



# **The ARC Information System LDAP GLUE2 Implementation**

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# Outline

- Why ARC LDAP GLUE2?
- ARC LDAP GLUE2  
Local information tree
- ARC to Top BDII integration

# Why LDAP GLUE2?

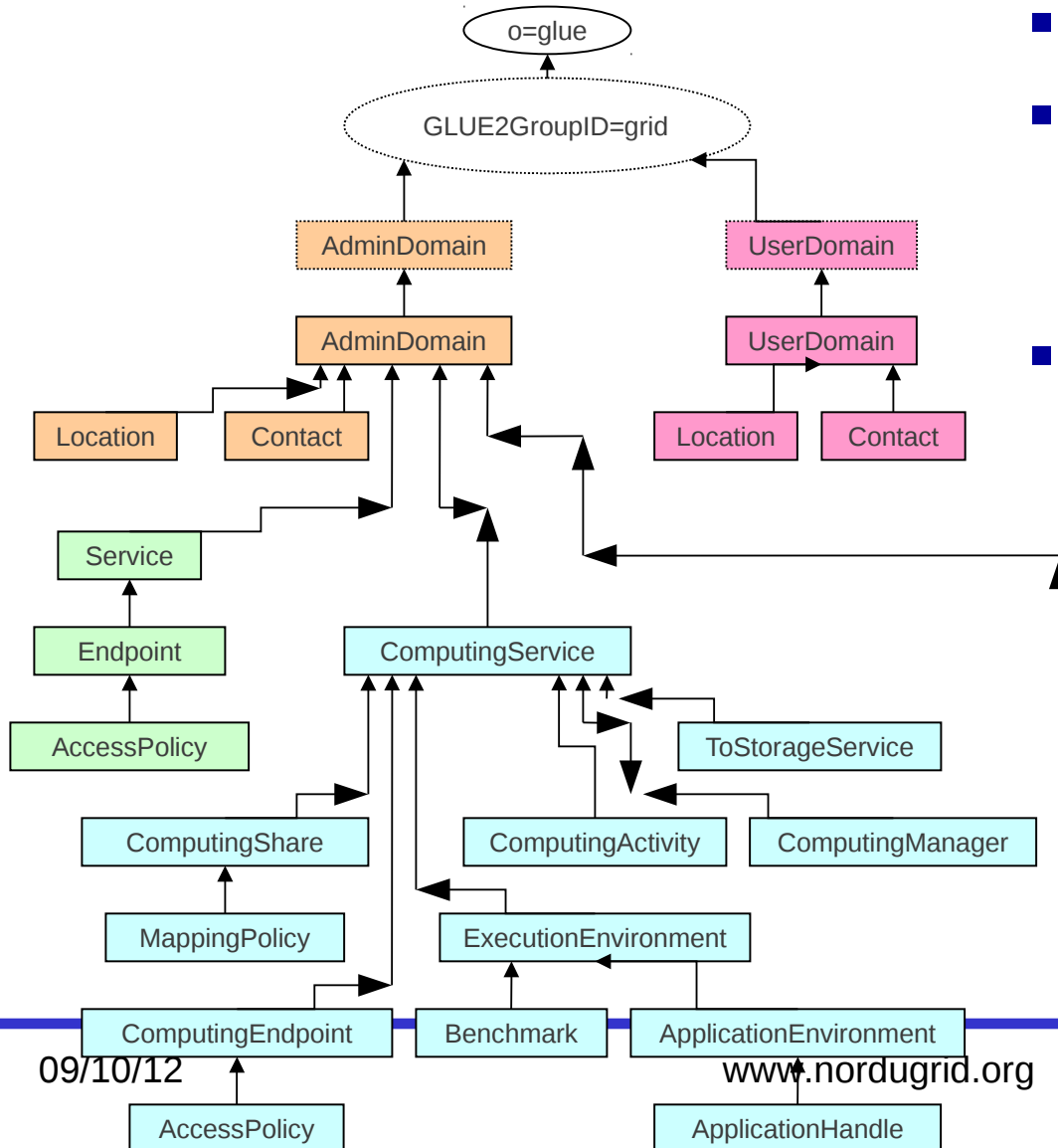
- EMI project aimed at merging three european GRID middlewares: gLite, ARC, UNICORE
- EMI has seen GLUE2 as an enabling technology for middleware information systems interoperability
- ARC already had native XML and LDAP GLUE2 renderings

# GRID information ecosystems

Stack	Service Level	Registry	Information Model	Data Model	Global Cache	Transport Model	Federated
gLite	BDII (resource)	GOC DB (Not EMI)	GLUE 1.3	LDIF	BDII (Top)	Pull	Kind of
ARC	ARIS	EGIIS	NorduGrid Schema	LDIF	No	Pull	Not really
Unicore	CIP	Unicore Registry	GLUE 2.0	XML	No	Pull	Not really
EMI	ERIS	EMIR	GLUE 2.0	LDIF	BDII	Pull	Yes

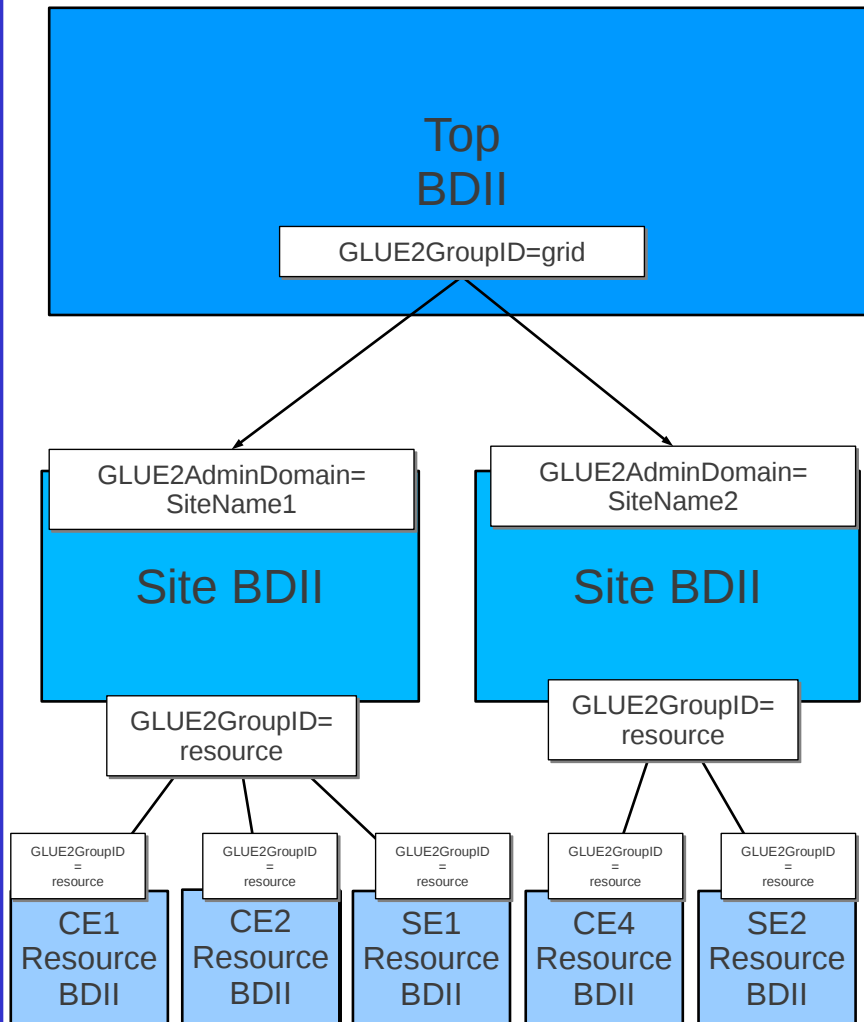
Courtesy of Laurence Field

# LDAP rendering 2009 ogf draft



- Arbitrary grouping
- Mandatory AdminDomain entry to publish Services
- Unclear choices in the DIT:  
why is ExecutionEnvironment child of ComputingService and **not** of Computing Manager?

# BDII architecture

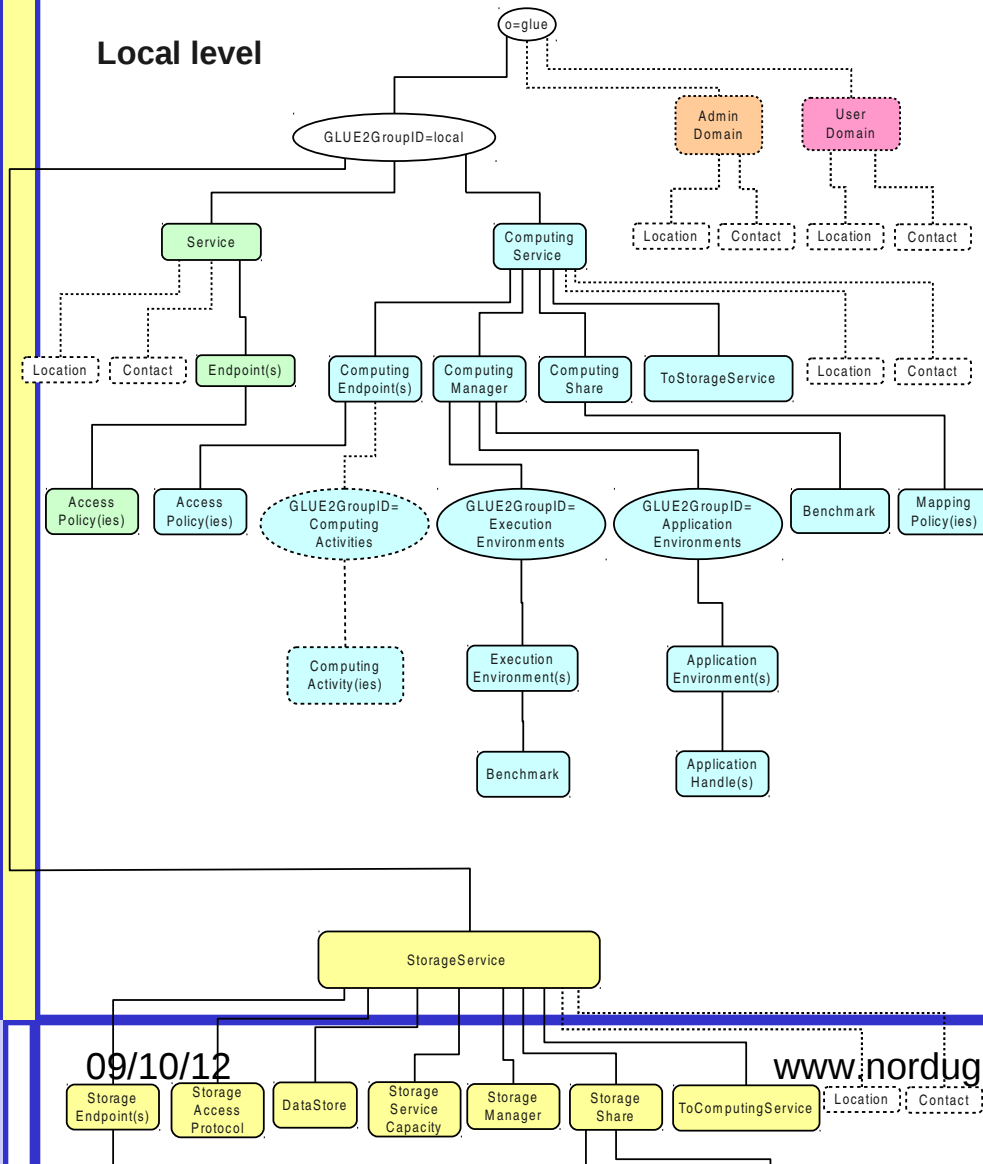


- Three different DIT for each level, that fit into one
- Aggregation is done using special “insertion points” in the trees, **roots** of each (sub)tree:
  - GLUE2GroupID=resource for resource BDII
  - GLUE2AdminDomain for Site BDII
  - GLUE2GroupID=grid for Top BDII

The resource tree is not consistent with the GLUE2 LDAP 2009 draft, since there is no AdminDomain.

# ARC LDAP GLUE2

## Local information tree



- Consistent Grouping labels for each entry
- Published by the CE itself,  
**no need for Site BDII**
- Services don't have to be under Domains
- Domain information MAY be there, but on another branch

Very close to bdii-resource, but publishing Domain information if needed.

# LDAP rendering 2012 proposed draft

- **Explicitly defines levels**, and states that a **local level can directly be aggregated by a global level, without the need for a domain level**, leveraging GLUE2 “Distributed” AdminDomain concept
- Clearly defines **DITs and their insertion points for each level**.
- Renames obscure labels such as *resource* to *services* in the domain and global levels (the aggregation levels)
- Clearly respects obvious parent-child relationships in the GLUE2 model
- Proposed DIT is OPTIONAL, but RECOMMENDED if following a BDII-like architecture.



# ARC to Top BDII Integration: why GLUE2

- **Problem 1:** ARC does NOT have a SITE concept. Only Ces.
- **Problem 2:** ARC sysadmin are reluctant to install Site-BDII

**Solution1:** Glue1 approach: **fake** a SITE BDII

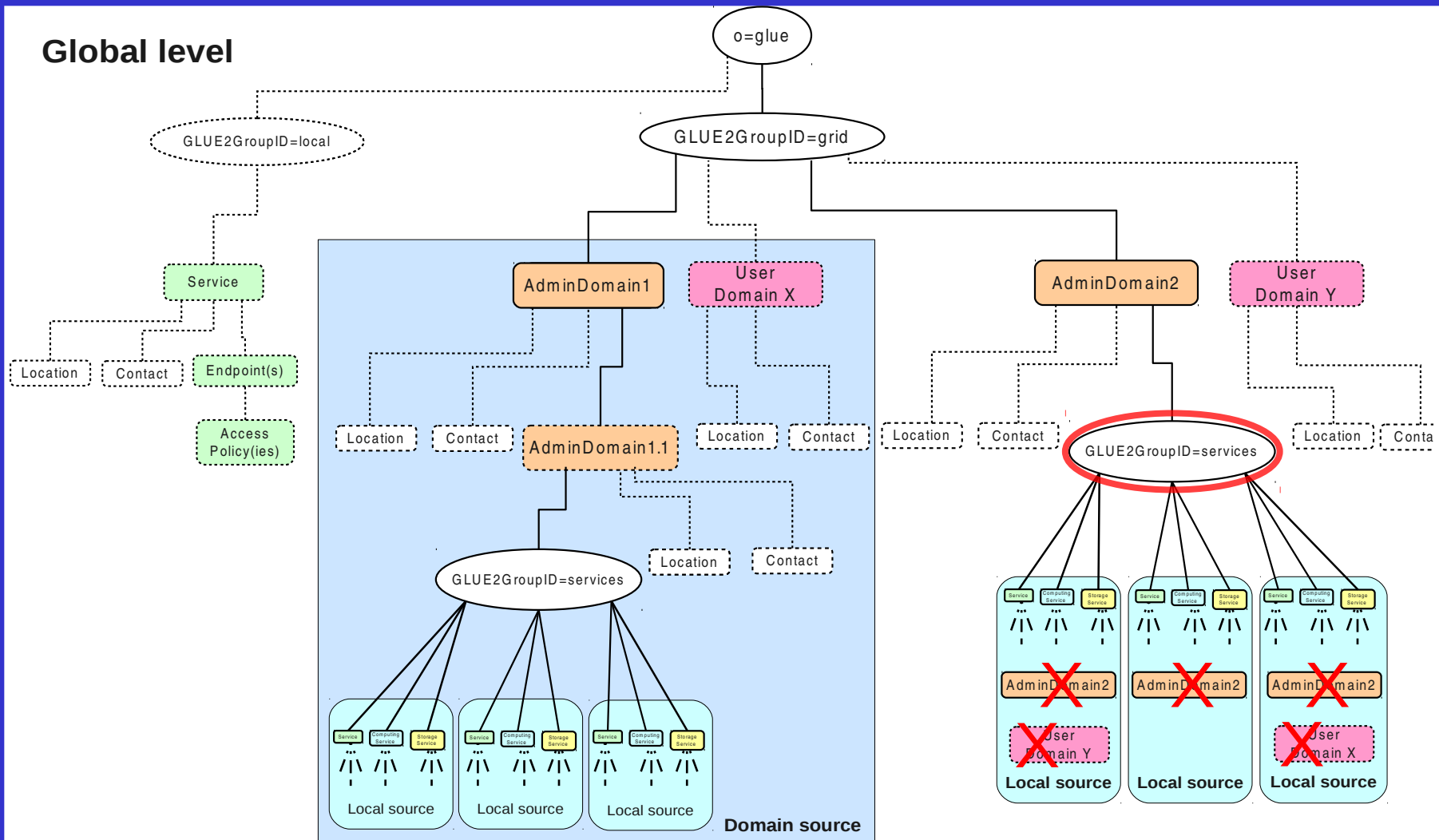
- Hackish solution
- Impossible to have CEs belonging to the same site to publish in a distributed fashion (how does one know a site is distributed?)

**Solution 2:** Refine LDAP GLUE2 rendering to describe a consistent DIT accommodating **local trees** into **global level** directly.

Recall: GLUE2 has the concept of **distributed domain**!

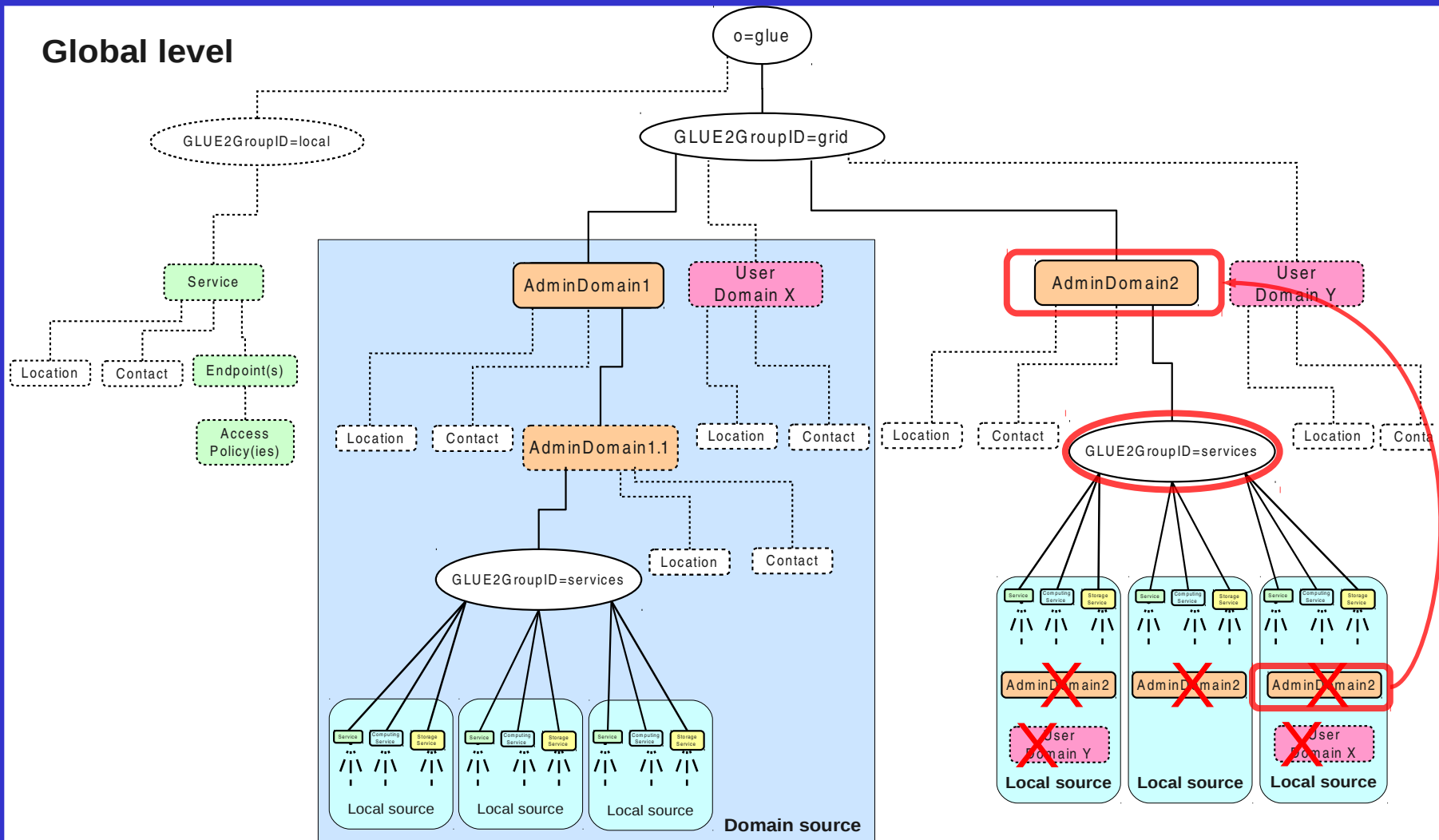
# ARC to Top BDII Integration and the 2012 LDAP Draft

## Global level



# ARC to Top BDII Integration and the 2012 LDAP Draft

## Global level



# Current situation

- An agreement has not been established on the DIT.
- Other modifications on the LDAP document have been heavily criticized, need for an arbitration. Some accepted, some not.
- Currently, the latest draft has not been approved by the group.

# Thanks!

Questions??

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