



OSG-LHC IRISHEP Retreat

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A New Era has begun

- **Industry standards instead of grid software**
 - Transition from identity to capability authZ, as we replace GSI with JSON Web Tokens
 - Third-party copy https replaces gridFTP

=> Reduces software orphanage by 608k LoCs
- **Federated Data Infrastructures** for all of Science
 - We support 3 data federations: ATLAS, CMS, OSG
 - Weekly coordination meeting between developers & customers
 - Setting priorities & fighting fires => devOps
 - Base container maintenance, incl. testing & validation
 - Monitoring & Accounting infrastructure (dev & ops)
- **DevOps enabled by containerization** of services
 - 40 hosted CEs in OSG
 - ~10 (ATLAS) + ~5 (CMS) + ~20 (OSDF) data caches worldwide
 - many of them in backbone of R&E networks
 - ~100 instances of 13 service types run in containers for OSG



There is a lot of consolidation to be done

OSG-LHC will continue to spend the bulk of its effort in (consolidation of) production level activities.

See also DOMA presentation earlier today.



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Opportunities

- There are two types of networking R&D ongoing, both of which need to be consolidated into T2 production deployments.
 - Traffic tagging
 - Rucio/SENSE integration to achieve accountable bandwidth across the WAN.
- In both cases R&D happens outside IRISHEP, but the integration/consolidation could happen inside IRISHEP
- Both of these are synergistic with the data challenges and the DOMA goals, especially regarding XRootD.

- It is unclear how much if anything here makes sense for OSG-LHC to be involved.
- ServiceX architecture unclear to me:
 - Where does transition to columnar data format happen?
 - At origin of data? Or at arrival of data at Coffea Casa?
 - Are simple down-selects supported?
 - Is SENSE integration desired?
 - How does it relate to the XRootD layer?
- How does SONIC relate to any of this?
 - There is analysis level SONIC use today on NRP. Is this of relevance to IRIS-HEP?
 - SONIC is an obvious candidate for SENSE integration.

- The TACC LCCF will be an ARM AUP facility
 - Planned Deployment date late 2025 or early 2026.
- Can we use the existing NSF ARM HPC system at Stonybrook as an exemplar for consolidating OSG-LHC hosted CE stack for ARM
 - Are the experiments ready and interested?
- Aside: is IA interested in APUs?
 - Both NVIDIA and AMD offer APUs as their strategy for the future.
 - In principle, APUs could allow for an easier migration path for accelerated computing.



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Questions & Comments ?