OSG
IRIS-HEP Advisory Board Meeting

Frank Würthwein
OSG Executive Director
Professor of Physics
UCSD/SDSC

September 9th 2019
What is OSG?

- OSG is a consortium dedicated to the advancement of all of open science via the practice of Distributed High Throughput Computing, and the advancement of its state of the art.
- It is a collaboration between IT, software, and science organizations.
- It is governed by the OSG Council, maintaining its by-laws, and electing an executive director for 2 year renewable terms to coordinate a program of work.
IRIS-HEP is roughly 1/3 of total effort in OSG
### OSG Council Composition

**Pending member:** Inder Monger, ESnet

Council selects its own members with the idea that this allows for maximum flexibility over time. Most members represent organizations, and are as such “fungible”.

<table>
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<td>HTCondor Project</td>
<td>Miron Livny</td>
<td>Software provider</td>
<td>University of California San Diego</td>
<td>Michael Norman, Alternate: Frank Würthwein</td>
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<td>DOSAR</td>
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<td>Fermi National Accelerator Laboratory</td>
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The People in OSG-LHC

Deputy Director = UNL
Security = Indiana University
Software = U. Wisconsin – Madison
Networking = U. Michigan

A total of 6 FTE across 11 people.
These people have worked together
and with the LHC program for years.

For full team see: https://opensciencegrid.org/about/team
Key Goals in Plain English

- **Do business as usual to support US LHC Ops program in software & computing**
  - Accounting, CVMFS, Security, software releases, network performance collection … the things the US LHC S&C leadership agreed to with each other.

- **Engage Intellectually with the LHC software R&D program in the US and at CERN**
  - Engage with WLCG via technology, deployment, security, and management groups.
    - Working closely with DOMA R&D group in IRIS-HEP.

- **Bring new ideas & capabilities from R&D to operations**
  - Gridftp & GSI end of life replacement
  - Transition from person to capability authentication
  - Re-engineer OSG to provide DevOps deployment paradigm in addition to integrated software stack as RPMs.
    - Working closely with US ATLAS, SSL@IRIS-HEP, OSG outside LHC on containers as first class citizens for OSG services deployments.
Running the OSG

- Heavy use of slack, skype, phone, sms, zoom, vidyo, …
  - We rely on people “knowing each other”, in many cases for many years.
- Each area has its own weekly meeting.
- Tim Cartwright runs a weekly staff meeting.
  - Area coordinators are scheduled for presentations.
  - policy & architecture discussions with short-medium term timelines happen here.
- Fkw runs a weekly Executive Team meeting.
- Marian Zvada runs a weekly Xcache meeting that includes the Xroot developers, and is open to people globally.
- …. And a few other weekly meetings.
- Quarterly meetings:
  - with Internet2 management
  - “Blueprint” to discuss long term high impact architecture and design issues.
- Annual planning meeting.
- Annual OSG All Hands Meeting

When we run OSG we are “funding origin agnostic” as much as possible.
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<tr>
<th>Description</th>
<th>First 3 months</th>
<th>2nd 3 months</th>
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<td>Document and test integration of current LHC uses of XRootD in the OSG</td>
<td>Done</td>
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<td>Design a process that allows site administrators to provide feedback on testing-grade software to expedite its release</td>
<td>Done</td>
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<td>Develop web form for LHC site administrators to register service downtimes</td>
<td>Done</td>
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<td>Complete the transition from Globus Toolkit to Grid Community Toolkit packages in EPEL and OSG repositories</td>
<td>Done</td>
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<td>With DOMA, define a replacement path and schedule for GridFTP and GSI</td>
<td>Done</td>
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<td>Coordinate with WLCG management to contribute as appropriate to the first LHCC review of WLCG in early 2019</td>
<td>“Done”</td>
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<td>Complete the overhaul of the networking performance data pipeline, including tests of data restoration from tape and starting the transition of data collection from pull to push</td>
<td>Done</td>
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<td>Align the OSG Cybersecurity program with the Open Science Cybersecurity Program Framework, the US-LHC Ops program, the US-LHC Tier-1s, and WLCG, and distribute responsibilities among teams to improve effectiveness and reduce unnecessary duplication of effort</td>
<td>Expanded scope thus completion delayed</td>
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<td>Complete the OSG Operations transition by cataloging all OSG services (owned or operated) and updating OSG Service Level Agreements (SLAs) in collaboration with key stakeholders including the LHC experiments</td>
<td>Done</td>
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<td>Summarize past year of the monthly accounting reporting to WLCG, including all issues with reporting and their resolutions</td>
<td>“Done”</td>
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<td>Release OSG 3.5 with major additions to and deletions from OSG software for OSG-LHC</td>
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<td>Implement the process that allows LHC site administrators to provide feedback on testing-grade software to expedite their release into production</td>
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<td>Evaluate use of data federation software and configuration by US ATLAS and US CMS for common use</td>
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My Worries

- Impedance mismatches between various different entities
  - e.g. US-LHC ops programs, global experiments, WLCG, OSG outside LHC.
  - This is going to make it hard to exploit more disruptive opportunities and/or stay on schedule with more disruptive goals.
    - Joint caching software
    - devOps
    - Globus transition
    - Analysis systems deployment
      - The first AS prototype I know that is multi-user was assembled by a grad student in their spare time.

- IRIS-HEP budgeting was done in a hurry and too tight.
  - reporting requirements were not budgeted.
  - Salary escalation not included appropriately thus people are not retained on budget.
  - In Y3 we did not budget management for OSG in IRIS-HEP to make 5 year budget work.
  - Many places in IRIS-HEP depend on ”synergies” with other projects to achieve goals.
Summary

• We are on track.
• The IRIS-HEP part of OSG benefits from the various other efforts across the other 5 contributing NSF awards.
  – A strong team overall that is coming together.
  – Successfully avoiding impedance losses at boundaries between awards.
• Overall, I think we are doing more new things than I expected …
• … and are having a larger impact on the global LHC community than I expected.