Information System evolution

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Info Sys

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History

- WLCG workshop in Okinawa April 2015
  - BDII simplification in the contest of cost optimization evaluation

- Information System Task Force established in July 2015
  - OSG announced they were decomissioning the BDII

- October 2018
  - UK tries to break the mould again by declaring we want to drop the BDII too
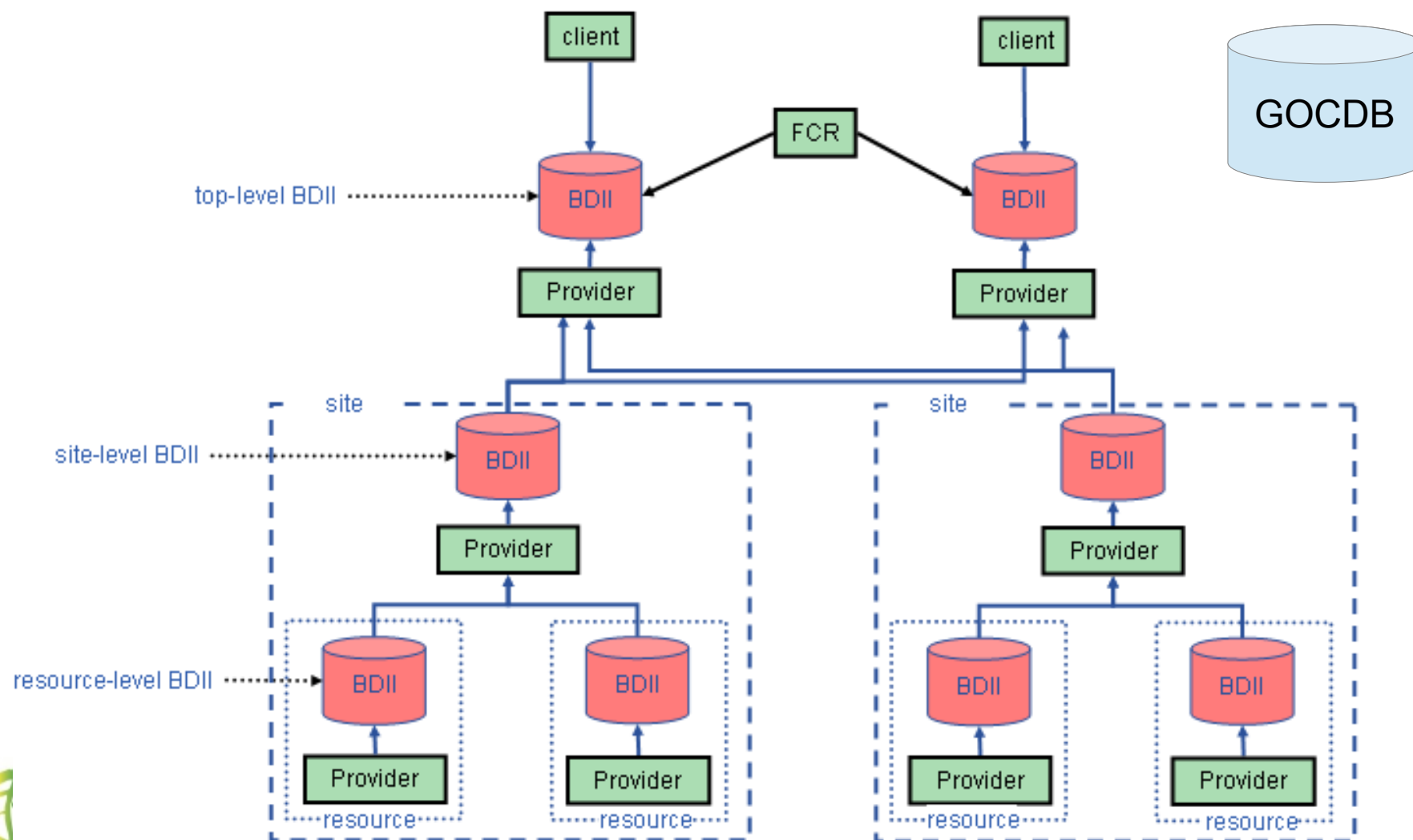
- April 2019
  - …...

Information system

- Information Source
  - BDII: hierarchical ldap service
    - Site resources description
  - GOCDB/OIM
    - Site management/contacts information
- Clients
  - REBUS (BDII)
    - Site pledges, capacities and topology
  - APEL (BDII)
    - Resource consumption accounting
  - Experiments brokering systems (BDII/GOCDB)
    - Mostly Dirac and Alien, and ATLAS IS

BDII

Why replacing

- Over architectured

- Information schema too complicated

  - Difficult to apply changes manually

- Information schema too rigid

  - Difficult to extend beyond existing grid resources

  - Even adding new types of grid resources required effort

    - HTCondor-CE for example

- Experiments use only a handful of attributes

What is used

- BDII publishes two information schemas
  - Glue 1.3: 25763 lines
  - Glue 2.0: 12759 lines
- Contains static and dynamic information
  - Some info semi-static
- Usage of all this information is limited
  - CMS uses none since OSG dropped the BDII
  - LHCb/ATLAS use static attributes
    - Community Dirac does what LHCb does
  - Alice 1 dynamic attribute

BDII replacement
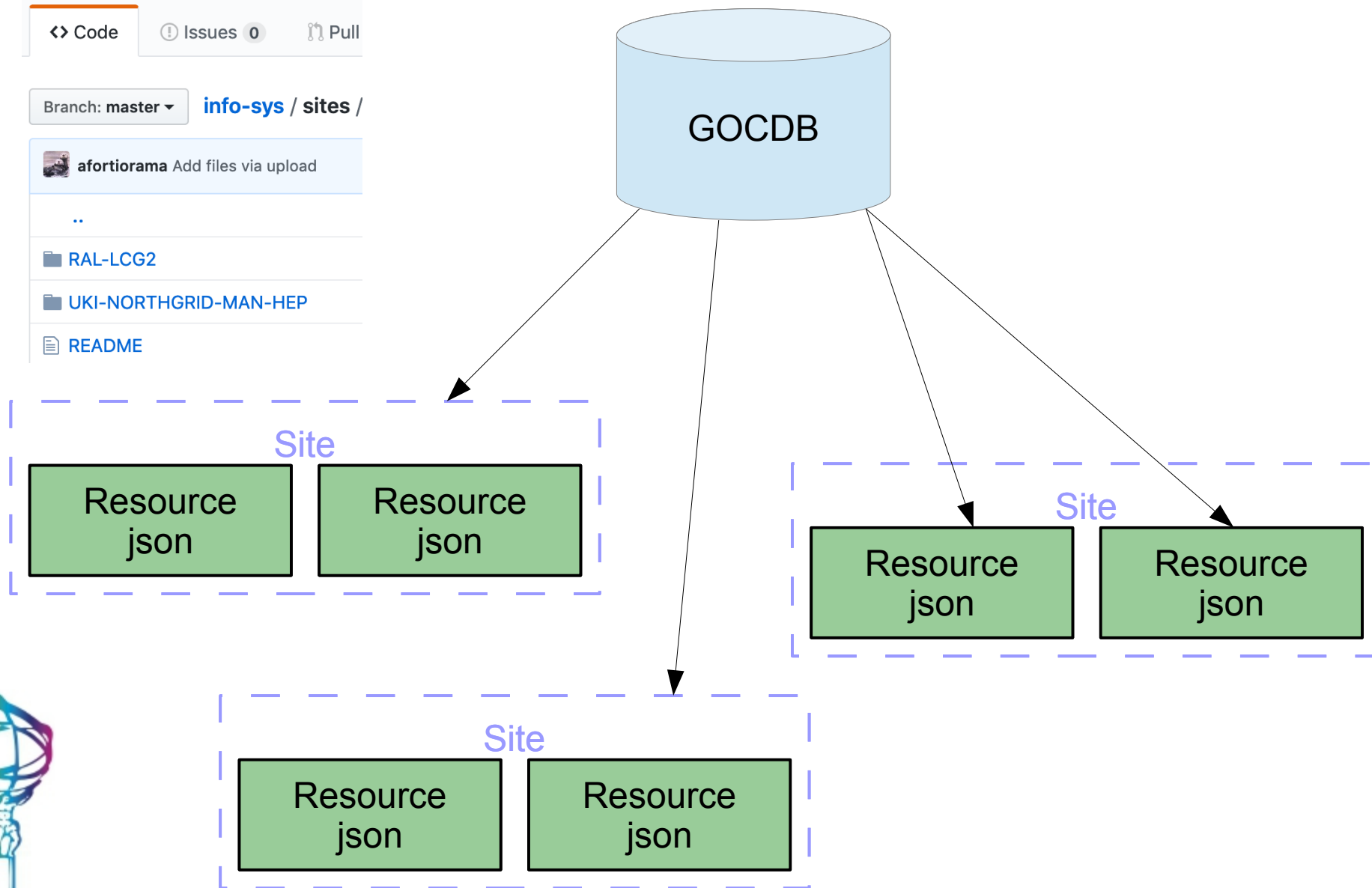
In GOCDB

Networking

Home URL	
GIIS URL	ldap://site-bdii.tier2.hep.manchester.ac.uk:2170/mds-vo-name=UKI-NORTHGRID-MAN-HEP,o=grid
IP Range	0.0.0.0/255.255.255.255
IP v6 Range	
Domain	tier2.hep.manchester.ac.uk

Location

Country	United Kingdom
Latitude	53.47
Longitude	-2.23
Time Zone	Europe/London
Location	Manchester

Extension Properties   **Export all properties**

Name	Value	Edit	Select All
InformationSystem	https://raw.githubusercontent.com/gridpp/info-sys/master/sites/UKI-NORTHGRID-MAN-HEP/UKI-NORTHGRID-MAN-HEP-hierarchical.json	🖊	☐

- JSON location can be added in GOCDB
  - Either at service level
  - Or at site level

BDII

- ## Description for a CE
  - ### Glue1.3: 880 lines
  - ### Glue 2.0: 1285 lines
  - ### Json: 46 lines
- ## Can add new type of resources
  - ### GPUs
  - ### Object Stores
  - ### ....

```
"UKI-NORTHGRID-MAN-HEP-condor-arc-1": {
  "Site": "UKI-NORTHGIRD-MAN-HEP",
  "type": "batch",
  "jobmanager": "condor",
  "jobmanager_version": "8.6.18",
  "status": "production",
  "number_logical_cpus": 1648,
  "capacity_HS06": 17963,
  "OS" : "CentOS7.6",
  "default_walltime_minutes": 4300,
  "default_cputime_minutes": 4300,
  "default_memory_GB": 2,
  "assigned_vos": ["ATLAS", "ska","icecube","pheno"],
  "comment" : "free form string...",
  "publication_time":1540306937,
  "shares": {
    "long" : {
      "type": "queue",
      "max_walltime_minutes": 4300,
      "max_cputime_minutes":4300,
      "max_main_memory_GB": 3,
      "assigned_vos": ["atlas"]
    },
    "medium": {
      "type": "queue",
      "max_walltime_minutes": 1444,
      "max_cputime_minutes":1444,
      "max_main_memory_GB": 3,
      "assigned_vos": ["ska","icecube","pheno"]
    },
    "gpu": {
      "type": "queue",
      "max_walltime_minutes": 1444,
      "max_cputime_minutes":1444,
      "max_main_memory_GB": 12,
      "assigned_vos": ["atlas","icecube"],
    },
  },
  "accesspoints": {
    "ARC5.4":{
      "endpoint_urls" :["gsiftp://ce01.tier2.hep.manchester.ac.uk:2811"],
      "flavour": "ARC-CE",
      "version": "5.4",
    },
  },
},
```

JSONs generation

- Resources should generate the JSON file at configuration time.

- But even if they don't editing generating a small json file that seldom changes can be done without any effort.

  - Compare to the Glue2.0 80 pages manual and still it is not easy to describe the site.

- Location of the json is up to the sys admins

  - Consumers just read where to find it in the GOCDB

EGI

- Main objections come from EGI viscerally attached to the BDII
  - Though they themselves replaced/want to replace it for their cloud infrastructure
    - AppDB Information System
- Their main use case for the BDII is the ARGO monitoring
  - There are some ongoing discussions on how to use the json files

Why haven't we eliminated it yet?

- Work is ongoing but it proceeds slowly

- It requires a decision like OSG has done

  - "In 6 months we are going to drop it"

- We haven't really done that

  - We still are talking about dropping it

  - We aren't dropping it yet

- Dropping it requires the will to do it

  - And everyone working towards this goal

- Many other sites outside the UK interested but mixed messages are discouraging