ARC Compute Element
for the European Grid infrastructures

EGI TF demo
15th September 2010
Meet ARC

“A” for Advanced

NorduGrid’s middleware

Powers NDGF Tier1 for LHC

Works in EGI
ARC does Computing
ARC near you
ARC in EGI Operations Portal

https://operations-portal.in2p3.fr/

### VO Alarms

### Nodes

<table>
<thead>
<tr>
<th>Hostname</th>
<th>Production</th>
<th>Monitored</th>
<th>Description</th>
<th>IP address</th>
</tr>
</thead>
<tbody>
<tr>
<td>arc-ce.smokring.nsc.liu.se</td>
<td>✔️</td>
<td>✔️</td>
<td>ARC-CE</td>
<td></td>
</tr>
<tr>
<td>arc.bocm.ulb.no</td>
<td>✔️</td>
<td>✔️</td>
<td>ARC-CE</td>
<td></td>
</tr>
<tr>
<td>bdi.ndgf.org</td>
<td>✔️</td>
<td>✔️</td>
<td>Storage-BDI</td>
<td></td>
</tr>
<tr>
<td>co01.ittan.uio.no</td>
<td>✔️</td>
<td>✔️</td>
<td>ARC-CE</td>
<td></td>
</tr>
<tr>
<td>ft001.nsc.liu.se</td>
<td>✔️</td>
<td>✔️</td>
<td>FTS</td>
<td></td>
</tr>
<tr>
<td>gateway01.desc.iku.dk</td>
<td>✔️</td>
<td>✔️</td>
<td>ARC-CE</td>
<td></td>
</tr>
<tr>
<td>joannadarc.hpc2n.umu.se</td>
<td>✔️</td>
<td>✔️</td>
<td>ARC-CE</td>
<td></td>
</tr>
<tr>
<td>srm.ndgf.org</td>
<td>✔️</td>
<td>✔️</td>
<td>Classic-SE</td>
<td></td>
</tr>
<tr>
<td>srm.ndgf.org</td>
<td>✔️</td>
<td>✔️</td>
<td>SRM</td>
<td></td>
</tr>
<tr>
<td>voms.ndgf.org</td>
<td>✔️</td>
<td>✔️</td>
<td>VOMS</td>
<td></td>
</tr>
</tbody>
</table>

Notepad: last 5 entries
### ARC in EGI GOCDB

#### Portal Instance
**Central Portal**

<table>
<thead>
<tr>
<th>Description</th>
<th>The Distributed Nordic Tier-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creation Date</td>
<td></td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:support@ndgf.org">support@ndgf.org</a></td>
</tr>
<tr>
<td>ContactTel</td>
<td>+45 32462560</td>
</tr>
<tr>
<td>EmergencyTel</td>
<td>+46 8 20 76 60</td>
</tr>
<tr>
<td>Cartemail</td>
<td><a href="mailto:nixon@nec.lu.se">nixon@nec.lu.se</a></td>
</tr>
<tr>
<td>Carttel</td>
<td>+4613282654</td>
</tr>
<tr>
<td>EmergencyEmail</td>
<td><a href="mailto:support@ndgf.org">support@ndgf.org</a></td>
</tr>
<tr>
<td>HelpdeskEmail</td>
<td></td>
</tr>
<tr>
<td>AlarmEmail</td>
<td></td>
</tr>
</tbody>
</table>

**Timezone**
Europe/Copenhagen

**Domain**
ndgf.org

**Certification Status**
Certified

---

https://next.gocdb.eu/portal/index.php?Page_Type=View_Object&object_id=270&grid_id=0
ARC in WLCG GStat

http://gstat-prod.cern.ch/gstat/site/NDGF-T1/
ARC in WLCG
SAM tests


![Service Availability Monitoring - ArcCE](https://lcg-sam.cern.ch:8443/sam/sam.py? sensors=ArcCE&regions=NGI_NDGF&vo=ops&order=SiteName &funct=ShowSensorTests)
ARC in WLCG accounting

http://dashb-atlas-prodsys.cern.ch/dashboard/request.py/overview?cloud=NDGF&grouping=site
ARC in EMI

EMI makes a common middleware distribution from ARC, gLite, UNICORE and dCache

EMI-0 release comes with current ARC CE (October 2010)

Future convergence with other middlewares:

- Common execution interface
- Common client libraries
- Common information system
- Common accounting solutions
- Common monitoring approaches
ARC on your favorite system
Configure ARC CE to publish Glue schema*

Install gLite site BDII

Register your site in GOCDB

* Alternatively, install a converter and site BDII as separate services
Ask your NGI/ROC to send **ARCCE** Nagios/SAM tests

Authorise your NGI/ROC operators to execute tests

Use the EGI Operations Portal to check status
Configure ARC-CE with SGAS*

Deploy SGAS-APEL converter/publisher

* For a single site, direct publishing to APEL is possible (in tests)
ARC security

Identical to gLite*

- Proxy certificates
- Delegation
- VOMS
- LCAS/LCMAPS
- MyProxy
- ARGUS (in tests)

* Usage of gLexec is possible but discouraged
What about storage?

No CloseSE needed
- ARC CE has local cache

ARC CE works with most popular storages
- dCache (most common)
- other SRM based storages (DPM, StoRM)
- Gsiftp
- HTTP*
- FTP

Works with local filesystem

Works with LFC
Support in EGI

EGI and EMI offer user support for ARC

Use GGUS
Thank you!

Visit NorduGrid Wiki for more details:

- [http://wiki.nordugrid.org/index.php/How_to_plug_an_ARC_site_into_EGI](http://wiki.nordugrid.org/index.php/How_to_plug_an_ARC_site_into_EGI)

- **EGI-InSPIRE**
  is partially funded by the European Commission under Grant Agreement RI-261323

- **EMI**
  is partially funded by the European Commission under Grant Agreement RI-261611