



# The EDG Testbed Deployment Details



The European DataGrid Project

<http://www.eu-datagrid.org>

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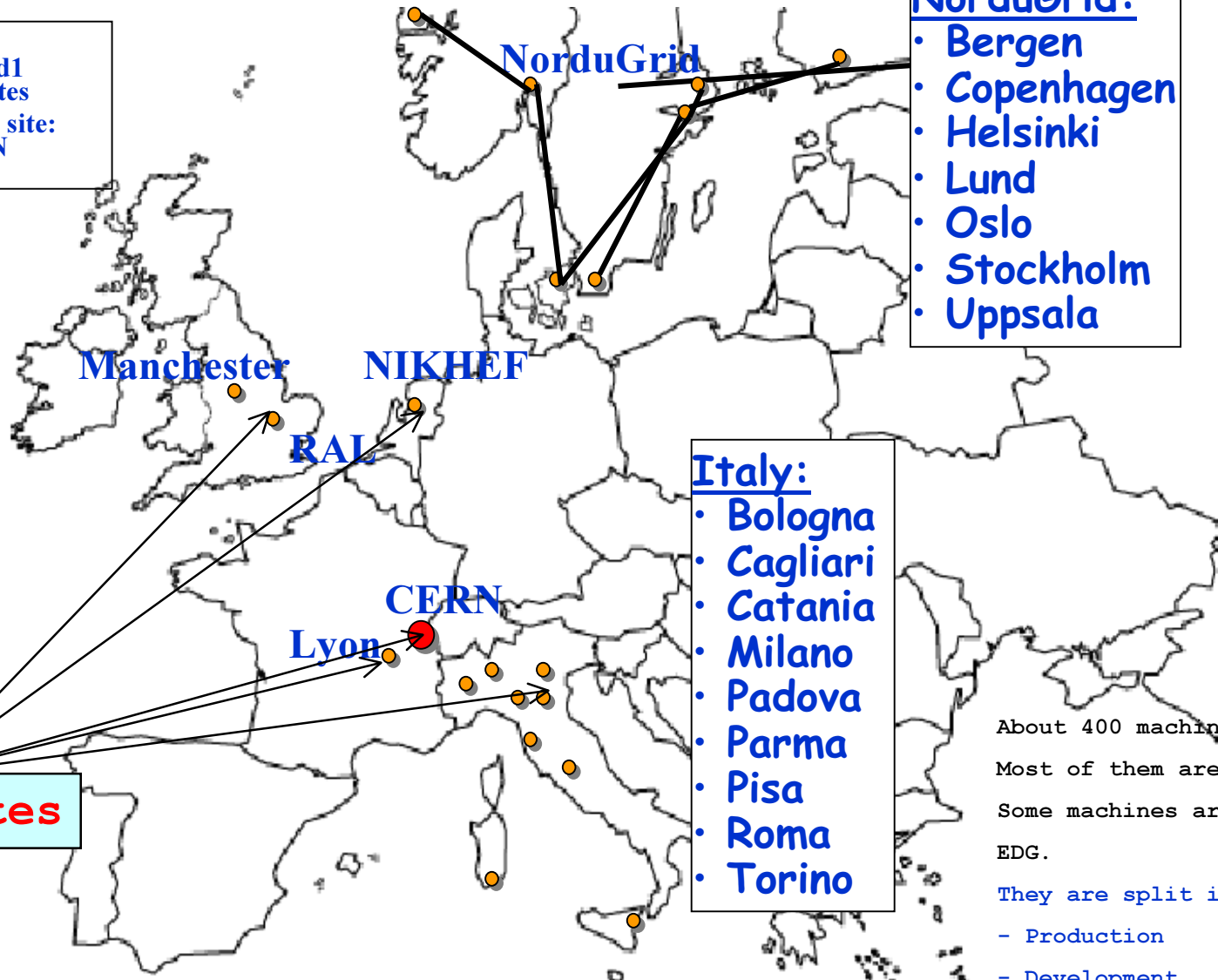
# Contents

- ◆ Current EDG Testbed
- ◆ EDG Logical Machine Type
- ◆ Hardware Components of an EDG Testbed



# Current EDG Testbed

- Testbed1 EDG sites
- Reference site: CERN



- NorduGrid:**
- Bergen
  - Copenhagen
  - Helsinki
  - Lund
  - Oslo
  - Stockholm
  - Uppsala

NorduGrid is as a Grid infrastructure in the Nordic countries

- Italy:**
- Bologna
  - Cagliari
  - Catania
  - Milano
  - Padova
  - Parma
  - Pisa
  - Roma
  - Torino

About 400 machines are available. Most of them are dual processor. Some machines are only used for EDG. They are split into:

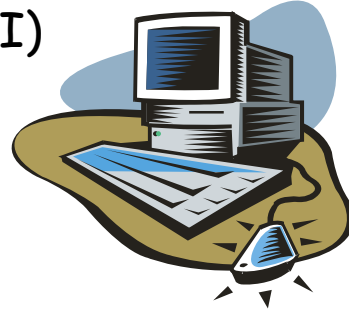
- Production
- Development

**Core Sites**

21 sites

# EDG Logical Machine Types

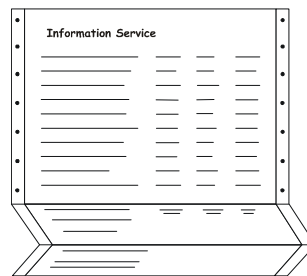
## 1. User Interface (UI)



## 2. Resource Broker (RB)

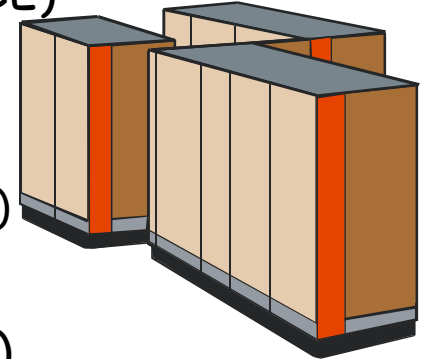


## 3. Information Service (IS)

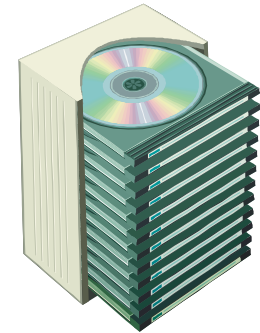


## 4. Computing Element (CE)

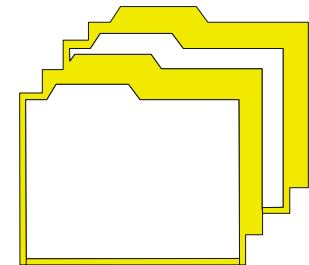
- Gatekeeper (Front-end Node)
- Worker Nodes (WN)



## 5. Storage Element (SE)

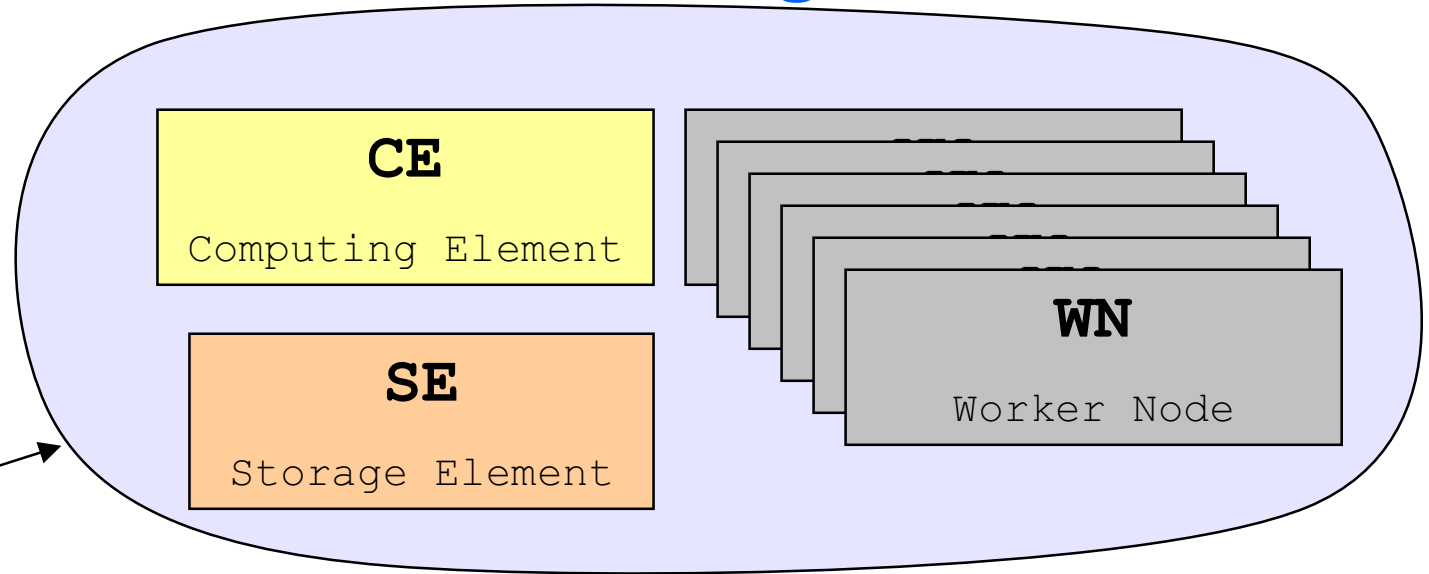
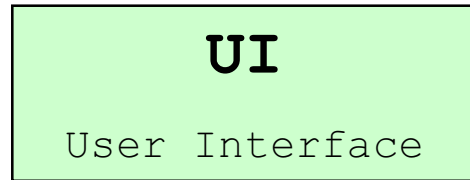


## 6. Replica Catalog (RC)

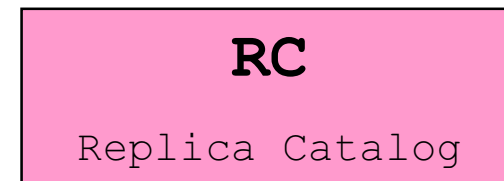
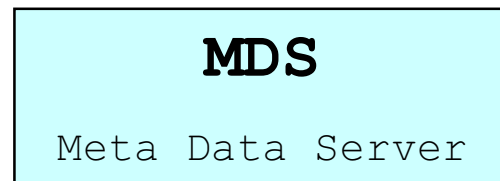




# Testbed Site Configuration



## Minimal Testbed





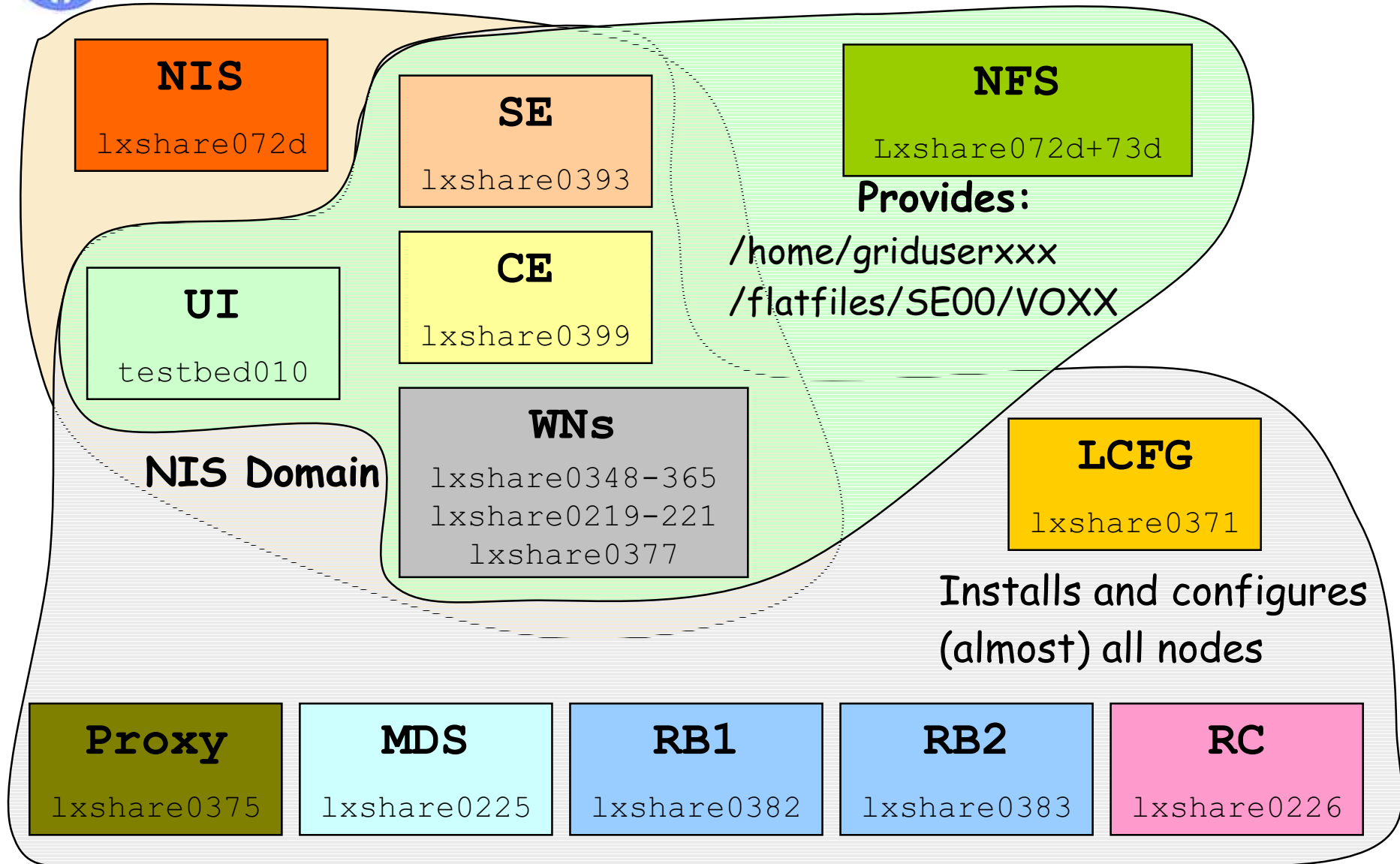
# Example CERN Testbed Structure

<http://marianne.in2p3.fr/datagrid/giis/cern-status.html>

- ◆ Total of 86 nodes
- ◆ 3 Major and several minor testbeds
  - ◆ Production (Application Testbed) 27 nodes
  - ◆ Development 7 nodes
  - ◆ Integration for next major release 7 nodes
- ◆ Infrastructure
  - ◆ 2 NFS server with 1 Tbyte mirrored disk
  - ◆ NIS server to manage user accounts
  - ◆ LCFG servers for installation



# CERN Production Testbed





# Services per Machine Type

Deamon	UI	IS	CE (frontend)	WN	SE	RC	RB
Globus Gatekeeper	-	-	✓	-	-	-	-
Replica Catalog	-	-	-	-	-	✓	-
GSI-enabled FTPd	-	-	✓	-	✓	-	✓
Globus MDS	-	✓	✓	-	✓	-	-
Info-MDS	-	✓	✓	-	✓	-	-
Resource Broker	-	-	-	-	-	-	✓
Job Submission	-	-	-	-	-	-	✓
Information Index	-	-	-	-	-	-	✓
Logging & Bookkeeping	-	-	-	-	-	-	✓
Local Logger	-	-	✓	-	✓	-	✓
CRL Update	-	-	✓	-	✓	-	✓
Grid mapfile Update	-	-	✓	-	✓	-	✓
RFIO	-	-	-	-	✓	-	-
GDMP	-	-	-	-	✓	-	-





# Example IS Content

Site: NIKHEF

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## CE [tbn09.nikhef.nl:2119/jobmanager-pbs-qlong](https://tbn09.nikhef.nl:2119/jobmanager-pbs-qlong):

- PBS queue "qlong" with 96 hours time limit
- Software installed: ATLAS-3.2.1 ALICE-3.07.01 LHCb-1.1.1 IDL-5.4 NIKHEF DOMCC-0.1-4
- There are 0 jobs running and 0 waiting, with 24 CPUs free

Close SE [tbn03.nikhef.nl](https://tbn03.nikhef.nl) with mount point /flatfiles

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## CE [tbn09.nikhef.nl:2119/jobmanager-pbs-qshort](https://tbn09.nikhef.nl:2119/jobmanager-pbs-qshort):

- PBS queue "qshort" with 240 minutes time limit
- Software installed: ATLAS-3.2.1 ALICE-3.07.01 LHCb-1.1.1 IDL-5.4 NIKHEF DOMCC-0.1-4
- There are 0 jobs running and 0 waiting, with 24 CPUs free

Close SE [tbn03.nikhef.nl](https://tbn03.nikhef.nl) with mount point /flatfiles

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## SE [tbn03.nikhef.nl](https://tbn03.nikhef.nl) close to 2 CEs:

- [tbn09.nikhef.nl:2119/jobmanager-pbs-qshort](https://tbn09.nikhef.nl:2119/jobmanager-pbs-qshort)
- [tbn09.nikhef.nl:2119/jobmanager-pbs-qlong](https://tbn09.nikhef.nl:2119/jobmanager-pbs-qlong)
- VOs supported: alice, atlas, lhcb, biomedical, earthob, iteam (wpsix)
- gridftp on port 2811
- rfio on port 3147
- file
- 29216 Mb of free space



# Outlook

- ◆ EDG Testbed 1.x contains basic services
- ◆ Plan for a hierarchy of testbeds
  - Developers testbeds for individual WPs
  - Development testbed for integration (time shared between WPs)
  - Certification testbed for tests and certification (run by LCFG)
  - Application testbed to allow applications to do final tests



## Further Information

- ◆ EDG Testbed homepage:

<http://marianne.in2p3.fr>