



HEP Software & Computing Knowledge Base

hepsoftware.org

Torre Wenaus, BNL
CHEP 2016, San Francisco
October 13, 2016

Why a HEP S&C knowledge base?

Number one on the original HEP Software Foundation (HSF) task list: “**provide a system for facilitating information exchange**”

Proposition accepted at HSF’s formative workshop at SLAC in 2015: HEP S&C should have a **grass roots information gathering and exchange hub**

- Facilitate collaboration by increasing **awareness** of resources, projects, activities
- Provide a place to look for **solutions**, learn from the **choices made by others**
- Promote awareness of software and tools from **outside our community, e.g. open source**

A resource **built and maintained by the community**

- Must overcome the Catch 22: It’s only useful if it’s populated, and people will only help populate it if it’s useful
- Entice people to contribute by making it fun (or at least pleasant) to do so

hepsoftware.org development

Content today: 603 entries, 963 relations created by 24 people

- Key design precepts
 - Entity-relation model: relations are as important as entries, much of the useful knowledge is in the interconnections (e.g. who uses what)
 - Make it fast, highly navigable, easy transition between browsing and editing
 - Users are also creators
- Goals reached in the third prototype generation
 - 2014: Django, MySQL, xml data, based on ATLAS PanDA monitor. Clunky
 - 2015: Drupal + extensions, part of HSF website. Slow and clunky
 - 2016: Current version based on ATLAS 'data knowledge base' prototyping
 - 2017: No plans for a fourth, just clean up the code
- Data content carried forward and preserved generation to generation
- Implementation: a javascript app in the browser served by a node.js server
 - MySQL data repository
 - REDIS memory store for server side sessions
 - CouchDB/PocketDB for server/client json data channel
 - Works beautifully
- In github private repo, move to public when purged of secrets and housecleaned

hepsoftware.org operation

Content today: 603 entries, 963 relations created by 24 people

- Two knowledge base usage modes:
 - Data subset at the client with queries to server for the rest
 - or, Fully client-resident data
 - Currently uses the latter; data volume is small
 - Content is all human typed text
- Non-negligible initial load time pays off in responsiveness
 - plus it works offline
 - 5 sec load time in my hotel room this morning
- Has operated very stably for close to a year
 - Server in Amazon EC2, provided by BNL
 - Backed up every 2 hours to EBS and S3, daily backups kept
 - Full revertible version histories for entries kept

The remainder of the talk is a lightning
tour until my time runs out...

...what I don't get to is supplementary

Getting help



^f: search
^e: edit
esc: escape

Click the info button for a guide, which is itself an entry in the KB

All KB content is in markdown

Navigable table of contents for large entries















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The screenshot shows the hepsoftware.org website. The top navigation bar includes the site name and a 'Show Institutes' button. A 'Sections' sidebar on the left lists various topics like 'Top', 'Feedback', 'How to use hepsoftware.org', 'Scanning entries', 'Entry content', 'Keyboard shortcuts', 'How to contribute: adding and editing entries', 'Authenticating', 'The editing panel', 'Active edits', 'Reverting to previous versions', 'Listing new and updated entries', 'Policy', 'License', 'About the knowledge base', 'Issues', and 'Bottom'. The main content area is titled 'Resources/Services' and contains several paragraphs of text, including a 'Feedback' section and a 'How to use hepsoftware.org' section.






Entries have attributes







- Contact people
- Website, twiki, wikipedia
- Email fora, blog
- Social media
- Events, event series
- Training
- WikiToLearn
- Reference links
- Documentation
- Presentations
- Downloads
- Repository
- Issue tracker
- Testimonials
- Jobs
- ...







Attributes







- 🔗 Url [PanDA twiki](https://twiki.cern.ch/twiki/bin/view/PanDA/PanDA)  
https://twiki.cern.ch/twiki/bin/view/PanDA/PanDA
- 🔗 Url [PanDA overview](http://news.pandawms.org/panda.html)  
http://news.pandawms.org/panda.html
- 🔗 Url [BigPanDA project](http://news.pandawms.org/bigpanda.html)  
http://news.pandawms.org/bigpanda.html
- 🔗 Url [Publications, presentations, news](http://news.pandawms.org/pubs.html)  
http://news.pandawms.org/pubs.html
- 🔗 Github [Github repository](https://github.com/PanDAWMS)  
https://github.com/PanDAWMS
- 🔗 Url [PanDA monitor](http://bigpanda.cern.ch)  
http://bigpanda.cern.ch
- 👤 Contact [Contact](#)  
Kaushik De (UTA), Alexei Klimentov (BNL), Torre Wenaus (BNL)






Add an attribute of type:  Website  Contact  Wiki  Documentation

 Url  Reference  Presentation  Repository  GitHub

 CERN GitLab  git  Git  Bitbucket  Issue tracker  Download

 License  Forum  Blog  Event  Event series  Training

 WikiToLearn  Jobs  Wikipedia  YouTube  Twitter  Reddit

 Content credits  Image  Logo  Testimonial  Other

Entries have relations

Key to the entity-relationship organization of the knowledge base

Ascribe relations between entries of contextually appropriate types

Builds up the *knowledge* part of the KB

Convey connections, enable discovery

Share the wisdom of your experiment or project in what you use

There are many more relations in the database than there are entries

Relations

Relations:

Software category [Distributed software](#)  

PanDA software category Distributed software

2015-09-20/admin

Software category [Data management systems](#)  

PanDA software category Data management systems

2015-09-20/admin

Software category [Workload management systems](#)  

PanDA software category Workload management systems

2015-09-20/admin

Uses [Jenkins](#)  

PanDA uses Jenkins for continuous integration, we're very happy with it

2015-10-25/wenaus

Uses [FAX](#)  

PanDA relies on FAX and xrootd as the basis for remote data access

2015-10-25/wenaus

Uses [XRootD](#)  

PanDA relies on FAX and xrootd as the basis for remote data access

2015-10-25/wenaus

Associated with [University of Texas at Arlington \(UTA\)](#)  

UTA is a lead contributor to PanDA

2015-11-05/w

Add a relation to another entry:

Associated with  [Institutes](#)

Associated with  [Organizations](#)

Associated with  [Resources](#)

Associated with  [Software](#)

Associated with  [Groups](#)

More information  [Notes](#)

Related to  [Software](#)

Science field  [Sciences](#)

Software category  [Software categories](#)

Used by  [Experiments](#)

Used by  [Institutes](#)

Used by  [Organizations](#)

Used by  [Resources](#)

Used by  [Software](#)

Uses  [Software](#)

Adding and editing material



Preview <> PanDA Show Sections

experiment specific.

PanDA is capable of meeting the needs of the BigPanDA project and for use by other experimental platforms, and added into the BigPanDA project.

Contact *Kaushik De* (kaushik.de@cern.ch)

- PanDA twiki
- PanDA overview
- BigPanDA project
- Publications, presentations
- PanDA monitor
- Github repository

Software categories

- Data management systems
- Distributed software
- Workload management systems

Associated with

- BNL Physics Applications
- University of Texas at Austin

PanDA uses

- FAX PanDA relies on FAX for remote data access
- Jenkins PanDA uses Jenkins for CI
- XRootD PanDA relies on FAX and xrootd as the basis for remote data access

Live preview

In-app, fast, responsive

Convenient autocomplete selection from long lists like software categories

Cached at client until save, no “frack! my form is gone” when your connection dies

Markdown based content

Multiple active edits OK

No edits Close +Entry +Link

PanDA

Nickname: panda

The nickname establishes a simple url of form <http://hepsoftware.org/e/panda> to reference this page. The nickname must be unique.

Type: Software

Icon: <> software

Description: Optional summary

Content:

Format: Markdown [Syntax is here.](#)

While PanDA was initially designed first and foremost for ATLAS, the capability it provides for very large scale data-intensive distributed computing is becoming increasingly important across computational science fields, which motivated the BigPanDA project to extend PanDA's applicability beyond ATLAS.

BigPanDA

The BigPanDA project was established as an extension of the PanDA project when DOE ASCR and DOE HEP funded in 2012 a three year work program to develop a next generation workload management and analysis system for big data building on PanDA.

PanDA was originally designed specifically for the needs of the ATLAS Experiment at the Large Hadron Collider (LHC), and has proved to

Tags Add tag

github

Attributes

2 edits

Save Discard Close 2 edits +Entry +Link

Active edits:

- PanDA wenaus@2016-05-01 09:31
- hepsoftware.org wenaus@2016-05-01 18:18



Software projects, categories

The screenshot shows a website interface for software projects. At the top, there is a navigation bar with buttons for Home, Software (selected), Experiments, Sciences, Organizations, Institutes, Resources, Links, Events, and People. Below this is a search bar and a list of filters: Categories, Categories and software, and All software. The main content area is divided into a left sidebar with a list of categories (e.g., Analysis, Calibration and alignment, etc.) and a central text box. The text box contains the following text: "Software project entries are organized by category", "An entry can belong to one or many categories", and "Add your favorite software projects, and/or improve their entries!". To the right of the text box is a list of software project entries, each starting with a double arrow icon (<>).

Software project entries are organized by category

An entry can belong to one or many categories

Add your favorite software projects, and/or improve their entries!

- <> AAA - Any data, Anytime, Anywhere
- <> ALFA
- <> AMI - ATLAS Metadata Interface
- <> AmpTools
- <> Apache Arrow
- <> Apache CouchDB
- <> Apache Flume
- <> Apache Lucene
- <> Apache Sqoop
- <> Arcond
- <> Art event processing framework
- <> artdaq
- <> AthenaHive
- <> AthenaMT
- <> ATLAS Event Service
- <> Automated Workflow Engine (Pipeline)
- <> BG@HEPIib
- <> binder
- <> CentOS
- <> Ceph
- <> CernVM
- <> CernVM-FS / cvmfs
- <> !Chaos
- <> CLARA

Lightning Tour

<> Software ↓ ↻ ⌂ **Software engineering** ×

Software categories

“I SPEND A LOT OF TIME ON THIS TASK. I SHOULD WRITE A PROGRAM AUTOMATING IT!”

THEORY:

REALITY:

IEEE standard glossary of software engineering terminology
Wikipedia

- Software engineering category
- Software engineering**
 - Software design
 - Software performance and validation
 - Software quality
 - Software sustainability
 - Software licenses
 - Statistical tools

<> FOM Tools
<> Gooda
<> Google sanitizers
<> gperftools
<> PAPI
<> VTune
Software quality

Entries related to the selected (red) entry are indicated (blue)

Category entry gathers info on the subject
(With levity courtesy of xkcd)

- <> Software ⌵ ⌶
- Online
 - Control systems
 - DAQ
 - Trigger
- Open source
- Processing frameworks
- Project management
- Reconstruction
- Scientific software
- Security
 - Identity and authentication
- Software engineering**
- Software design
- Software performance and validation
- Software quality**
- Software sustainability
- Software licenses
- Statistical tools
- Supercomputing
- Training software
- Trigger/DAQ
- User
 - Environment Management
- Virtualization and clouds
- Web
 - Web app frameworks
 - Web based tools and services

Software quality

Software categories



W [Wikipedia](#)

W [Programming style - Wikipedia](#)

W [Indent style - Wikipedia](#)

W [Naming convention - Wikipedia](#)

W [Coding conventions - Wikipedia](#)

Software quality category

Software quality

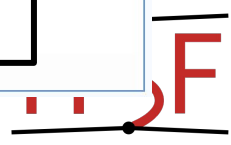
Parent

- Software engineering

Related

- [Developing maintainable software | Software Sustainability Institute](#)
- [The Beauty of Code - Paris Review](#)
- [Writing readable source code | Software Sustainability Institute](#)

Linked articles



Categories Categories and software

All software

- Analysis
- Calibration and alignment
 - Conditions databases
- Collaborative tools and projects
- Commercial
- Computing facilities and infrastructure
- Computing systems and models
- Concurrency
- Concurrent I/O
- CPU and co-processor architectures
- Data preservation
- Data science**
 - Analytics
 - Machine learning**
- Data storage and access
- Data structures and algorithms
- Databases
 - NoSQL
 - Relational DB
- Detector geometry description
- Detector simulation
- Development and integration
 - Build management
 - Code management

Software categories

- [Neural Information Processing Systems \(NIPS\) 2015](#) 2015-12-07
- [Machine Learning for LHC Distributed Data Placement and Track Finding](#) 2015-12-07
- [Wikipedia - Machine Learning](#)
- [Wikipedia - Deep learning](#)
- [Wikipedia - Data mining](#)

Machine learning category

- Machine learning**
- [scikit-learn](#)
- [TensorFlow](#)
- [TMVA - Toolkit for Multivariate Data Analysis with ROOT](#)

Parent

[Data science](#)

Associated with

[IML - Inter-Experimental LHC Machine Learning WG](#)

Organizations

Related

[Google/Udacity Deep Learning Course](#)

Courses

Created 2015-11-12 by wenaus, updated 2016-01-27 19:33 by wenaus

Lightning Tour

accelerator and space physics studies. The software is used by many research projects around the world.

- Makoto Asai (SLAC), Geant4 Spokesperson
- Website
- Geant4 at SLAC
- Geant4 2016 workplan
- Geant4 Software License
- Geant4 Technical Forum, CERN 2015-12-09
- Geant4 Technical Forum, CERN 2016-03-23
- Geant4 Technical Forum series

Software categories

- Detector simulation *Geant4 software category Detector simulation*

Science fields

- Accelerator science *Geant4 science field Accelerator science*
- Astrophysics and astroparticle physics *Geant4 science field Astrophysics and astroparticle physics*
- b physics *Geant4 science field b physics*
- Health physics *Geant4 science field Health physics*
- High intensity, neutrino *Geant4 science field High intensity, neutrino*
- LHC, collider physics *Geant4 science field LHC, collider physics*
- Linear collider *Geant4 science field Linear collider*
- Photon physics, light source *Geant4 science field Photon physics, light source*
- Space physics *Geant4 science field Space physics*

Associated with

- CERN
- Fermilab - Fermi National Accelerator Laboratory
- Geant4 training

<> **Next-gen conditions DB for ATLAS, CMS, Belle II**

Software

ATLAS and CMS are undertaking the development of a next generation conditions database for LHC Run 3, informed by the experience with existing systems including COOL, CORAL and Frontier.

Plans and status as of fall 2015 are described in [this open presentation](#) at an [ATLAS software technical meeting](#) in Nov 2015.

Belle II has chosen a similar path and in 2016 the three experiments are looking for opportunities for commonality in the work.

- [ATLAS/CMS conditions DB for Run 3, A. Formica, Dec 2015](#)
- [The Belle II Conditions Database, M. Bracko, Jan 2016](#)
- [HSF discussion forum for a possible ATLAS/CMS/Belle II common effort](#)

Q Search

Search the app: [Clear](#)

title content

5 results by

- Creative Commons 02-04/wenaus
- <> Next-gen conditions DB for ATLAS, CMS, Belle II** 2015-11-09/wenaus
- <> Frontier 2015-11-09/wenaus
- Conditions databases 2015-11-09/wenaus
- <> COOL 2015-11-04/wenaus

Entries for mature and embryonic projects

Both are appropriate

Reference for the well established

Means of discovery for the new

<> Software ↓₂ ☰

- <> PanDA
- <> Pandoc
- <> PAPI
- <> Pelican
- <> POCO C++ Libraries
- <> ProMC
- <> Qt Framework
- <> R
- <> Read the Docs
- <> **ROOT**
- <> Rucio
- <> SCA Data Catalog
- <> Scientific Linux
- <> scikit-learn
- <> SciPy
- <> Semantic MediaWiki (SMW)
- <> Software Collections
- <> Software collections for CERN CentOS 7
- <> Spack
- <> StatShape
- git SubGit tool for migration from svn
- <> Swagger
- <> Swarm - Multithreaded Framework
- <> Swif
- <> TensorFlow
- <> TMVA - Toolkit for Multivariate Data Analysis with ROOT

<> ROOT ☰ Show Sections

Pere Mato (CERN), ROOT team leader
[Documentation](#)
[Website](#)
[ROOTBooks on Binder \(beta\)](#)
[Git repository](#)
[LGPL v2](#)
[RootTalk Forum](#)
[20th Anniversary ROOT Workshop 2015](#) 2015-09-15
[ROOT Tutorial 2015](#) 2015-06-29
[@ROOT_Project](#)

Software categories

- [Analysis](#) *ROOT software category Analysis tools*
- [Data storage and access](#)
- [Detector simulation](#) *ROOT software category Detector simulation*
- [Event display](#) *ROOT software category Event display*
- [Math libraries](#)
- [Processing frameworks](#)
- [Reconstruction](#) *ROOT software category Reconstruction*
- [Statistical tools](#)

Associated with

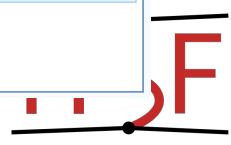
- [CERN](#)
- [CERN EP-SFT](#)
- [Fermilab - Fermi National Accelerator Laboratory](#)
- <> [JupyROOT](#)

ROOT is used by

- [ATLAS](#) *ROOT used by ATLAS*
- [CMS](#) *ROOT used by CMS*

References to doc, web, tools, repo, license, forum, events, social media, ...

Associated institutes, groups, software



Experiments

- Home
- Software
- Experiments
- Sciences
- Organizations
- Institutes
- Resources
- Links
- Events
- People
- Search
- Feedback
- Help
- Refresh
- Info

Experiments Experiments & software

Software & experiments

- ALICE
- Alpha Magnetic Spectrometer (AMS)
- ATLAS
- Belle II
- BES III
- CAPTAIN
- CDF
- CLAS12
- CMS
- COMPASS
- Cuore Experiment
- D0
- Dark Energy Survey (DES)
- Daya Bay
- DUNE
- FAIR
- Fermi Gamma-ray Space Telescope (formerly GLAST)
- GlueX
- HARP (PS214) - The Hadron Production Experiment at the PS
- Heavy photon search
- KOTO

ATLAS

Experiments

ATLAS is a particle physics experiment at the Large Hadron Collider at CERN that is searching for new discoveries in the head-on collisions of protons of extraordinarily high energy. ATLAS is learning about the basic forces that have shaped our Universe since the beginning of time and that will determine its fate. Among the possible unknowns are extra dimensions of space, unification of fundamental forces, and evidence for dark matter candidates in the Universe. Following the discovery of the Higgs boson, further data will allow in-depth investigation of the boson's properties and thereby of the origin of mass.

Contact *Eric Lancon, Computing Coordinator*
Contact *Simone Campana, Deputy Computing Coordinator*

Collaboration website
ATLAS public web
ATLAS Software Technical Meeting (open beyond ATLAS)
@ATLASexperiment
YouTube

Science fields

- LHC, collider physics ATLAS science field LHC, collid

Associated with

- BNL RHIC ATLAS Computing Facility (RACF) ATLAS
- CERN ATLAS is located at CERN's Large Hadron Col
- Università degli Studi di Milano

ATLAS uses

- AthenaHive AthenaHive is ATLAS' multithreaded offlin
- FAX FAX is the basis for ATLAS' xrootd based federat
- GaudiHive GaudiHive is basis for ATLAS multithreade
- Geant4 Geant4 is the basis for the ATLAS detector simulation
- Gooda ATLAS uses Gooda
- HepMC ATLAS uses HepMC

Describe your experiment and the software it uses

Valuable resource for new projects surveying who uses what

Experiments Experiments & software

Software & experiments

- AAA - Any data, Anytime, Anywhere
- CMS
- ALFA
- ALICE
- AMI - ATLAS Metadata Interface
- ATLAS
- Apache CouchDB
- LHCb
- Apache Flume
- ATLAS
- Apache Squoop
- ATLAS
- Arcond
- ATLAS
- Art event processing framework
- LArIAT
- DUNE
- MicroBooNE
- Mu2e
- Muon g-2
- NOVA
- artdaq
- LArIAT
- DUNE
- Mu2e

Lightning Tour

Sciences

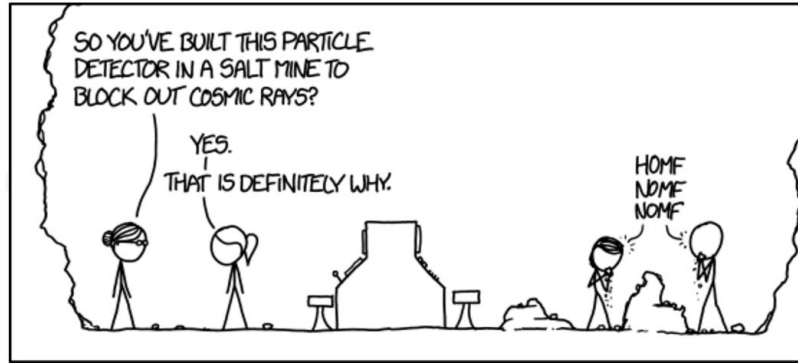
- Home
- <> Software
- ⚗ Experiments
- ⚗ Sciences
- 🏢 Organizations
- 🏛 Institutes
- ⚙ Resources
- 🔗 Links
- 📅 Events
- 👥 People
- 🔍
- 👤
- 🔄
- 📄

- Sciences
- Sciences & software
- Software & sciences

- ⚗ Accelerator science
- ⚗ Astrophysics and astroparticle physics
- ⚗ b physics
- ⚗ Biosciences
- ⚗ Health physics
- ⚗ High intensity, neutrino
- ⚗ LHC, collider physics
- ⚗ Linear collider
- ⚗ Nuclear physics
- ⚗ Photon physics, light source
- ⚗ Space physics
- ⚗ Theory

High intensity, neutrino

Sciences



High intensity, neutrino related

- <> Art event processing framework
- <> artdaq
- ⚗ BES III
- ⚗ CAPTAIN
- ⚗ COMPASS
- ⚗ Daya Bay
- <> DD4hep
- ⚗ DUNE
- <> Fabric For Frontier Experiments (FIFE)
- <> fads
- <> Geant4
- <> GENIE
- ⚗ HARP (PS214) - The Hadron Production Experiment at the PS
- ⚗ Heavy photon search
- ⚗ KOTO
- ⚗ LArIAT
- <> LArSoft

- Sciences
- Sciences & software
- Software & sciences

- <> Arcond
- ⚗ LHC, collider physics
- <> Art event processing framework
- ⚗ High intensity, neutrino
- <> artdaq
- ⚗ High intensity, neutrino
- <> Automated Workflow Engine (Pipeline)
- ⚗ Astrophysics and astroparticle physics
- <> BG@HEPIib
- ⚗ Nuclear physics
- ⚗ LHC, collider physics
- ⚗ Linear collider
- <> COOL
- ⚗ LHC, collider physics
- <> CORAL
- ⚗ LHC, collider physics
- <> DataMelt
- ⚗ Linear collider
- ⚗ LHC, collider physics
- ⚗ Theory
- ⚗ Health physics
- <> DD4hep
- ⚗ Linear collider
- ⚗ High intensity, neutrino
- 17 ⚗ LHC, collider physics

Lightning Tour

Organizations

- Home
- <> Software
- Experiments
- Sciences
- Organizations**
- Institutes
- Resources
- Links
- Events
- People
- Search
- User
- Refresh
- Info

- Organizations
- Organizations & software
- Software & organizations
- ACAT workshop series
- Apache Software Foundation
- ATLAS Future Software Technology Forum (FSTF)
- BNL Electronic Detector Group
- BNL Physics Applications Software Group (PAS)
- CERN EP-SFT
- CERN openlab
- CHEP conference series
- Concurrency Forum
- Creative Commons
- Distributed ROOT I/O working group
- HEP Software Foundation (HSF)
- HEPIX - The High Energy Physics Unix Information Exchange
- HSF Software Packaging Working Group
- IML - Inter-Experimental LHC Machine Learning WG
- LHC Computing Grid (LCG)
- <> Mont-Blanc Project
- Mozilla Developer Network
- Open Science Grid (OSG)

HEP Software Foundation (HSF)

Organizations

The HEP Software Foundation (HSF) facilitates coordination and common efforts in high energy physics (HEP) software and computing internationally. The objectives of the HSF as a community-wide organization include

- sharing expertise
- raising awareness of existing software and solutions
- catalyzing new common projects
- promoting commonality and collaboration in new projects
- aiding developers and users in creating, discovering and using software
- supporting career development for software and computing professionals
- providing a framework for setting goals and priorities
- facilitating wider connections with other scientific communities

See the HSF website for more information.

- Website and newsletter
- Archival original website
- Contact: HSF Startup Team hep-sf-startup-team
- Contact: [Pere Mato](mailto:Pere.Mato), [Torre Wenaus](mailto:Torre.Wenaus)
- Newsletter github repository
- Common software infrastructure, B. Hegner 2015-12
- Github repository
- HSF technical forum
- HSF general open forum
- HSF build and packaging tools forum
- HSF training and education forum
- HSF common track reconstruction software forum
- Common Track Reconstruction Software Forum 2015-12-03
- Common Track Reconstruction Software Forum 2016-01-29

Associated with

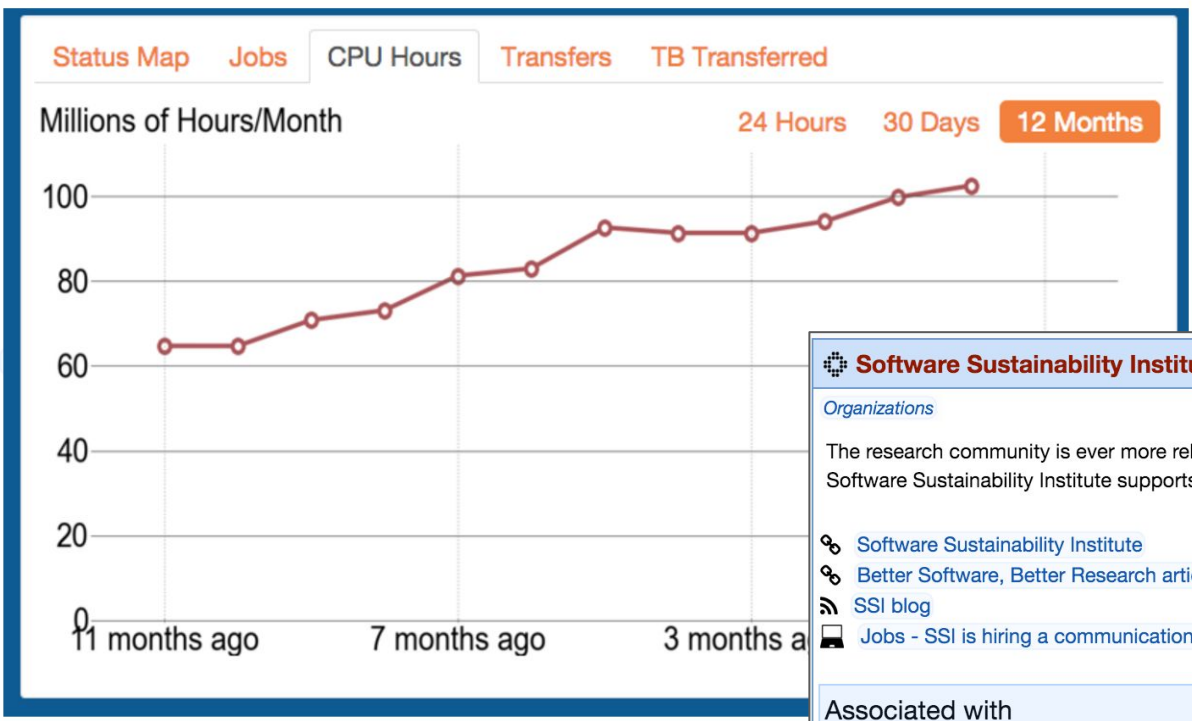
- CERN IT Techlab *Techlab makes its systems available to the HSF community*
- <> cmaketools
- Collaborative tools and projects
- hepsoftware.org *hepsoftware.org is a project of the HSF*
- HSF Software Packaging Working Group
- Next-gen conditions DB for ATLAS, CMS, Belle II
- WikiToLearn *WikiToLearn is the training platform for the HSF*

Describe your favorite organization, relate it to software projects, facilities, training programs...

- Organizations
- Organizations & software
- Software & organizations
- <> Apache CouchDB
- Apache Software Foundation
- <> Apache Flume
- Apache Software Foundation
- <> Apache Lucene
- Apache Software Foundation
- <> Apache Squoop
- Apache Software Foundation
- <> ATLAS Event Service
- BNL Physics Applications Software Group (PAS)
- <> CernVM
- CERN EP-SFT
- <> CernVM-FS / cvmfs
- CERN EP-SFT
- <> CMake
- LHC Computing Grid (LCG)
- <> cmaketools
- HEP Software Foundation (HSF)
- Collaborative tools and projects
- Concurrency Forum
- HEP Software Foundation (HSF)
- Concurrency
- Concurrency Forum
- 18 Software Technology Forum

Lightning Tour

Organizations



A community of scientists, researchers, and experts in high throughput computing around the world. The OSG represents US LHC and the US LHC cyberinfrastructure.

2015 proved to be an exciting year for the Open Science Grid Operations Center. A milestone of one billion CPU hours delivered (last 12 months) was reached in total. 100 million hours per month was exceeded for the first time in November and reached in March.

Production services for operation of access to heterogeneous resources at labs and over 100 universities:

- US contribution to the successful World Wide LHC Computing Grid.
- 2012-2016 28FTEs supported by DOE and NSF. Used continuously since 2008.
- Opportunistic sharing of available resources across a mix of sciences.
- Past 12 months: over 2.0M CPU hours and 1 Petabytes transferred per day.
- Expert consulting for users, developers, and resource administrators.

Software Sustainability Institute

Organizations

The research community is ever more reliant on software, much of which is developed within the community. The Software Sustainability Institute supports better research by helping researchers to build and use better software.

- Software Sustainability Institute
- Better Software, Better Research article from IEEE Internet Computing
- SSI blog
- Jobs - SSI is hiring a communications officer

Associated with

- Depsy

Related

- Software sustainability
- Training software
- Approaches to software sustainability | Software Sustainability Institute
- Choosing a repository for your software project | Software Sustainability Institute
- Choosing an open-source licence | Software Sustainability Institute
- Developing maintainable software | Software Sustainability Institute
- Supporting open-source software | Software Sustainability Institute
- The researcher programmer, a new species? | Machine Doing
- Writing readable source code | Software Sustainability Institute



21st International Conference on Computing in High Energy and Nuclear Physics **CHEP2015** Okinawa Japan: April 13 - 17, 2015

See the [Proceedings introduction](#) for an overview of the conference.

CHEP 2015 attracted a very high number of oral and poster contribution, 535 in total, and hosted 450 participants from 28 countries.

CHEP 2015 hosted contributions on online computing; offline software; data store and access; middleware, software development and tools, experiment frameworks, tools for distributed computing; computing activities and computing models; facilities, infrastructure, network; clouds and virtualization; performance increase and optimization exploiting hardware features.

2015-04-13

[Website](#)

[Summary timetable](#)

[Full indico agenda](#)

[Topics and tracks](#)

[Online computing track contributions](#)

[Offline software track contributions](#)

[Data store and access track contributions](#)

[Distributed computing track contributions](#)

[Computing activities and models track contributions](#)

[Facilities, infrastructure, network track contributions](#)

[Clouds and virtualization track contributions](#)

[Exploiting hardware features track contributions](#)

[Proceedings](#)

Contact *Hiroshi Sakamoto - Conference Chair*

Associated with

[CHEP conference series](#)

Related

Search the app: [Clear](#)

title content

21 results by [↓](#) [↑](#)

<> ALFA

[CHEP 2013 DAQ, trigger and controls track proceedings](#)

[CHEP 2013 Data stores, databases and storage systems track proceedings](#)

[CHEP 2013 Distributed processing and data handling track proceedings](#)

[CHEP 2013 Event processing, simulation and analysis track proceedings](#)

[CHEP 2013 Facilities, production infrastructures, networking and collaborative tools track proceedings](#)

[CHEP 2013 Software engineering, parallelism and multi-core programming track proceedings](#)

[CHEP 2013, Amsterdam](#)

[CHEP 2015 Clouds and Virtualization track proceedings](#)

[CHEP 2015 Computing Activities and Computing Models track proceedings](#)

[CHEP 2015 Computing Facilities, Infrastructure, Network track proceedings](#)

[CHEP 2015 Data Store and Access track proceedings](#)

Objective: draw CHEP content into the cross-referenced knowledge base, have it accessible, visible, discoverable, integrated

A start made with CHEP 2015, 2013 but only to the session & proceedings track level

Add your own talks & proceedings as links and associate them with their session, sw category etc

Lightning Tour

Events



- Events
- 2016-11-07 **CMS Offline & Computing Week, CERN**
from [HSF calendar](#)
- 2016-11-07 **XrootD Workshop, Tokyo, Japan**
from [HSF calendar](#)
- 2016-10-31 **ALICE Offline Week, CERN**
from [HSF calendar](#)
- 2016-10-29 **IEEE/NSS MIC Conference, Strasbourg, France**
from [HSF calendar](#)
- 2016-10-25 **GeantV Review**
from [HSF calendar](#)
- 2016-10-23 **ESC16 School, Bertinoro, 47032 Bertinoro, Province of Forli-Cesena, Italy**
from [HSF calendar](#)
- 2016-10-17 **ATLAS Week, CERN**
from [HSF calendar](#)
- 2016-10-17 **HEPIX Fall 2016 Workshop, Lawrence Berkeley National Laboratory, 1 Cyclotron Rd, Berkeley, CA 94720, USA**
from [HSF calendar](#)

Events can be entered as attributes on an entry, or as entries themselves

New: events are imported from the new & popular HSF community google calendar

Event series entries can be associated with individual events

- 2016-10-11 **LCLS II Collaboration meeting and Review**
from [HSF calendar](#)
- 2016-10-10 **CHEP 2016, San Francisco, CA, USA**
from [HSF calendar](#)
- 2016-10-10 **LHCb Analysis and Software Week**
from [HSF calendar](#)
- 2016-10-10 **CHEP 2016, San Francisco**
from [CHEP 2016, San Francisco](#)
- 2016-09-12 **4th Workshop on Sustainable Software for Science**
from [4th Workshop on Sustainable Software for Science](#)
- 2016-08-31 **Higgs Hunting 2016, Orsay**

CERN Openlab/Intel hands-on workshop on code optimization

Event

This workshop — organised in collaboration with Intel — is a great opportunity to improve your application's performance and ask questions to Intel Software Architects!

The idea behind the workshop is that instead of having the usual lectures+exercises format, we have invited Intel specialists to CERN to work with us on improving our code using the Intel optimization tools. This will be an opportunity to make our code more efficient, as well as to discover the Intel tools and discuss with world-class experts.

2016-04-05

Website

- 2016-04-27 **GPGPU meets reality**
from [Software Technology Forum](#)
- 2016-04-20 **Developer Workshop - Building the Modern Research Data Portal**
from [Globus](#)
- 2016-04-18 **HEPIX Spring 2016, DESY Zeuthen**
from [HEPIX - The High Energy Physics Unix Information Exchange](#)
- 2016-04-05 **CERN Openlab/Intel hands-on workshop on code optimization**
- 2016-03-07 **Spring 2016 at CERN**
from [WikiToLearn](#)
- 2016-03-07 **Advanced programming concepts 2016**
from [Open Science Grid \(OSG\)](#)
- 2015-12-09 **Geant4 Technical Forum, CERN**
from [Geant4](#)
- 2015-10-12 **HEPIX Fall 2015, BNL**
from [HEPIX - The High Energy Physics Unix Information Exchange](#)
- 2015-09-15 **20th Anniversary ROOT Workshop 2015**
from [ROOT](#)
- 2015-06-29 **ROOT Tutorial 2015**
from [ROOT](#)

Lightning Tour

Institutes

- Home
- <> Software
- Experiments
- Sciences
- Organizations
- Institutes**
- Resources
- Links
- Events
- People
- Search
- Profile
- Refresh
- Info

Institutes Institutes & software

Software & institutes

- Argonne National Laboratory (ANL)
- Boston University
- Brookhaven National Laboratory (BNL)
- Caltech
- CEA Saclay Nuclear Research Center
- CERN
- Cornell University
- DESY - Deutsches Elektronen-Synchrotron
- Fermilab - Fermi National Accelerator Laboratory
- Harvard University
- IN2P3 - Institut national de physique nucléaire et de physique des particules
- Indiana University Bloomington
- INFN - Istituto Nazionale di Fisica Nucleare
- Institute for High Energy Physics at the Universitat Autònoma de Barcelona (IFAE)
- Iowa State University
- IRFU
- Lawrence Berkeley National Laboratory (LBNL)
- Lawrence Livermore National Laboratory (LLNL)
- Lund University

Universities and labs, with relations to the software, S&C groups, services, facilities, experiments etc. that are associated with them

Brookhaven National Laboratory (BNL)

Institutes

Brookhaven advances fundamental research in nuclear and particle physics to gain a deeper understanding of matter, energy, space, and time; apply photon sciences and nanomaterials research to energy challenges of critical importance to the nation; and perform cross-disciplinary research on climate change, sustainable energy, and Earth's ecosystems.

- Website
- Wikipedia
- Phonebook

Associated with

- BNL Electronic Detector Group *Physics Department Group*
- BNL Physics Applications Software Group (PAS) *Physics Applications Software (PAS) Group, BNL Physics Dept*
- BNL RHIC ATLAS Computing Facility (RACF) *Located at BNL*
- HEP Software Foundation (HSF) *BNL supports HSF with effort, web hosting, ...*
- hepsoftware.org
- <> PanDA
- STAR *Location*

2015-11-04 by wenaus

Institutes Institutes & software

Software & institutes

- <> AMI - ATLAS Metadata Interface
- IN2P3 - Institut national de physique nucléaire et de physique des particules
- <> Ceph
- CERN
- Rutherford Appleton Laboratory (RAL)
- <> CLARA
- Thomas Jefferson National Accelerator Facility
- <> Geant4
- SLAC
- CERN
- Fermilab - Fermi National Accelerator Laboratory
- <> Gooda
- Lawrence Berkeley National Laboratory (LBNL)
- <> JANA
- Thomas Jefferson National Accelerator Facility
- <> PanDA
- University of Texas at Arlington (UTA)
- <> ROOT
- CERN
- Fermilab - Fermi National Accelerator Laboratory
- <> Rucio
- CERN

Lightning Tour

Describe your group as an organization, relate it to your software projects

BNL Physics Applications Software Group (PAS)

Organizations

The Physics Applications Software (PAS) group in BNL's Physics Department develops software in support of BNL's HEP program. The largest PAS effort goes to the ATLAS members also contribute to the DUNE neutrino physics collaboration and the LSS

[Website](#)
 Contact *Alexei Klimentov, PAS Group Leader*

Associated with

- [ATLAS Event Service](#) *BNL's PAS group is a lead contributor to the Event Ser*
- [Brookhaven National Laboratory \(BNL\)](#) *Physics Applications Software (PAS)*
- [hepsoftware.org](#) *PAS developed and hosts hepsoftware.org*
- [NICOS nightly build system](#) *NICOS was developed by BNL's PAS Group*
- [PanDA](#) *PAS is a lead contributor to PanDA*

CERN EP-SFT

Organizations

SoFTware Development for Experiments

The SFT group in the EP department develops and maintains common scientific software for the physics experiments in close collaboration with the EP experimental groups, the IT department and external HEP institutes. The majority of the group is involved in projects organised as part of the Applications Area of the LHC Computing Grid (LCG) project. In addition, several group members have direct responsibilities in the software projects of the LHC experiments. SFT projects are organised in four core areas: Simulation, Libraries and Frameworks, Distributed Systems and Collaborations with Experiments.

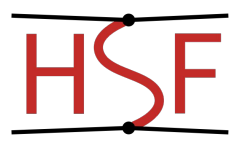
[Website](#)
[CERN SFT Google Summer of Code](#)
[CERN SFT GitHub repository](#)

Associated with

- [CERN](#)
- [CernVM](#)
- [Concurrency Forum](#)
- [GENSER - Generator Service Project](#)
- [HepMC3](#)
- [Jupyter@CERN](#)
- [LHC Computing Grid \(LCG\)](#)
- [ROOT](#)
- [Software Technology Forum](#)

Reporting they are used by CERN EP-SFT

- [CernVM-FS / cvmfs](#)



Resources

- Home
- <> Software
- Experiments
- Sciences
- Organizations
- Institutes
- Resources
- Links
- Events
- People
- Search
- Profile
- Refresh
- Info

- All
- Facilities
- Services
- Publications
- Training
- Careers
- Funders

- AGLT2 - ATLAS Great Lakes Tier2
- Barcelona Supercomputing Center
- BNL RHIC ATLAS Computing Facility (RACF)

- All
- Facilities
- Services
- Publications
- Training
- Careers
- Funders

- Amazon Web Services (AWS)
- CERN GitLab
- CERN IT Consulting Service
- CERN IT Techlab
- Depsy
- drone.io
- GitHub
- GitHub Pages
- HepForge
- hepsoftware.org
- NX - NoMachine remote desktop

Computing facilities, online services, publication series, online training series and materials, career resources, funding agencies & opportunities

- All
- Facilities
- Services
- Publications
- Training
- Careers
- Funders

- CERN openlab technical reports
- HEP Software Foundation Technical Notes

- All
- Facilities
- Services
- Publications
- Training
- Careers
- Funders

- CERN academic training
- CERN openlab training
- CERN School of Computing
- codecademy
- codeschool.com
- coursera.org
- Geant4 training
- Helmholtz Alliance schools and workshops
- MHPC - Master in High Performance Computing
- Software Carpentry
- udacity.com
- WikiToLearn

BNL RHIC ATLAS Computing Facility (RACF)

Resources/Facilities

The BNL RHIC ATLAS Computing Facility (RACF) at Brookhaven National Laboratory provides computing services for the experiments at the Relativistic Heavy Ion Collider (RHIC) at BNL, the US-based collaborators in the ATLAS experiment at the Large Hadron Collider at CERN, and the collaborators in the Large Synoptic Survey Telescope project.

In ATLAS, RACF serves as the ATLAS Tier 1 Facility in the US, the largest such facility in ATLAS providing close to a quarter of ATLAS computing power. It serves as a hub for the US ATLAS Integrated Facility which includes five Tier 2s spanning 10 institutes.

- Website
- Contact
- Guided tour

Associated with

- AGLT2 - ATLAS Great Lakes Tier2 AGLT2 as a Tier 2 is associated with the BNL Tier 1
- ATLAS ATLAS Tier 1 Center
- Brookhaven National Laboratory (BNL) Located at BNL
- <> Ceph RACF provides an object store backed by Ceph
- LSST Dark Energy Science Collaboration (DESC) A computing facility for LSST
- NX at the RACF
- Open Science Grid (OSG) RACF interfaces to the OSG
- PHENIX Principal computing facility for PHENIX
- STAR Principal computing facility for STAR

Created 2015-11-05 by wenaus, updated 2015-11-08 13:00 by wenaus

Lightning Tour

ATLAS Great Lakes Tier 2 provides computing and storage capacity for US ATLAS physicists running ATLAS simulations and data analysis. We currently provide more than 4000 total job slots (6600 cores) and 3.7 Petabytes of storage capacity interfaced to the Open Science Grid. Our job scheduling system is Condor and we utilize dCache, Lustre, AFS, and NFS as storage systems.

AGLT2 is a federated Tier 2, comprising facilities at U Michigan and Michigan State, operating as a single unified facility.

AGLT2 is one of the top ATLAS Tier 2 sites worldwide in terms of CPU hours provided. In any given 24 hour period we average more than 8000 completed ATLAS jobs. We transfer an average of 1-2TB of data per day to and from other sites.

AGLT2 is also an ATLAS Muon Spectrometer Calibration Center.

Networking

AGLT2 is a leader in advancing networking, including advancing perfSONAR as a basis for uniform network performance monitoring across LHC computing resources.

PunDIT

AGLT2 is a collaborator on the PuNDIT project which will integrate and enhance several software tools to provide an infrastructure for identifying, diagnosing and localizing network problems. In particular, the core of PuNDIT is the Pythia tool that uses perfSONAR data to detect, identify and locate network performance problems.

OSiRIS

AGLT2 is currently developing OSiRIS, a distributed, multi-institutional storage infrastructure that will allow researchers at any of our campuses to read, write, manage and share their data directly from their computing facility locations.

Our goal is to provide transparent, high-performance access to the same storage infrastructure from well-connected locations on any of our campuses. We intend to enable this via a combination of network discovery, monitoring and management tools and through the creative use of CEPH features.

By providing a single data infrastructure that supports computational access on the data "in-place", we can meet many of the data-intensive and collaboration challenges faced by our research communities and enable these communities to easily undertake research collaborations beyond the border of their own Universities.

 [Website](#)

 [Contact](#)

 [Wiki](#)

 [OSiRIS](#)

 [PunDIT](#)

Associated with

 [BNL RHIC ATLAS Computing Facility \(RACF\)](#) *AGLT2 as a Tier 2 is associated with the BNL Tier 1*

 [Open Science Grid \(OSG\)](#) *AGLT2 interfaces to the OSG*

Describe
your
Tier 1,2,3

and its projects

HSF community calendar

Sun	Mon	Tue	Wed	Thu	Fri	Sat
9	10	11	12	13	14	15
WLCG Workshop - Sar	CHEP 2016 - San Francisco					
	LHCb Analysis and Software Week					
		LCLS II Collaboration meeting and Review				
16	17	18	19	20	21	22
	ATLAS Week - CERN					
	HEPIX Fall 2016 Workshop - Lawrence Berkeley National Laboratory					
23	24	25	26	27	28	29
ESC16 School - Bertinoro						
		GeantV Review				IEEE/NSS MIC Confer
30	31	Nov 1	2	3	4	5
IEEE/NSS MIC Conference - Strasbourg						
	ALICE Offline Week - CERN					

<https://calendar.google.com/calendar/embed?src=e4v33e1a1drbncdle1n03ahpcs%40group.calendar.google.com>

Licenses

The screenshot displays a web application interface with three main panels. The top-left panel, titled 'Software', lists various categories such as 'Online', 'Control systems', 'DAQ', 'Trigger', 'Open source', 'Processing frameworks', 'Project management', 'Reconstruction', 'Scientific software', 'Security', 'Identity and authentication', 'Software engineering', 'Software design', 'Software performance and validation', 'Software quality', and 'Software sustainability'. The 'Open source' category is highlighted in light blue. The top-right panel, titled 'Software licenses', contains a section for 'Information and resources on software licenses' with links to 'HSF licensing working group', 'CERN open source software license task force report, 2012', and 'Comparison of free and open source software licenses'. Below this is a 'Software licenses category' section and a 'Related' section with a link to 'Choosing an open-source licence | Software Sustainability Institute'. The bottom-left panel, titled 'HTCondor', shows a list of items including 'DD4hep', 'FOM Tools', 'Geant4', 'hepsoftware.org', 'HTCondor', 'ROOT', and 'TensorFlow'. The 'HTCondor' item is highlighted in light red. Below the list are links for 'Website', 'Contact Miron Livny', 'Wiki', 'Documentation', 'Downloads', 'Apache 2.0 open source license', 'email lists', 'HTCondor/ARC CE Workshop 2016-02-29', 'HTCondor Week 2016 2016-05-17', 'Tutorials', and 'Jobs'. The 'Software licenses' link is highlighted in light red. The bottom-right panel, titled 'Software categories', lists 'Distributed software' and 'Virtualization and clouds'. Below this is a 'Related' section with a link to 'An Easy HTCondor Configuration to Support all Workloads'. The 'Software licenses' link is highlighted in light red. A text box on the right side of the screenshot contains the following text: 'Software category gathering licensing information', 'License is an attribute on software projects', and 'The license tag shows what products have declared a license'.

Software category gathering licensing information

License is an attribute on software projects

The license tag shows what products have declared a license

Training

Resources [A-Z] [Clock]

All Facilities Services Publications
Training Careers Funders

- CERN academic training
- CERN openlab training
- CERN School of Computing
- codecademy
- codeschool.com
- coursera.org
- Geant4 training
- Helmholtz Alliance schools and workshops**
- MHPC - Master in High Performance Computing
- Software Carpentry
- udacity.com
- WikiToLearn

Helmholtz Alliance schools and workshops

Resources/Training

The Helmholtz Alliance “Physics at the Terascale” bundles German activities in the field of high-energy collider physics. It is a network comprising all German research institutes working on LHC experiments, a future linear collider or the related phenomenology.

- Website
- Advanced programming concepts 2016 2016-03-07
- Terascale statistics school 2015 2015-03-23
- HistFitter tutorial 2015-03-30
- Computer Algebra and Particle Physics - CAPP 2015 2015-04-13
- Monte Carlo School 2015 2015-04-13
- Terascale C++ School 2015 2015-06-08
- Fast Monte Carlo Workshop 2014-01-14
- Terascale Monte Carlo School 2014 2014-03-10
- Statistics School 2014 - It's Measurement Time! 2014-03-31
- Terascale C++ School 2014 2014-06-16
- Advanced Programming Concepts 2014 2014-06-23
- GPUs in HEP 2014-09-10
- Computer Algebra and Particle Physics - CAPP 2013 2013-03-18
- Introductory Statistics School 2013 2013-03-18
- Monte Carlo Methods in Advanced Statistics Applications and... 2016-02-15
- Terascale Statistics School 2016 2016-02-15

Created 2016-01-23 by wenaus

Training series
Schools
Commercial online training
Software product training
Community resources
Material gathering points

Jobs, careers

Links

- CHEP 2015 Online Computing track proceedings
- Choosing a repository for your software project | Software Sustainability Institute
- Choosing an open-source licence | Software Sustainability Institute
- git Collating repositories or grafting earlier history with Git - Atlassian Developers
- Developing maintainable software | Software Sustainability Institute
- Digital Toolbox - Nature
- Google for Education: Should My Kid Learn to Code?
- Google/Udacity Deep Learning Course
- Hottest Jobs in 2016: Data Scientist**
- HSF discussion on recognizing software contributions
- JavaScript Language | MDN
- laboratory
- Migrate to Git from SVN | Atlassian Git Tutorial
- NASA open sources a mountain of its code
- git Pro Git - Book free online
- Publish your computer code: it is good enough - Nature
- Scientific software development and management - LinkedIn Groups

Hottest Jobs in 2016: Data Scientist

Tag

Hottest Jobs in 2016: Data Scientist



Related to [Data science](#)

Related to [udacity.com](#)

[careers](#)

[jobs](#)

Software Sustainability

Organizations

The research community is ever more active within the community. The Software Sustainability Institute is helping researchers to build and use software sustainably.

[Software Sustainability Institute](#)

[Better Software, Better Research article from IEEE Internet Computing](#)

[SSI blog](#)

[Jobs - SSI is hiring a communications officer](#)

careers

- Careers in S&C for research
[Edit the careers tag](#)
- As tech booms, workers turn to coding as a career change
- Depsy
- Google for Education: Should My Kid Learn to Code?
- Hottest Jobs in 2016: Data Scientist**
- HSF discussion on recognizing software contributions
- Scientific software development and management - LinkedIn Groups
- Software Sustainability Institute
- The Research Software Group: Doing Machine Learning
- The research community is ever more active within the community. The Software Sustainability Institute is helping researchers to build and use software sustainably.
- The unsustainability of research software - News & Comment

Career resource entries

Career tag to associate links of interest

Jobs attribute to link a job page or a position posting

Missing: aggregation of job postings on Jobs page

Careers in S&C for research

[Edit the careers tag](#)

As tech booms, workers turn to coding as a career change

Depsy

Google for Education: Should My Kid Learn to Code?

Hottest Jobs in 2016: Data Scientist

HSF discussion on recognizing software contributions

Scientific software development and management - LinkedIn Groups

Software Sustainability Institute

The Research Software Engineer | Machine Doing

The researcher programmer, a new species? | Machine Doing

The unsung heroes of scientific software : Nature News & Comment

Resources/Services

Depsy helps build the software-intensive science of the future by promoting credit for software as a fundamental building block of science.

Depsy text-mines papers to find fulltext mentions of software they use, revealing impacts invisible to citation indexes like Google Scholar.

Citation is just part of the story—Depsy analyzes code from over half a million GitHub repositories to find how packages are reused by other software projects.

Depsy assigns fractional credit to contributors based on designated authorship, number of commits, and repo ownership—supporting a fairer, more software-native reward system.

Depsy currently works for the 11,223 Python and R research software packages available on PyPI and CRAN.

Depsy: career resource example

- [Website](#)
- [High-impact physics software - Depsy](#)
- [HSF discussion on Depsy and the Nature story](#)

Associated with

- [Impactstory](#) Depsy is built by Impactstory
- [Science Code Manifesto](#)
- [Software Sustainability Institute](#)

Related

- [The unsung heroes of scientific software : Nature News & Comment](#)
- [The researcher programmer, a new species? | Machine Doing](#)

Tags



- c++
- careers Careers in S&C for research
- concurrency Related to parallel programming
- developing Young project in development
- flagship A key HEP project
- forming Project forming, idea stage
- fortran Uses Fortran
- github Has github repository
- gitlab Has CERN gitlab repository
- hpc Supercomputers
- java Uses Java
- javascript Uses javascript
- jobs Job listings
- license Has designated a license
- maintenance Project in maintenance mode
- mature Mature and still developing project
- new Created in last 2 weeks
- opportunity Formative project welcoming collaborators
- python Uses python
- quiescent Inactive or seemingly dormant project
- recent Updated in last 2 months
- releases

Recent addition not much used yet but powerful
Full flexibility to invent classifications

Project status Project life cycle, status in the community

- forming *Project forming, idea stage*
- opportunity *Seeking collaborators*
- developing *Young project in development*
- mature *Mature and still developing*
- flagship 1 *A key HEP project*
- retiring *Considering retirement*
- maintenance *Maintenance-only mode*
- quiescent *Inactive or seemingly dormant*
- retired *No longer available*



Links

You can add *anything* as a link (as long as it's a link)

When you read a cool software design article, add it as a link

eg to relate a CHEP track's proceedings to its software category, add it as a link

The screenshot shows a web browser interface with a 'Links' sidebar on the left and a main article page on the right. The sidebar contains several links, with 'CHEP 2013 DAQ, trigger and controls track proceedings' highlighted in orange. The main article page displays the title, tags, related items, and a permalink.

Links Sidebar:

- Choosing a repository for your software project | Software Sustainability Institute
- Choosing an open-source licence | Software Sustainability Institute
- Collating repositories or grafting earlier history
- 'Boot camps' teach scientists computing skills - Nature
- A re-introduction to JavaScript (JS tutorial) | MDN
- An Easy HTCondor Configuration to Support all Workloads
- Approaches to software sustainability | Software Sustainability Institute
- As tech booms, workers turn to coding as a career change
- CHEP 2013 DAQ, trigger and controls track proceedings**
- CHEP 2013 Data stores, databases and storage systems track proceedings

Main Article Page:

CHEP 2013 DAQ, trigger and controls track proceedings

Tag: **CHEP 2013 DAQ, trigger and controls track proceedings**

Related to: CHEP 2013, Amsterdam

Related to: Online

Permalink: http://hepsoftware.org/e/chep2013_online

Created 2016-02-02 by wenaus

Supporting open-source software | Software Sustainability Institute

The Beauty of Code - Paris Review

The Great Works of Software - Medium

The Research Software Engineer | Machine Doing

Related to: Software design

Search



Instant results

Fast-scan navigation among results; click to select

Search by title and/or content

Empty search shows all entries, sorted by alpha or modification time

<> FairRoot

Software

FairRoot is a framework based on ROOT. The user can create simulated data and/or perform analysis with it. Geant3 and Geant4 transport engines are supported, however the user code that creates simulated data do not depend on a particular monte carlo engine. The framework's base classes enable users to construct their detectors and /or analysis tasks in a simple way. It also delivers some general functionality like track visualization.

- Website
- Contact
- Github repository
- Blog

Software categories

- Analysis
- Processing frameworks

FairRoot uses

- <> ROOT

FairRoot is used by

- FAIR

Related

- <> ALFA

Created 2015-11-07 by wenaus

Q Search

Search the app: [Clear](#)

title content

40 results by

- <> Apache Arrow
- <> binder
- bv
- CERN EP-SFT
- CERN GitLab
- <> cmaketools
- CMS
- <> DaviX
- Depsy
- drone.io
- DUNE
- fads
- <> FairRoot**
- <> GeGeDe
- github
- GitHub
- GitHub Pages
- gitlab.com
- <> Google sanitizers
- <> Google Test
- HEP Software Foundation (HSF)
- HEP Software Foundation Technical Notes
- hepsoftware.org
- <> Homebrew
- HSF Software Packaging Working Group
- <> Jekyll
- <> JupyROOT

Accounts, authentication



- No internal user/pass database
- Authentication based on email address
- Obtained from your choice of third party
 - GitHub, Google, Dropbox, Amazon, ...
 - As you often see these days on websites
- Missing is CERN, they have a new OAuth2 service
- REDIS based server-side session management
- Once authenticated, you have an identity in the KB, associating you with content you create and modify, testimonials you add, preferences you set
 - People not supported as entries properly yet
 - You should be able to relate people to other entries (software, experiments, institutes, ...) but can't yet
- Perhaps more personalization in the future
 - Experiment association, enabling experiment-specific and -internal content
 - Notifications of new content... RSS? email?

Account ✕

You are signed into hepsoftware.org as user *wenaus*, email *wenaus@gmail.com*.
[Sign out](#)

Connect with services

Connected with Github as Torre Wenaus (wenaus@gmail.com) [Refresh](#)

- [Connect with Google](#)
- [Connect with Dropbox](#)
- [Connect with Amazon](#)
- [Connect with Facebook](#)

Versions, visibility

Previous versions are archived and can be viewed and restored as the published version

Nothing can be deleted by the user, you can hide items

Versions

Previous versions are accessible here. They can be loaded as the edited version (so long as doing so would not overwrite active edits), and then saved, in order to revert to previous versions.

Current 2014-10-20/wenaus, updated 2015-11-11 17:13/wenaus

Archive 2014-10-20/wenaus, updated 2015-11-11/wenaus [Load](#)

Archive 2014-10-20/wenaus, updated 2015-11-11/wenaus [Load](#)

Archive 2014-10-20/wenaus, updated 2015-11-11/wenaus [Load](#)

Archive 2014-10-20/wenaus, updated 2015-11-05/wenaus [Load](#)

Archive 2014-10-20/wenaus, updated 2015-11-04/wenaus [Load](#)

Archive 2014-10-20/wenaus, updated 2015-10-27/wenaus [Load](#)

Archive 2014-10-20/wenaus, updated 2015-10-27/wenaus [Load](#)

Archive 2014-10-20/wenaus, updated 2015-10-26/wenaus [Load](#)

Archive 2014-10-20/wenaus, updated 2015-10-25/wenaus [Load](#)

Archive 2014-10-20/wenaus, updated 2015-10-25/wenaus [Load](#)

Archive 2014-10-20/wenaus, updated 2015-10-15/wenaus [Load](#)

Archive 2014-10-20/wenaus, updated 2015-10-15/wenaus [Load](#)

Archive 2014-10-20/wenaus, updated 2015-10-07/wenaus [Load](#)

Archive 2014-10-20/wenaus, updated 2015-10-07/wenaus [Load](#)

Archive 2014-10-20/wenaus, updated 2014-10-20/wenaus [Load](#)

Next steps

Add and improve content! An on-and-off hobby of mine but it needs you

- New entries, testimonials on software, dressing entries with tags and relations, adding that cool article on online training you found, adding your training event, ...

In terms of development, best effort and driven by interest

- Ease of use, aesthetics, performance
- Clean up the code and open it up in github
- People as full fledged entries with associations
- People-experiment association to enable experiment-specific (including private) material

Summary

The HEP S&C knowledge base at hepsoftware.org is there for you to try, as a user and as a content contributor

Stable, functional, zippy, even kind of fun to use and add stuff when you get in the swing of it

Benefits from a couple rounds of prototype cycles

Smart javascript client locally hosting the data makes for a very responsive dynamic browser app

Node.py + MySQL based back end in EC2 has been solid & stable

What it needs most now is content!