



ESA DataGrid Review

4. Demonstration of EO applications

Frascati, 10 June 2002



Summary



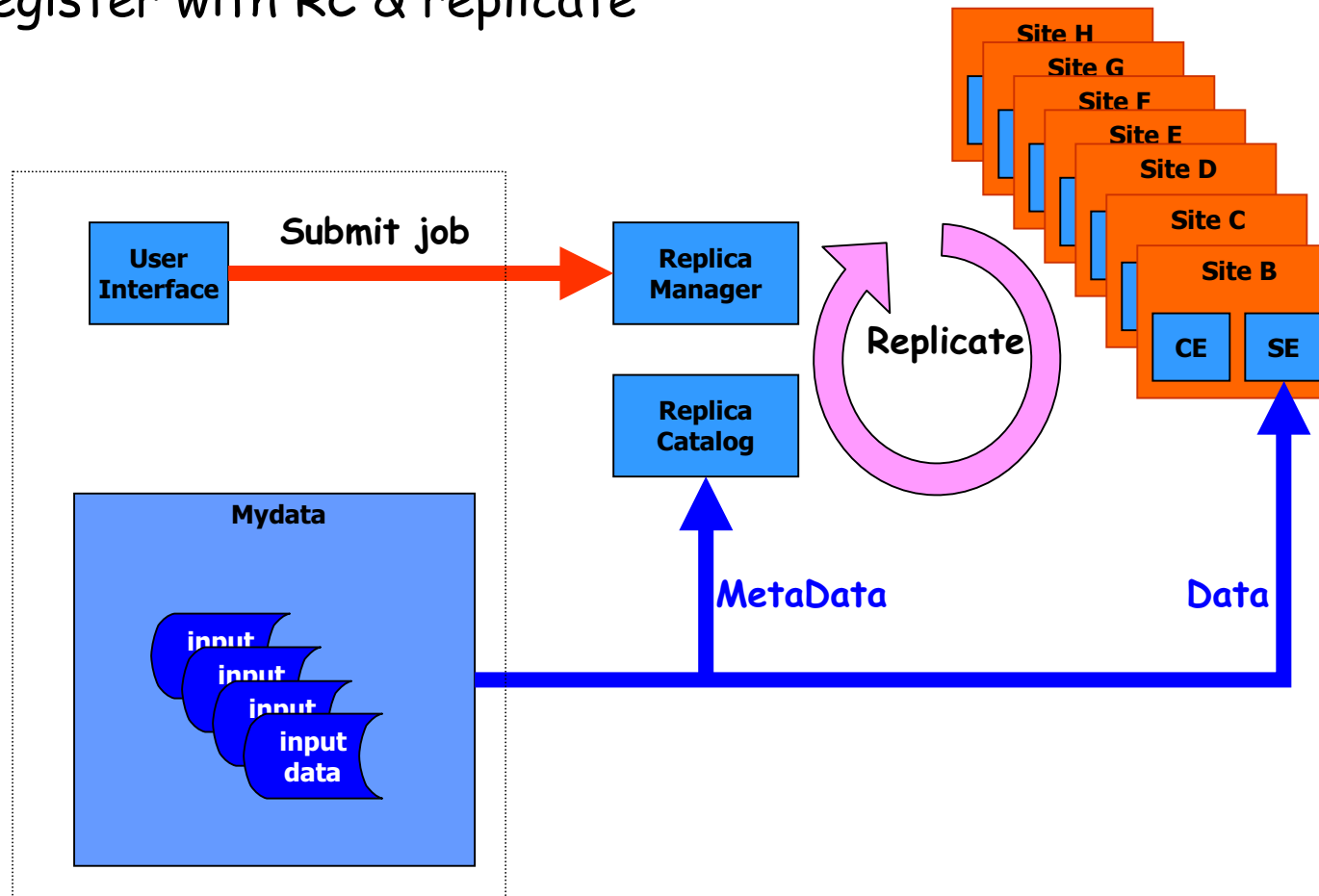
- **Demonstration of EO applications (45m)**
 - **DataGrid (JL/MF)**
 - **Some processing using EO components**
 - **Command-line interface**
 - **IPSL validation of OPERA and NOPREGO**
 - **Some processing using EO components**
 - **ESA Graphical User Interface**
 - **ENEA-ESRIN Grid (SM)**

DataGrid Demonstration (ESA)

- Step 1
 - Transfer files from users machine to the Grid
 - In this case we transfer 5 files
- Step 2
 - Register files with the Grid Replica Catalog and
 - Replicate files
- Step 3
 - Perform Processing chain L1 -> L2 [L2 -> L2/a]
 - Process the files sent in step1
 - Upload L2 files to Grid Storage Element
- Step 4
 - Retrieve Results L2 data

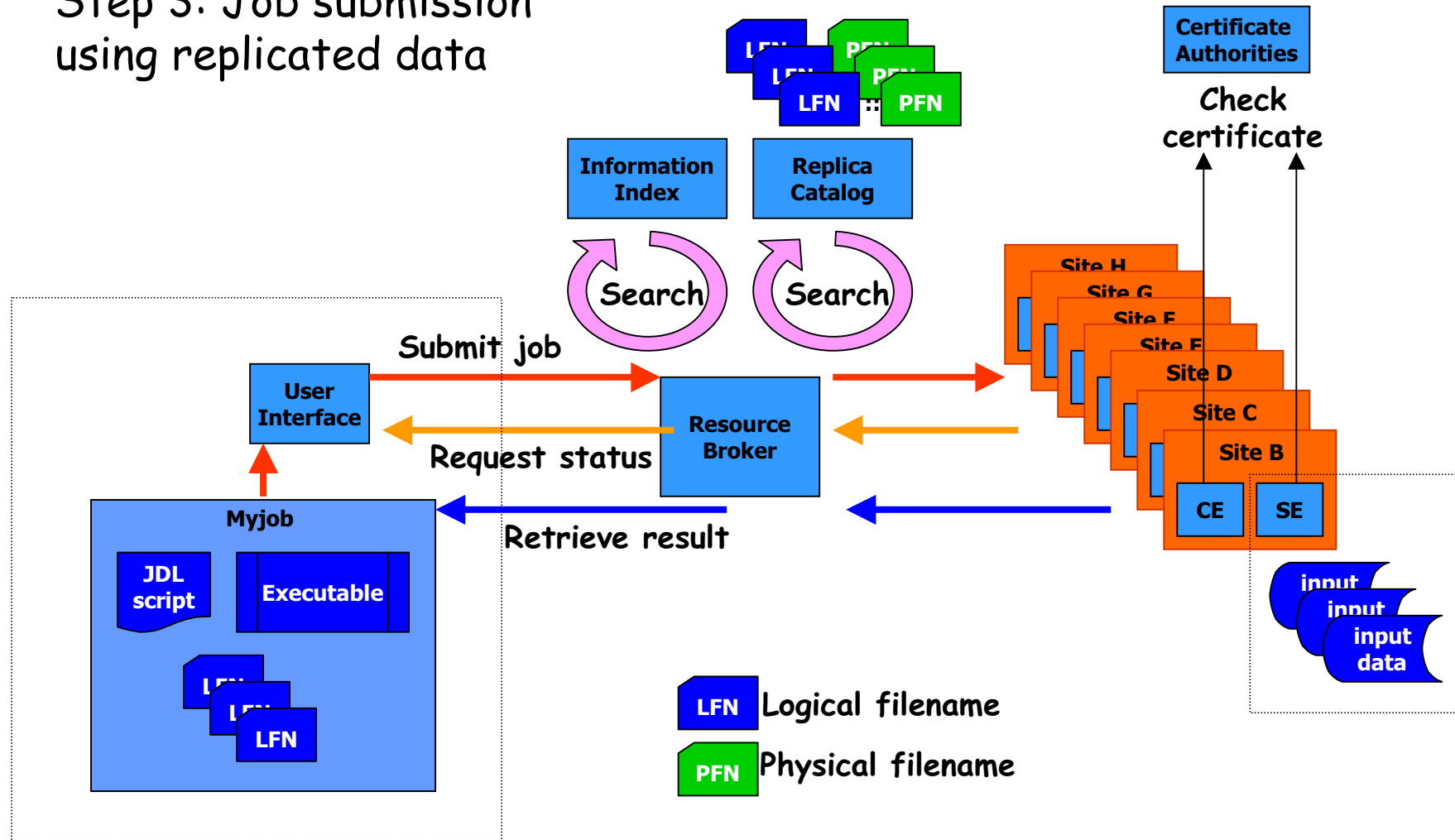
DataGrid Demonstration (ESA)

- Step1 : upload data
- Step 2: register with RC & replicate



DataGrid Demonstration (ESA)

- Step 3: Job submission using replicated data



DataGrid Demonstration (ESA)

Step 1 - Transfer files from local machine to the Grid

```
./grid_store.sh local.list gppse05.gridpp.rl.ac.uk  
/flatfiles/eo /home/fulcoli/products
```

Where:

local.list

- list of files to upload

gppse05.gridpp.rl.ac.uk

- destination Storage Element

/flatfiles/eo

- location on destination SE

/home/fulcoli/products

- location of local files

DataGrid Demonstration (ESA)

Step 2 - Register files with the Grid Replica Catalog

- a) `java java2jdl/JdlXReplica -SE1 gppse05.gridpp.rl.ac.uk
-DIR1 /flatfiles/eo -SE2 lxshare0219.cern.ch -DIR2
/flatfiles/SE1/eo -NAME jlr1.jdl`
- b) `./grid_job_replicate.sh jlr1.jdl`

Where:

`gppse05.gridpp.rl.ac.uk`

- source Storage Element

`/flatfiles/eo`

- location on source Storage Element

`lxshare0219.cern.ch`

- destination Storage Element

`/flatfiles/SE1/eo`

- location on destination Storage Element

DataGrid Demonstration (ESA)

Step 3 - Perform Processing

- a) `java java2jdl/IDLeUP2SE_jdl -SE gppse05.gridpp.rl.ac.uk -GDMP_FLATFILES_DIR /flatfiles/eo -PROGRAM start_noutv -NAME Bin1DemoIII.jdl -PROTOCOL gridftp`
- b) `./grid_job_idl.sh Bin1DemoIII.jdl`

Where:

`start_noutv`

- IDL program to be executed

`gridftp`

- data access protocol

`gppse05.gridpp.rl.ac.uk`

- results destination Storage Element

`/flatfiles/eo`

- location on destination Storage Element

input.in contains the list of files to be processed

DataGrid Demonstration (ESA)

Step 4 - Retrieve Results

- a) `cat /home/fulcoli/Demo_UPDATED_15MAGGIO/STARTINGDIR/archivio/10253779083564/lista.out`
- b) `./grid_retrieve.sh --/lista.out gppse05.gridpp.rl.ac.uk /flatfiles/eo /home_grid0005/dgadmin/ARCHIVIOS`

Where:

10253779083564

- directory where Output Sandbox is stored

lista.out

- list of files produced

gppse05.gridpp.rl.ac.uk

- Storage Element

/flatfiles/eo

- location on Storage Element

/home_grid0005/dgadmin/ARCHIVIOS

- Location on user machine

DataGrid Demonstration (IPSL)

- Validation of LIDAR vs. NOPREGO
 - `./o3gome-lidar_idl.demo`

- Validation of LIDAR vs. OPERA
 - `./o3gome_knmi-lidar_idl.demo`

DataGrid Demonstration (ESA)

- ESA Application Graphical Interface
 - Using the EO components already demonstrated
 - GRID Replica Catalog Interface allows user to locate and select the files on the Grid
 - Allows multiple processing steps to run simultaneously, and pipelining of results in input to the next stage, but:
 - Grid support needed for workflow management and pipelining:
 - Job results output to the SE are automatically published in RC
 - Next processing step can proceed as soon as results are available
 - JDL directive to RB needed to hold jobs in a queue until inputData is ready

Data Surfer GUI

JDL Generic	Step1-Upload	<input type="checkbox"/> List option
JDL X Replica	Step2-Replication	
JDL X Job Execution	Step3-Launch	
PW AUTHENTICATION	START	

Output terminal Display

```
demoReplica.jdl
164104126060792898
gridgui.ProcessTimEvent[source=MainC
```

JOB PANEL

Kill

ro.nikhef.nl:10389/c=EarthOb WP1 Repcat,rc=EarthObReplicaCatalog

File Edit View LDIF Help

Attribute	Value
filename	71001102.lv1
filename	71001102.utv
filename	71008101.lv1
filename	71008101.utv
filename	71011102.lv1
filename	71011102.utv
filename	71016091.lv1
filename	71025093.lv1
filename	71029091.lv1

GRID SURFER

```
The job has been successfully submitted to the Resource Broker.
Use dg-job-status command to check job current status. Your job identifier (dg_job
https://grid004f.cnaf.infn.it:7846/193.204.228.41/14090112027303?grid004f.cna
The dg_jobId has been saved in the following file:
/home_grid0005/dgadmin/trash/tr2XSCRIPT/STARTINGDIR/tmp/jobID_IDLeUP2SE1
-----
Wait....
The System is attempting to contact the RB.....
The System is uploading files for job.....
Wait.....
The System is retrieving information from RC.....
Wait.....
This operation could take a little bit of time.....
Wait....
dg-job-status -input tmp/jobID_IDLeUP2SE164104126060792898.txt -output tmp/
WAIT4II.....
Ready
... printing status.....
WAIT4II.....
Done
... printing status.....
WAIT4II.....
Status          = OutputReady
OK..... Job Done
dg-job-get-output -input tmp/jobID_IDLeUP2SE164104126060792898.txt -dir ./ar
*****
Output sandbox files for the job:
- https://grid004f.cnaf.infn.it:7846/193.204.228.41/14090112027303?grid004f.c
have been successfully retrieved and stored in the directory:
/home_grid0005/dgadmin/trash/tr2XSCRIPT/STARTINGDIR/archivio/14090112027
*****
```