Continuous Integration
Testing of Databases on 
CERN Infrastructure

CERN openlab 2015 Summer 
Students
Lightning Talks
Mufutau Akuruyejo

19/08/2015
Create and develop automated testing environment in order to detect any problems introduced by
- OS level changes, e.g. parameters, kernel, packages
- Database changes, e.g. parameters, versions, patches

Using Oracle RAT and other tools
DBTest RAT module workflow

- Regular replays compared with baseline
- Spot performance degradation and new errors
Real Application Testing

Production

Test

Client

Client

Client

Middle Tier

Oracle Database

Storage

Replay Client

Replay Client

Oracle Database

Storage

Workload Capture

Workload Preprocessing

Workload Replay

Analysis & Reporting

Mufutau Akuruyejo
RAT module steps - REPLAY

- Initialize all needed parameters and directories
- Clear all previous logs and outputs apart from baseline
- Determine no. of clients required; start them
- Start replay, wait and monitor…
RAT module steps - REPORT

- Generate individual replay reports
- Generate compare replay reports
- Parse the reports and logfiles to compare results with stored baseline
- Alert when thresholds crossed
The user just runs a single command!!
Future and Key lessons

› If your challenges don’t scare you, then they are not big enough

› With this my project, we can mitigate many risks associated with OS and database changes