCHAR in the MessageRepository table
- Logging several log messages are split in fixed and variable parts
- SystemLoggingDB in insertMessage() do not insert new records in auxiliary tables if they are already there

# Version v6r6p1

### Core:

## Change

• PromptUser - changed log level of the printout to NOTICE

#### Feature

• Base Client constructor arguments are passed to the RPCClient constructor

#### DMS:

#### Feature

- FTSRequest added a prestage mechanism for source files
- FileCatalogClientCLI added -f switch to the size command to use raw faile tables instead of storage usage tables
- FileCatalog added orphan directory repair tool
- FIleCatalog more counters to control the catalog sanity

#### WMS:

### **Bugfix**

- SandboxStoreClient no more kwargs tricks
- SandboxStoreClient returns sandbox file name in case of upload failure to allow failover
- dirac-pilot fixed VO\_%s\_SW\_DIR env variable in case of OSG

#### TS:

### **Bugfix**

• TransformationManagerHandler - avoid multiple Operations() instantiation in getTransformationSummaryWeb()

## Version v6r6

#### Core

## Bugfix

- dirac-install properly parse += in .cfg files
- Graphs.Utilities allow two lines input in makeDataFromCVS()
- Graphs allow Graphs package usage if even matplotlib is not installed

### Change

- getDNForUsername helper migrated from Core.Security.CS to Registry helper
- The DIRAC.Core.Security.CS is replaced by the Registry helper
- MessageClient(Factor) added msgClient attribute to messages

#### Feature

- SiteSEMapping new utilities getSitesGroupedByTierLevel(), getTier1WithAttachedTier2(), getTier1WithTier2
- dirac-compile-externals will retrieve the Externals compilation scripts from it's new location in github (DIRACGrid/Externals)
- Possibility to define a thread-global credentials for DISET connections (for web framework)

- Logger color output (configurable)
- dirac-admin-sort-cs-sites to sort sites in the CS
- Core.Security.Properties added JOB\_MONITOR and USER\_MANAGER properties

## Configuration

### Feature

• Registry - added getAllGroups() method

## **Framework**

#### Feature

• SystemAdministratorClientCLI - possibility to define roothPath and IcgVersion when updating software

## **Accounting**

## **Bugfix**

• DBUtils - plots going to greater granularity

#### Feature

• JobPlotter - added Normalized CPU plots to Job accounting

### **DMS**

- FileCatalog addMetadataField() allow generic types, e.g. string
- FileCatalog path argument is normalized before usage in multiple methods
- FileCatalog new metadata for files(directories) should not be there before for directories(files)
- FileCatalogClientCLI in do\_ls() check properly the path existence
- FileCatalogClientCLI protection against non-existing getCatalogCounters method in the LFC client
- DMS Agents properly call superclass constructor with loadName argument
- ReplicaManager in removeFile() non-existent file is marked as failed
- Make several classes pylint compliant: DataIntegrityHandler, DataLoggingHandler, FileCatalogHandler, StorageElementHandler, StorageElementProxyHandler, TransferDBMonitoringHandler
- LogUploadAgent remove the OSError exception in \_\_replicate()
- FileCatalogClientCLI multiple check of proper command inputs, automatic completion of several commands with subcommands, automatic completion of file names
- dirac-admin-ban-se allow to go over all options read/write/check for each SE
- ReplicaManager removed usage of obsolete "/Resources/StorageElements/BannedTarget"

- FileCatalog forbid removing non-empty directories
- FileCatalogClientCLI reformat the output of size command
- removed StorageUsageClient.py
- removed obsoleted ProcessingDBAgent.py

#### Feature

- FileCatalog storage usage info stored in all the directories, not only those with files
- FileCatalog added utility to rebuild storage usage info from scratch
- FileCatalog added method for rebuilding DirectoryUsage data from scratch
- FileCatalog Use DirectoryUsage mechanism for both logical and physical storage
- StrategyHandler new implementation to speed up file scheduling + better error reporting
- LcgFileCatalogProxy moved from from LHCbDirac to DIRAC

#### **WMS**

- SiteDirector provide list of sites to the Matcher in the initial query
- SiteDirector present a list of all groups of a community to match TQs
- Matcher proper reporting pilot site and CE
- PilotStatusAgent use getPilotProxyFromDIRACGroup() instead of getPilotProxyFromVOMSGroup()
- WMSAdministrator, SiteDirector store only non-empty pilot output to the PilotDB
- JobManager reconnect to the OptimizationMind in background if not yet connected

- RunNumber job parameter was removed from all the relevant places ( JDL, JobDB, etc )
- Get rid of LHCbPlatform everywhere except TaskQueueDB
- dirac-boinc-pilot dropped
- TaskQueueDirector does not depend on /LocalSite section any more
- reduced default delays for JobCleaningAgent
- limit the number of jobs received by JobCleaningAgent
- JobDB use insertFields instead of insert
- Matcher, TaskQueueDB switch to use Platform rather than LHCbPlatform retaining LHCbPlatform compatibility
- JobManager improved job Killing/Deleting logic
- dirac-pilot treat the OSG case when jobs on the same WN all run in the same directory
- JobMonitoringHandler add cutDate and condDict parameters to getJobGroup()
- JobManifest use Operations helper

#### Feature

- dirac-pilot add environment setting for SSH and BOINC CEs
- WMSAdministrator get output for non-grid CEs if not yet in the DB
- JobAgent job publishes BOINC parameters if any
- JobWrapper added more status reports on different failures
- JobMonitoringHandler check access rights with JobPolicy when accessing job info from the web
- JobManager, JobWrapper report to accounting jobs in Rescheduled final state if rescheduling is successful
- added killPilot() to the WMSAdministrator interface, DiracAdmin and dirac-admin-kill-pilot command
- TimeLeft renormalize time left using DIRAC Normalization if available
- JobCleaningAgent delete logging records from JobLoggingDB when deleting jobs

#### **RMS**

- RequestDBFile better exception handling in case no JobID supplied
- RequestManagerHandler make it pylint compliant

- Major revision of the code
- RequestDB added index on SubRequestID in the Files table
- RequestClient readRequestForJobs updated to the new RequetsClient structure

#### Feature

• RequestProxyHandler - is forwarding requests from voboxes to central RequestManager. If central RequestManager is down, requests are dumped into file cache and a separate thread running in background is trying to push them into the central.

### **RSS**

#### Feature

• CS.py - Space Tokens were hardcoded, now are obtained after scanning the StorageElements.

### Resources

### Bugfix

• SSHComputingElement - enabled multiple hosts in one queue, more debugging

### Change

- SSHXXX Computing Elements define SSH class once in the SSHComputingElement
- Get rid of legacy methods in ComputingElement
- put common functionality into SSHComputingElement base class for all SSHxxx CEs

#### Feature

- SSHComputingElement added option to define private key location
- enable definition of ChecksumType per SE
- SSHBatch, SSHCondor Computing Elements
- SSHxxx Computing Elements using remote control scripts to better capture remote command errors
- added killJob() method tp all the CEs
- FileCatalog take the catalog information info from /Operations CS section, if defined there, to allow specifications per VO

#### Interfaces

## **Bugfix**

• Dirac.py - when running in mode="local" any directory in the ISB would not get untarred, contrary to what is done in the JobWrapper

## Change

- Removed Script.initialize() from the API initialization
- Some general API polishing

### TS

## **Bugfix**

- TaskManager bug fixed in treating tasks with input data
- TransformationCleaningAgent properly call superclass constructor with loadName argument
- TransformationDB wrong SQL statement generation in setFileStatusForTransformation()

## Change

• TransformationCleaningAgent - removed usage of StorageUsageClient

#### Feature

- TransformationCleaningAgent added \_addExtraDirectories() method to extend the list of directories to clean in a subclass if needed
- TransformationAgent is multithreaded now (implementation moved from LHCbDIRAC)
- added unit tests
- InputDataAgent possibility to refresh only data registered in the last predefined period of time
- TransformationAgent(Client) management of derived transformations and more ported from LHCbDIRAC

## Version v6r5p14

#### Core

#### Feature

• Utilities - added Backports utility

#### **WMS**

- Use /Operations/JobScheduling section consistently, drop /Operations/Matching section
- Executors several fixes

#### Feature

• Allow VO specific share correction plugins from extensions

# Version v6r5p13

#### **WMS**

### **Bugfix**

- Executors VOPlugin will properly send and receive the params
- Correctors Properly retrieve info from the CS using the ops helper

#### Feature

• Correctors can be defined in an extension

## Version v6r5p12

FIX: merged in patch v6r4p34

## Version v6r5p11

FIX: merged in patch v6r4p33

### Core

### **Bugfix**

• MySQL - added offset argument to buildConditions()

# Version v6r5p10

FIX: merged in patch v6r4p32

## Version v6r5p9

FIX: merged in patch v6r4p30

## Version v6r5p8

FIX: merged in patch v6r4p29

## Version v6r5p7

FIX: merged in patch v6r4p28

# Version v6r5p6

FIX: merged in patch v6r4p27

### **Transformation**

## **Bugfix**

• TransformationDB - StringType must be imported before it can be used

### **RSS**

#### Feature

• CS.py - Space Tokens were hardcoded, now are obtained after scanning the StorageElements.

# Version v6r5p5

FIX: merged in patch v6r4p26

# Version v6r5p4

FIX: merged in patch v6r4p25

# Version v6r5p3

## **Transformation**

## **Bugfix**

• merged in patch v6r4p24

# Version v6r5p2

## Web

#### Feature

• includes DIRACWeb tag web2012092101

# Version v6r5p1

## Core

- ExecutorMindHandler return S\_OK() in the initializeHandler
- OptimizationMindHandler if the manifest is not dirty it will not be updated by the Mind

## Configuration

#### Feature

• Resources helper - added getCompatiblePlatform(), getDIRACPlatform() methods

#### Resources

## **Bugfix**

- SSHComputingElement add -q option to ssh command to avoid banners in the output
- BOINCComputingElement removed debugging printout
- ComputingElement use Platform CS option which will be converted to LHCbPlatform for legacy compatibility

#### **DMS**

## **Bugfix**

• RequestAgentBase - lowering loglevel from ALWAYS to INFO to avoid flooding SystemLogging

### WMS:

## **Bugfix**

- SiteDirector provide CE platform parameter when interrogating the TQ
- GridPilotDirector publish pilot OwnerGroup rather than VOMS role
- WMSUtilities add new error string into the parsing of the job output retrieval

## Version v6r5

**NEW: Executor framework** 

#### Core

- ProcessPool killing stuck workers after timeout
- dirac-install add -T/--Timeout option to define timeout for distribution downloads
- avoid PathFinder.getServiceURL and use Client class ( DataLoggingClient,LfcFileCatalogProxyClient )
- MySQL added TIMESTAMPADD and TIMESTAMPDIFF to special values not to be scaped by MySQL

- Convert to string before trying to escape value in MySQL
- X509Chain avoid a return of error when the group is not valid
- MySQL reduce verbosity of log messages when high level methods are used
- Service.py check all return values from all initializers

- DB will throw a RuntimeException instead of a sys.exit in case it can't contact the DB
- Several improvements on DISET
- Fixed all DOS endings to UNIX
- Agents, Services and Executors know how to react to CSSection/Module and react accordingly
- dirac-distribution added global defaults flag and changed the flag to -M or --defaultsURL
- Component installation procedure updated to cope with components inheriting Modules
- InstallTools use dirac- command in runit run scripts
- Several DB classes have been updated to use the MySQL buildCondition method

#### Feature

- MySQL.py added Test case for Time.dateTime time stamps
- MySQL.py insertFields and updateFields can get values via Lists or Dicts
- DataIntegrityDB use the new methods from MySQL and add test cases
- DataIntegrityHandler check connection to DB and create tables (or update their schema)
- DataLoggingDB use the new methods from MySQL and add test cases
- DataLoggingHandler check connection to DB and create tables (or update their schema)
- install tools are updated to deal with executors
- dirac-install added possibility of defining dirac-install's global defaults by command line switch
- ObjectLoader utility
- DISET Services added PacketTimeout option
- SystemLoggingDB updated to use the renewed MySQL interface and SQL schema
- Added support for multiple entries in /Registry/DefaultGroup, for multi-VO installations
- MySQL provide support for greater and smaller arguments to all MySQL high level methods

## Configuration

### Change

• By default return option and section lists ordered as in the CS

#### Feature

• ConfigurationClient - added function to refresh remote configuration

### **Framework**

### **Bugfix**

• Registry.findDefaultGroup will never return False

### Change

- ProxyManager does not accept proxies without explicit group
- SystemAdministratorHandler force refreshing the configuration after new component setup

### **RSS**

## Change

- removed code execution from \_\_init\_\_
- removed unused methods

#### Feature

· Log all policy results

### Resources

## **Bugfix**

- SGETimeLeft better parsing of the batch system commands output
- InProcessComputingElement when starting a new job discard renewal of the previous proxy

#### Feature

- updated SSHComputingElement which allows multiple job submission
- BOINCComputingElement new CE client to work with the BOINC desktop grid infrastructure

#### **WMS**

- typo in JobLoggingDB
- DownloadInputData when not enough disk space, message was using "buffer" while it should be using "data"
- the sandboxmetadataDB explosion when using the sandboxclient without direct access to the DB
- InputDataResolution just quick mod for easier extensibility, plus removed some LHCb specific stuff
- StalledJobAgent use cpuNormalization as float, not string

- Don't kill an executor if a task has been taken out from it
- SiteDirector better handling of tokens and filling mode
- StalledJobAgent default startTime and endTime to "now", avoid None value

- WMS Optimizers are now executors
- SandboxStoreClient can directly access the DB if available
- Moved JobDescription and improved into JobManifest
- Whenever a DB is not properly initialized it will raise a catchable RuntimeError exception instead
  of silently returning
- Natcher refactor to simpify the logic, introduced Limiter class
- Treat MaxCPUTime and CPUTime the same way in the JDL to avoid confusion
- JobAgent provide resource description as a dictionary to avoid extra JDL parsing by the Matcher
- Matcher report pilot info once instead of sending it several times from the job
- Matcher set the job site instead of making a separate call to JobStateUpdate
- Disabled TQs can also be matched, if no jobs are there, a retry will be triggered

#### Feature

- JobState/CachedJobState allow access to the Job via DB/JobStateSync Service automatically
- · Added support for reset/reschedule in the OptimizationMind
- · allow jobids in a file in dirac-wms-job-get-output
- JobManager zfill in %n parameter substitution to allow alphabetical sorting
- Directors added checking of the TaskQueue limits when getting eligible queues
- SiteDirector added options PilotScript, MaxPilotsToSubmit, MaxJobsInFillMode
- dirac-boinc-pilot pilot script to be used on the BOINC volunteer nodes
- Generic pilot identities are automatically selected by the TQD and the SiteDirector if not explicitly defined in /Pilot/GenericDN and GenericGroup
- Generic pilot groups can have a VO that will be taken into account when selecting generic credentials to submit pilots
- Generic pilots that belong to a VO can only match jobs from that VO
- StalledJobAgent added rescheduling of jobs stuck in Matched or Rescheduled status
- JobAgent stop after N failed matching attempts (nothing to do), use StopAfterFailedMatches option
- Matcher added Matches done and matches OK statistics
- TaskQueue don't delete fresh task queues. Wait 5 minutes to do so.

#### **Transformation**

- TransformationAgent a small improvement: now can pick the prods status to handle from the CS, plus few minor corrections (e.g. logger messages)
- TransformationCLI take into accout possible failures in resetFile command

## **Accounting**

## **Bugfix**

- Accounting DB fixed some logic for readonly cases
- Calculate the rebucket ETA using remaining records to be processed instead of the total records to be processed
- Plots with no data still carry the plot name

### Change

• Added new simpler and faster bucket insertion mechanism

#### Feature

- Accounting DB added retrieving RAW records for internal stuff
- Added more info when rebucketing

### **DMS**

## **Bugfix**

• DataLoggingClient and DataLoggingDB - tests moved to separate files

## Change

• request agents cleanup

#### Feature

- SRM2Storage added retry in the gfal calls
- added new FTSCleaningAgent cleaning up TransferDB tables

### **RMS**

#### Change

• Stop using RequestAgentMixIn in the request agents

# Version v6r4p34

### **DMS**

## **Bugfix**

• FileCatalogCLI - fixed wrong indentation

## Change

• RegistrationTask - removed some LHCb specific defaults

# Version v6r4p33

### **DMS**

## Change

• FTSRequest - be more verbose if something is wrong with file

# Version v6r4p32

#### **WMS**

## Bugfix

• StalledJobAgent - avoid exceptions in the stalled job accounting reporting

### **DMS**

#### Feature

• FTSMonitorAgent - handling of expired FTS jobs

## **Interfaces**

### Change

• Dirac.py - attempt to retrieve output sandbox also for Completed jobs in retrieveRepositorySandboxes()

# Version v6r4p30

### Core

• dirac-admin-bdii-ce-voview - proper check of the result structure

## **Interfaces**

## **Bugfix**

• Dirac.py, Job.py - allow to pass environment variables with special characters

### **DMS**

#### Feature

• FileCatalogCLI - possibility to sort output in the Is command

### WMS:

## **Bugfix**

• JobWrapper - interpret environment variables with special characters

# Version v6r4p29

### **RMS**

## **Bugfix**

• RequestDBMySQL - wrong indentation in \_\_updateSubRequestFiles()

# Version v6r4p28

## **Interfaces**

## Change

• Dirac.py, DiracAdmin.py - remove explicit timeout on RPC client instantiation

### **RSS**

## **Bugfix**

• CS.py - fix for updated CS location (backward compatible)

### **DMS**

### **Bugfix**

• StrategyHandler - bug fixed determineReplicationTree()

• FTSRequest - add checksum string to SURLs file before submitting an FTS job

## **WMS**

## **Bugfix**

• JobWrapper - protection for double quotes in JobName

## Change

• SiteDirector - switched some logging messages from verbose to info level

### **RMS**

#### Feature

• Request(Client, DBMySQL, Manager) - added readRequestsForJobs() method

## Version v6r4p27

#### **DMS**

## **Bugfix**

• SRM2Storage - removed hack for EOS (fixed server-side)

## **Transformation**

## Change

• TransformationClient - limit to 100 the number of transformations in getTransformations()

#### Feature

• TransformationAgent - define the transformations type to use in the configuration

#### Interfaces

## **Bugfix**

• Job.py - fix for empty environmentDict (setExecutionEnv)

## Version v6r4p26

## **Transformation**

• TransformationClient - fixed calling sequence in rpcClient.getTransformationTasks()

#### Feature

• TransformationClient - added log messages in verbose level.

# Version v6r4p25

### **DMS**

## **Bugfix**

• StrategyHandler - sanity check for wrong replication tree

# Version v6r4p24

## Core

#### Feature

• MySQL - add 'offset' argument to the buildCondition()

## **Transformation**

## **Bugfix**

- TransformationAgent randomize the LFNs for removal/replication case when large number of those
- TransformationAgent(DB) do not return redundant LFNs in getTransformationFiles()

## Change

• TransformationClient(DB,Manager) - get transformation files in smaller chunks to improve performance

# Version v6r4p23

### Web

#### Feature

• includes DIRACWeb tag web2012092101

# Version v6r4p22

### **DMS**

## **Bugfix**

• SRM2Storage - fix the problem with the CERN-EOS storage

# Version v6r4p21

#### Core

## **Bugfix**

• SGETimeLeft - take into account dd:hh:mm:ss format of the cpu consumed

# Version v6r4p20

#### **WMS**

## **Bugfix**

- PilotDirector, GridPilotDirector make sure that at least 1 pilot is to be submitted
- GridPilotDirector bug on how pilots are counted when there is an error in the submit loop.
- dirac-pilot proper install script installation on OSG sites

# Version v6r4p19

### **RMS**

## **Bugfix**

• RequestDBMySQL - optimized request selection query

## Version v6r4p18

## Configuration

## **Bugfix**

• CE2CSAgent.py - the default value must be set outside the loop

### **DMS**

• dirac-dms-fts-submit, dirac-dms-fts-monitor - print out error messages

#### Feature

• dirac-dms-create-replication-request

### Resources

## **Bugfix**

• TorqueComputingElement.py, plus add UserName for shared Queues

### **WMS**

## **Bugfix**

• JobManagerHandler - default value for pStart (to avoid Exception)

# Version v6r4p17

#### Core

## **Bugfix**

- dirac-configure setup was not updated in dirac.cfg even with -F option
- RequestHandler added fix for Missing ConnectionError

## **DMS**

## **Bugfix**

• dirac-dms-clean-directory - command fails with KeyError: 'Replicas'.

### **WMS**

## **Bugfix**

- SiteDirector adapt to the new method in the Matcher getMatchingTaskQueue
- SiteDirector added all SubmitPools to TQ requests

# Version v6r4p16

#### Core:

• dirac-install - bashrc/cshrc were wrongly created when using versionsDir

## **Accounting**

## Change

• Added new simpler and faster bucket insertion mechanism

#### Feature

• Added more info when rebucketing

### **WMS**

## **Bugfix**

• Matcher - bad codition if invalid result

## Change

• Matcher - refactored to take into account job limits when providing info to directors

#### Feature

• JoAgent - reports SubmitPool parameter if applicable

# Version v6r4p15

#### **WMS**

## **Bugfix**

• gLitePilotDirector - fix the name of the MyProxy server to avoid crasehs of the gLite WMS

## **Transformation**

## **Bugfix**

• TaskManager - when the file is on many SEs, wrong results were generated

# Version v6r4p13

#### **DMS**

## **Bugfix**

• dirac-admin-allow-se - added missing interpreter line

# Version v6r4p12

## **DMS**

## Change

• RemovalTask - for DataManager shifter change creds after failure of removal with her/his proxy.

## **RSS**

## **Bugfix**

• ResourceManagementClient - Fixed wrong method name

#### Feature

• Added RssConfiguration class

# Version v6r4p11

### Core

## **Bugfix**

• GGUSTicketsClient - GGUS SOAP URL updated

### **DMS**

## **Bugfix**

• ReplicaManager - wrong for loop

## RequestManagement

## **Bugfix**

• RequestClient - bug fix in finalizeRequest()

## **Transformation**

## **Bugfix**

• TaskManager - fix for correctly setting the sites (as list)

# Version v6r4p10

## RequestManagement

## **Bugfix**

• RequestContainer - in addSubrequest() function

### Resources

## **Bugfix**

• SRM2Storage - in checksum type evaluation

# ResourceStatusSystem

## **Bugfix**

• InfoGetter - wrong import statement

## **WMS**

## **Bugfix**

• SandboxMetadataDB - \_\_init\_\_() can not return a value

# Version v6r4p9

### **DMS**

### Change

• FailoverTransfer - ensure the correct execution order of the subrequests

# Version v6r4p8

Bring in fixes from v6r3p17

### Core:

## **Bugfix**

- Don't have the \_\_init\_\_ return True for all DBs
- Operations will now look in 'Defaults' instead of 'Default'

#### Feature

• Added more protection for exceptions thrown in callbacks for the ProcessPool

## **DataManagement:**

## **Bugfix**

- Put more protection in StrategyHandler for neither channels not throughput read out of TransferDB
- No JobIDs supplied in getRequestForJobs function for RequestDBMySQL taken into account
- Fix on getRequestStatus

## Change

- RequestClient proper use of getRequestStatus in finalizeRequest
- Refactored RequestDBFile

# Version v6r4p7

## WorkloadManagement

## **Bugfix**

• SandboxMetadataDB won't explode DIRAC when there's no access to the DB

## Change

• Whenever a DB fails to initialize it raises a catchable exception instead of just returning silently

## DataManagement

## Change

• Added Lost and Unavailable to the file metadata

# Version v6r4p6

Bring fixes from v6r4p6

## Version v6r4p5

## Configuration

#### Feature

• Added function to generate Operations CS paths

### Core

## **Bugfix**

• Added proper ProcessPool checks and finalisation

## **DataManagement**

## **Bugfix**

- don't set Files. Status to Failed for non-existign files, failover transfers won't go
- remove classmethods here and there to unblock requestHolder
- sorting replication tree by Ancestor, not hopAncestorgit add DataManagementSystem/Agent/TransferAgent.py
- if there is no failed files, put an empty dict

## Change

- RAB, TA: change task timeout: 180 and 600 (was 600 and 900 respectively)
- TransferAgent: add AcceptableFailedFiles to StrategyHandler to ban FTS channel from scheduling

#### Feature

• TA: add finalize

### **RSS**

### **Bugfix**

• RSS is setting Allowed but the StorageElement checks for Active

### **Workflows**

## **Bugfix**

Part of WorfklowTask rewritten to fix some issues and allow 'ANY' as site

### **Transformation**

## **Bugfix**

• Wrong calls to TCA::cleanMetadataCatalogFiles

# Version v6r4p4

### Core

## **Bugfix**

• Platform.py - check if Popen.terminate is available (only from 2.6)

# Version v6r4p3

## Core

## **Bugfix**

• ProcessPool with watchdog and timeouts - applied in v6r3 first

# Version v6r4p2

# StorageManagement

## **Bugfix**

• StorageElement - staging is a Read operation and should be allowed as such

## **WMS**

## **Bugfix**

• InProcessComputingElement, JobAgent - proper return status code from the job wrapper

### Core

## **Bugfix**

• Platform - manage properly the case of exception in the Idconfig execution

# Version v6r4p1

## **DMS**

## **Bugfix**

• TransferDB.getChannelObservedThroughput - the channelDict was created in a wrong way

#### **RSS**

## **Bugfix**

ResourceStatus was not returning Allowed by default

## Version v6r4

### Core

## **Bugfix**

- dirac-install-db.py: addDatabaseOptionsToCS has added a new keyed argument
- If several extensions are installed, merge ConfigTemplate.cfg
- ProcessPool fixes in the locking mechanism with LockRing, stopping workers when the parent process is finished
- Added more locks to the LockRing

#### Feature

- SGETimeLeft.py: Support for SGE backend
- Service framework added monitoring of file descriptors open
- Service framework Reduced handshake timeout to prevent stuck threads
- MySQL class with new high level methods buildCondition,insertFields,updateFields deleteEntries, getFields, getCounters, getDistinctAttributeValues
- The installation tools are updated to install components by name with the components module specified as an option

#### **DMS**

## **Bugfix**

- TransferDB.py speed up the Throughput determination
- FileCatalogCLI replicate operation does a proper replica registration ( closes #5 )
- ReplicaManager \_\_cleanDirectory now working and thus dirac-dms-clean-directory

#### Feature

- dirac-dms-add-files: script similar to dirac-dms-remove-files, allows for 1 file specification on the command line, using the usual dirac-dms-add-file options, but also can take a text file in input to upload a bunch of files. Exit code is 0 only if all was fine and is different for every error found.
- StorageElementProxy- support for data downloading with http protocol from arbitrary storage, needed for the web data download

### **WMS**

## **Bugfix**

- StalledJobAgent StalledTimeHours and FailedTimeHours are read each cycle, refer to the Watchdog heartBeat period (should be renamed); add NormCPUTime to Accounting record
- StalledJobAgent get ProcessingType from JDL if defined
- dirac-wms-job-peek missing printout in the command
- properly report CPU usage when the Watchdog kill the payload.

#### Feature

- CPU normalization script to run a quick test in the pilot, used by the JobWrapper to report the CPU consumption to the accounting
- SiteDirector support for the operation per VO in multi-VO installations
- SiteDirector take into account the number of already waiting pilots when evaluating the number of pilots to submit

#### **RSS**

## **Bugfix**

• Result in ClientCache table is a varchar, but the method was getting a datetime

### Change

• RSS components get operational parameters from the Operations handler

#### Feature

 CacheFeederAgent - VOBOX and SpaceTokenOccupancy commands added (ported from LHCbDIRAC)

## **DataManagement**

## **Bugfix**

• if there is no failed files, put an empty dict

## **Transformation**

#### **Bugfix**

• Wrong calls to TCA::cleanMetadataCatalogFiles

#### **WMS**

## **Bugfix**

• gLitePilotDirector - fix the name of the MyProxy server to avoid crashes of the gLite WMS

# Version v6r3p18

#### Resources

## **Bugfix**

• SRM2Storage - in checksum type evaluation

# Version v6r3p17

## **DataManagement**

## **Bugfix**

- Fixes issues #783 and #781. Bugs in ReplicaManager removePhisicalReplica and getFilesFromDirectory
- Return S\_ERROR if missing jobid arguments

#### Feature

• Checksum can be verified during FTS and SRM2Storage

# Version v6r3p16

## **DataManagement**

## **Bugfix**

- better monitoring of FTS channels
- Handle properly None value for channels and bandwidths

#### Core

### **Bugfix**

• Properly calculate the release notes if there are newer releases in the release.notes file

## **DataManagement**

## **Bugfix**

• if there is no failed files, put an empty dict

## **Transformation**

## **Bugfix**

• Wrong calls to TCA::cleanMetadataCatalogFiles

# Version v6r3p14

#### Core

## **Bugfix**

- ProcessPool.py: clean processing and finalisation
- Pfn.py: don't check for 'FileName' in pfnDict

#### **DMS**

#### **Bugfix**

- TransferAgent.py,RemovalAgent.py,RegistrationAgent.py unlinking of temp proxy files, corection of values sent to gMonitor
- StrategyHandler new config option 'AcceptableFailedFiles' to unblock scheduling for channels if problematic transfers occured for few files
- ReplicaManager.py reverse sort of LFNs when deleting files and directories to avoid blocks

#### Feature

- dirac-dms-show-fts-status.py: script showing last hour history for FTS channels
- TransferDBMonitoringHandler.py: new function exporting FST channel queues
- TransferAgent,RemovalAgent,RegistrationAgent new confing options for setting timeouts for tasks and ProcessPool finalisation
- moved StrategyHandler class def to separate file under DMS/private

#### **TMS**

• TransformationCleaningAgent.py: some refactoring, new way of disabling/enabline execution by 'EnableFlag' config option

## Version v6r3p13

#### Core

## **Bugfix**

• Added proper ProcessPool checks and finalisation

## **DataManagement**

## **Bugfix**

- don't set Files. Status to Failed for non-existign files, failover transfers won't go
- remove classmethods here and there to unblock requestHolder
- sorting replication tree by Ancestor, not hopAncestorgit add DataManagementSystem/Agent/TransferAgent.py

## Change

- RAB, TA: change task timeout: 180 and 600 (was 600 and 900 respectively)
- TransferAgent: add AcceptableFailedFiles to StrategyHandler to ban FTS channel from scheduling

#### Feature

TA: add finalize

# Version v6r3p12

#### Core

#### **Bugfix**

• Platform.py - check if Popen.terminate is available (only from 2.6)

# Version v6r3p11

#### Core

#### **Bugfix**

• ProcessPool with watchdog and timeouts

## StorageManagement

## **Bugfix**

• StorageElement - staging is a Read operation and should be allowed as such

### **WMS**

## **Bugfix**

• InProcessComputingElement, JobAgent - proper return status code from the job wrapper

#### Core

## **Bugfix**

• Platform - manage properly the case of exception in the Idconfig execution

# Version v6r3p9

#### **DMS**

## **Bugfix**

• TransferDB.getChannelObservedThroughput - the channelDict was created in a wrong way

# Version v6r3p8

#### Web

#### Change

• return back to the release web2012041601

# Version v6r3p7

## **Transformation**

## **Bugfix**

• TransformationCleaningAgent - protection from deleting requests with jobID 0

#### Core

### **Bugfix**

- dirac-install-db proper key argument (follow change in InstallTools)
- ProcessPool release all locks every time WorkignProcess.run is executed, more fixes to come
- dirac-configure for Multi-Community installations, all vomsdir/vomses files are now created

#### **WMS**

## **Bugfix**

- dirac-pilot SGE batch ID was overwriting the CREAM ID
- PilotDirector protect the CS master if there are at least 3 slaves

#### Feature

- SiteDirector add pilot option with CE name to allow matching of SAM jobs.
- Watchdog set LocalJobID in the SGE case

# Version v6r3p5

#### Core:

#### **Bugfix**

- ProcessPool bug making TaskAgents hang after max cycles
- Graphs proper handling plots with data containing empty string labels
- GateWay transfers were using an old API
- GateWay properly calculate the gateway URL
- Utilities/Pfn.py bug in pfnunparse() when concatenating Path and FileName

## **Accounting**

## Bugfix

- DataCache set daemon the datacache thread
- BasePlotter proper handling of the Petabyte scale data

#### Feature

• ReportGenerator - make AccountingDB readonly

DMS:
Bugfix
TransferAgent, RegistrationTask - typos
Version v6r3p4
DMS:
Bugfix
TransferAgent - wrong value for failback in TA:execute
Version v6r3p3
Configuration
Bugfix
Operations helper - typo
DMS:
Bugfix
TransferAgent - change the way of redirecting request to task
Version v6r3p2
DMS
Bugfix
• FTSRequest - updating metadata for accouting when finalizing FTS requests
Core
Bugfix
DIRAC/initpy - default version is set to v6r3

#### **WMS**

## Change

• Use ResourcesStatus and Resources helpers in the InputDataAgent logic

## Configuration

#### Feature

• added getStorageElementOptions in Resources helper

#### **DMS**

## **Bugfix**

• resourceStatus object created in TransferAgent instead of StrategyHandler

## Version v6r3

## Core

#### Feature

• Added protections due to the process pool usage in the locking logic

#### Resources

#### **Bugfix**

• LcgFileCatalogClient - reduce the number of retries: LFC\_CONRETRY = 5 to avoid combined catalog to be stuck on a faulty LFC server

#### **RSS**

#### **Bugfix**

• ResourceStatus - reworked helper to keep DB connections

#### **DMS**

## **Bugfix**

• ReplicaManager::CatalogBase::\_callFileCatalogFcnSingleFile() - wrong argument

## RequestManagement

## **Bugfix**

• TaskAgents - set timeOut for task to 10 min (15 min)

#### Feature

• TaskAgents - fill in Error fields in case of failing operations

## **Interfaces**

## Bugfix

• dirac-wms-select-jobs - wrong use of the Dirac API

# Version v6r2p9

### Core

## **Bugfix**

• dirac-configure - make use of getSEsForSite() method to determine LocalSEs

#### **WMS**

## Change

- Matcher add Stalled to "Running" Jobs when JobLimits are applied
- JobDB allow to specify required platform as Platform JDL parameter, the specified platform is taken into account even without /Resources/Computing/OSCompatibility section

#### Feature

• DownloadInputData,InputDataByProtocol - check Files on Tape SEs are on Disk cache before Download or getturl calls from Wrapper

#### **DMS**

- TaskAgents fix for non-existing files
- change verbosity in failoverReplication
- FileCatalog remove properly metadata indices
- FileManagerBase bugfix in the descendants evaluation logic
- TransferAgent and TransferTask update Files.Status to Failed when ReplicaManager.replicateAndRegister will fail completely; when no replica is available at all.

## Change

• dirac-admin-allow(ban)-se - removed lhcb-grid email account by default, and added switch to avoid sending email

#### Core

## **Bugfix**

• dirac-pilot - default lcg bindings version set to 2012-02-20

# Version v6r2p8

#### DMS:

## Change

• TransferAgent - fallback to task execution if replication tree is not found

# Version v6r2p7

#### **WMS**

### **Bugfix**

- SiteDirector wrong CS option use: BundleProxy -> HttpProxy
- SiteDirector use short lines in compressed/encoded files in the executable python script

## Version v6r2p6

## **DataManagement**

## **Bugfix**

• Bad logic in StrategyHandler:MinimiseTotalWait

## Core

## Change

• updated GGUS web portal URL

## **RSS**

## **Bugfix**

• meta key cannot be reused, it is popped from dictionary

#### **Framework**

## **Bugfix**

- The Gateway service does not have a handler
- distribution notes allow for word wrap

#### Feature

• ConfingTemplate entry for Gateway

## WorkloadManagement

## **Bugfix**

- avoid unnecessary call if no LFN is left in one of the SEs
- When Uploading job outputs, try first Local SEs, if any

# Version v6r2p5

#### **RSS**

## **Bugfix**

• several minor bug fixes

## RequestManagement

## **Bugfix**

• RequestDBMySQL - removed unnecessary request type check

## **DMS**

## **Bugfix**

- FileCatalogClienctCLI wrong evaluation of the operation in the find command
- ReplicaManager wrong operation order causing failure of UploadLogFile module

#### Feature

• FileCatalog - added possibility to remove specified metadata for a given path

### Core

### Feature

• dirac-install - generate cshrc DIRAC environment setting file for the (t)csh

### **Interfaces**

## Change

• Job - added InputData to each element in the ParametricInputData

#### **WMS**

#### Change

• dirac-jobexec - pass ParametericInputData to the workflow as a semicolon separated string

# Version v6r2p4

### **WMS**

## **Bugfix**

- StalledJobAgent protection against jobs with no PilotReference in their parameters
- WMSAdministratorHandler wrong argument type specification for getPilotInfo method

## StorageManagement

## **Bugfix**

• RequestFinalizationAgent - no method existence check when calling RPC method

## **WMS**

## Change

• Matcher - fixed the credentials check in requestJob() to simplify it

## ConfigurationSystem

## Change

• Operations helper - fix that allow no VO to be defined for components that do not need it

#### Core

## **Bugfix**

• InstallTools - when applying runsvctrl to a list of components make sure that the config server is treated first and the sysadmin service - last

# Version v6r2p2

#### **WMS**

### **Bugfix**

• Matcher - restored logic for checking private pilot asking for a given DN for belonging to the same group with JOB\_SHARING property.

# Version v6r2p1

## RequestManagementSystem

## Bugfix

• RequestCleaningAgent - missing import of the "second" interval definition

# Version v6r2

#### **General**

## Bugfix

• replaced use of exec() python statement in favor of object method execution

## **Accounting**

### Change

• Accounting 'byte' units are in powers of 1000 instead of powers of 1024 (closes #457)

#### Core

## **Bugfix**

- DISET Clients are now thread-safe. Same clients used twice in different threads was not closing the previous connection
- TransferClient closes connections properly
- DISET Clients are now thread-safe. Same client used twice in different threads will not close the previous connection
- · dirac-install execute dirac-fix-mysql-script, if available, to fix the mysql.server startup script
- dirac-distribution Changed obsoleted tar.list file URL
- · typo in dirac-admin-add-host in case of error

### Change

- Pfn.py pfnparse function rewritten for speed up and mem usage, unit test case added
- Beautification and reduce wait times to improve performance
- Add deprecated sections in the CS Operations helper to ease the transition
- dirac-admin-allow(ban)-se use diracAdmin.sendMail() instead of NotificationClient.sendMail()

#### Feature

- reduce wait times in DISET protocol machinery to improve performance
- dirac-fix-mysql-script command to fix the mysql start-up script for the given installation
- ProcessPool added functionality to kill all children processes properly when destroying ProcessPool objects
- CS Helper for LocalSite section, with gridEnv method
- Grid module will use Local.gridEnv if nothing passed in the arguments

#### **Framework**

## Bugfix

• UserProfileDB - no more use of "type" variable as it is a reserved keyword

## RequestManagement:

- RequestDBFile more consistent treatment of requestDB Path
- RequestMySQL Execution order is evaluated based on not Done state of subrequests

#### Feature

 RequestCleaningAgent - resetting Assigned requests to Waiting after a configurable period of time

#### **RSS**

## **Bugfix**

- CacheFeederAgent too verbose messages moved to debug instead of info level
- fixed a bug preventing RSS clients to connect to the services
- · Proper services synchronization
- Better handling of exceptions due to timeouts in GOCDBClient
- RSS.Notification emails are sent again
- Commands have been modified to return S\_OK, S\_ERROR inside the Result dict. This way, policies get a S\_ERROR / S\_OK object. CacheFeederAgent has been updated accordingly.
- allow clients, if db connection fails, to reconnect ( or at least try ) to the servers.
- MySQLMonkey properly escaped all parameters of the SQL queries, other fixes.
- Minor bugfixes spotted on the Web development
- · Removed useless decorator from RSS handlers
- \_checkFloat() checks INTEGERS, not datetimes

#### Change

- RSS Action now inherits from a base class, and Actions are more homogeneous, they all take a
  uniform set of arguments. The name of modules has been changed from PolType to Action as
  well.
- access control using CS Authentication options. Default is SiteManager, and get methods are all.
- ResourceStatus helper tool moved to RSS/Client directory, no RSS objects created if the system is InActive
- Removed ClientFastDec decorator, using a more verbose alternative.
- Removed useless usage of kwargs on helper functions.

#### Feature

- CleanerAgent renamed to CacheCleanerAgent
- Updated RSS scripts, to set element statuses and / or tokens.
- · Added a new script, dirac-rss-synch
- added getSESitesList method to RSSClient

## **DataManagement**

## **Bugfix**

- dirac-dms-user-lfns fixed the case when the baseDir is specified
- FTS testing scripts were using sys.argv and getting confused if options are passed
- DFC avoid crash if no directories or files found in metadata query
- FTSMonitor, FTSRequest fixes in handling replica registration, setting registration requests in FileToCat table for later retry
- Failover registration request in the FTS agents.
- FTSMonitor enabled to register new replicas if even the corresponding request were removed from the RequestManagement
- StorageElement check if SE has been properly initialized before executing any method
- LFC client protect against getting None in lfc.lfc\_readdirxr( oDirectory, "" )
- add extra protection in dump method of StorageElement base class

### Change

- refactoring of DMS agents executing requests, allow requests from arbitrary users
- DFC optimization of the directory size evaluation
- DFC getCatalogCounters() update to show numbers of directories
- LFC client getReplica() make use of the new bulk method lfc.lfc\_getreplicasl()
- FailoverTransfer create subrequest per catalog if more than one catalog

#### Feature

- DFC allow to specify multiple replicas, owner, mode when adding files
- Added CREATE TEMPORARY TABLES privilege to FileCatalogDB
- Ifc\_dfc\_copy script to migrate data from LFC to DFC
- DFC use DirectoryUsage tables for the storage usage evaluations
- DFC search by metadata can be limited to a given directory subtree
- DFC search by both directory and file indexed metadata
- DFC FileCatalogHandler define database location in the configuration
- DFC new FileCatalogFactory class, possibility to use named DFC services

#### Interface

#### Bugfix

- Dirac.py fix some type checking things
- Dirac.py the addFile() method can now register to more than 1 catalog.

#### Feature

• Job.py - added method to handle the parametric parameters in the workflow. They are made available to the workflow\_commons via the key 'GenericParameters'.

## **WMS**

### **Bugfix**

- removed dependency of the JobSchedulingAgent on RSS. Move the getSiteTier functionality to a new CS Helper.
- WMSAdministratorHandler Replace StringType by StringTypes in the export methods argument type
- JobAgent Set explicitly UseServerCertificate to "no" for the job executable
- SiteDirector passes jobExecDir to pilot, this defaults to "." for CREAM CEs. It can be set in the CS. It will not make use of \$TMPDIR in this case.
- Set proper project and release version to the SiteDirector
- Added installation as an option to the pilots and random MyProxyServer

#### Feature

- dirac-pilot change directory to \$OSG\_WN\_TMP on OSG sites
- Added "JobDelay" option for the matching, refactored and added CS options to the matcher
- Support for parametric jobs with parameters that can be of List type

#### Resources

#### **Bugfix**

• make sure Ifc client will not try to connect for several days

### Feature

- Added SSH Grid Engine Computing Element
- Added SSH Computing Element

#### **Transformation**

#### **Bugfix**

• TransformationDB - in setFileStatusForTransformation() reset ErrorCount to zero if "force" flag and the new status is "unused"

#### Feature

 TransformationDB - added support for dictionary in metadata for the InputDataQuery mechanism

## **WMS**

## **Bugfix**

• JobSchedulingAgent - backported from v6r2 use of Resources helper

# Version v6r1p12

## **Accounting**

## **Bugfix**

• Properly delete cached plots

#### Core

## **Bugfix**

• dirac-install - run externals post install after generating the versions dir

# Version v6r1p11

## Core

## **Bugfix**

• dirac-distribution - properly generate releasehistory and releasenotes

#### Feature

• dirac-install - caches locally the externals and the grid bundle

# Version v6r1p10

## WorloadManagement

## Bugfix

• JobAgent - set UseServerCertificate option "no" for the job executable

#### Core

## **Bugfix**

• dirac-configure - set the proper /DIRAC/Hostname when defining /LocalInstallation/Host

## **DataManagement**

## **Bugfix**

- dirac-dms-user-lfns fixed the case when the baseDir is specified
- dirac-dms-remove-files fixed crash in case of returned error report in a form of dictionary

# Version v6r1p8

#### Web

## **Bugfix**

• restored Run panel in the production monitor

### Resources

## **Bugfix**

• FileCatalog - do not check existence of the catalog client module file

# Version v6r1p7

## Web

## **Bugfix**

• fixed scroll bar in the Monitoring plots view

# Version v6r1p6

#### Core

## **Bugfix**

• TransferClient closes connections properly

#### Core

## **Bugfix**

• DISET Clients are now thread-safe. Same clients used twice in different threads was not closing the previous connection

#### Feature

• reduce wait times in DISET protocol machinery to improve performance

## Version v6r1p4

## RequestManagement

## **Bugfix**

• RequestContainer - in isSubRequestDone() treat special case for subrequests with files

#### **Transformation**

## **Bugfix**

• TransformationCleaningAgent - do not clear requests for tasks with no associated jobs

## Version v6r1p3

## **Framework**

## Bugfix

- Define the service location for the monitor
- Close some connections that DISET was leaving open

#### Feature

• Pass the monitor down to the request RequestHandler

# Version v6r1p2

## WorkloadManagement

• JobSchedulingAgent - use getSiteTiers() with returned direct value and not S\_OK

### **Transformation**

### **Bugfix**

• Uniform use of the TaskManager in the RequestTaskAgent and WorkflowTaskAgent

## Version v6r1p1

#### **RSS**

### Bugfix

• Alarm\_PolType now really send mails instead of crashing silently.

## Version v6r1

#### **RSS**

### **Bugfix**

- ResourceStatusHandler getStorageElementStatusWeb(), access mode by default is Read
- RSS \_\_init\_\_.py will not crash anymore if no CS info provided
- CS.getSiteTier now behaves correctly when a site is passed as a string

## Change

- · Major refactoring of the RSS system
- DB.ResourceStatusDB has been refactored, making it a simple wrapper round ResourceStatusDB.sql with only four methods by table (insert, update, get & delete)
- DB.ResourceStatusDB.sql has been modified to support different statuses per granularity.
- DB.ResourceManagementDB has been refactored, making it a simple wrapper round ResourceStatusDB.sql with only four methods by table ( insert, update, get & delete )
- Service.ResourceStatusHandler has been refactored, removing all data processing, making it an intermediary between client and DB.
- Service.ResourceManagementHandler has been refactored, removing all data processing, making it an intermediary between client and DB.
- Client.ResourceStatusClient has been refactorerd. It connects automatically to DB or to the Service. Exposes DB and booster functions.
- Client.ResourceManagementClient has been refactorerd. It connects automatically to DB or to the Service. Exposes DB and booster functions.
- Agent.ClientsCacheFeederAgent renamed to CacheFeederAgent. The name was not accurate, as it also feeds Accouting Cache tables.
- Agent.InspectorAgent, makes use of automatic API initialization.

- Command. refactor and usage of automatic API initialization.
- PolicySystem.PEP has reusable client connections, which increase significantly performance.
- PolicySystem.PDP has reusable client connections, which increase significantly performance.
- Utilities.Synchronizer syncs users and DIRAC sites
- cosmetic changes everywhere, added HeadURL and RCSID
- Removed all the VOExtension logic on RSS

#### Feature

- Utilities.ResourceStatusBooster makes use of the 'DB primitives' exposed on the client and does some useful data processing, exposing the new functions on the client.
- Utilities.ResourceManagementBooster makes use of the 'DB primitives' exposed on the client and does some useful data processing, exposing the new functions on the client.
- Utilities.Decorators are syntactic sugar for DB, Handler and Clients.
- Utilities.MySQLMonkey is a mixture of laziness and refactoring, in order to generate the SQL statements automatically. Not anymore sqlStatemens hardcoded on the RSS.
- Utilities. Validator are common checks done through RSS modules

## dirac-setup-site

## **Bugfix**

· fixed typos in the Script class name

#### **Transformation**

### **Bugfix**

Missing logger in the TaskManager Client (was using agent's one)

#### Feature

Added UnitTest class for TaskManager Client

### **DIRAC API**

### **Bugfix**

- Dirac.py. If /LocalSite/FileCatalog is not define the default Catalog was not properly set.
- Dirac.py fixed \_\_printOutput to properly interpret the first argument: 0:stdout, 1:stderr

#### Feature

• Dirac.py - added getConfigurationValue() method

### **Framework**

#### Feature

• UsersAndGroups agent to synchronize users from VOMRS server.

### dirac-install

## **Bugfix**

- make Platform.py able to run with python2.3 to be used inside dirac-install
- protection against the old or pro links pointing to non-existent directories
- fixed the logic of creating links to /opt/dirac directories to take into account webRoot subdirs

#### Feature

• make use of the HTTP proxies if available

## WorkloadManagement

## **Bugfix**

• SiteDirector - change getVO() function call to getVOForGroup()

#### Core:

## **Bugfix**

• Pfn.py - check the sanity of the pfn and catch the erroneous case

## RequestManagement:

## Bugfix

• RequestContainer.isSubrequestDone() - return 0 if Done check fails

# DataManagement

#### Feature

• FileCatalog - possibility to configure multiple FileCatalog services of the same type

#### **Framework**

## **Bugfix**

- Define the service location for the monitor
- Close some connections that DISET was leaving open

#### Feature

• Pass the monitor down to the request RequestHandler

# Version v6r0p3

#### **Framework**

## **Bugfix**

- ProxyManager Registry.groupHasProperties() wasn't returning a result
- typo dirac-proxy-info -> dirac-proxy-init in the expiration mail contents

## Change

- Groups without AutoUploadProxy won't receive expiration notifications
- DISET directly close the connection after a failed handshake

# Version v6r0p2

## **Framework**

## **Bugfix**

• in services logs change ALWAYS log level for query messages to NOTICE

# Version v6r0p1

#### Core

## **Bugfix**

• List.uniqueElements() preserves the other of the remaining elements

#### **Framework**

## **Bugfix**

- Use all required arguments in read access data for UserProfileDB
- NotificationClient dropped LHCb-Production setup by default in the \_\_getRPSClient()

### Change

• By default set authorization rules to authenticated instead of all

## Version v6r0

#### **Framework**

## Bugfix

- Never use the host certificate if there is one for dirac-proxy-init
- ProxyManager calculate properly the dates for credentials about to expire
- Utilities/Security hash VOMS Attributes as string
- Utilities/Security Generate a chain hash to discover if two chains are equal
- SystemAdministrator Do not set a default lcg version

## Change

- By default log level for agents and services is INFO
- Disable the log headers by default before initializing
- Proxy upload by default is one month with dirac-proxy-upload
- ProxyManager will autoexpire old proxies, also auto purge logs
- Rename dirac-proxy-upload to dirac-admin-proxy-upload
- SecurityLogging security log level to verbose
- SysAdmin CLI will try to connect to the service when setting the host

#### Feature

- DISET Framework modified client/server protocol, messaging mechanism to be used for optimizers
- move functions in DIRAC.Core.Security.Misc to DIRAC.Core.Security.ProxyInfo
- dirac-proxy-init modification according to issue #29: -U flag will upload a long lived proxy to the ProxyManager If /Registry/DefaultGroup is defined, try to generate a proxy that has that group Replaced params.debugMessage by gLogger.verbose. Closes #65 If AutoUploadProxy = true in the CS, the proxy will automatically be uploaded
- Added upload of pilot proxies automatically
- Print info after creating a proxy

- Added setting VOMS extensions automatically
- dirac-proxy-info can also print the information of the uploaded proxies
- dirac-proxy-init will check that the lifetime of the certificate is less than one month and advise to renew it
- dirac-proxy-init will check that the certificate has at least one month of validity
- Proxy manager will send notifications when the uploaded proxies are about to expire (configurable via CS)
- Now the proxyDB also has a knowledge of user names. Queries can use the user name as a query key
- dirac-proxy-init will complain if the user certificate has less than 30 days
- OracleDB added Array type
- MySQL allow definition of the port number in the configuration
- Use chain has to discover if it has already been dumped
- SystemAdministrator added Project support for the sysadmin
- SysAdmin CLI colorization of errors in the cli
- Logger added showing the thread id in the logger if enabled

## Configuration

## **Bugfix**

CE2CSAgent - update the CEType only if there is a relevant info in the BDII

#### Feature

- added getVOfromProxyGroup() utility
- added getVoForGroup() utility, use it in the code as appropriate
- added Registry and Operations Configuration helpers
- dirac-configuration-shell a configuration script for CS that behaves like an UNIX shellCHANGE: CSAPI added more functionality required by updated configuration console
- Added possibility to define LocalSE to any Site using the SiteLocalSEMapping section on the Operations Section
- introduce Registry/VO section, associate groups to VOs, define SubmitPools per VO

## ReleaseManagement

- Install tools won't write HostDN to the configuration if the Admin username is not set
- Properly set /DIRAC/Configuration/Servers when installing a CS Master
- install site.sh missing option in wget for https download: --no-check-certificate
- dirac-install-agent(service) If the component being installed already has corresponding CS section, it is not overwritten unless explicitly asked for
- dirac-install define DYLD\_LIBRARY\_PATH ( for Mac installations )
- dirac-install Properly search for the LcgVer

### Change

- dirac-install write the defaults if any under defaults-.cfg so dirac-configure can pick it up
- use new dirac\_install from gothub/integration branch in install\_site.sh

#### Feature

- release preparations and installation tools based on installation packages
- dirac-compile-externals will try go get a DIRAC-free environment before compiling
- dirac-disctribution upload command can be defined via defaults file
- · dirac-disctribution try to find if the version name is a branch or a tag in git and act accordingly
- · dirac-disctribution added keyword substitution when creating a a distribution from git
- dirac-install functionality enhancement: start using the switches as defined in issue #26;
- dirac-install put all the goodness under a function so scripts like lhcb-proxy-init can use it easily
- dirac-install will write down the releases files in -d mode
- Extensions can request custom external dependencies to be installed via pip when installing DIRAC.
- LCG bundle version can be defined on a per release basis in the releases.cfg
- dirac-deploy-scripts when setting the lib path in the deploy scripts. Also search for subpaths of the libdir and include them
- Install tools plainly separate projects from installations

## **Accounting**

## Bugfix

• Modified buckets width of 1week to 1 week + 1 day to fix summer time end week (1 hour more)

#### Change

- For the WMSHistory type, send as JobSplitType the JobType
- Reduced the size of the max key length to workaround mysql max bytes for index problem

## WorkloadManagement

## **Bugfix**

- SiteDirector do not download pilot output if the flag getPilotOutput is not set
- SSHTorque retrieve job status by chunks of 100 jobs to avoid too long
- JobDB properly treat Site parameter in the job JDL while rescheduling jobs
- PBSTimeLeft proper handling of (p)cput parameter in the batch system output, recovery of the incomplete batch system output
- ComputingElement fixed proxy renewal logic for generic and private pilots
- DownloadInputData bug fixed in the naming of downloaded files
- Matcher set the group and DN when a request gets to the matcher if the request is not coming from a pilot
- Matcher = take into account JobSharing when checking the owner for the request

### Change

- SiteDirector simplified executable generation
- TimeLeft call batch system commands with the ( default ) timeout 120 sec
- PBSTimeLeft uses default CPU/WallClock if not present in the output
- PilotDirector, dirac-pilot interpret -V flag of the pilot as Installation name

#### Feature

- SiteDirector few more checks of error conditions
- SiteDirector limit the queue max length to the value of MaxQueueLengthOption ( 3 days be default )
- JobDB will extract the VO when applying DIRAC/VOPolicy from the proper VO
- glexecComputingElement allow glexecComputingElement to "Reschedule" jobs if the Test of the glexec fails, instead of defaulting to InProcess. Controlled by RescheduleOnError Option of the glexecComputingElement
- SandboxStore create a different SBPath with the group included
- JobSchedulingAgent set the job Site attribute to the name of a group of sites corresponding to a SE chosen by the data staging procedure
- automatically add SubmitPools JDL option of the job owner's VO defines it
- JobManager add MaxParametericJobs option to the service configuration
- PilotDirector each SubmitPool or Middleware can define TargetGrids
- JobAgent new StopOnApplicationFailure option to make the agent exiting the loop on application failure
- PilotAgentsDB on demand retrieval of the CREAM pilot output
- Pilot proper job ID evaluation for the OSG sites
- JDL added %j placeholder in the JDL to be replaced by the JobID

## **DataManagement**

## **Bugfix**

- FileCatalog/DiractoryLevelTree consistent application of the max directory level using global MAX LEVELS variable
- FileCatalog Directory metadata is deleted together with the directory deletion, issue #40
- LcgFileCatalog use Ifcthr and call Ifcthr.init() to allow multithread try the import only once and just when LcgFileCatalogClient class is intantiated
- StorageElement get service CS options with getCSOption() method ( closes #97 )
- retrieve FileCatalogs as ordered list, to have a proper default.
- FileCatalog bug fixes in the directory removal methods (closes #98)
- RemovalAgent TypeError when getting JobID in RemovalAgent
- RemovalAgent put a limit to be sure the execute method will end after a certain number of iterations
- DownloadInputData when files have been uploaded with lcg\_util, the PFN filename might not match the LFN file name
- putting FTSMonitor web page back

## Change

- FileCatalog the logic of the files query by metadata revisited to increase efficiency
- FileCatalog allow up to 15 levels of directories

#### Feature

- LcgFileCatalogClient new version of getPathPermissions relying on the lfc\_access method to solve the problem of multiple user DNs in LFC.
- The default file catalog is now determined using /LocalSite/FileCatalog. The old behavior is provided as a fallback solution
- ReplicaManager can now deal with multiple catalogs. Makes sure the surl used for removal is the same as the one used for registration.
- PoolXMLCatalog added getTypeByPfn() function to get the type of the given PFN
- dirac-dms-ban(allow)-se added possibility to use CheckAccess property of the SE

## **StorageManagement**

- Stager updateJobFromStager(): only return S\_ERROR if the Status sent is not recognized or if a state update fails. If the jobs has been removed or has moved forward to another status, the Stager will get an S\_OK and should forget about the job.
- Requests older than 1 day, which haven't been staged are retried. Tasks older than "daysOld" number of days are set to Failed. These tasks have already been retried "daysOld" times for staging.

- CacheReplicas and StageRequests records are kept until the pin has expired. This way the StageRequest agent will have proper accounting of the amount of staged data in cache.
- Update Stager code in v6 to the same point as v5r13p37
- StorageManager avoid race condition by ensuring that Links=0 in the query while removing replicas

#### Feature

- new option in the StorageElement configuration "CheckAccess"
- FTSCleaningAgent will allow to fix transient errors in RequestDB. At the moment it's only fixing Requests for which SourceTURL is equal to TargetSURL.
- Stager added new command dirac-stager-stage-files

## RequestManagement

### **Bugfix**

- RequestDBFile get request in chronological order (closes issue #84)
- RequestDBFile make getRequest return value for getRequest the same as for

## ResourceStatusSystem

### **Bugfix**

Cleaned RSS scripts, they are still prototypes

### Change

- command caller looks on the extension for commands.
- RSS use now the CS instead of getting info from Python modules.
- PEP actions now reside in separate modules outside PEP module.
- Updating various RSS tests to make them compatible with changes in the system.
- Mostly trivial changes, typos, etc in various files in RSS
- TokenAgent sends e-mails with current status

#### Feature

- Major code refacoring. First refactoring of RSS's PEP. Actions are now function defined in modules residing in directory "Actions".
- methods to store cached environment on a DB and ge them.
- RSS CS module add facilities to extract info from CS.
- CS is used instead of ad-hoc configuration module in most places.
- Adding various helper functions in RSS Utils module. These are functions used by RSS developers, including mainly myself, and are totally independent from the rest of DIRAC.

## **Transformation**

## **Bugfix**

- TransformationDB not removing task when site is not set
- TransformationCleaningAgent archiving instead of cleaning Removal and Replication transformations
- TransformationCleaningAgent kill jobs before deleting them

## Change

- allow Target SE specification for jobs, Site parameter is not set in this case
- TransformationAgent add new file statuses in production monitoring display
- TransformationAgent limit the number of files to be treated in TransformationAgent for replication and removal (default 5000)

#### Workflow

#### **Feature**

 allow modules to define Input and Output parameters that can be used instead of the step\_commons/workflow\_commons (Workflow.py, Step.py, Module.py)

#### Various fixes

- Mail.py uses SMTP class rather than inheriting it
- Platform utility will properly discover libc version even for the new Ubuntu
- Removed old sandbox and other obsoleted components