

21st International Conference on Computing in High Energy and Nuclear Physics (CHEP2015)



Contribution ID: 42

Type: oral presentation

Evolution of Database Replication Technologies for WLCG

Monday, April 13, 2015 2:15 PM (15 minutes)

During LHC run 1 ATLAS and LHCb databases have been using Oracle Streams replication technology for their use cases of data movement between online and offline Oracle databases. Moreover ATLAS has been using Streams to replicate conditions data from CERN to selected Tier 1s. GoldenGate is a new technology introduced by Oracle to replace and improve on Streams, by providing better performance, robustness, manageability and support. At the same time Oracle Active Data Guard is another technology that fulfils several use cases in this area, by allowing the creation of read-only copies of production databases, currently in use by CMS, ALICE and more recently by ATLAS for controls data. In this paper we will provide a short review of when GoldenGate is preferable to Streams/Active Data Guard. Further we will report the details of the migration of CERN and Tier 1s database replication setups/configurations from Streams to GoldenGate. In particular we will describe the architecture of GoldenGate replication services, our performance tests for remote replication done in collaboration with ATLAS and Tier 1 database administrators and the return of experience from running GoldenGate in production. We will also summarize our tests for future work on how GoldenGate can be used to reduce the downtime for Oracle version upgrades and on using GoldenGate for heterogeneous database replication.

Primary author: BARANOWSKI, Zbigniew (CERN)

Co-authors: DIMITROV, Gancho (CERN); LOBATO PARDAVILA, Lorena (CERN); CANALI, Luca (CERN); BLASZCZYK, Marcin (CERN)

Presenter: BARANOWSKI, Zbigniew (CERN)

Session Classification: Track 3 Session

Track Classification: Track3: Data store and access