

VO Feed Introduction

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VO Feed

- FWIR started as initiative within SAM during design and development of Aggregated Topology Provider (ATP)
 - Back then, SAM reported to both WLCG and EGI while also receiving results from OSG/RSV, which required processing 6 different topological views
 - VO feed was proposed as a common schema binding EGI/OSG (Sites) view with WLCG (Experiments) views
 - Grouping GOCDB/OIM sites and services into Experiments sites, tiers and clouds
- VO feed became important concept for many applications requiring processing or displaying experiments topologies
 - The core applications are still in monitoring

Basic Concepts

```
▼<root>
  <title>CMS Topology Information for ATP</title>
  ▼<description>
    List of CMS site names for monitoring and mapping to the SAM/WLCG site names provided by the Dashboard
  </description>
  <feed_responsible dn="/DC=ch/DC=cern/OU=Organic Units/OU=Users/CN=psaiz/CN=542764/CN=Pablo Saiz" name="Pablo Saiz"/>
  <last_update>2016-11-10T12:56:49Z</last_update>
  <vo>cms</vo>
  ▼<atp_site name="CSCS-LCG2">
    <service hostname="arc01.lcg.cscs.ch" flavour="ARC-CE"/>
    <service hostname="arc02.lcg.cscs.ch" flavour="ARC-CE"/>
    <service hostname="arc03.lcg.cscs.ch" flavour="ARC-CE"/>
    <service hostname="storage01.lcg.cscs.ch" flavour="SRMv2"/>
    <group name="Tier-2" type="CMS_Tier"/>
    <group name="T2_CH_CSCS" type="CMS_Site"/>
    <group name="T2_CH_CSCS" type="AllGroups"/>
    <group name="T2_CH_CSCS" type="Tier2s"/>
    <group name="T2_CH_CSCS" type="Tier3s + Tier2s"/>
    <group name="T2_CH_CSCS" type="Tier2s + Tier1s + Tier0"/>
    <group name="T2_CH_CSCS" type="Tier3s + Tier2s + Tier1s"/>
  </atp_site>
```

Optionals

```
▼<atp_site infrast="LCG" name="AM-04-YERPHI">
  ▼<service endpoint="srm://se.yerphi-cluster.grid.am:8446/srm/managerv2?SFN=" flavour="SRMv2" hostname="se.yerphi-cluster.grid.am">
    <spacetoken base_path="/dpm/yerphi-cluster.grid.am/home/atlas/atlaslocalgroupdisk/" name="AM-04-YERPHI_LOCALGROUPDISK"/>
    <spacetoken base_path="/dpm/yerphi-cluster.grid.am/home/atlas/atlasproddisk/" name="AM-04-YERPHI_PRODDISK"/>
    <spacetoken base_path="/dpm/yerphi-cluster.grid.am/home/atlas/atlasscratchdisk/" name="AM-04-YERPHI_SCRATCHDISK"/>
  </service>
  <service endpoint="ce.yerphi-cluster.grid.am:8443" flavour="CREAM-CE" hostname="ce.yerphi-cluster.grid.am"/>
  <service endpoint="http://atlas-ce.yerphi-cluster.grid.am:3128" flavour="Squid" hostname="atlas-ce.yerphi-cluster.grid.am"/>
  <service endpoint="psaanl.yerphi-cluster.grid.am" flavour="PerfSonar" hostname="psaanl.yerphi-cluster.grid.am"/>
  <service endpoint="psaanl.yerphi-cluster.grid.am" flavour="PerfSonar" hostname="psaanl.yerphi-cluster.grid.am"/>
  <group name="AM-04-YERPHI" type="ATLAS_Cloud_NL"/>
  <group name="AM-04-YERPHI" type="ATLAS_Federation_NL-Tier3s"/>
  <group name="AM-04-YERPHI" type="ATLAS_Site"/>
  <group name="Tier-3" type="ATLAS_Tier"/>
  <group name="AM-04-YERPHI" type="All sites"/>
  <group name="AM-04-YERPHI" type="Tier3s"/>
</atp_site>
```

Implementation

VO	Maintained by	Deps	URL
ATLAS	AGIS	AGIS (GOCDB/OIM, etc.)	http://atlas-agis-api.cern.ch/request/atp/xml/
CMS	SSB (IT/MM)	PhEDEX, pilot factories	http://wlcg-sam-cms.cern.ch/dashboard/request.py/cmssitemapbdii
LHCb	DIRAC	DIRAC	http://lhcb-portal-dirac.cern.ch/topology/lhcb_topology.xml
ALICE	SSB (IT/MM)	ALICE LDAP	http://wlcg-sam-alice.cern.ch/dashboard/request.py/alicesitemap

Remarks

- VO feed more than just common API
 - In the WLCG/EGI SAM times, single tool facilitated common understanding on different attributes and their meaning across EGI/OSG/Experiments
 - e.g. What does GOCDB flag is_monitored mean today ? What about OIM InterOp ?
 - Recently scheduled/unscheduled downtime was discussed
- Coordination on terminology and processes important
 - Between experiments
 - Service types now more or less common across the board, but this might not last
 - HT-Condor-CE service type had 5 different names before this was raised at WLCG ops coordination, finally we agreed on HTCONDOR-CE
 - Between sites and experiments
 - What does topology mean in the context of VO feed ?
 - Production vs non-production services

Evolution

- In Nov/2015 an extension of VO feed was proposed and was agreed (in Feb/2016), but then was put on hold due to unclear situation with CRIC:
 - new atp_site attributes lat/long and contacts
 - ce_resource element under <service> providing supported batch system and queue
 - se_resource element under <service> listing paths and space tokens
 - new flavours, e.g. XROOTD, VAC, GSIFTP, etc.
 - dropping OSG notation (OSG-CE/OSG-SRMv2) replacing them with regular service types
 - adding storage area/compute area distinction to understand which endpoints are part of the same storage/batch system
- Different experiments are now in various stages of developments of this extension since things need to evolve
 - ATLAS has almost production ready feed at <http://atlas-agis-api.cern.ch/request/atp2/xml/>
 - CMS and LHCb have also started developments in this direction

Summary

- VO feed - common schema/API binding site and experiments views
 - Currently used by many monitoring applications - use cases next
 - Provides very important functionality that will be needed
- Transition of the VO feed to CRIC needs to be clarified
 - Ownership and maintenance currently the “hottest” topics
 - Not all VO feeds maintained by VOs
 - Evolution is highly needed (now)
 - We have many dependencies, transition needs to be adiabatic
- Coordination likely needed as part of the process
 - CRIC steering meeting ?
 - WLCG operations coordination ? Other ?
- Finally, current VO feed shows its age and would benefit from refresh
 - Likely coming as part of CRIC
 - Support for JSON as an example