AMI replication

Solveig Albrand

Current deployment of AMI and TC

Component	Location	
Dataset catalogues since 2007; Central dataset catalogues REPLICATION SOON	ORACLE @CCIN2P3 Lyon	data08, mc08,… reference tables + global dataset
Legacy dataset catalogues	mySQL@LPSC Grenoble	csc, mc11,….
Tag Collector	mySQL@CCIN2P3 Lyon	For reasons of performance
AMI Router. Connection indirection and user rights. REPLICATION LATER	mySQL@CCIN2P3 Lyon	For TC Performance, but should go to ORACLE in 2008

Servers: Load balancing / Fail over

APACHE/CCIN2P3

TOMCAT

AMI WEB CONTAINER

mySQL

ORACLE

WEB
Load balancing

TOMCAT

mySQL lpsc

AMI WEB CONTAINER

AMI indirection ➔ Users
redirected to correct DB
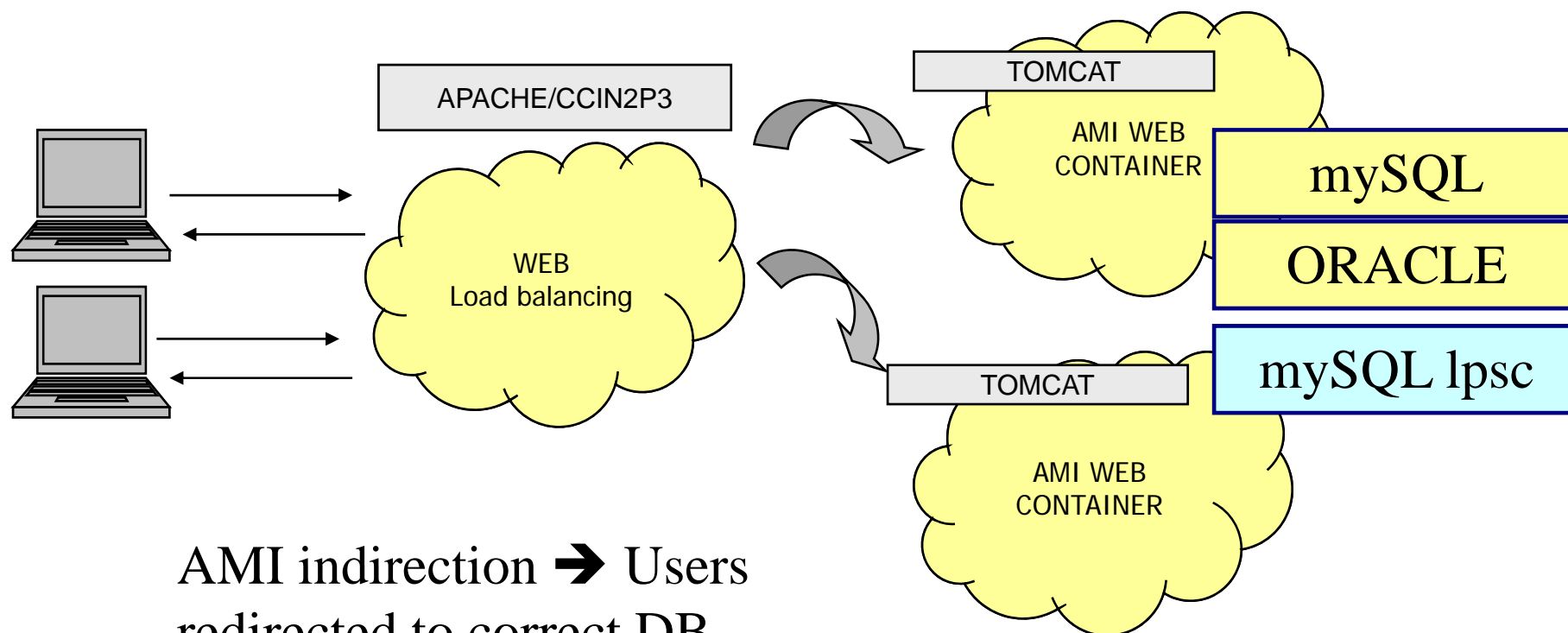
Replication

- Unusual! Replication from Tier 1 to Tier 0

- Mechanism was tested in 2007. Currently waiting for new tests on "real" data.

- Only the datasets in catalogues started since Jan 2007 will be replicated at first.

- This means TC will NOT be replicated, and at first no server will be needed at CERN.
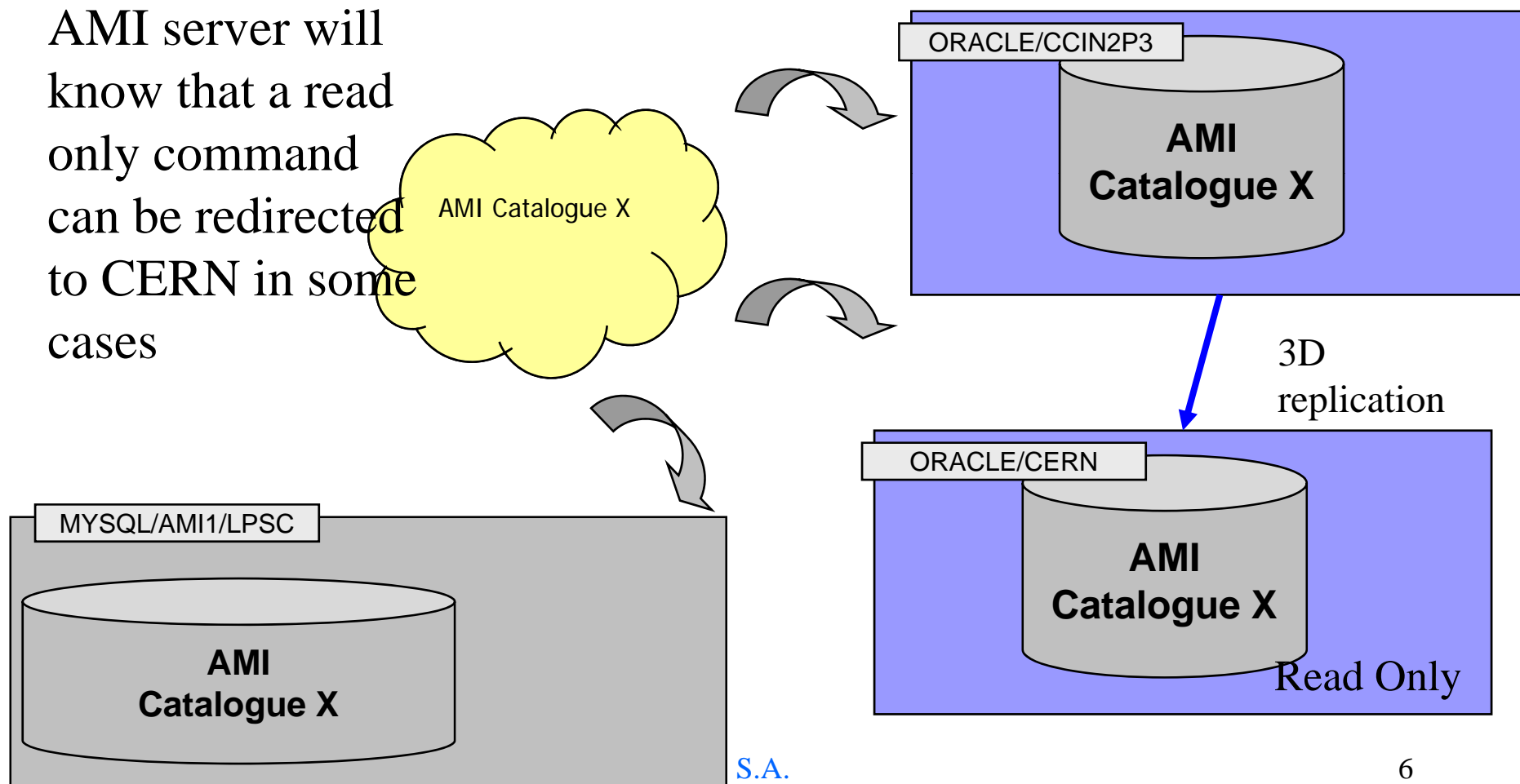
Replication

- Estimations of size are difficult.
  - Proportional to nFiles produced and nTimes data reprocessed.

- The size of AMI is almost negligible compared with the total.
  - Estimated to be 0.04 TB in 2010
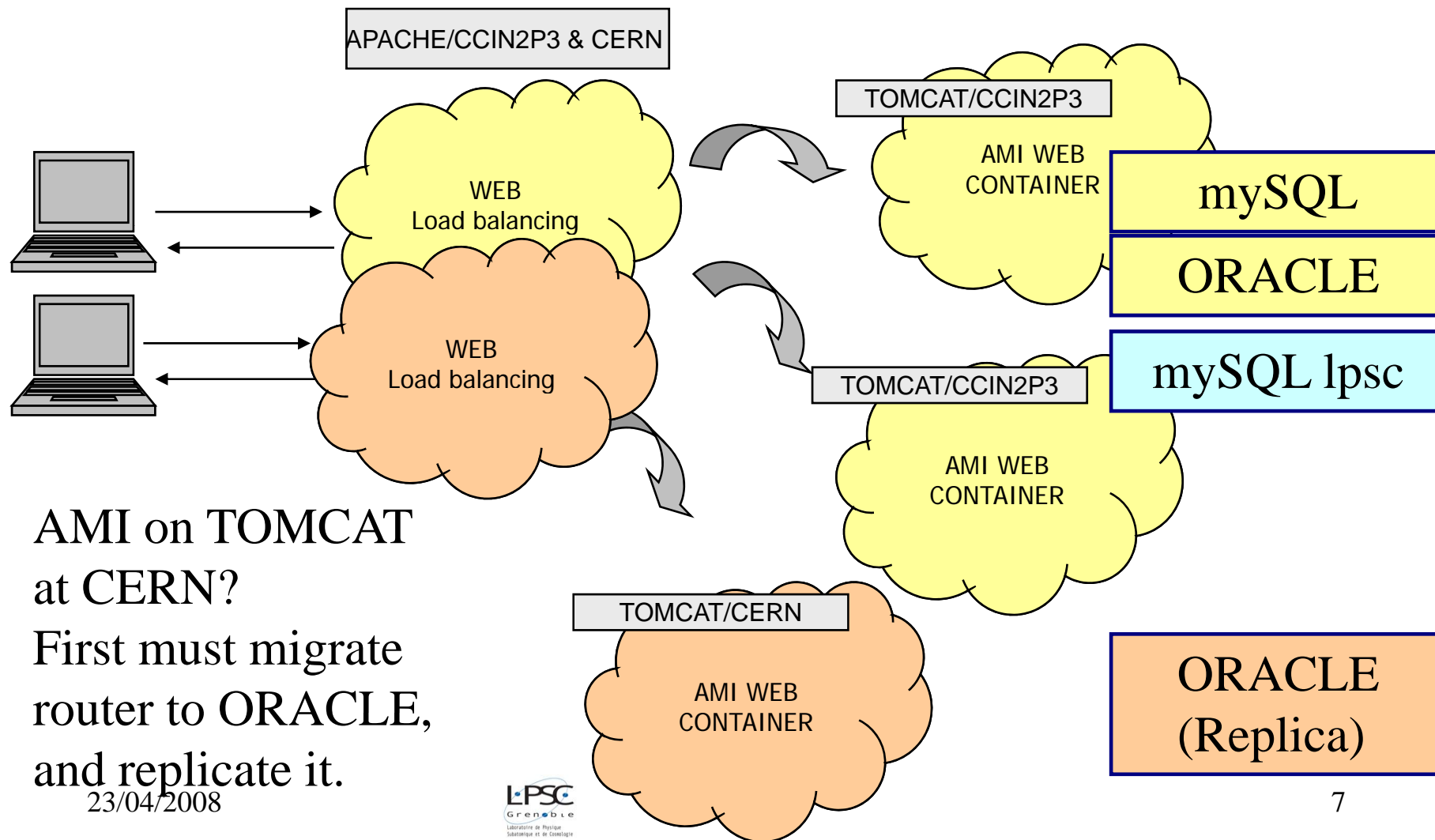 - AMI will have $\sim 0.5 \times 10^6$ transactions /day

S.A.

How to use the replica?

Try to manage use of replicas seamlessly

AMI server will know that a read only command can be redirected to CERN in some cases

AMI Catalogue X

ORACLE/CCIN2P3

AMI Catalogue X

3D replication

ORACLE/CERN

AMI Catalogue X

Read Only

MYSQL/AMI1/LPSC

AMI Catalogue X

Laboratoire de Physique
Subatomique et de Cosmologie

S.A.

6

End 2008?

APACHE/CCIN2P3 & CERN

WEB Load balancing

WEB Load balancing

TOMCAT/CCIN2P3

AMI WEB CONTAINER

TOMCAT/CCIN2P3

AMI WEB CONTAINER

TOMCAT/CERN

AMI WEB CONTAINER

mySQL

ORACLE

mySQL lpsc

ORACLE (Replica)

AMI on TOMCAT at CERN?
First must migrate router to ORACLE, and replicate it.

L·PSC
Grenoble
Laboratoire de Physique
Subatomique et de Cosmologie

Explanation

- ## No problems anywhere.
  - Use either front end.
  - Both servers know that a read only command on some catalogues can go to the CERN replica. Writes must go to Lyon.

- ## Problem with Lyon?
  - Only CERN front end up
  - Only reads available at CERN

- ## Problems everywhere?
  - Take coffee break.