



IVOA 2007 Assessment

(draft version)

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These slides and Draft report at ivoa.net,
click **Community:Technical Milestones**



Registry 2004

Human or machine
publishes metadata to
registry

VO Registry

Service owner → publish

other registry → harvest

VOResource

- curation
- service endpoint

Registry record
holds basic
information
about every
resource

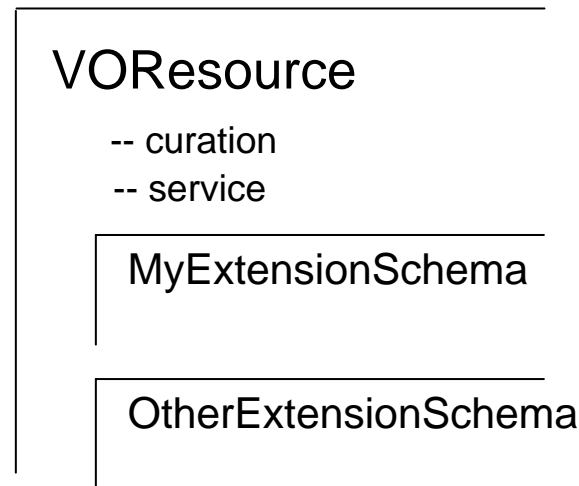


Registry 2006

Human or machine
publishes metadata to
registry

Service owner → publish

other registry → harvest



Registry record
holds all ES but
only indexes
some

- Which registries hold/search which extensions?

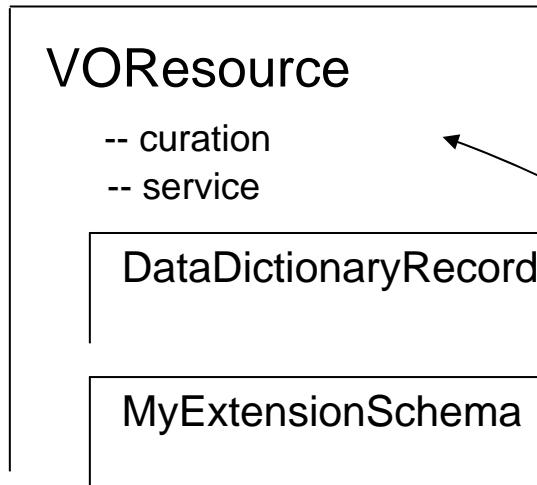


Registry 2007

Human or machine publishes metadata to registry

Service owner → publish

other registry → harvest



Some metadata pushed publisher, some pulled from harvest and some pulled from service through multiple custom methods depending on service version

← service?getCapability
 ← service?getMetadata
 ← service?getMeASandwich

Non-registry metadata repository?

- Is the proposed registry too complicated to be usable?



XML “ID” and Registry

- “ID” is a special attribute in XML
 - uniqueness forced
 - STC and VOTable use this
- ⇒ Concatenation may make invalid XML (repeated ID)
- ⇒ Registry uses concatenation in harvesting
- ⇒ If you want your schema to be in the registry
 - then be careful about “ID” !!
- Workaround exists
 - But ID value may not be preserved



Take a REST from SOAP?

- IVOA jumped into SOAP services in 2002
- But SOAP is perceived as “difficult”
 - WSDL (formal service description) is complex and not interoperable
- REST and GET are perceived as easier
- **Where is the sophistication of SOAP really needed?**



SOAP Search API

[Getting Help](#)

[API Terms](#)

[FAQs](#)

[Reference](#)

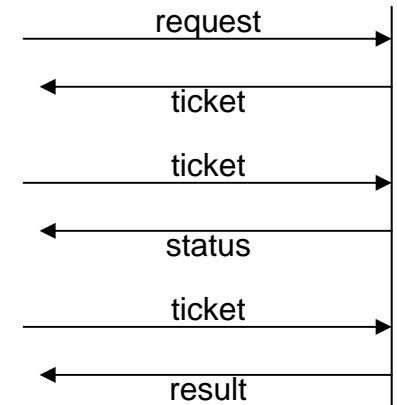
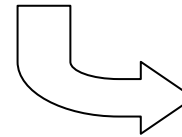
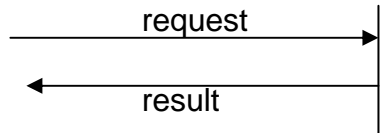
Google SOAP Search API (Beta)

[Google Code Home](#) > [Google SOAP Search API](#)

As of December 5, 2006, we are no longer issuing new API keys for the SOAP Search API. Developers with existing SOAP Search API keys will not be affected.

Depending on your application, the [AJAX Search API](#) may be a better choice for you instead. It tends to be

Batch Services



- Multiple APIs in IVOA for asynchronous services
 - GWS/CEA
 - DAL/stageData,getData
 - Nesssi/init,run,monitor
 - IPAC/ROME
 - Others???
- **Must these have the same API? Which?**



List of Registries

- Who is running a registry?



Utype data models

XML data model

```
<complex>  
  <real>2</real>  
  <imaginary>3</imaginary>  
</complex>
```

utype data model

```
<PARAM utype=complex.real value=2>  
<PARAM utype=complex.imaginary value=3>
```

```
select * where complex.real > 0
```

- **IVOA data models as utype as well as XML**
 - For flexibility
- IVOA has a lack of:
 - Utype syntax
 - description services
 - Data models with utypes



What is an Implementation?

- IVOA Rec process needs 2 “interoperable implementations”
- **What does this mean?**
 - Minimal reading = *say hello and little else*
 - Maximal reading = *real users doing real science*



SpaceTime Coordinates

- Defaults

- If I say RA=200, Dec=20, what does it mean?
 - Answer 1: nothing!
 - Answer 2: default to FK5, barycenter, UTC=2000.0

- Regions

- Some very simple constructs for 90% of uses, as shorthand for full STC region
- Suggest CIRCLE
- Suggest BOX



Application Messaging

("PLASTIC")

- **What does the message mean?**
 - Answer 1: *"I have a new image are you interested?"*
 - (current Plastic semantic)
 - Answer 2: *"You MUST render this image NOW!"*
 - (IRAF/DS9 semantic)

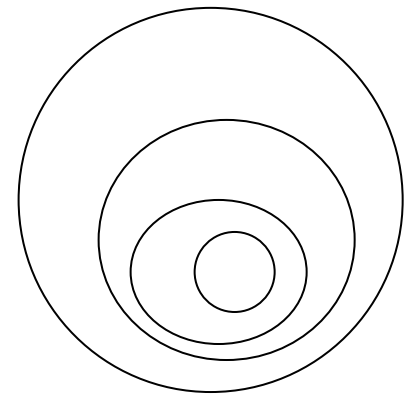


VO software

- Astronomers use what they like
 - IDL, IRAF, MIDAS, Swarp, etc
 - How can they find out about VO plugins for their favorite environment?
- SciSoft from ESO is the big bundle now
 - How can we get VO tools in there?

Security

- VO infrastructure is ready
 - Now we are deploying
- Who is issuing certificates?
 - What can you do with it?
 - How can cert be used for private data?
 - How many certs do I need?
- How can private data be exposed gradually?
 - Must be VO from start





Units and Sex_{agesimal}

- Who selects the units:
 - Customer or service provider?
- How are units represented?
- What is the scope?
 - Wavelength/frequency?
 - Distance/redshift?



An IVOA Newsletter?

[ISGTW] iSGTW - 18 April 2007

Get Mail Write Address Book Reply Reply All Forward Delete Junk Print Stop

Subject: [iSGTW] iSGTW - 18 April 2007 From: iSGTW Newsletter 4/18/07 1:08 AM

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Current Issue: 18.04.2007

Open Science Grid: Living up to the Name

The Open Science Grid, supported by the U.S. Department of Energy's Office of Science and the National Science Foundation, works hard to live up to its name: OSG is a grass roots consortium *open* to all scientific communities, accommodating to all resource providers, open to new technologies and to integration and interoperability with other grids. OSG supports *science* and research—especially collaborative science requiring high throughput computing. OSG enables the sharing of distributed computing and storage resources by connecting them into a common *grid* infrastructure over



Image courtesy of Fermi National Accelerator Laboratory

Grids in the News

[All Things Distributed](#)
GRIDtoday

[Computer Science Takes Steps to Bring Women to the Fold](#)
The New York Times

[Bumps on the Road to Grid Computing](#)
NewsFactor

Calendar/Meetings

April

23-25, [Spring 2007 Internet2 Member Meeting, Arlington, Virginia](#)

24-27, [HealthGrid 2007](#),



What Else?

- How to make **science** from VO
 - ... what are the real needs?
- How to keep it **SIMPLE**?
- Where are WG:
 - ... repeating work of another WG
 - ... dominated by one person
 - ... what is not being addressed?

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