Using VAPOR to improve VO administration and operations

Vo Administration and operations PORTal

EGI Community Forum 2014
Franck Michel, CNRS
Motivations

• VO operation/administration
  • Manage the community of users, life-cycle, their data
  • Monitor resources supporting the VO
  • Figure out infrastructure QoS from the VO point of view

• Requires costly IT support
  • Achievable for large organized communities
  • Out of reach of smaller/younger communities

• Need to lower down VO admin/operations entry cost
  • Provide tools tailored to small communities
  • Help existing communities sustain their model
  • Facilitate the outreach of new communities
Targeted communities

- Small to medium-size user VOs
- No or few dedicated support
  - Volunteering contribution
- Fragmented user groups
  - Scattered scientific activities
  - No control on submission tools, policies...
  - Difficult to anticipate future needs
- Dedicated and/or opportunistic usage of resources
Large variety of existing tools

- Nagios
- myEGI
- OPERATIONS PORTAL
- dashboard
- VOMS admin
- EGI ACCOUNTING PORTAL
- CESGA
- GOCDB
- GStat 2.0
VAPOR goals

• **Complement** existing tools: SAM, GStat2, Ops Portal...

• Provide tools **tailored** to such communities
  • Experiment independent, no install/admin required

• Help mutualise admin/operation effort
  • Between several VOs, within a VRC or beyond

• **Main axes:**
  • Resource status indicators, statistical reports
  • VO data management
  • *User community management*
VO Operations

Resources status

- Detailed report of all resources supporting the VO (BDII, GOCDB)
- Running vs. Waiting jobs
  - Queues with all jobs failed
  - Queues with no job at all

Companion of GOCDB and GStat 2.0
VO Operations

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*Companion of GOCDB, LCG, GStat 2.0*
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Companion of GOCDB GStat 2.0
Computing Elements reports: JobMonitor

- Monitor how the infrastructure is responsive for the VO
- Success/Error/Time out rates
- Avg. jobs completion time
- Graphical view (time), or table view (by site, CE)
VO Operations

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Companion of Nagios®
White list of CEs

- CEs “working fine lastly”
  - Does not replace WMS, pilot jobs
- Parametric request
- Dynamically generated XML file to feed submission systems
Catalog-based SE scan: helps manage several issues

- Monitoring of SEs feeling up: ask heavy VO users to migrate their files
- SE decommissioning: warn users priori to decomm
- Clean-up files left behind: report by status of user (active, expired, suspended, unknown)
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Cleanup of Dark data/lost files

- Track SE-LFC consistency issues
- Delete dark data
- Report lost files
- Supports DPM, dCache, Castor SEs that allow GridFTP as access protocol
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Status

• Up and running for 6 VOs:
  • Biomed, CompChem, Enmr.eu, France Grilles VO, Shiwa-workflow.eu, Vlemed
• Integrated with Operations Portal
Futur plans

The Future

NEXT EXIT
Futur plans

• Exploit and benefit from VAPOR!
  • Analyse job monitoring results
    • Queues with no jobs at all?
    • Detect bottleneck or underperforming resources?
  • Analyse data management results
    • Config issues: GridFTP
• Consider extensions based on feed-back of VOs
• Support more VOs
• Migrate to Glue2
• Community users management:
  • Users database,
  • User life-cycle workflow: LFC, VOMS, EGI Apps Db
  • Apprehend the diversity of users
    • Identify users "behind“ robot certificates
  • Foster resource usage acknowledgment
    • Track scientific production => acknowledgement
    • VT Scientific Publications Repository
Thank you

Demo? Come and see me!

Questions?
Backup slides
## Projects facts

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<table>
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<tr>
<th></th>
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<tr>
<td><strong>Project duration</strong></td>
<td>12 months, started April 2013</td>
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<tr>
<td><strong>Budget</strong></td>
<td>Total: 125 440€, requested: 52 200€</td>
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<td></td>
<td>Engineer position recruited for 12 month at I3S</td>
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<tr>
<td><strong>Project leader</strong></td>
<td>Franck Michel, CNRS I3S</td>
</tr>
<tr>
<td><strong>EGI contact</strong></td>
<td>Diego Scardaci</td>
</tr>
<tr>
<td><strong>Project wiki</strong></td>
<td><a href="https://wiki.egi.eu/wiki/VT_VAPOR">https://wiki.egi.eu/wiki/VT_VAPOR</a></td>
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<tr>
<td><strong>Mailing List</strong></td>
<td>vt-vapor [at] mailman [dot] egi [dot] eu</td>
</tr>
<tr>
<td><strong>Repository and tracker</strong></td>
<td><a href="https://redmine.i3s.unice.fr/projects/vapor">https://redmine.i3s.unice.fr/projects/vapor</a></td>
</tr>
</tbody>
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Consortium

- Technical contributors:
  - CNRS I3S (FR)
  - IPHC (FR)
  - EGI Operations Portal team
  - CNRS Creatis (FR)
  - GRyCAP, Universitat Politècnica de València (SP)

- User communities: scope definition, test
  - biomed, France Grille VO, COMPCHEM, WeNMR, VLEMED