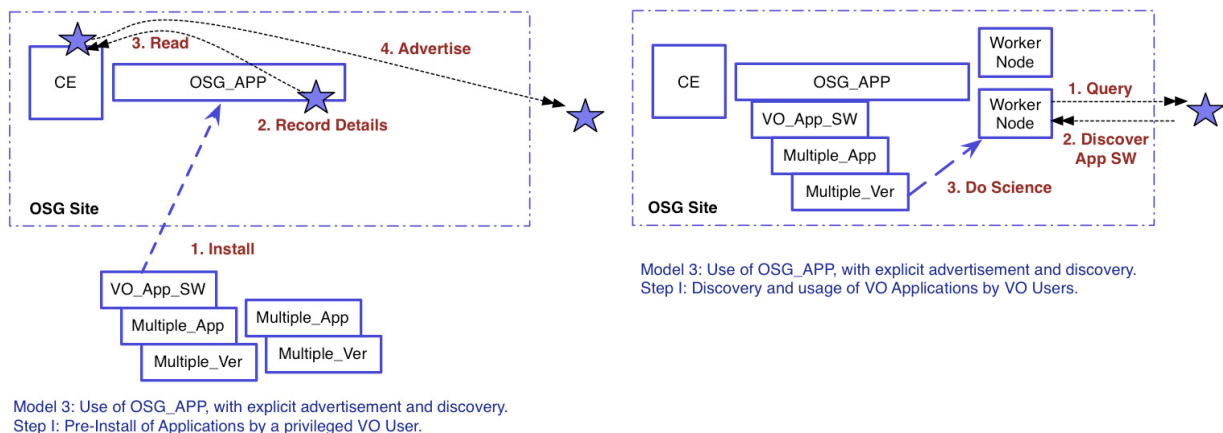
 <p>Open Science Grid</p>	<h2>Science Application Software Install, Advertisement and Discovery on OSG Facility:</h2> <p><code>grid3-locations.txt</code> and related Security matters</p> <ul style="list-style-type: none"> <li>• Mine Altunay For OSG Security</li> <li>• Abhishek Singh Rana For VO Group in OSG</li> <li>• Suchandra Thapa &amp; Rob Gardner For OSG Integration/Sites</li> <li>• Frank Wuerthwein For Global CMS Computing Commissioning</li> </ul> <p>August 2008</p>	<p>OSG-# put doc number from the docdb</p>
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This document is based on doc# \_\_\_\_, which outlines 3 models of Science application software install, advertisement and discovery on OSG Facility. Focus of this document is on matters related to security with usage of `grid3-locations.txt` on OSG Facility. **Goal of this document is to (1) outline the summary of discussions (2) find a consensus on future approach to `grid3-locations.txt` on OSG Facility (3) finalize a solution that meets the needs of CMS on OSG Facility.**

Today, recording of details in Model 3, Step I, is partly static – a file such as `grid3-locations.txt` has been in use. One of the problems with this file is a necessity to have it world-writable – for several VOs to be able to record details.



In future, if this publication can become dynamic, VOs that need it can decide to adopt it. Path forward to 2-3 dynamic solutions exists -

- (a) GIP -> (CEMon) -> (BDII) -> ReSS
- (b) PANDA and OSG WMS based Site Information Database, based on BDII.
- (c) Engage-VO's custom solution, based on ReSS classads.

Based on this classification of 3 models, below is a listing of how various Science stakeholders fit in, with a focus on Model 3. Please note that the same VO can use different models for different applications.

Model 1	CDF, D0, DOSAR, DES, LIGO (Inspiral Analysis), nanoHUB.
Model 2	CDF, CompBioGrid, LIGO (Einstein@Home), OSG-EDU/Education, SDSS. In past - also GADU, GROW, PRAGMA.
Model 3	ATLAS, CMS, Engage-VO.

Models 2 and 3 rely on `$OSG_APP`. OSG-EDU/Education and Engage-VO are especially frequent updaters of `$OSG_APP`, very likely due to variety in applications. Almost all VOs operating with Model 2 use internal VO-specific conventions for advertisement and discovery of installed software.

This leaves us with VOs operating with Model 3, which have a need for complex mechanisms. ATLAS, CMS, and Engage-VO have been making use of `grid3-locations.txt` mainly due to legacy reasons.

ATLAS and Engage-VO have informally mentioned that deprecating file `grid3-locations.txt` will have no effect – both already have a new advertisement mechanism in plans and in place. Only CMS relies heavily on `grid3-locations.txt` on OSG and there is a need to carefully identify a path forward to avoid disrupting CMS operations.

We recommend the following process of resolution:

1. We recommend that OSG deprecate `grid3-locations.txt` and replace it with multiple files for each VO. E.g., `cms-app-locations.txt`
2. We need to ensure that location of `cms-app-locations.txt` continues to be in the application area: `$OSG_APP/etc/`.
3. Currently, for CMS, GIP advertisement relies on reading the details recorded in `grid3-locations.txt` after application software install by the privileged CMS software installer. As a further step of improvement, this dependence on recording software details in a static file can be discarded, making use of automated scripts for dynamic enumeration of

software locations and software versions. Both OSG and CMS need to evaluate this possibility.

4. Discussion with CMS software installation management, CEMon, BDII, and ReSS teams for a thorough process of integration of all the changes.

In the following pages, selected emails outlining main points of the discussion are attached.

**From: Steven Timm <timmm@fnal.gov>**

To: Abhishek Singh Rana <rana@fnal.gov>

Date: Mon, 07 Jul 2008 22:14:54 -0500 (CDT)

Subject: Re: Your VO's usage of grid3\_locations.txt on OSG sites?

Hi Abhishek--to my knowledge nobody in the Fermilab VO is using grid3-locations.txt at all.

(Note that the correct syntax of this file is grid3-locations.txt, not grid3\_locations.txt)

Here is grid3-locations.txt as it exists on FermiGrid

# lines starting with # are comments

# the first word of the first valid line is the location list name

# each following line has the format LogName Version PhName (where the first 2 are words, the last is the rest)

# Applications/users are supposed to modify this file to publish their locations

MountPoints

SAMPLE\_LOCATION default /SAMPLE-path

SAMPLE\_SCRATCH devel /SAMPLE-path

#

LCG-2\_6\_0 2.6.0 /storage/remote/data2/app/dteam

VO-cms-CMSSW\_1\_2\_2

CMSSW\_1\_2\_2

/storage/remote/data2/app/cmssoft/cms

ATLAS\_LOC\_GCC 3.2 /grid/app/atlas\_app/gcc32

ATLAS\_LOC\_GCE prod /grid/app/atlas\_app/GCE-Server/gce-server

ATLAS\_STAGE prod /grid/data/atlas\_data

ATLAS\_LOC\_Trfs prod /grid/app/atlas\_app/Atlas-Trfs/atlas-trfs

ATLAS\_LOC\_KitVal prod /grid/app/atlas\_app/atlas\_rel/kitval/KitValidation

ATLAS\_APP prod /grid/app/atlas\_app

ATLAS\_DATA prod /grid/data/atlas\_data

ATLAS\_PYTHONHOME prod /grid/data/atlas\_app/python

ATLAS\_DQ2Cli prod /grid/data/atlas\_app/dq2\_cli/DQ2Cli

VO-atlas-AtlasProduction-14.0.0-i686-slc4-{gcc34}-opt AtlasProduction /grid/app/

atlas\_app/atlas\_rel/14.0.0

VO-atlas-AtlasProduction-14.0.0.1-i686-slc4-gcc34-opt AtlasProduction /grid/app/

atlas\_app/atlas\_rel/14.0.0

[root@fnpcsrv1 etc]#

It appears that all current access of this file is being made by ATLAS.

Steve

**From: Bockjoo Kim <bockjoo@phys.ufl.edu>**

To: Abhishek Singh Rana <rana@fnal.gov>

Cc: Science Communities using the OSG Facility <OSG-  
USERS@OPENSOURCEGRID.ORG>

Date: Mon, 07 Jul 2008 22:51:25 -0400

Subject: Re: Your VO's usage of grid3\_locations.txt on OSG sites?

Hi Abhishek,

CMS uses this for glite job submission for mainly OSG USCMS sites.

Bockjoo

**From: Steven Clark <clarks@purdue.edu>**

To: Abhishek Singh Rana <rana@fnal.gov>

Cc: Mine Altunay <maltunay@fnal.gov>

Date: Mon, 07 Jul 2008 19:52:43 -0400

Subject: Re: Your VO's usage of grid3\_locations.txt on OSG sites?

If the goal is expose users to available applications the answer is no. This is done through the nanoHUB application framework.

We do make use of the variable OSG\_DATA to locate job working directories. This is done in a static manner because of problems using it dynamically in CondorG job submission scripts.

Is that the type of information you are looking for or did I miss the point?

--

Steven Clark

Application Engineer for Scientific Computing

Quoting Abhishek Singh Rana <rana@fnal.gov>:

> Steve - thanks. Does nanoHUB rely on environment variables to  
> accomplish the same goal?

>

> Abhishek

>

> -- On Mon, 07/07/08 7:42pm-0400, Steven Clark wrote:

>

> > From: Steven Clark <clarks@purdue.edu>

> > To: Abhishek Singh Rana <rana@fnal.gov>

> > Date: Mon, 07 Jul 2008 19:42:02 -0400

> > Subject: Re: Your VO's usage of grid3\_locations.txt on OSG sites?

> >

> > I was not aware of such a file and the way you describe its use I don't  
> think

> > it applies to the nanoHUB usage model.

> >

> > --

> > Steven Clark

**From: Ian Stokes-Rees <ijstokes@crystal.harvard.edu>**

To: Abhishek Singh Rana <rana@fnal.gov>

Cc: Science Communities using the OSG Facility <OSG-  
USERS@OPENSOURCEGRID.ORG>

Date: Tue, 08 Jul 2008 00:42:32 -0400

Subject: Re: Your VO's usage of grid3\_locations.txt on OSG sites?

This sounds very interesting. As a VO user, how do I get more information about the use of this file? Can the VO write to it? How do I query it and do job matching against it?

Ian

**From: Maxim Potekhin <potekhin@bnl.gov>**

To: 'Abhishek Singh Rana' <rana@fnal.gov>

Cc: 'Torre Wenaus' <wenaus@gmail.com>, 'Tadashi Maeno' <tmaeno@bnl.gov>

Date: Tue, 08 Jul 2008 10:09:31 -0400

Subject: FW: FW: Your VO's usage of grid3\_locations.txt on OSG sites?

Reply-To: potekhin@rcf.rhic.bnl.gov

Importance: Normal

Hello Abhishek,

here's the synopsis from Xin.

thanks,

Maxim

-----Original Message-----

From: Xin Zhao [mailto:xzhao@bnl.gov]

Sent: Tuesday, July 08, 2008 10:00 AM

To: Maxim Potekhin

Subject: Re: FW: Your VO's usage of grid3\_locations.txt on OSG sites?

Hi Maxim,

Answers below:

>

> We are trying to evaluate VO usage of 'grid3\_locations.txt'.

>

> At a site, this file is expected to be used by VOs to either write  
> their application versions or application paths (or alike) so that  
> users can find out which VO applications are available.

>

> We are trying to find (1) if your VO actually uses it - or otherwise  
> an alternative mechanism;

Yes, USATLAS uses it.

> (2) and in which specific ways?

We use it to publish the information of the versions of atlas softwares installed on OSG sites, to BDII. Every time a new release is installed, the file is updated. It's accessed only by the USATLAS software installer account "usatlas2".

> If your VO



- > uses it, do you use it only on sites owned/sponsored by your VO, or on
- > all OSG sites as large?

On all OSG sites where atlas runs jobs.

Cheers,  
Xin

- >
- > Thanks,
- > Abhishek

**From: Kent Blackburn <kent@ligo.caltech.edu>**

To: Abhishek Singh Rana <rana@fnal.gov>

Cc: Science Communities using the OSG Facility <OSG-  
USERS@OPENSOURCEGRID.ORG>

Date: Tue, 08 Jul 2008 08:57:40 -0700

Subject: Re: Your VO's usage of grid3\_locations.txt on OSG sites?

Dear Abhishek,

I am unaware of the "model" for using this file. Is there documentation somewhere?

To the best of my knowledge, LIGO is not using this. But that may just be because we are unaware of its value to our applications.

Thanks,  
Kent

**From: Mats Rynge <rynge@renci.org>**

To: Abhishek Singh Rana <rana@fnal.gov>

Cc: Science Communities using the OSG Facility <OSG-  
USERS@OPENSOURCEGRID.ORG>

Date: Tue, 08 Jul 2008 12:15:25 -0400

Subject: Re: Your VO's usage of grid3\_locations.txt on OSG sites?

Abhishek Singh Rana wrote:

> We are trying to find (1) if your VO actually uses it - or otherwise  
> an alternative mechanism; (2) and in which specific ways? If your VO  
> uses it, do you use it only on sites owned/sponsored by your VO, or on  
> all OSG sites as large?

No. It seems like maintaining a world writable file across all VOs could be easily broken. Installed software is one of the thing Engagement is adding to the ReSS classads, and by doing that, end users can use that when writing job requirements. We use this model on all sites.

--

Mats Rynge

**From: "Wang, Shaowen" <shaowen@ad.uiuc.edu>**

To: Mats Rynge <rynge@renci.org>, Abhishek Singh Rana <rana@fnal.gov>

Cc: Science Communities using the OSG Facility <OSG-  
USERS@OPENSOURCEGRID.ORG>,

"OSG-TROUBLESHOOTING@opensciencegrid.org"

<OSG-TROUBLESHOOTING@opensciencegrid.org>

Date: Tue, 08 Jul 2008 11:39:14 -0500

Subject: RE: Your VO's usage of grid3\_locations.txt on OSG sites?

This is an excellent discussion thread.

The troubleshooting team has been looking into this and developing recommendations for both short-term and long-term resolutions:

[https://twiki.grid.iu.edu/bin/view/Troubleshooting/TroubleshootingVOProblems#Problem\\_with\\_grid3\\_locations\\_txt](https://twiki.grid.iu.edu/bin/view/Troubleshooting/TroubleshootingVOProblems#Problem_with_grid3_locations_txt).

Cheers,

-Shaowen

**From: Brian Bockelman <bbockelm@math.unl.edu>**

To: "Wang, Shaowen" <shaowen@ad.uiuc.edu>

Cc: Mats Rynge <rynge@renci.org>, Abhishek Singh Rana <rana@fnal.gov>, Science Communities using the OSG Facility <OSG-USERS@OPENSOURCEGRID.ORG>,

"OSG-TROUBLESHOOTING@opensciencegrid.org"

<OSG-TROUBLESHOOTING@OPENSOURCEGRID.ORG>

Date: Tue, 08 Jul 2008 11:57:50 -0500

Subject: Re: Your VO's usage of grid3\_locations.txt on OSG sites?

Hey Shaowen,

For what it's worth, there's a per-VO directory in

`$VDT_LOCATION/gip/var/info`

containing a file called <vname>.list that is supposed to provide the same functionality. This is what I'd refer to as "ghost code" which has always been there since OSG 0.1.6, but most likely doesn't function.

We could fix the permissions there, fix the GIP code, and push VOs to use that instead of the grid3-locations.txt.

I can verify that CMS, ATLAS, and Engage all use the file to publish software availability at sites.

Brian

**From: Anand Padmanabhan <apadmana@uiuc.edu>**

To: Brian Bockelman <bbockelm@math.unl.edu>

Cc: "Wang, Shaowen" <shaowen@ad.uiuc.edu>, Mats Rynge  
<rynge@renci.org>, Abhishek Singh Rana <rana@fnal.gov>, Science  
Communities using the OSG Facility <OSG-  
USERS@OPENSOURCEGRID.ORG>,

"OSG-TROUBLESHOOTING@opensciencegrid.org" <OSG-  
TROUBLESHOOTING@OPENSOURCEGRID.ORG>

Date: Tue, 08 Jul 2008 12:19:09 -0500

Subject: Re: Your VO's usage of grid3\_locations.txt on OSG sites?

Hi Brian,

It would be a good idea to publish fix the permission as well as define a format for this file, consistent with grid3-locations.txt. I believe that it is better to have a per-vo file in the \$OSG\_APP directory structure instead of in the \$GIP, since we don't want to have users updating any files within the CE installation directory.

Thanks  
Anand

**From: Marco Mambelli <marco@hep.uchicago.edu>**  
To: Anand Padmanabhan <apadmana@uiuc.edu>  
Cc: Brian Bockelman <bbockelm@math.unl.edu>,  
"Wang, Shaowen" <shaowen@ad.uiuc.edu>, Mats Rynge <rynge@renci.org>,  
Abhishek Singh Rana <rana@fnal.gov>,  
Science Communities using the OSG Facility <OSG-  
USERS@OPENSOURCEGRID.ORG>,  
"OSG-TROUBLESHOOTING@opensciencegrid.org"  
<OSG-TROUBLESHOOTING@OPENSOURCEGRID.ORG>  
Date: Tue, 08 Jul 2008 13:06:25 -0500 (CDT)  
Subject: Re: Your VO's usage of grid3\_locations.txt on OSG sites?

Hi all,  
the parser for grid3-locations.txt were looking actually also for files  
AAA-locations.txt (where AAA is a VO name) but this was never enforced also  
because of the little usage of it.  
I don't know if it still works.

The content of the sample grid3-locations.txt added during installation is  
supposed to be a description and an example.  
It is not very clear.

1. lines starting with # are comments
  2. the first word of the first valid line is the location list name.  
This is kind of a namespace ID to avoid clashes, each file should have a  
different one, e.g. it could be the VO name
  3. each following line has the format LocName Version PhName, where the first  
2  
are words (letters, numbers, no spaces or tabs), the last is the rest of the  
line content  
These can be used by the VO to publish a different information without requiring  
sysadmin intervention, specially information about the installed software and/or  
an important directory and/or the environment
- LocName : name of the package installed or of the location
  - Version : allows to distinguish between multiple versions of the same software  
(production, development, X.Y.Z the version number - everything is OK as long  
as  
there are no spaces)
  - PhName : path name or physical path name. Is a directory where the software  
is  
installed or some important path. This could be used also to publish an  
arbitrary line of information.

Cheers,  
Marco

**From: Nickolai Kouropatkine <kuropat@fnal.gov>**

To: Mine Altunay <maltunay@fnal.gov>

Cc: Abhishek Singh Rana <rana@fnal.gov>, Suchandra Thapa <sthapa@ci.uchicago.edu>, Miron Livny <miron@cs.wisc.edu>, Burt Holzman <burt@fnal.gov>,

Brian Bockelman <bbockelm@cse.unl.edu>

Date: Thu, 17 Jul 2008 09:54:22 -0500

Subject: Re: Advertising VO applications securely and easily !

Hi.

SDSS/DES does not use the file and does not plan to use it.

Regards.

Nikolay

Hi.

So far I am the only software producer in these VOs, and correspondingly do not need to advertise. SDSS is using only fnpcosg1 and the software is located in a standard place there.

For DES I am using dynamic loading of the software. This means that the job I am submitting loads the executables from the submission host using the globus-url-copy. Of course my software is not huge and it is just couple tar files. This is a problem for big VOs like CMS.

Regards.

Nikolay.

Mine Altunay wrote:

> Hello Nikolay

> How do you advertise the location and version of your software to VO

> **members?**



**From: Anand Padmanabhan <apadmana@uiuc.edu>**

To: Mine Altunay <maltunay@fnal.gov>

Cc: Abhishek Singh Rana <rana@fnal.gov>, Science Communities using the OSG Facility <OSG-USERS@OPENSOURCEGRID.ORG>, Suchandra Thapa <sthapa@ci.uchicago.edu>,

Miron Livny <miron@cs.wisc.edu>, Burt Holzman <burt@fnal.gov>, Brian Bockelman <bbockelm@cse.unl.edu>

Date: Thu, 17 Jul 2008 10:19:07 -0500

Subject: Re: Advertising VO applications securely and easily !

Abhishek,

Could you please clarify what dynamic advertising entails. Are you implying that the information service look into \$OSG\_APP directory and detect what VO software have been installed. I am not quite sure how feasible it is to correctly detect what software a VO has installed.

If the VO S/W installer has to record what application has been installed someplace on each site then I don't really see any difference between the two solutions you are proposing.

Thanks  
Anand

**From: Mats Rynga <rynga@renci.org>**

To: apadmana@uiuc.edu

Cc: Mine Altunay <maltunay@fnal.gov>, Abhishek Singh Rana <rana@fnal.gov>, Science Communities using the OSG Facility <OSG-USERS@OPENSOURCEGRID.ORG>,

Suchandra Thapa <sthapa@ci.uchicago.edu>, Miron Livny <miron@cs.wisc.edu>, Burt Holzman <burt@fnal.gov>, Brian Bockelman <bbockelm@cse.unl.edu>

Date: Thu, 17 Jul 2008 11:52:46 -0400

Subject: Re: Advertising VO applications securely and easily !

Anand Padmanabhan wrote:

> Abhishek,

>

> Could you please clarify what dynamic advertising entails. Are you  
> implying that the information service look into \$OSG\_APP directory and  
> detect what VO software have been installed. I am not quite sure how  
> feasible it is to correctly detect what software a VO has installed.

I can only describe what Engagement is doing. We take the ReSS feed, and every night a set of jobs are fired of to each resource advertising support for the Engagement VO. Part of those jobs validate the site (checking fs, setup, ...) and another set of the jobs "maintain" the site, that is, cleans up temporary directories and installs common software for the VO. We then check what software we have on the site (different on each site, for example depending on fs permissions and architecture/os). The information is put on stdout in a specific format:

```
CONDOR_AD:OSGMM_Software_Java_v15 = True
CONDOR_AD:OSGMM_Software_Java_v16 = True
CONDOR_AD:EngageSoftware_StanfordParser_v9 = True
CONDOR_AD:EngageSoftware_Rosetta_v3 = True
CONDOR_AD:EngageSoftware_IPRScan_v1 = False
```

Which then gets added to the ReSS ad for that site. When a user submits a job, he can then specify what software he needs:

```
requirements = ( (TARGET.OSGMM_MemPerCPU >= 700000) && \
    (TARGET.EngageSoftware_StanfordParser_v9 == True) && \
    (TARGET.EngageSoftware_Java_v15 == True) )
```

So, the probe what is installed is coming from us, not from ReSS/CEMon/GIP.

> If the VO S/W installer has to record what application has been  
> installed someplace on each site then I don't really see any difference

> between the two solutions you are proposing.

My problem with having a world writable file for everybody to use is that it is incredibly easy to mess up. Think about if you depend on information you put in that file, and then somebody else overwrites instead of appends.

--

Mats Rynge

Renaissance Computing Institute <http://www.renci.org>

**From: Anand Padmanabhan <apadmana@uiuc.edu>**

To: Mats Rynge <rynge@renci.org>

Cc: Mine Altunay <maltunay@fnal.gov>, Abhishek Singh Rana <rana@fnal.gov>, Science Communities using the OSG Facility <OSG-USERS@OPENSOURCEGRID.ORG>,

Suchandra Thapa <sthapa@ci.uchicago.edu>, Miron Livny <miron@cs.wisc.edu>, Burt Holzman <burt@fnal.gov>, Brian Bockelman <bbockelm@cse.unl.edu>

Date: Thu, 17 Jul 2008 11:39:29 -0500

Subject: Re: Advertising VO applications securely and easily !

Mats,

Your solution is perfectly feasible, but as you noted it will have to be implemented by individually each VO. The site or the OSG information system is not able to dynamically publish the equivalent information because it does not know how to interpret/detect what VO specific software has been installed at a site. We know that cms and atlas use the ldap information coming from the GIP to do match making using the resource broker. So that solution might not be universally acceptable.

I realize that the world-writable grid3-locations.txt is problematic and that is why we decided to start this discussion at the OSG user meeting. Would it still be problematic for engage if we have a file per VO, with permissions that only the users from that VO have write privileges. I understand that it is not a perfect solution, since an engage user can inadvertently overwrite it, but it will be an improvement to what we have.

Thanks  
Anand

**From: Mine Altunay <maltunay@fnal.gov>**

To: apadmana@uiuc.edu

Cc: Mats Rynge <rynge@renci.org>, Abhishek Singh Rana <rana@fnal.gov>, Science Communities using the OSG Facility <OSG-USERS@OPENSOURCEGRID.ORG>, Suchandra Thapa <sthapa@ci.uchicago.edu>,

Miron Livny <miron@cs.wisc.edu>, Burt Holzman <burt@fnal.gov>, Brian Bockelman <bbockelm@cse.unl.edu>

Date: Thu, 17 Jul 2008 12:29:41 -0500

Subject: Re: Advertising VO applications securely and easily !

Anand Padmanabhan wrote:

> Mats,

>

> Your solution is perfectly feasible, but as you noted it will have to be  
> implemented by individually each VO.

Anand

do you think the VO-specific implementation is the problem here? I think it is reasonable that VO software people should know about what to publish and where to publish, what to clean up on the site and etc.

I thought they already do this? if not, then who does it?

I originally thought that OSG provides some common VO-package/tools , just like OSG provides a OSG:CE software. I was wrong. My ideal OSG:VO package would include all configuration files, executables to publish toReSS, GIP (or whatever service is there), maintenance and clean up files that can be modified easily (or reads from a VO\_based configuration file to see which directory to go)

After learning this survey I must say I am surprised that each VO invents their own solution and puts a lot of effort to keep things together.

**From: Anand Padmanabhan <apadmana@uiuc.edu>**

To: Mine Altunay <maltunay@fnal.gov>

Cc: Mats Rynge <rynge@renci.org>, Abhishek Singh Rana <rana@fnal.gov>, Science Communities using the OSG Facility <OSG-USERS@OPENSOURCEGRID.ORG>, Suchandra Thapa <sthapa@ci.uchicago.edu>,

Miron Livny <miron@cs.wisc.edu>, Burt Holzman <burt@fnal.gov>, Brian Bockelman <bbockelm@cse.unl.edu>

Date: Thu, 17 Jul 2008 13:04:04 -0500

Subject: Re: Advertising VO applications securely and easily !

Mine,

Mine Altunay wrote:

> Anand Padmanabhan wrote:

> > Mats,

> >

> > Your solution is perfectly feasible, but as you noted it will have to be

> > implemented by individually each VO.

> Anand

> do you think the VO-specific implementation is the problem here?

No

I think

> it is reasonable that VO software people should know about what to

> publish and where to publish, what to clean up on the site and etc.

I agree that they should know what to publish and where, but the infrastructure should provide a way to publish it. I have no problems if any vo (like engage) wants to implement their own specific way of publishing their VO software.

But since we have been providing this service, which atleast some VOs are depending on, I believe it would be unwise if we choose to deprecate the current solution

without providing an alternative suitable for all VOs, without asking them to do a bunch of extra work. That is where the per VO locations file comes in. Any other solution which provides such alternative, would be fine with me.

>

> I thought they already do this? if not, then who does it?

As far as I know only engage takes the approach Mats outlined while cms and atlas use grid3-locations.txt. We don't know for sure what other VOs use, probably some

just stage-in the application as a part of the job sandbox.

>

> I originally thought that OSG provides some common VO-package/tools ,

> just like OSG provides a OSG:CE software. I was wrong. My ideal OSG:VO

> package would include all configuration files, executables to publish

> toReSS, GIP (or whatever service is there), maintenance and clean up

- > files that can be modified easily (or reads from a VO\_based
- > configuration file to see which directory to go)

I don't think it is either a scalable solution or within the scope of OSG software release to distribute VO specific software (like OSG:VO) you are proposing. Each VO has their own requirements and their own release cycle.

Thanks  
Anand

**From: Brian Bockelman <bbockelm@cse.unl.edu>**

To: Mine Altunay <maltunay@fnal.gov>

Cc: apadmana@uiuc.edu, Mats Rynge <rynge@renci.org>, Abhishek Singh Rana <rana@fnal.gov>, Science Communities using the OSG Facility <OSG-USERS@OPENSOURCEGRID.ORG>,

Suchandra Thapa <sthapa@ci.uchicago.edu>, Miron Livny <miron@cs.wisc.edu>, Burt Holzman <burt@fnal.gov>

Date: Thu, 17 Jul 2008 13:28:06 -0500

Subject: Re: Advertising VO applications securely and easily !

Hey Mine,

The reason behind this is quite simply inertia. For CMS, these solutions started quite awhile ago, and are now deeply integrated into the organization - both on the OSG and EGEE side.

There's a massive amount of packages that go into CMS's software repositories. A quick count shows about 2000 different software/version combinations. While someone might be able to invent a different solution, CMS is so heavily invested in apt-get/RPM, that it would be a colossal effort to port and test things.

If a workable, scalable solution was available 3-4 years ago, CMS might have bought into it. I suspect the situation is the same for ATLAS.

EGEE does provide tools to handle publishing - there's something like "glite-tag-add" and "glite-tag-delete" (I forget the actual executable names). Instead of telling folks to write into a file, they are simply told to run these executables, and the work is done behind the scenes. If OSG was able to provide something similar, then it would be trivial to change implementations between releases.

Brian



**From: Mats Rynge <rynge@renci.org>**

To: Brian Bockelman <bbockelm@cse.unl.edu>

Cc: Mine Altunay <maltunay@fnal.gov>, apadmana@uiuc.edu, Abhishek Singh Rana <rana@fnal.gov>, Science Communities using the OSG Facility <OSG-USERS@OPENSOURCEGRID.ORG>,

Suchandra Thapa <sthapa@ci.uchicago.edu>, Miron Livny <miron@cs.wisc.edu>, Burt Holzman <burt@fnal.gov>

Date: Thu, 17 Jul 2008 14:35:18 -0400

Subject: Re: Advertising VO applications securely and easily !

Brian Bockelman wrote:

- > EGEE does provide tools to handle publishing - there's something like
- > "glite-tag-add" and "glite-tag-delete" (I forget the actual executable
- > names). Instead of telling folks to write into a file, they are simply
- > told to run these executables, and the work is done behind the scenes.
- > If OSG was able to provide something similar, then it would be trivial
- > to change implementations between releases.

That sounds pretty nice. How are the tags published and/or looked up?

--

Mats Rynge

Renaissance Computing Institute <<http://www.renci.org>>

**From: Brian Bockelman <bbockelm@cse.unl.edu>**

To: Mats Rynge <rynge@renci.org>

Cc: Mine Altunay <maltunay@fnal.gov>, apadmana@uiuc.edu, Abhishek Singh Rana <rana@fnal.gov>, Science Communities using the OSG Facility <OSG-USERS@OPENSOURCEGRID.ORG>,

Suchandra Thapa <sthapa@ci.uchicago.edu>, Miron Livny <miron@cs.wisc.edu>, Burt Holzman <burt@fnal.gov>

Date: Thu, 17 Jul 2008 13:53:15 -0500

Subject: Re: Advertising VO applications securely and easily !

The tags are published through the EGEE information systems. The OSG equivalent would be GIP -> CEMon -> BDII -> ReSS. I believe there's another command line tool which allows jobs to query the local software environment.

The trick though is the way VOs are told to interact is through "use this tool" instead of "write this file". Because it's tied to an interface, not an implementation, implementation changes can be transparent.

Brian

**From: Mine Altunay <maltunay@fnal.gov>**

To: Brian Bockelman <bbockelm@cse.unl.edu>

Cc: Mats Rynge <rynge@renci.org>, apadmana@uiuc.edu, Abhishek Singh Rana <rana@fnal.gov>, Science Communities using the OSG Facility <OSG-USERS@OPENSOURCEGRID.ORG>,

Suchandra Thapa <sthapa@ci.uchicago.edu>, Miron Livny <miron@cs.wisc.edu>, Burt Holzman <burt@fnal.gov>

Date: Thu, 17 Jul 2008 14:06:08 -0500

Subject: Re: Advertising VO applications securely and easily !

Thank you Brian. this is very useful information to learn.

This is beyond my scope but what does Ruth and Miron think about this?  
is this a topic to discuss at upcoming Blueprint ?

**From: joel snow <snow@fnal.gov>**

To: Abhishek Singh Rana <rana@fnal.gov>

Cc: Qizhong Li <qzli@fnal.gov>, Mine Altunay <maltunay@fnal.gov>, Burt Holzman <burt@fnal.gov>, Miron Livny <miron@cs.wisc.edu>, Brian Bockelman <bbockelm@math.unl.edu>

Date: Thu, 17 Jul 2008 14:04:39 -0500 (CDT)

Subject: Re: D0's usage of grid3-locations.txt on OSG sites.

Hi Abhishek,

D0 does not use the file grid3-locations.txt on OSG sites.

joel

**From: Joel Snow <snow@fnal.gov>**

To: Mine Altunay <maltunay@fnal.gov>

Cc: Abhishek Singh Rana <rana@fnal.gov>, Qizhong Li <qzli@fnal.gov>, Burt Holzman <burt@fnal.gov>, Miron Livny <miron@cs.wisc.edu>, Brian Bockelman <bbockelm@math.unl.edu>

Date: Thu, 17 Jul 2008 14:53:21 -0500

Subject: Re: D0's usage of grid3-locations.txt on OSG sites.

Priority: normal

hi,

generally the software is transported to the workers from caches outside the CE.

joel

**From: Horst Severini <hs@nhn.ou.edu>**

To: greenw@phys.latech.edu, hs@nhn.ou.edu, rana@fnal.gov

Cc: maltunay@fnal.gov, miron@cs.wisc.edu, burt@fnal.gov,  
bbockelm@math.unl.edu

Date: Thu, 17 Jul 2008 16:44:49 -0500 (CDT)

Subject: Re: DOSAR's usage of grid3-locations.txt on OSG sites.

Hi Mine and Abhishek,

sorry, I didn't know you were asking for a response from EVERY VO.

No, DOSAR isn't using this file, since we currently don't use any pre-installed software.

Thanks,

Horst

**From: frank Wuerthwein <fkf@ucsd.edu>**

To: apadmana@uiuc.edu

Cc: Mine Altunay <maltunay@fnal.gov>, Abhishek Singh Rana <rana@fnal.gov>, Science Communities using the OSG Facility <OSG-USERS@OPENSOURCEGRID.ORG>,

Suchandra Thapa <sthapa@ci.uchicago.edu>, Miron Livny <miron@cs.wisc.edu>, Burt Holzman <burt@fnal.gov>, Brian Bockelman <bbockelm@cse.unl.edu>,

Bockjoo Kim <bockjoo@phys.ufl.edu>

Date: Thu, 17 Jul 2008 12:06:48 -0700

Subject: Re: Advertising VO applications securely and easily !

Dear Mine, Abhishek, and Anand, et al. (added Bockjoo to the cc as he's doing the work for CMS in this area)

within global CMS Stefano Belforte and myself are responsible for "Computing Commissioning".

One of the primary responsibilities we have there is to guarantee that neither OSG nor EGEE walks off in some random direction that breaks CMS operations.

As such I insist that OSG produce a document that provides a detailed technical proposal for how OSG wants to change this functionality, how it would be phased in, and who is responsible for developing the changes, and verifying that the changes are executed the way they were proposed.

As CMS representative responsible, I insist that no changes are made unless Stefano and I sign off on this document.

I'm happy to provide OSG with a short section for this document that spells out CMS requirements.

Bottom line, while I support Mine's desire to change this, I want any change to be well planned, with a clear schedule and lines of responsibility, and not just randomly decided in a long email thread, or at a random meeting. To be very specific, I do NOT want to be surprised by this showing up in a future release of OSG without a well managed change procedure.

Best wishes, Frank

Frank Wuerthwein  
Co-lead of CMS Computing Commissioning

**From: Donatella Lucchesi <lucchesi@fnal.gov>**

To: Abhishek Singh Rana <rana@fnal.gov>

Cc: Mine Altunay <maltunay@fnal.gov>, Science Communities using the OSG Facility <OSG-USERS@OPENSOURCEGRID.ORG>, Suchandra Thapa <sthapa@ci.uchicago.edu>, Miron Livny <miron@cs.wisc.edu>,

Burt Holzman <burt@fnal.gov>, Brian Bockelman <bbockelm@cse.unl.edu>, Ruth Pordes <ruth@fnal.gov>

Date: Fri, 18 Jul 2008 14:21:28 +0200

Subject: Re: Summary and 3 models: Re: Advertising VO applications securely and easily !

Dear Abhishek

sorry for the late answer.

CDF belongs under class 1. We do not use \$OSG\_APP and in particular we do not use grid3-locations.txt.

We use our internal mode to distribute software and to collect output.

Donatella