

Ian Bird

LHCC Referees' meeting;

CERN, 18<sup>th</sup> November 2014

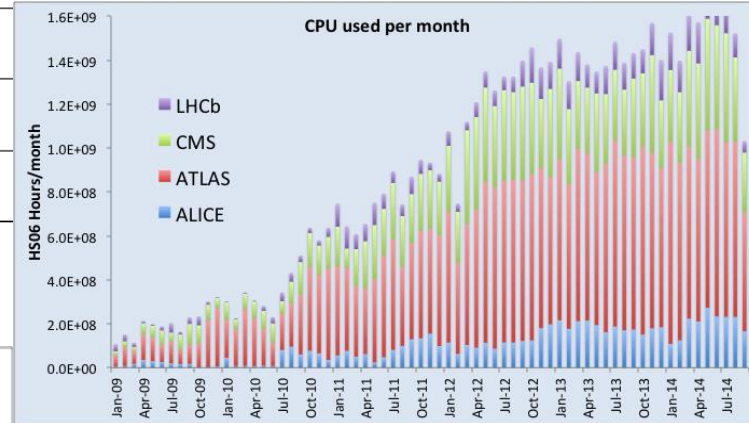
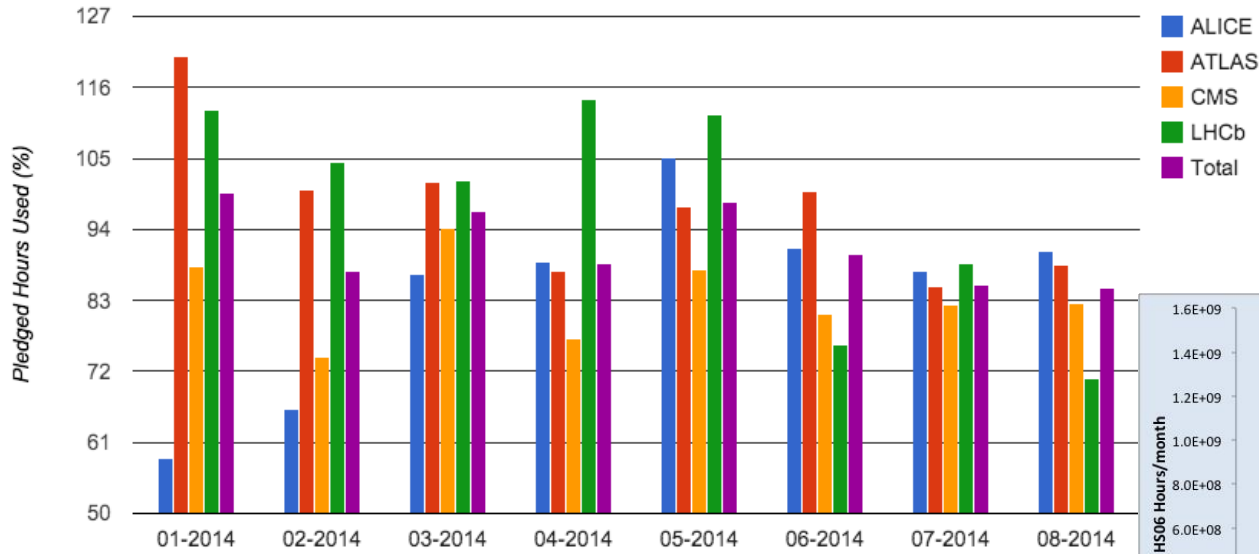
# Project Status Report

# WLCG MoU Topics

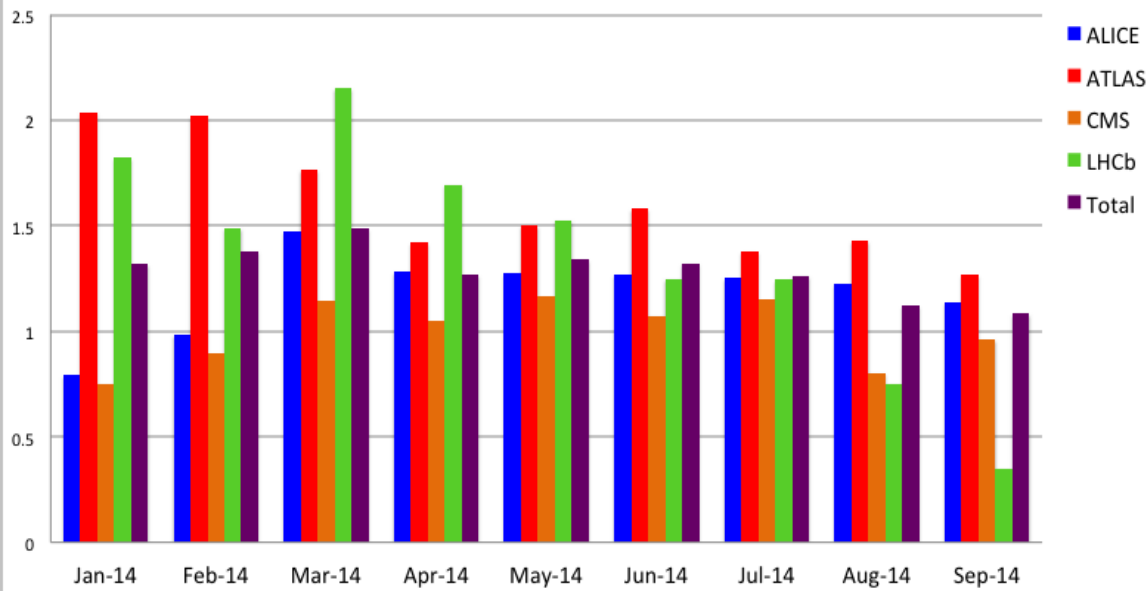
- Russian Tier 1 sites
  - Letters received confirming resource pledges for 2015
  - Have infrastructure in place and will be treated as Tier 1 sites for 2015. However, this is pending the formal official approval of the WLCG MoU at government level as stated in the letters.
- Mexico: UNAM signed as ALICE Tier 2 last week
- Pakistan: COMSATS Inst. Information Technology (ALICE): MoU in preparation
- Tier 2 at KISTI (ALICE) now fully replaced by the Tier 1 facility.

# Resource usage

Pledged Hours Used: All Tier-0 and Tier-1 Sites

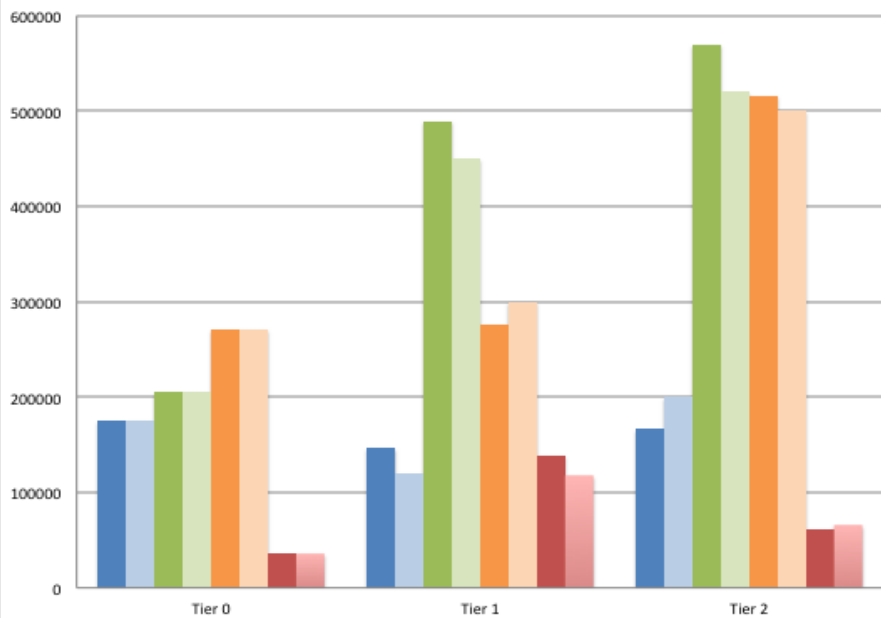


Pledged hours used: All countries (Tier 2 sites)

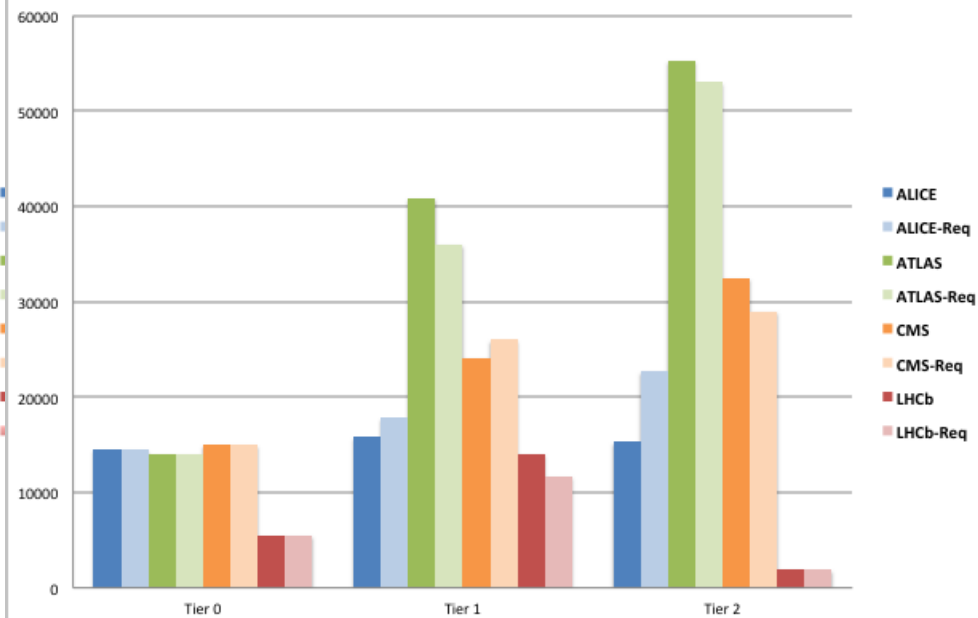


October 14, 2014

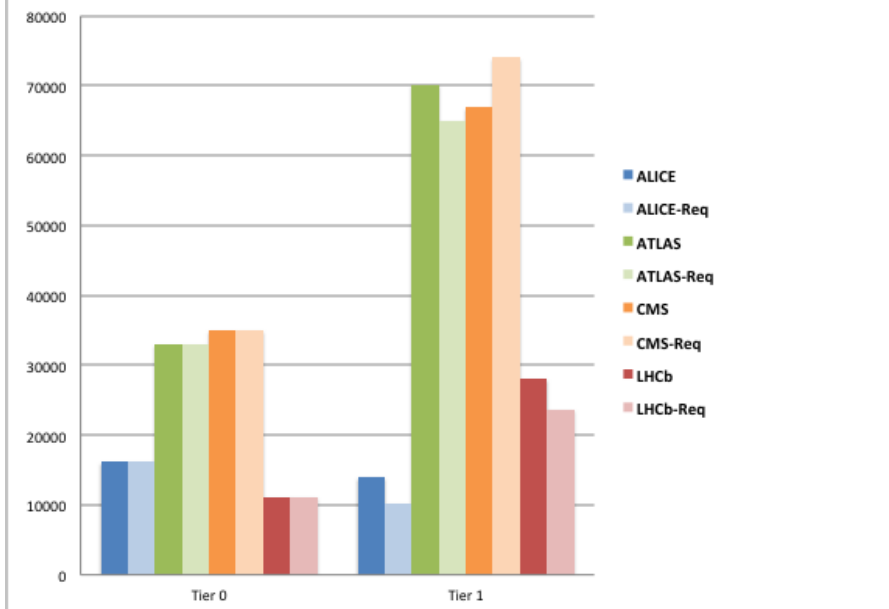
CPU 2015 - pledges vs requests



Disk 2015 - pledges vs requests



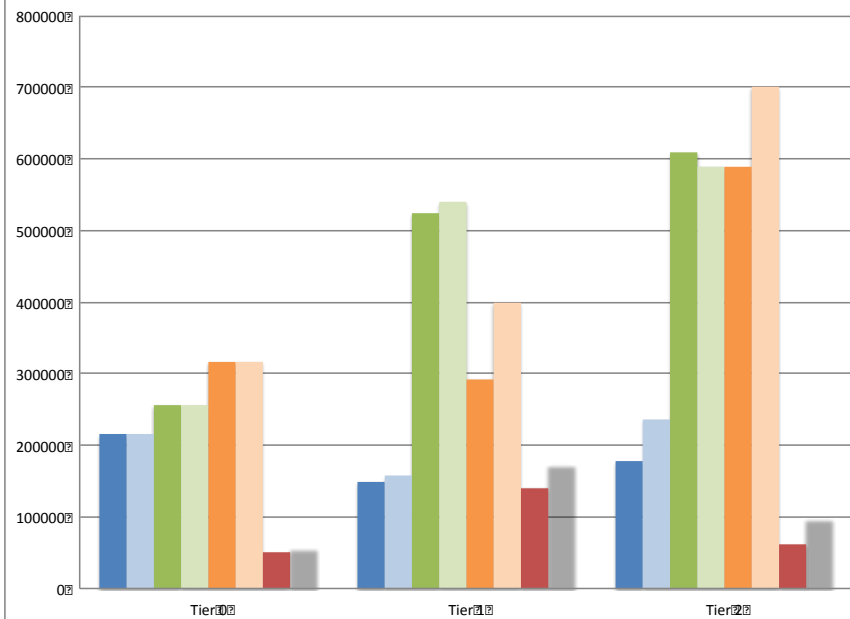
Tape 2015 - pledges vs requests



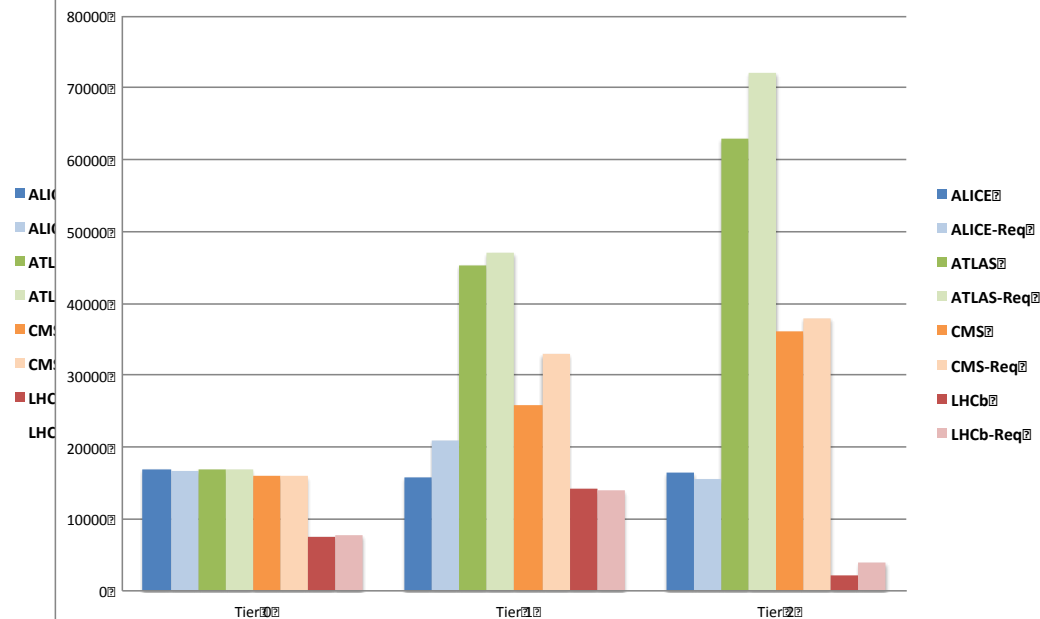
- ALICE?
- ALICE-Req?
- ATLAS?
- ATLAS-Req?
- CMS?
- CMS-Req?
- LHCb?
- LHCb-Req?

# Pledges vs requests for 2015

CPU 2016 pledges vs requests



Disk 2016 pledges vs requests

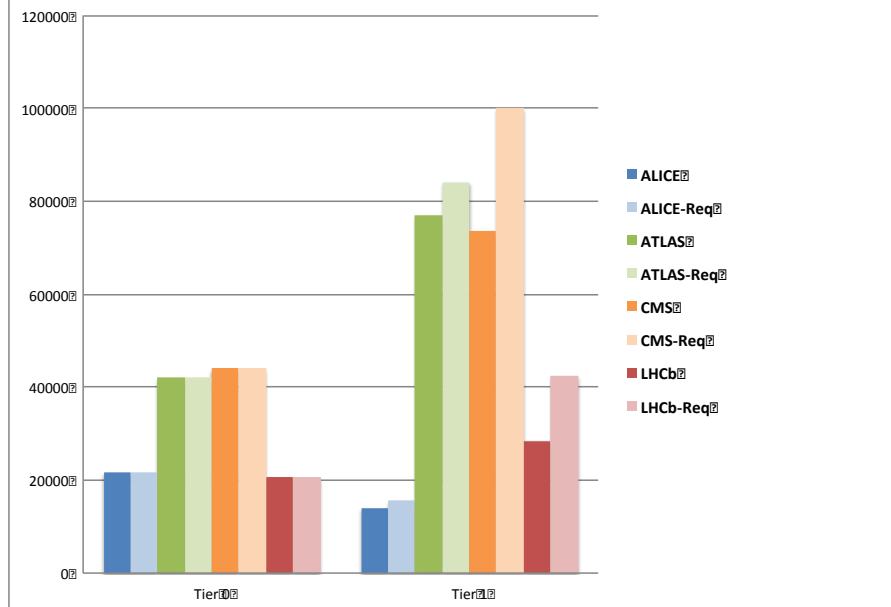


# Pledges vs requests for 2016

## Pledges incomplete

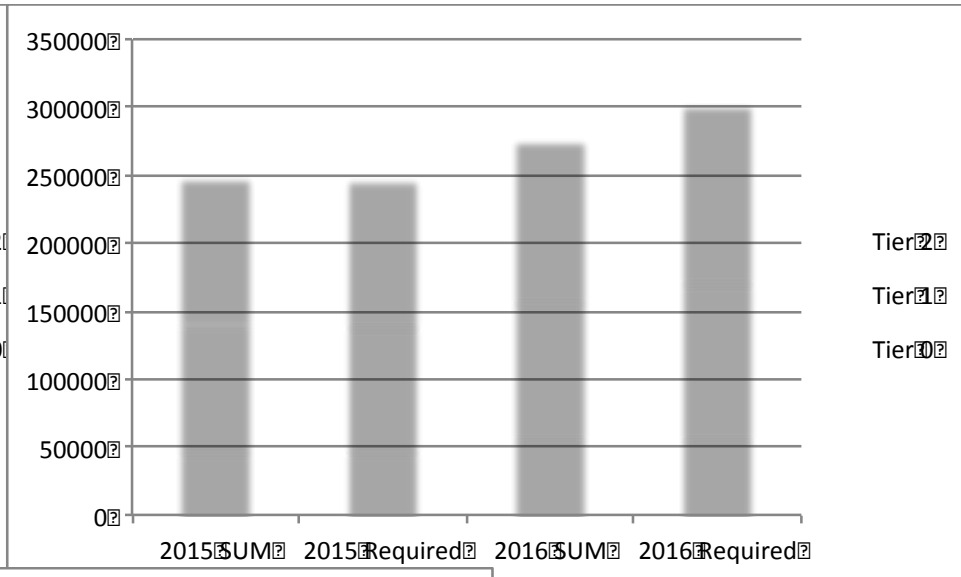
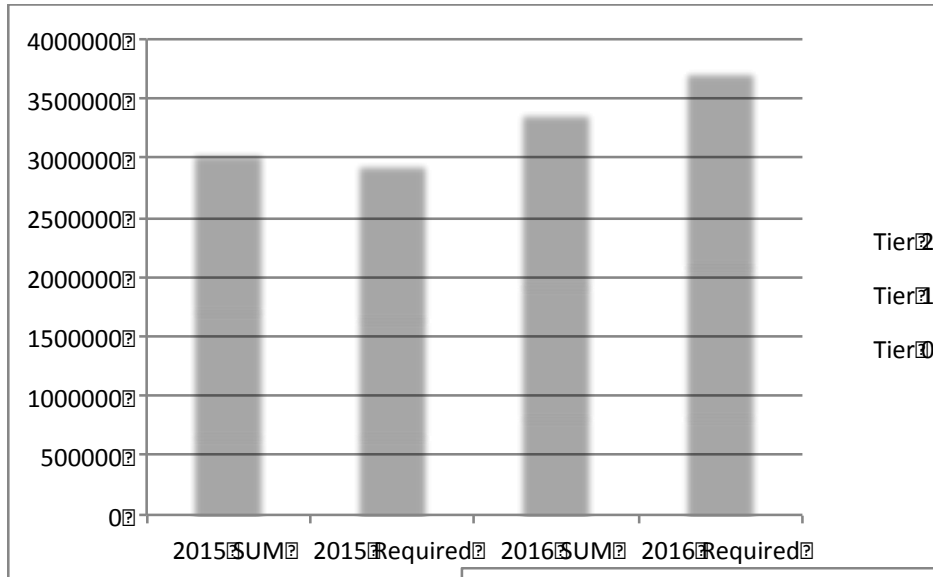
- ALICE
- ALICE-Req
- ATLAS
- ATLAS-Req
- CMS
- CMS-Req
- LHCb
- LHCb-Req

Tape 2016 pledges vs requests

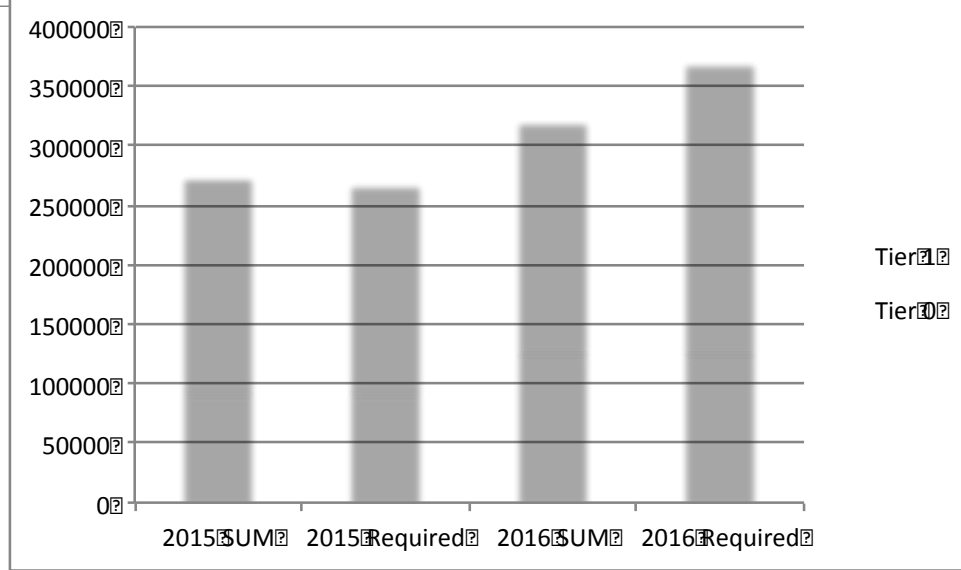


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# Requirements vs pledges 2015-16



NB For 2016, pledges are not yet complete



# RSG – expectations for Run 2

## *From C-RSG report*

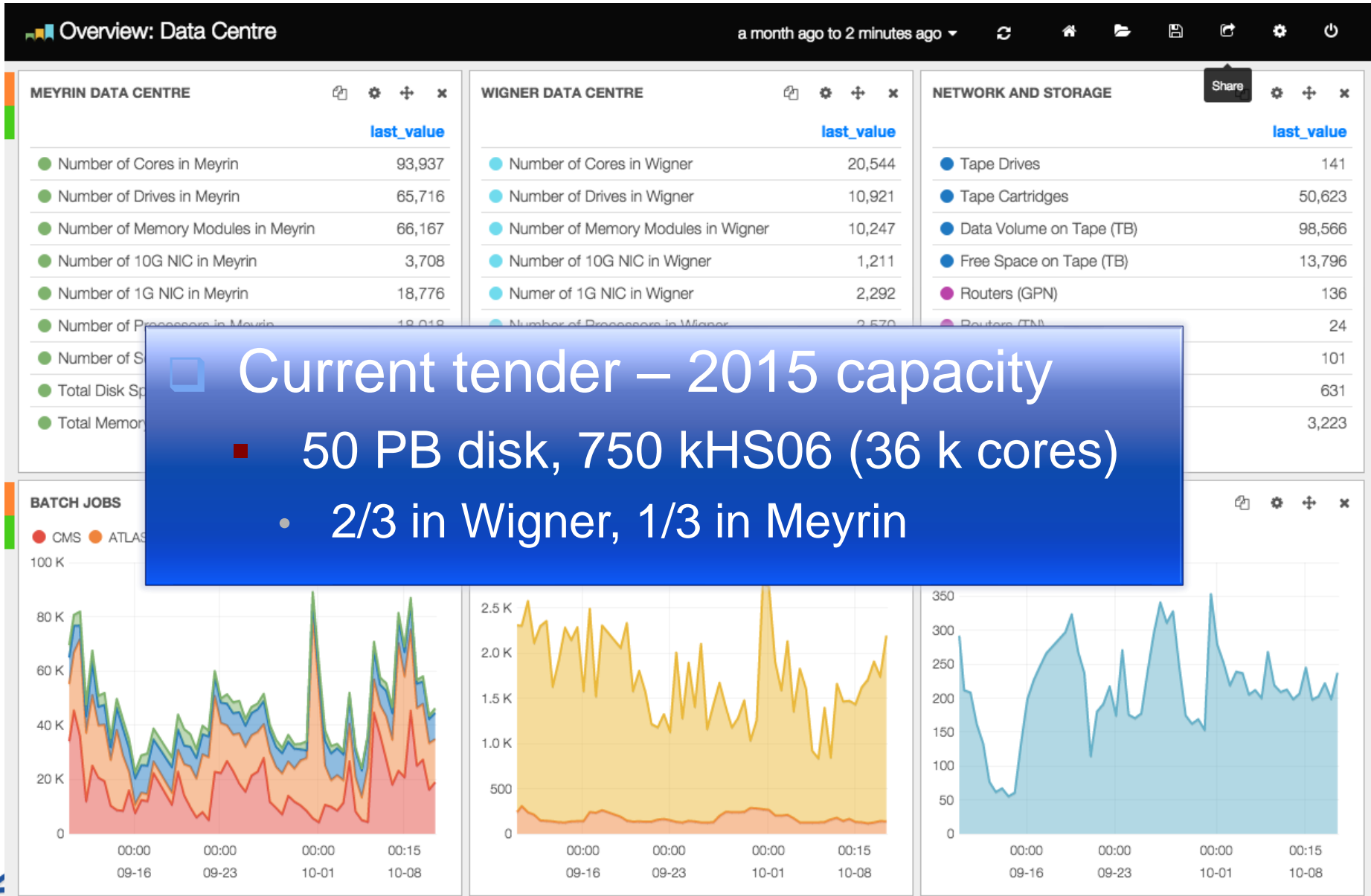
### Tracking resource requests over Run 2

Full exploitation of physics potential of LHC and experiments from 2015 will require significant increases in resources

We consulted resource providers/funders on expectations over Run 2. Responses from eight Tier 1 countries.

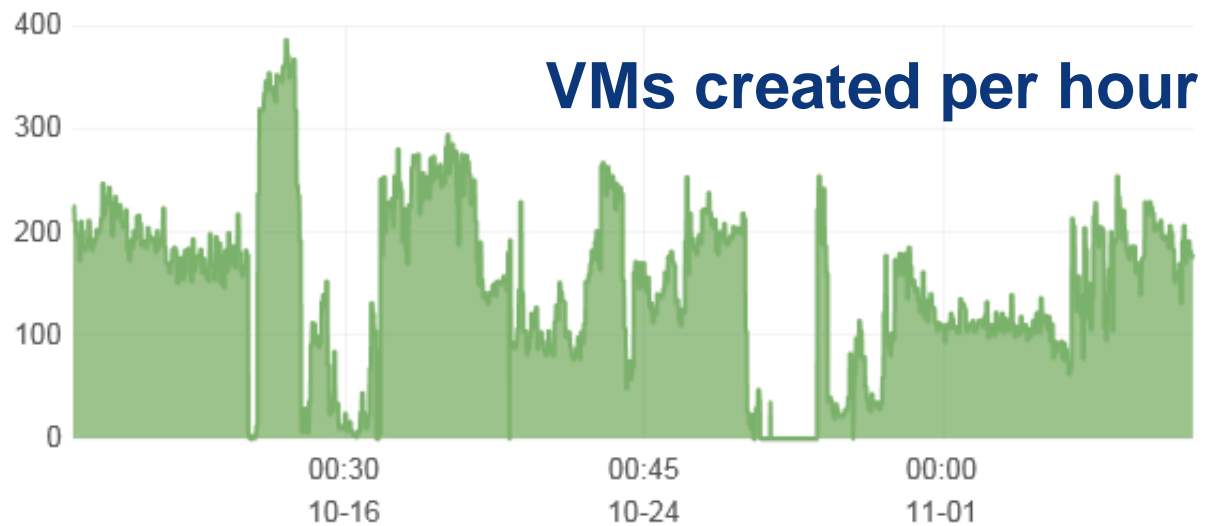
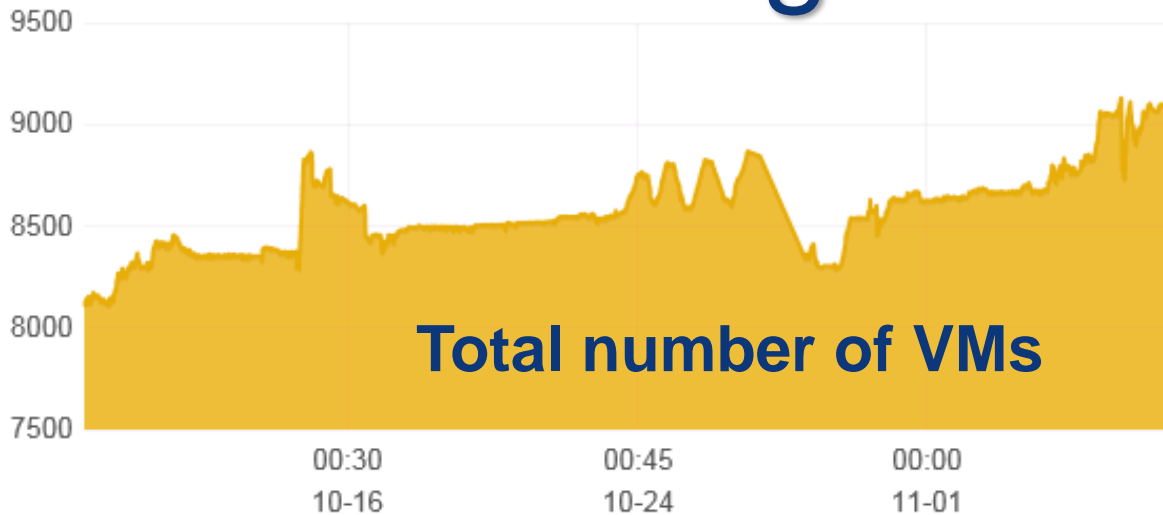
- ▶ In most cases, funding sufficient to follow requirements in 2015 and 2016
- ▶ Funding beyond 2016 not secured in most cases
- ▶ Concerns from centres that it may be difficult to track requests which continue to grow by beyond-flat-budget increments

# Tier 0



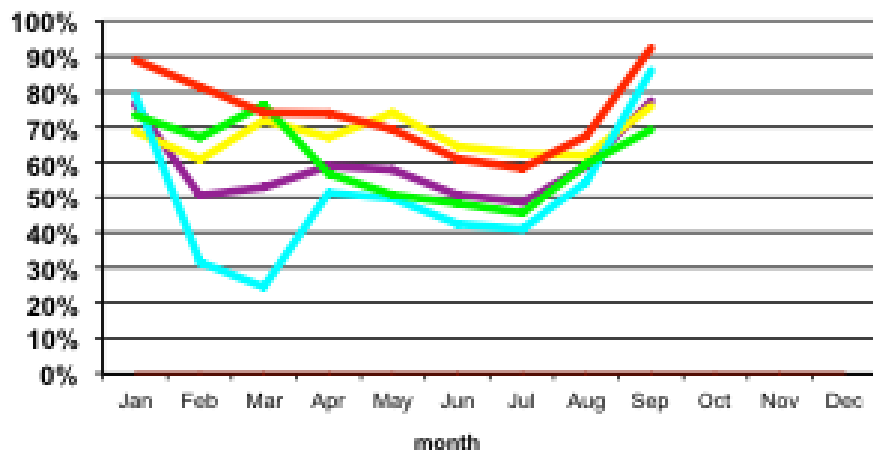


# Growth during last month

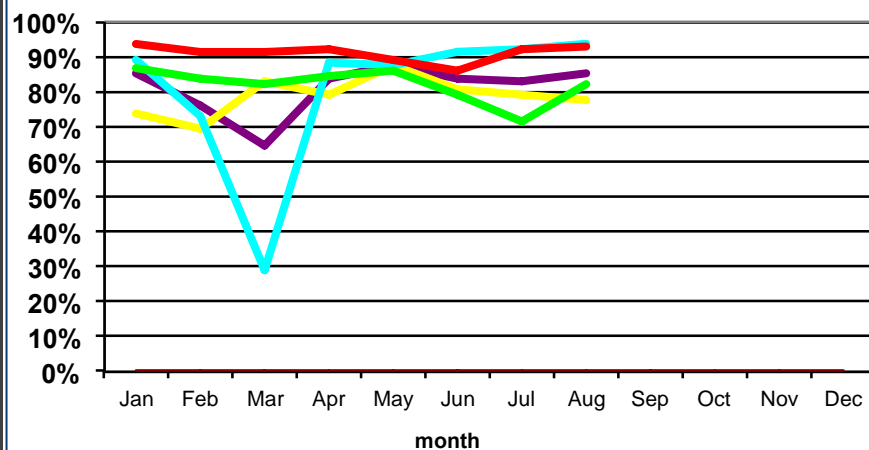


# Understanding CERN efficiencies

Ratio of CPU : Wall\_clock Times



Ratio of CPU : Wall\_clock Times



Significant level of CERN pledges are delivered as “non-batch” services (VOBoxes, services, etc → 100’s of machines)

These have been included in the standard efficiency calculation – but this is misleading

Right-hand plot shows batch-only efficiency

In future CERN will produce 2 reports: batch and total resources

# HEP Software Foundation

# Progress

- Initial startup team in place and meeting weekly
- Interim leadership:
  - Torre Wenaus (BNL), Pere Mato (CERN)
  - Should be lightweight, transparent, open
  - Charge a smallish 'startup team' with putting the HSF in place
  - Enlist additional members to provide broad representation and expertise
  - Be flexible as to the membership, let it evolve, e.g. to take advantage of motivated experts becoming interested and available
  - Keep it practical, technical, results-driven, responsive to input, consultative
  - Early experience can guide a longer term organization

# Initial activities

- Recent summary:
  - <https://indico.cern.ch/event/272779/contribution/7/material/slides/0.pdf>
- Synthesizing the White Papers
  - First version of synthesized document available
- Making contacts, planning contact meetings
  - Broad scope of contacts across the HEP community, input and engagement
  - High priorities: MC generators, GEANT4, etc
- Website and communication
- Workshop preparation
  - SLAC, 20-21 Jan 2015
  - <http://hepsoftwarefoundation.org/workshop-slac-jan-2015>

# Website

## Existing

- Software projects/packages categorized with software category and science field tags
- Events: meetings, workshops, conferences, schools, tutorials...
- Experiments: describe and crosslink what software your experiment uses
- Organizations: OSG, WLCG, HSF, Concurrency Forum, ... our community

## Planned

- More/better content! Add your favorite software, extend/correct existing entries
- Facilities, institutes: extend to 'computing', not just 'software'
- Licensing
- 'HSF membership/participation/standing/interest...'
- Assessment/evaluation/scoring/ranking/crowdsourced reviews/HSF peer reviews/endorsement...
- Job postings
- .. bring your ideas!

The HEP Software Foundation  
Advancing high energy physics community software

Home Documents Events Organization Plan Needs Google

User login  
Username \*  
Password \*  
• Create new account  
• Request new password  
Log in

### The HEP Software Foundation

View What links here

**Note: this site is in its setup phase. You will find pages and material to be incomplete, planned content is missing, etc.**

The HEP Software Foundation (HSF) is being organized to facilitate coordination and common efforts in high energy physics (HEP) software and computing internationally.

Current HEP software is the result of 20 years of development, and now must evolve to meet the challenges posed by new experimental programmes. In addition, the computing landscape is evolving rapidly and we need to exploit all the expertise available in our community, and in other scientific disciplines, in order to meet the technical challenges we are facing.

The objectives of the HSF as a community-wide organization are in sharing expertise; raising awareness of existing software and solutions; catalyzing new common projects; promoting commonality and collaboration in new developments to make the most of limited resources; aiding developers and users in creating, discovering, using and sustaining common software; and supporting career development for software and computing specialists.

A recognized community organization can also provide a framework for attracting effort and support, and provide a structure for the community to set priorities and goals for the work. It can also facilitate wider connections; while the HSF is a HEP community effort, it should be open enough to form the basis for collaboration with other sciences.

The HSF is currently starting up. All are welcome and encouraged to participate in establishing and developing the foundation. Contact [Pere Mato \(pere.mato@cern.ch\)](mailto:pere.mato@cern.ch) and/or [Terry Wenaus \(tenuas@gmail.com\)](mailto:Terry Wenaus (tenuas@gmail.com)) if you are interested in participating. For starters, create an account at this site so you can use it fully and help build it.

HSF website  
• Content summary  
• Recently added  
• Discuss

### HSF what's new

11/11 Startup document 1.0  
11/11 HSF meeting  
Jan 2015 SLAC workshop

### Software catalog

Software list  
Software by category

### Software categories

- Analysis tools
- Calibration and alignment
- Collaborative tools and projects
- Commercial
- Concurrency
- Concurrent I/O
- CPU and co-processor

Events  
Event list  
Calendar

### Science fields

- Accelerator science
- Astroparticle physics
- h physics
- Health physics
- High intensity, neutrino
- LHC, collider physics
- Linear collider
- Nuclear physics
- Photon physics, light source
- Space physics
- Theory

Community  
Experiments  
Institutes  
Facilities  
Organizations

### HSF monthly archive

- October 2014 (105)
- November 2014 (6)

<http://hepsoftwarefoundation.org>

# e-Infrastructure

# H2020 project submissions

## □ EINFRA-7-2014

### ▪ AARC

- Authentication & Authorization for Research & Collaboration – framework for federated identity platform (eduGAIN)

## □ EINFRA-1-2014

### ▪ DPINFRA

- Data preservation services infrastructure, for big-data science

### ▪ EGI-Engage

- Evolution of EGI

### ▪ INDIGO-DataClouds

- Building a data/computing platform and tools for science, provisioned over hybrid (public+private) e-infrastructures & clouds

### ▪ RAPIDS

- Shareable science-domain workflows and services (SaaS) over e-infrastructures to hide complexity; involvement of several EIRO labs

### ▪ ZEPHYR

- Prototyping & modelling of Zettabyte-Exascale storage systems for future science data