Accessing XSEDE allocations from the OSG access points

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OSG AHM 2021
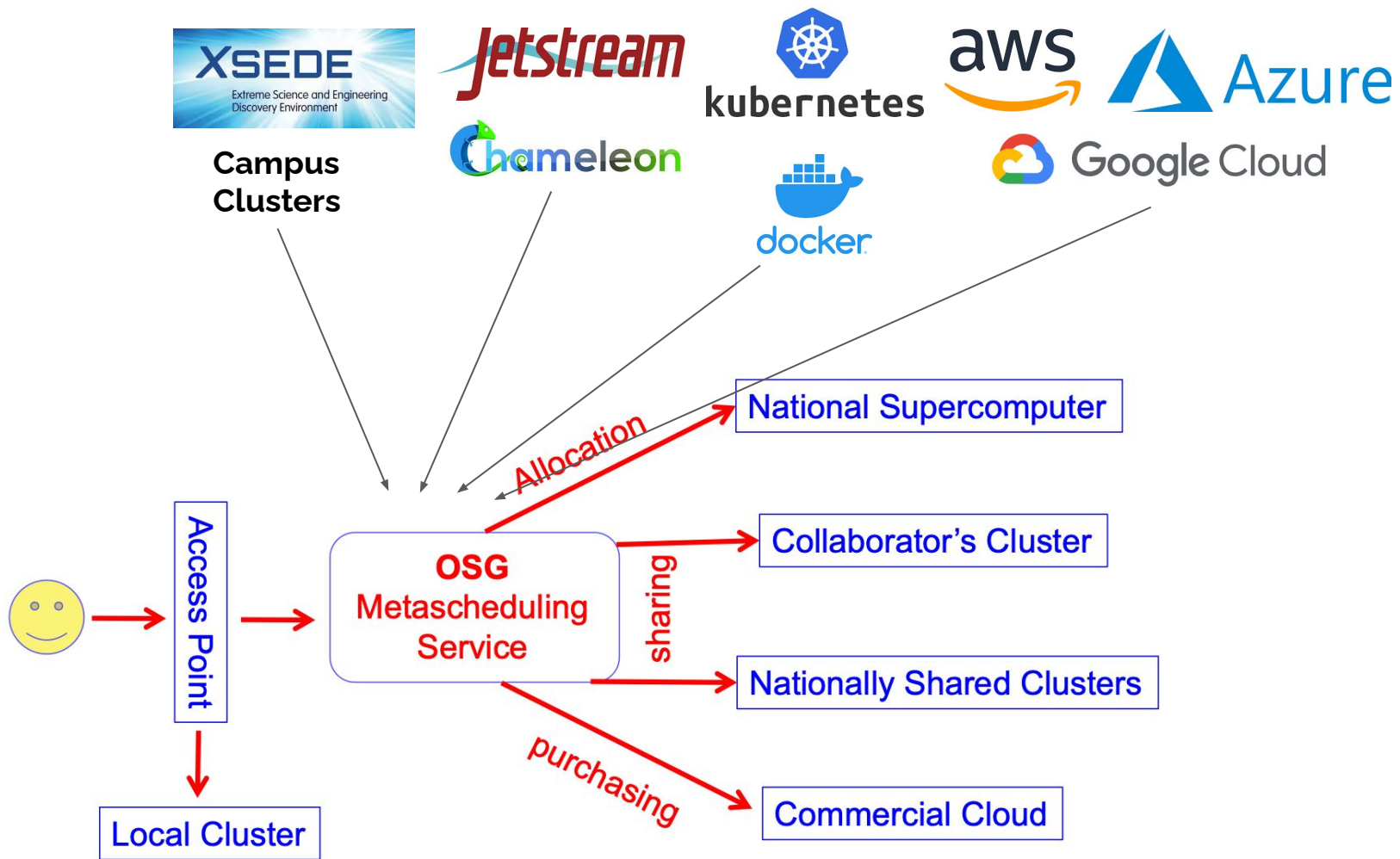
XSEDE Resources for dHTC

- ## SDSC Expanse
  - HPC, Mounts /CMVFS

- ## PSC Bridges2
  - HPC, different node types, for example large memory and GPUs

- ## IU Jetstream
  - Cloud

https://www.xsede.org/ecosystem/resources

- ## TACC Stampede2
  - HPC, large parallel jobs

Startup Allocation

This table displays the Startup allocations limits request per resource.

RESOURCE	SERVICE UNITS LIMIT
Bridges-2 Regular Memory (PSC)	50,000 core-hours
Bridges-2 Extreme Memory (PSC)	1,000 core-hours
Bridges-2 GPU (PSC)	2,500 GPU-hours
Bridges GPU-AI (PSC)	1,500 GPU-hours
Expanse (SDSC)	50,000 core-hours
Expanse GPU (SDSC)	2,500 GPU-hours
Jetstream (IU/TACC)	50,000 Virtual CPU Hours
Open Science Grid	200,000 CPU-hours
Stampede2 (TACC)	1,600 node-hours

Appropriate uses for Startup allocations include:

1. Small-scale computational activities that require the unique capabilities of resources allocated through XSEDE
2. Application development by researchers and research teams
3. Benchmarking, evaluation and experimentation on the various resources
4. Developing a science gateway or other infrastructure software components

Startup requests require minimal documentation: the project's abstract and the PI's CV.

Note: one expected outcome is code performance and scaling data for a research allocation!

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Research Allocation

Webinar: Code Performance and Scaling

NEW Ken Hackworth from PSC and Lars Koesterke from TACC discuss the technical aspects of research allocation proposals including how best to gather and present scaling and code performance statistics and estimating SU requests in your allocation proposals.

Code Performance and Scaling
Recorded: April 1, 2020
Run time: 1hr 7mins

Webinar: How to Write a Successful XSEDE Proposal

This recently recorded presentation details all the steps and requirements needed for successful research allocation requests. Topics covered include Computation Methodologies, Justification for SUs requested and many others.

Writing and Submitting a Successful XSEDE Proposal
Recorded: September 24, 2019
Run time: 1 hour 34 minutes

How best to gather and present scaling and code performance statistics and estimating SU requests in your allocation proposals

Quarterly submission / peer reviewed

1. Appropriateness of Methodology
2. Appropriateness of Research Plan
3. Efficient Use of Resources
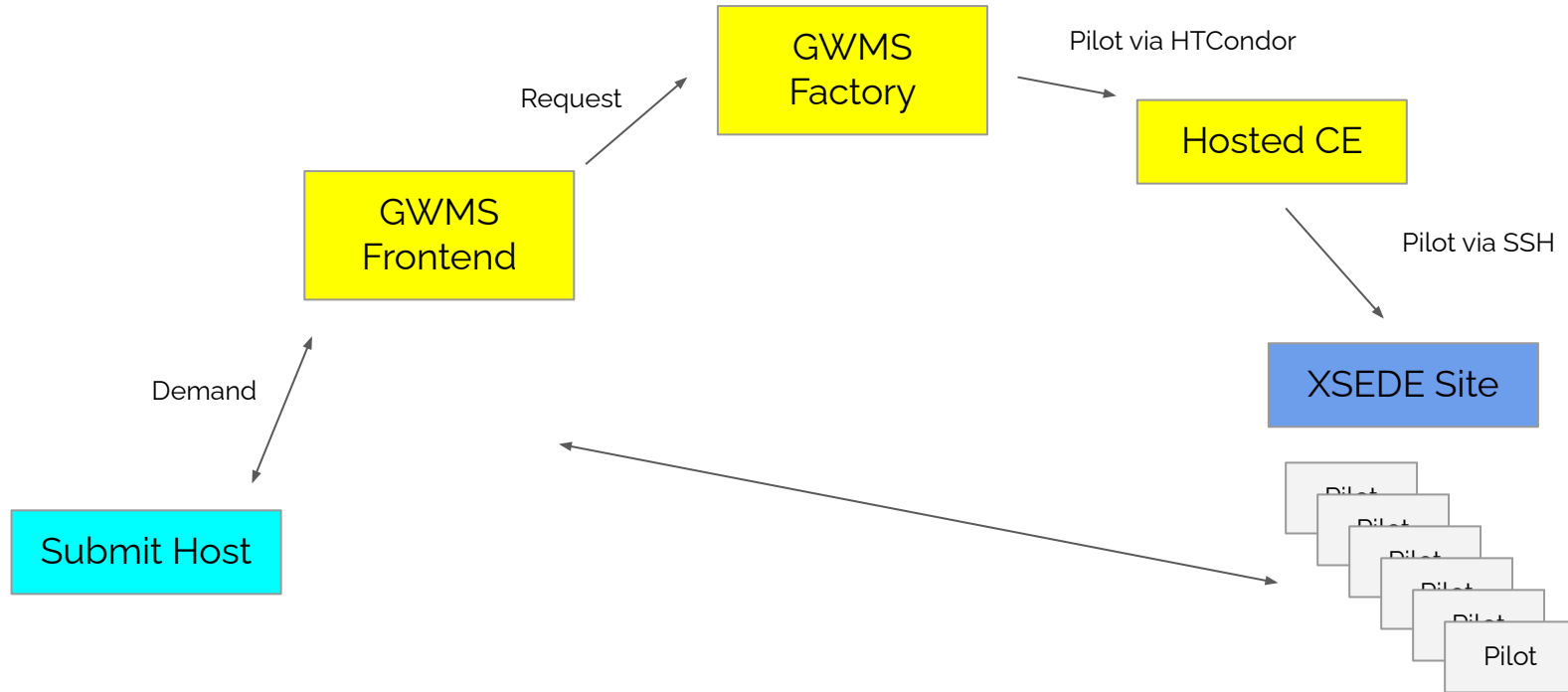
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Whole VO or Individual PI?

Whole VO: all users in a VO or large group maps to a single allocation

This is the current OSG model, and is well supported

Individual PI: a PI has an allocation to support their own research

This is the XSEDE model, and OSG is still working on support it well

Whole VO

GWMS Factory

GWMS Frontend

Hosted CE

XSEDE Site

Submit Host

Pilot
Pilot
Pilot
Pilot
Pilot
Pilot

Request

Pilot via HTCondor

Pilot via SSH

Demand

Individual PI

Project_id per Job

In the fronted config looks like this:

```
<security classad_proxy="/tmp/vo_proxy" proxy_DN="/DC=com/DC=DigiCert-Grid/O=Open Science Grid/
OU=Services/CN=osg-ligo-1.t2.ucsd.edu" proxy_selection_plugin="ProxyProjectName"
security_name="LIGO" sym_key="aes_256_cbc">
   <credentials>
     <credential absfname="/tmp/vo_proxy" security_class="frontend" trust_domain="grid"
type="grid_proxy"/>
   </credentials>
</security>
```

And in the job submit file:

```
executable = /bin/sleep
arguments = 1600
error = test-$(Process).error
log = test-$(Process).log
output = test-$(Process).out
+DESIRED_Sites="Stampede"
+is_itb = True
+ProjectName="TG-PHY123456"
```

OSG All Hands Meeting 2016 6

UC San Diego

ProjectName is overloaded

TG-* project ids might need to be remapped on individual XSEDE sites

START expression needs updating

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Docker Container

CentOS 7 base

HTCondor 8.9.X (required for IDTOKENS)

OSG Open Pool attribute advertisements / job wrapper

Entrypoint to configure and start HTCondor

Docker: **opensciencegrid/osgvo-docker-pilot**

https://github.com/opensciencegrid/osgvo-docker-pilot

We are here to help!

Help with startup and research allocations

Once you have the allocation, configure and maintain the setup

Come and talk to us!