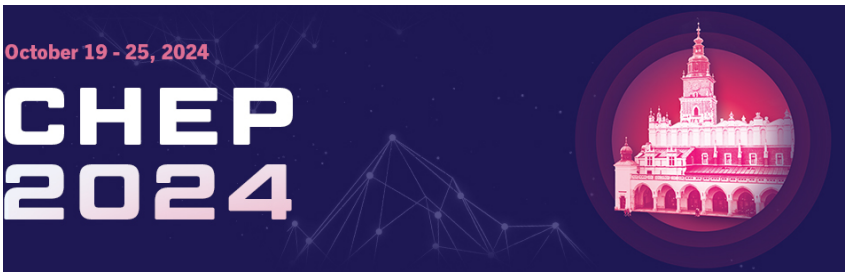

Contribution ID: **286** Type: **Poster**

OMS Data Aggregation and Management in the CMS Experiment

Tuesday 22 October 2024 16:00 (15 minutes)

The OMS data warehouse (DWH) constitutes the foundation of the Online Monitoring System (OMS) architecture within the CMS experiment at CERN, responsible for the storage and manipulation of non-event data within ORACLE databases. Leveraging on PL/SQL code, the DWH orchestrates the aggregation and modification of data from several sources, inheriting and revamping code from the previous project known as Web Based Monitoring to meet evolving requirements. The main goals of the DWH restructuring were: the modernization of inherited PL/SQL code, necessitating the creation of new aggregation tables and the implementation of enhancements such as standardized naming conventions; improved development workflows; and continuous integration strategies. DWH is composed of multiple Oracle schemas and integrates external PL/SQL libraries, in particular the CERN Beams Common4Oracle library, which consolidates common functionalities from various CERN Beams department databases into a unified codebase for widespread application. This article delves into the architecture and development strategies employed within the OMS data warehouse, underscoring its role in facilitating efficient data aggregation and management within the OMS project in the CMS experiment at CERN.

Primary author: PETRUCCI, Andrea (Univ. of California San Diego (US))

Co-authors: COROMINAS I MARISCOT, Albert (University of Girona UdG (ES)); Dr BOCCI, Andrea (CERN); DVORAK, Antonin (CERN); GAILE, Antra (Riga Technical University (LV)); RACZ, Attila (CERN); ODETAYO, Babatunde John (University of Benin (NG)); DELDICQUE, Christian (CERN); PAUS, Christoph (Massachusetts Inst. of Technology (US)); SCHWICK, Christoph (CERN); EMMANOUIL, Christos; VAZQUEZ VELEZ, Cristina (CERN); SIMELEVICIUS, Dainius (Vilnius University (LT)); RABADY, Dinyar (CERN); GIGI, Dominique (CERN); Dr MESCHI, Emilio (CERN); CANO, Eric (CERN); GLEGE, Frank (CERN); MEIJERS, Frans (CERN); DARLEA, Georgiana Lavinia (Massachusetts Inst. of Technology (US)); GOMEZ CEBALLOS RETUERTO, Guillelmo (Massachusetts Inst. of Technology (US)); IZQUIERDO MORENO, Guillermo (CERN); SAKULIN, Hannes (CERN); ALAWIEH, Jaafar (American University of Beirut (LB)); BRANSON, James Gordon (Univ. of California San Diego (US)); BUGAJSKI, Jan Andrzej (AGH University of Krakow (PL)); HEGEMAN, Jeroen (CERN); ARUTJUNJAN, Kareen (CERN); LONG, Kenneth (Massachusetts Inst. of Technology (US)); ORSINI, Luciano (CERN); DOBSON, Marc (CERN); PIERI, Marco (Univ. of California San Diego (US)); BACHAROV DURASOV, Miguel (CERN); GORNIAK, Patrycja Ewa (CERN); ZEJDL, Petr (CERN); BRUMMER, Philipp (CERN); TZANIS, Polyneikis (CERN); KRAWCZYK, Rafal Dominik (Rice University (US)); CITTOLIN, Sergio (Univ. of California San Diego (US)); MOROVIC, Srecko (Univ. of California San Diego (US)); JAYAKUMAR, Tejeswini (CERN); RIZOPOULOS, Theodoros (CERN); JAMES, Thomas Owen (CERN); BEHRENS, Ulf (Rice University (US)); KARIMEH, Wassef (CERN); LI, Wei (Rice University (US))

Presenter: PETRUCCI, Andrea (Univ. of California San Diego (US))

Session Classification: Poster session

Track Classification: Track 2 - Online and real-time computing