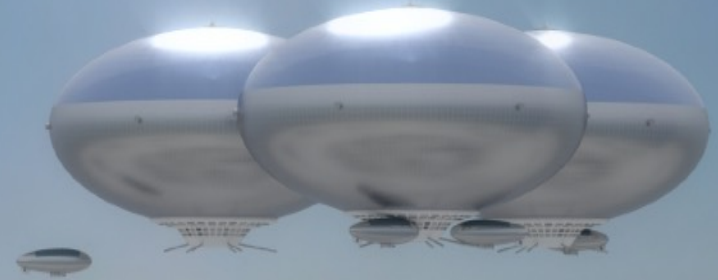
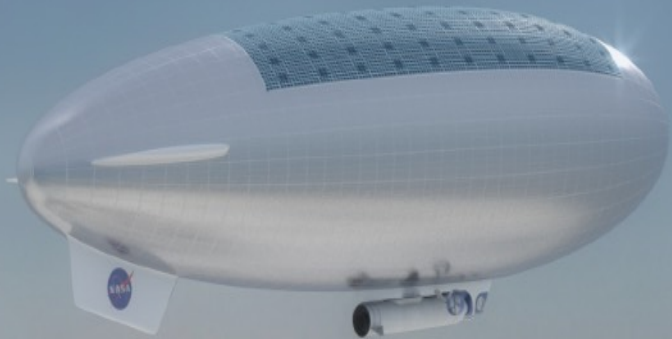


Proposed lightweight sites working group



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Overview

- Lightweight sites motivations
- Existing LW landscape
- Working group aims
- Scope
- Next steps



Motivation for lightweight sites

- Conventional sites are complicated to set up and run
 - They are especially difficult for groups starting from scratch
- Simplification is always a good idea where possible
- Human effort is decreasing as many of us are in flat cash or decreasing funding environments
- Many of us are looking to work with user communities (eg astronomy) outside of HEP
 - Conventional WLCG site services are difficult to “sell”
 - Especially if a new site has gone to the trouble of setting up something like OpenStack already

Lightweight approaches

- Reduce the number of services
 - eg InfoSys TF work to remove BDII
- Simplify installation of conventional services
 - Mayank's talk and Maarten's lightweight dev group
- Put conventional services in “boxes”
 - Docker containers? Physical machines managed offsite?
Services in VMs on OpenStack?
- Vacuum model for workload management
 - To run jobs, site just runs worker node VMs/Containers supplied by experiments. No conventional services.
 - Vac and Vcycle/OpenStack sites



Aims of the working group

- Site/deployment orientated
 - Aim to get things happening at as many sites as want to pursue these models
- Share experience between sites that are already using lightweight models
 - It's "how" not "if" now
- Facilitate communication between sites, experiments, and developers
 - More work is still needed
 - Things are missing; not all types of site are supported; not all experiments are supported



Scope of the working group

- Lots of other WGs and TFs are looking at aspects of this
 - Both for CPU and for Storage
- Need to avoid trying to duplicate that development and prototyping effort
 - But instead provide support for sites in the subsequent stages of deployment
- The WG can also have a useful role in identifying gaps
 - that emerge during deployment
 - and then need to be addressed elsewhere



Summary

- Lightweight sites are a response to
 - the complexity of conventional sites
 - the funding situation
 - need to cooperate with other communities
- The proposed Working Group seeks to bring together in one place
 - the existing lightweight sites' experience
 - experiments and developers
 - new sites
- But without duplicating dev effort in WGs/TFs



Vac vs Vcycle recap

- Two GridPP systems aimed at running VMs/Containers
- Vac - autonomous hypervisors
 - Each VM factory machine creates VMs or Docker containers in response to observed demand for each type of “logical machine”
 - Factory installation by Puppet etc or Vac-in-a-Box
- Vcycle - manages OpenStack, EC2, Google Cloud etc
 - VMs created via Cloud API in response to observed demand for each type of VM
 - Same VM definitions as Vac
- LMs are self-contained black boxes defined by experiments
 - Know how to pull in jobs to run from experiment HQ