

# GOCDB New Developments and Plans 2012

David Meredith ([david.meredith@stfc.ac.uk](mailto:david.meredith@stfc.ac.uk))

John Casson ([john.casson@stfc.ac.uk](mailto:john.casson@stfc.ac.uk))

# Recent New features and Improvements

## GOCDDB v4.1 (November 01<sup>st</sup>)

- Major internal refactoring, design issues fixed, improving of the 'backend' code
  - E.g. Database Transaction (TX) demarcation issues fixed, new Model-View-Controller (MVC) logic, Better abstraction of PROM API
- Necessary to pave the way for v4.2, v4.3, v4.4 ...

## GOCDDB v4.2 (November 25<sup>th</sup>)

- Data Scoping : Host EGI and non-EGI (Local) sites and services in the central GOCDDB.
  - Allows NGIs without effort to run their own GOCDDB to host non-EGI sites/services in the central instance (e.g. For test bed services).
  - For publishing of EGI scoped data to a parent GOCDDB instance (regionalisation)

## GOCDDB v4.3 (April 10<sup>th</sup>)


- New finer grained role and permissions model.
- Start rollout of improved GUI based on new MVC architecture and AJAX.
- Service Groups (a.k.a Virtual Sites).
- GOCDDB failover instance deployed: <https://goc.itwm.fraunhofer.de/portal>

## GOCDDB v4.4 (June/July)

- Multiple Endpoints per Service.
- GLUE2 rendering of GOCDDB data (requires update of the XML output module).
- Address smaller TODOs as documented RT.

[https://wiki.egi.eu/wiki/GOCDDB/Release4/Development/Recently\\_Completed](https://wiki.egi.eu/wiki/GOCDDB/Release4/Development/Recently_Completed)

## V4.2 New Feature: Scoping of Sites and Services



**Browse**

- My Sites/Groups
- ROCs/NGIs
- Sites
- Service Groups
- Service Endpoints

**Add**

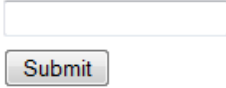
- Add Site
- Add Service Group
- Add Service Endpoint
- Add Downtime

**Downtimes**

- Recent & Planned
- Archives

**About GOCDB4**


- Doc, Help & Support



**Search**

**User Status**

Registered as:  
David Meredith



### Sites

All Sites in GOCDB

Filter (clear)

NGI: (all) Certification: (all) Production: (all) Scope: Local

Include Closed Sites:

7 Sites

Name	NGI	Certification Status	Production Status	Visible to EGI?
» BY-BSU	NGI_BY	Candidate	Production	✘
» BY-UIIP-TB	NGI_BY	Uncertified	Test	✘
» IN2P3-CC-PPS	NGI_FRANCE	Certified	PPS	✘
» RO-03-UPB	NGI_RO	Suspended	Production	✘
» RO-17-INCDMTM	NGI_RO	Candidate	Production	✘
» RO-18-INCDTP	NGI_RO	Candidate	Production	✘
» RO-19-UCV	NGI_RO	Certified	Production	✘

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- Host non-EGI sites/services in the central instance (e.g. Test bed services)
- For publishing of EGI scoped data to a parent GOCDB instance (regionalisation)

## V4.2 New Feature: Scoping of Sites and Services

- Example of an NGI hosting non-EGI services in the central instance.
- Services used as a test bed.

**GOCDB4 Regional**

**Site: BY-UIIP-TB** **NGI\_BY testbed provided by United Institute of Informatics Problems**

TestBed  
Object 495

Delete Edit

**Contact**

E-Mail	salamanka@newman.bas-net.by
Telephone	+375(17)284-19-25
Emergency Telephone	+375(17)284-21-49
CSIRT Telephone	+375(17)284-23-60
CSIRT E-Mail	ulad@newman.bas-net.by
Emergency E-Mail	salamanka@newman.bas-net.by
Helpdesk E-Mail	glite-support@lists.grid.by

**Project Data**

NGI/ROC	NGI_BY
Production Status	Test
Certification Status	Uncertified <a href="#">Change</a>
Visible to EGI	X ?

**Networking**

Home URL	http://ngi.grid.by/
GIS URL	Idap://cce.basnet.by:2170/Mds-Vo-name=BY-UIIP-TB_o=grid
IP Range	0.0.0.0/255.255.255.255
Domain	basnet.by

**Location**

Country	BY
Latitude	53
Longitude	27
Time Zone	Europe/Minsk
Location	Minsk, Belarus

**Service Endpoints**

Hostname	URL	Production	Visible to EGI ?
CREAM-CE - cce.basnet.by		X	X
Site-EGII - cce.basnet.by		X	X

+ Add Service Endpoint

**Users**

Name	Role
Serge Salamanka	Site Security Officer
Serge Salamanka	Site Operations Manager

+ Request Role

## V4.3 New Feature: Finer Grained Role/Permissions Model

- To better address the needs of the user community.
- New roles added and existing roles renamed.
- Key changes include:
  - [Site User] roles cannot approve/reject role requests, [Site Manager] roles can.
  - [Regional User] roles cannot add or delete sites to/from their NGI or update the certification status of member sites, [Regional Manager] roles can.

Old Role Name	New Role Name	Role Type
Site Administrator	Site Administrator	Site User
Security Officer*	Site Security Officer	Site Manager
	Site Operations Deputy Manager	Site Manager
	Site Operations Manager	Site Manager
Regional Operations Staff	Regional First Line Support	Regional User
	Regional Staff (ROD)	Regional User
Deputy Regional Manager	NGI Operations Deputy Manager	Regional Manager
Regional Manager	NGI Operations Manager	Regional Manager
Security Officer*	NGI Security Officer	Regional Manager
COD Staff	COD Staff	Project Coordinator
COD Administrator	COD Administrator	Project Coordinator
Chief Operations Officer	Chief Operations Officer	Project Coordinator
Security Officer*	EGI CSIRT Officer	Project Coordinator

# V4.3 Improved GUI based on new MVC architecture – e.g. View all Sites and Site Filtering

The screenshot shows a web browser window displaying the GOCDB4 Regional portal. The page title is "Sites" and the subtitle is "All Sites in GOCDB". The browser address bar shows the URL: [https://gocdb4\\_esc.rl.ac.uk/portal/index.php?Page\\_Type=View\\_Sites&NGI=NGI\\_L](https://gocdb4_esc.rl.ac.uk/portal/index.php?Page_Type=View_Sites&NGI=NGI_L). The page features a sidebar on the left with navigation links and a main content area on the right. The main content area includes a filter section with dropdown menus for "NGI" (set to "NGI\_UK"), "Certification" (with a dropdown menu open showing options: "(all)", "Candidate", "Closed", "Certified", "Suspended", "Uncertified"), "Production" (set to "(all)"), and "Scope" (set to "EGI"). There is also a checkbox for "Include Closed Sites". Below the filter section is a table titled "19 Sites" with columns: "Name", "NGI", "Certification Status", "Production Status", and "Visible to EGI?". The table lists 19 sites, all with "Certified" status and "Production" status, and all marked as "Visible to EGI?".

**GOCDB4 Regional**

**Browse**

- My Sites/Groups
- ROCs/NGIs
- Sites
- Service Groups
- Service Endpoints

**Add**

- Add Site
- Add Service Group
- Add Service Endpoint
- Add Downtime

**Downtimes**

- Recent & Planned
- Archives

**About GOCDB4**

- Doc, Help & Support

**Search**

**User Status**

Registered as:  
David Meredith

[View Details](#)  
[Manage Roles](#)

**Portal Instance**

**Sites**  
All Sites in GOCDB

Filter (clear)

NGI:  Certification:  Production:  Scope:

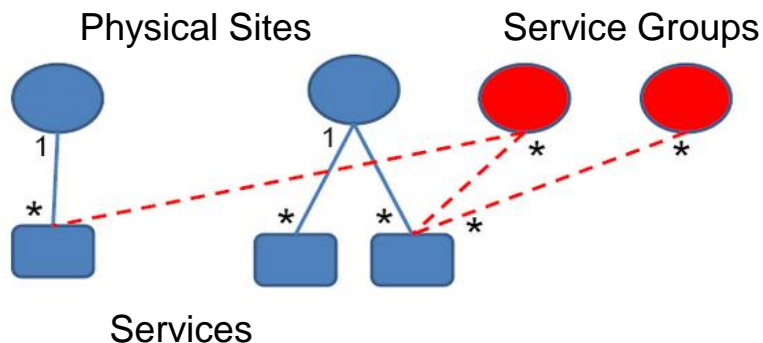
Include Closed Sites:

19 Sites

Name	NGI	Certification Status	Production Status	Visible to EGI?
» EFDA-JET	NGI_UK	Certified	Production	✓
» RAL-LCG2	NGI_UK	Certified	Production	✓
» UKI-LT2-Brunel	NGI_UK	Certified	Production	✓
» UKI-LT2-IC-HEP	NGI_UK	Certified	Production	✓
» UKI-LT2-QMUL	NGI_UK	Certified	Production	✓
» UKI-LT2-RHUL	NGI_UK	Certified	Production	✓
» UKI-LT2-UCL-HEP	NGI_UK	Certified	Production	✓
» UKI-NORTHGRID-LANCS-HEP	NGI_UK	Certified	Production	✓
» UKI-NORTHGRID-LIV-HEP	NGI_UK	Certified	Production	✓
» UKI-NORTHGRID-MAN-HEP	NGI_UK	Certified	Production	✓
» UKI-NORTHGRID-SHEF-HEP	NGI_UK	Certified	Production	✓
» UKI-SCOTGRID-DURHAM	NGI_UK	Certified	Production	✓

## V4.3 New Feature: Service Groups (a.k.a Virtual Sites)

- Flexibly group existing services distributed across different Sites and NGIs into meaningful groups.
- Use cases:
  - Monitoring requirement: assist in creating “availability numbers for (virtual) sites made up of pieces of physical sites: i.e. all wms within a region, all ops tools” (<https://rt.egi.eu/rt/Ticket/Display.html?id=987>)
  - An [OPERATIONAL\_TOOLS] SG containing GGUS, GOCDB, Monitoring, Ops Portal etc.
  - SG to list all services of a particular type within an NGI, e.g. [ALL\_NGI\_UK\_CEs]
  - SG to group IPv6 test services.
- Important: Service Group owners have no permissions over the grouped services (e.g. can't put SE into downtime, only users with a role over the hosting physical site can do that) .
- Currently, anyone can create a Service Group (since they just group existing services).
- Future requirement for Service Group owners to 'own' or have permissions over a grouped service?



### Relationships

- A service can only have a single (owning) physical site.
- A service can be grouped by many Service Groups.

New  
[Service Groups]  
Menu Item to list  
all SGs.

**GOCDB4 Regional**

**Service Groups**  
All Service Groups in GOCDB.  
What is a service group?

Service Groups can exist in EGI or non-EGI (Local) scope.

Name	Description	Visible to EGI?
» NGI_UA_SERVICES	Core infrastructure services for NGI_UA	✓
» OPSTOOLS	All EGI Operational Tools	✓

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Your Service  
Groups are listed  
under  
[My Sites/Groups]

**GOCDB4 Regional**

**My Sites / Groups**

**Sites From Your Roles**

GRIDOPS-GOCDB

**Service Groups From Your Roles**

OPSTOOLS

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## Service Group Example

The 'OPSTOOLS' is used to group all the EGI operations tools together.

Intention is to be able to monitor all OPS services as a single group for availability stats.



### Browse

- My Sites/Groups
- ROCs/NGIs
- Sites
- Service Groups
- Service Endpoints

### Add

- Add Site
- Add Service Group
- Add Service Endpoint
- Add Downtime

### Downtimes

- Recent & Planned
- Archives

### About GOCDB4

- Doc, Help & Support

### Search

Submit

### User Status

Registered as:  
David Meredith

[View Details](#)  
[manage roles](#)

### Portal Instance

Regional Portal



## Service Group: OPSTOOLS

All EGI Operational Tools  
Object 107045



### Properties

Monitored	✓
Visible To EGI	✓
Contact E-Mail	gocdb-admins@mailtalk.ac.uk

### Service Endpoints

Hostname	Description	Production	Visible to EGI ?
egi.AccountingPortal - accounting.egi.eu		✓	✓
egi.APELRepository - apel-consumer.esc.rl.ac.uk	The APEL accounting repository	✓	✓
egi.GGUS - helpdesk.egi.eu	Central GGUS system	✓	✓
egi.GOCDB - goc.egi.eu	The main central instance of GOCDB	✓	✓
egi.GRIDVIEW - gridview.cern.ch	The Gridview project	✓	✓
egi.GSTAT - gstat.egi.eu		✓	✓
egi.MetricsPortal - metrics.egi.eu		✓	✓
egi.NetworkPortal - net.egi.eu	Network operations centre	✓	✓
egi.SAM - grid-monitoring.egi.eu	Service Availability Monitoring	✓	✓
OpsTool - cic.gridops.org	The central Operations Portal	✓	✓


[+](#) Add Service Endpoints [×](#) Remove Service Endpoints

### Roles

Name	Role	Revoke
John Casson	Service Group Administrator	Revoke
David Meredith	Service Group Administrator	Revoke

[+](#) Request Role

# Service Group Example: 'NGI\_UA\_SERVICES'



**Browse**

- My Sites/Groups
- ROCs/NGIs
- Sites
- Service Groups
- Service Endpoints

**Add**

- Add Site
- Add Service Group
- Add Service Endpoint
- Add Downtime

**Downtimes**



- Recent & Planned
- Archives

**About GOCDB4**

- Doc, Help & Support

**Service Group: NGI\_UA\_SERVICES**



Core infrastructure services for NGI\_UA  
Object 113183



 

**Properties**


Monitored	✓
Visible To EGI	✓
Contact E-Mail	ngi-ua-support@grid.org.ua


**Service Endpoints**

Hostname	Description	Production	Visible to EGI ?
 ngi.SAM - mon-ua.bitp.kiev.ua	NGI NAGIOS	✗	✓
 Top-BDII - topbdii.bitp.kiev.ua	TOP-BDII	✗	✓

 Add Service Endpoints  Remove Service Endpoints

**Roles**

Name	Role	Revoke
 levgen Sliusar	Service Group Administrator	Revoke

 Request Role

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**Search**

Submit

**User Status**

Registered as:  
David Meredith

[View Details](#)  
[Manage Roles](#)

**Portal Instance**

### V4.3 New 'get\_service\_group' PI method

Can query for Service Groups in either 'EGI' or 'Local' scope.

#### **Query for Service Groups in 'EGI' Scope:**

[https://goc.egi.eu/gocdbpi/public/?method=get\\_service\\_group](https://goc.egi.eu/gocdbpi/public/?method=get_service_group)

[https://goc.egi.eu/gocdbpi/public/?method=get\\_service\\_group&scope=EGI](https://goc.egi.eu/gocdbpi/public/?method=get_service_group&scope=EGI)

(\*Note, these two queries are equivalent – the query defaults to 'EGI' scope if the scope parameter is not specified).

#### **Query for Service Groups in 'Local' scope:**

[https://goc.egi.eu/gocdbpi/public/?method=get\\_service\\_group&scope=Local](https://goc.egi.eu/gocdbpi/public/?method=get_service_group&scope=Local)

# Sample output (get\_service\_group)

Service Group:  
'NGI\_UA\_SERVICES'

Service Group:  
'OPSTOOLS'



```
-<results>
- <SERVICE_GROUP PRIMARY_KEY="63811G0">
  <NAME>NGI_UA_SERVICES</NAME>
  <DESCRIPTION>Core infrastructure services for NGI_UA</DESCRIPTION>
  <MONITORED>Y</MONITORED>
  <CONTACT_EMAIL>ngi-ua-support@grid.org.ua</CONTACT_EMAIL>
  + <GOCDB_PORTAL_URL></GOCDB_PORTAL_URL>
  + <SERVICE_ENDPOINT></SERVICE_ENDPOINT>
  + <SERVICE_ENDPOINT></SERVICE_ENDPOINT>
  </SERVICE_GROUP>
- <SERVICE_GROUP PRIMARY_KEY="57654G0">
  <NAME>OPSTOOLS</NAME>
  <DESCRIPTION>All EGI Operational Tools</DESCRIPTION>
  <MONITORED>Y</MONITORED>
  <CONTACT_EMAIL>gocdb-admins@mailtalk.ac.uk</CONTACT_EMAIL>
  - <GOCDB_PORTAL_URL>
    https://gocdb4.esc.rl.ac.uk/portal/index.php?Page_Type=View_Object&object_id=107045&grid_id=0
  </GOCDB_PORTAL_URL>
  - <SERVICE_ENDPOINT>
    <HOSTNAME>metrics.egi.eu</HOSTNAME>
    - <GOCDB_PORTAL_URL>
      https://gocdb4.esc.rl.ac.uk/portal/index.php?Page_Type=View_
    </GOCDB_PORTAL_URL>
    <SERVICE_TYPE>egi.MetricsPortal</SERVICE_TYPE>
    <HOST_IP>
    <IN_PRODUCTION>Y</IN_PRODUCTION>
    <NODE_MONITORED>Y</NODE_MONITORED>
  </SERVICE_ENDPOINT>
  + <SERVICE_ENDPOINT></SERVICE_ENDPOINT>
  + <SERVICE_ENDPOINT></SERVICE_ENDPOINT>
  + <SERVICE_ENDPOINT></SERVICE_ENDPOINT>
  + <SERVICE_ENDPOINT></SERVICE_ENDPOINT>
  + <SERVICE_ENDPOINT></SERVICE_ENDPOINT>
  + <SERVICE_ENDPOINT></SERVICE_ENDPOINT>
  + <SERVICE_ENDPOINT></SERVICE_ENDPOINT>
  + <SERVICE_ENDPOINT></SERVICE_ENDPOINT>
  + <SERVICE_ENDPOINT></SERVICE_ENDPOINT>
  + <SERVICE_ENDPOINT></SERVICE_ENDPOINT>
  </SERVICE_GROUP>
</results>
```

Grouped SEs  
(collapsed)

Grouped SE  
(expanded)

Grouped SEs  
(collapsed)

## v4.4 (Future) Feature: Multiple Endpoints per Service

Requirement - Store a GRIS URL field for each service endpoint. This will allow the Top-BDII to directly retrieve information about the service.

As per GLUE2, Services would be able to declare multiple endpoints, e.g.

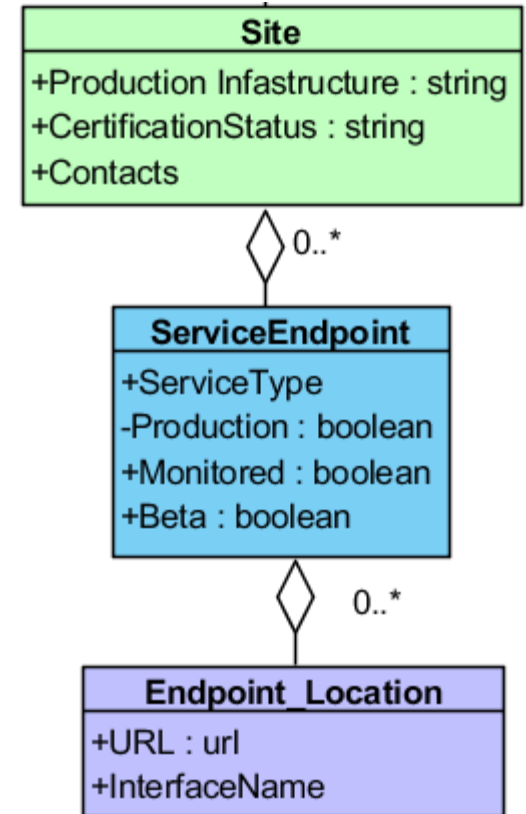
- Endpoint 1 - defines actual service URL
- Endpoint 2 - defines the GRIS Idap URL
- Endpoint 3 - e.g. could define an admin portal URL

A mechanism is therefore required to distinguish different endpoint types and their intended purpose:

- Adopting GLUE2 <InterfaceName> attribute.

The GRIS Endpoint will define the service's GRIS Idap URL with an <InterfaceName> value of "RIS" or "Idap.RIS".

GLUE2 WG with current remit to update the ServiceType and InterfaceName enum values.



Example PI Query String:

[https://goc.egi.eu/gocdbpi/private/?method=get\\_service\\_endpoint&InterfaceName=RIS](https://goc.egi.eu/gocdbpi/private/?method=get_service_endpoint&InterfaceName=RIS)

```
<?xml version="1.0" encoding="UTF-8"?>
<results>
  <SERVICE_ENDPOINT PRIMARY_KEY="50257G0">
    <PRIMARY_KEY>50257G0</PRIMARY_KEY>
    <HOSTNAME>dgiref-globus.fzk.de</HOSTNAME>
    <GOCDB_PORTAL_URL>https://goc.egi.eu/portal/index.php?Page_
    <HOST_OS>SL5</HOST_OS>
    <BETA>N</BETA>
    <SERVICE_TYPE>GRAM5</SERVICE_TYPE>
    <IN_PRODUCTION>Y</IN_PRODUCTION>
    <NODE_MONITORED>Y</NODE_MONITORED>
    <SITENAME>DGIREF</SITENAME>
    <COUNTRY_NAME>Germany</COUNTRY_NAME>
    <COUNTRY_CODE>DE</COUNTRY_CODE>
    <ROC_NAME>NGI_DE</ROC_NAME>
    <ENDPOINT>
      <URL>
        ldap://ce-cms.vinca.rs:2170/mds-vo-name=AEGIS10-VINCA-CMS,o=grid
      </URL>
      <InterfaceName>RIS</InterfaceName>
    </ENDPOINT>

    <!-- Could be more Endpoints not shown -->
    ...
  </SERVICE_ENDPOINT>
</results>
```

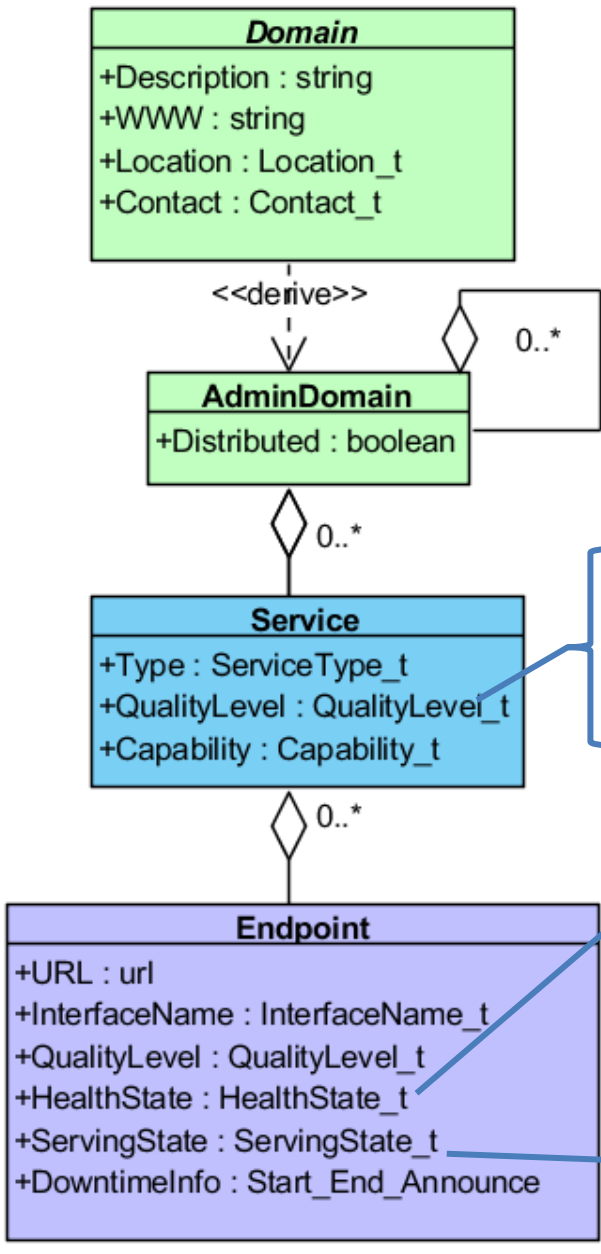
## **v4.4 (Future) Feature:**

### **Render GOCDB Data in GLUE2 Compliant Format**

- GOCDB data model is very similar to a sub-set of the OGF GLUE2 standard.
- We plan to render GOCDB data using an XML rendering, not (yet) considering a LDIF/LDAP.
- Requires new PI queries (old queries remain unchanged).

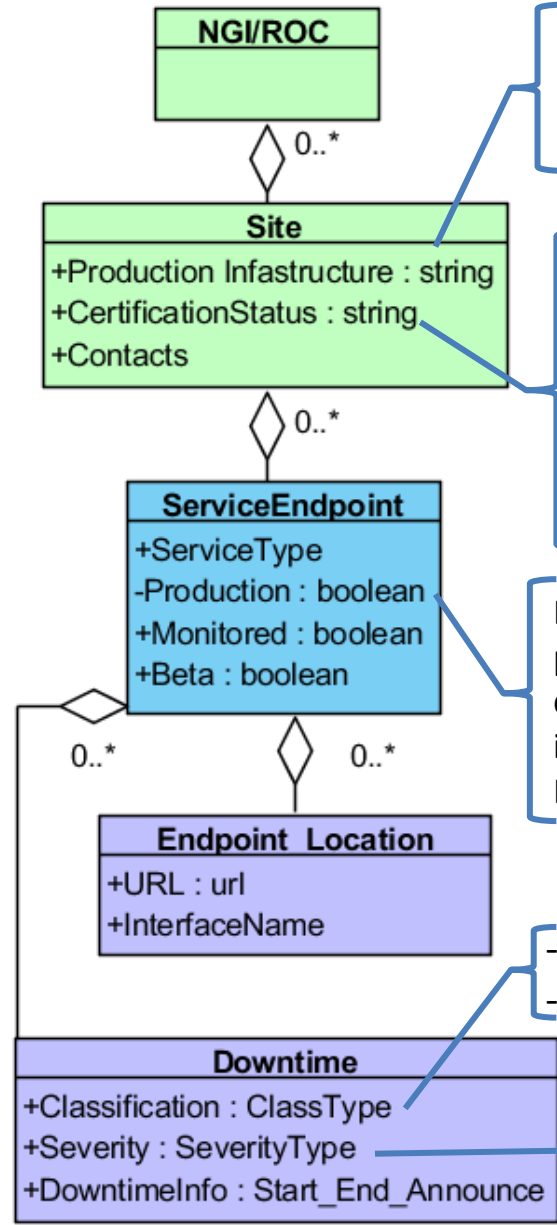
# Data Model Comparison (simplified)

GLUE2



- Development
- Pre-Production
- Production
- Testing
- Warning
- Critical
- Ok
- Other
- Unknown
- Closed
- Draining
- Production
- Queuing

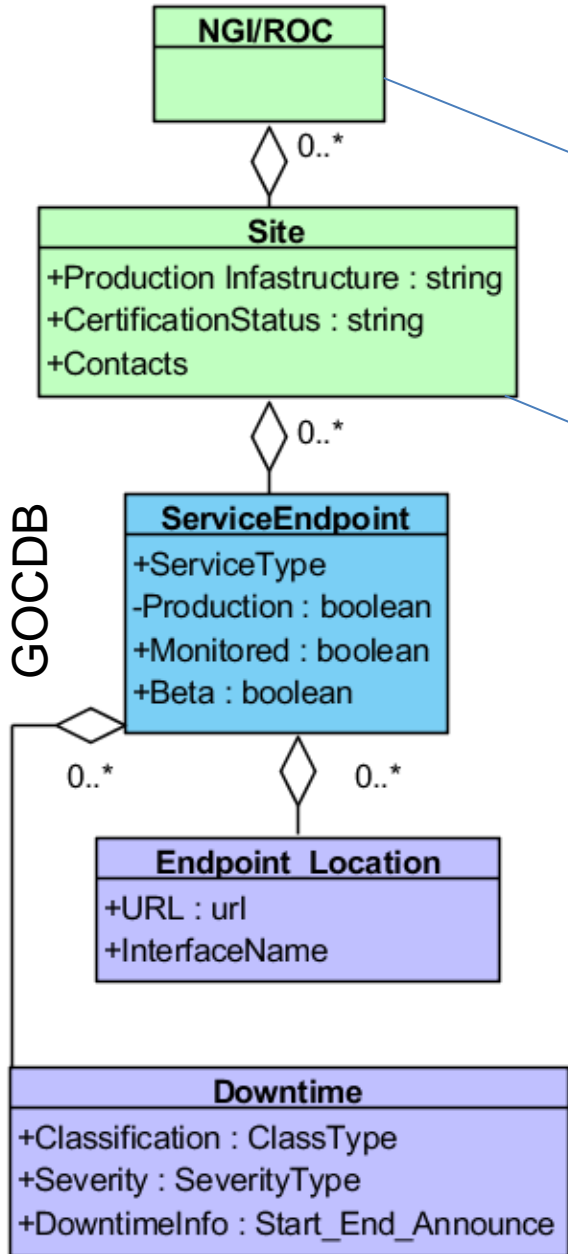
GOCDDB



- Test
- Production
- PPS
- If Production:
  - Candidate
  - Uncertified
  - Certified
  - Suspended
  - Closed
- Does SE deliver production quality service to its Target Infrastructure?
  - Scheduled
  - Unscheduled
- Warning
- Outage



# GOCDDB to GLUE2 Mapping 1 [NGI]->[Site]



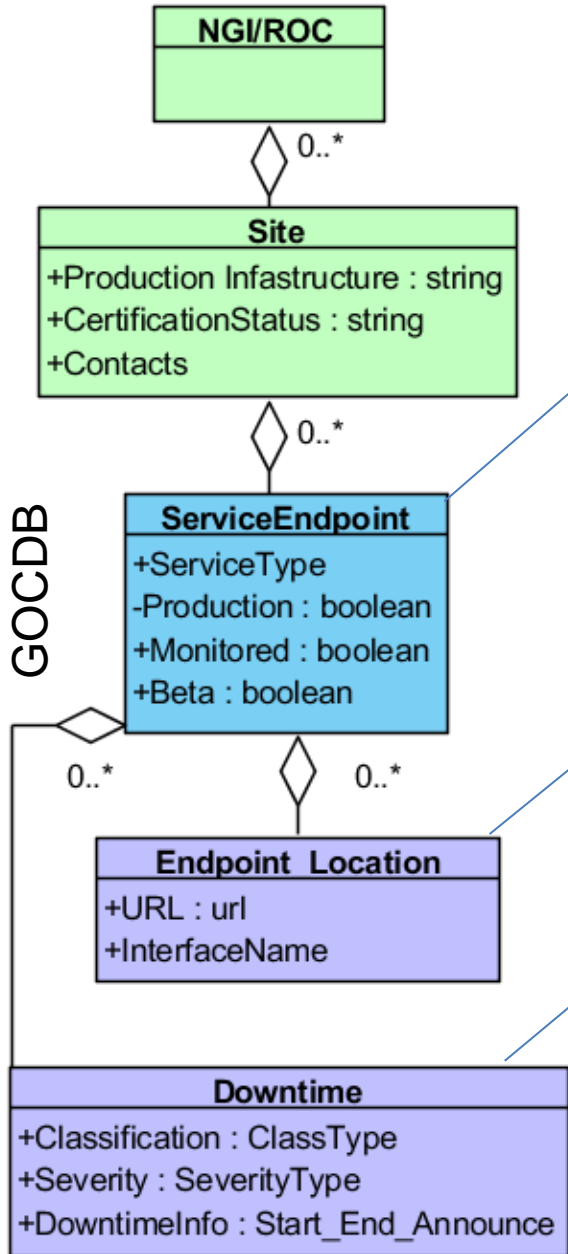
## GLUE2

```

<Domains>
  <AdminDomain BaseType="Domain" <!-- Map to NGI/ROC -->
    <ID>2345</ID>
    <Name>NGI_UK</Name>
    <Description>An NGI description</Description>
    <WWW>http://www.ukngi.ac.uk</WWW>
    <!-- More elements not shown - <location> <contact> etc -->
    <!-- An NGI is distributed -->
    <Distributed>true</Distributed>
  </AdminDomain>
  <AdminDomain BaseType="Domain" <!-- Map to Site or USite -->
    <ID>2524</ID>
    <Name>GRID-LCG2</Name>
    <Description>A site description</Description>
    <WWW>http://ngs.ac.uk/siteA</WWW>
    <!-- More elements not shown - <location> <contact> etc -->
    <!-- Distributed: If physical site=false, if USite=true -->
    <Distributed>false</Distributed>
    <Extension><LocalID>ProductionInfrastructure</LocalID>
      <key>TargetInfrastructure</key><value>Production|Test</value>
    </Extension>
    <Extension><LocalID>CertificationStatus</LocalID>
      <key>CertificationStatus</key><value>Certified</value>
    </Extension>
    <Services>
      <Service>
        ...
      </Service>
      <Service>
        ...
      </Service>
    </Services>
  </AdminDomain>
</Domains>
  
```

Next slide...

# GOCDB to GLUE2 Mapping 2 [Service]->[Endpoint]->[Downtime]



```

<Services>
  <Service BaseType="Service">
    <ID>388</ID>
    <Name>ce.grid-ngs.ac.uk</Name>
    <Type>CREAM-CE</Type>
    <QualityLevel>production | testing</QualityLevel>
    <Endpoint BaseType="Endpoint">
      <ID>63562</ID>
      <URL>http://some.url.d1.ac.uk/creamEndpoint</URL>
      <!-- InterfaceName values -->
      <InterfaceName>org.glite.ce.CREAM</InterfaceName>
      <!-- production | testing | development | pre-productio
      <QualityLevel>production</QualityLevel>
      <!-- warning | critical | ok | other | unknown -->
      <HealthState>ok</HealthState>
      <!-- closed | draining | production | queuing -->
      <ServingState>production</ServingState>
      <DowntimeAnnounce>2012-03-29T12:30:00Z</DowntimeAnnounc
      <DowntimeStart>2012-03-29T15:00:00Z</DowntimeStart>
      <DowntimeEnd>2012-03-29T16:00:00Z</DowntimeEnd>
      <DowntimeInfo>Unscheduled: Power outage</DowntimeInfo>
      <!-- GOCDB Classification in 'Extension' element-->
      <Extension><LocalID>Classification</LocalID>
        <Key>Classification</Key>
        <Value>UNSCHEDULED</Value></Extension>
      <!-- GOCDB Severity in 'Extension' element-->
      <Extension><LocalID>Severity</LocalID>
        <Key>Severity</Key>
        <Value>OUTAGE</Value></Extension>
    </Endpoint>
  </Service>
</Services>
  
```

**GLUE2**

### GOCD 4.4 (June/July)

- Multiple Endpoints per Service
- GLUE2 rendering of GOCD data as a new PI query (beta)
- Focus on smaller developments to reduce number of RT tickets (e.g. Email notification of role requests, more AJAX/improve GUI, resolve issues)

### Prioritise Next Main Developments (July/Aug):

- VO support?
  - Query services by supported VO, query service downtimes by VO etc.
- Writable REST API?
  - Add/Update Services, Declare Downtimes
  - Update dynamic data (e.g. GLUE2 HealthState and ServingState)
- Regionalisation
  - Publish EGI scoped data up to a parent GOCD instance .
  - Remaining use-case: Customisation of non-EGI (Local) scoped data, e.g. Modification of the data schema for bespoke NGI customisations .