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CloudDBAppliance



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European Cloud In-Memory Database Appliance
with Predictable Performance for
Critical Applications



@cdbaproject



CloudDBAppliance Project

Motivation

CloudDBAppliance aims at creating an appliance with an ultra-scalable operational database analytical capabilities leveraging a new ultra-efficient storage engine able to scale up the next Bullion generation with 800 cores.

Objectives

CloudDBAppliance will deliver a European appliance with a leading-edge hardware platform, the new Bullion generation, equipped with an ultra-scalable operational database, LeanScale, boosted with its ultra-efficient storage engine able to scale up linearly to 1,000+ cores and integrated with ActivePivot, that will provide real-time analytics, as well as an ultra-scalable in-memory streaming engine, with a set of parallel analytics algorithms for data mining and machine learning, both over the operational data.



Expected Outcomes and Impact

The CloudDBAppliance outcomes will be validated through five real industrial use case scenarios in three verticals:

- Bank Sector
- Telecommunications Sector
- Retail Sector

Project Information

Project Number: 732051
Project Coordinator: Bull/Atos Technologies
Execution Period: 01/12/2014 - 30/11/2019
Budget: € 4,83M
12 Partners (7 Countries: FR, ES, UK, IT, GR, PT, DE)
Programme Type: Research and Innovation Action
Program Acronym: CloudDBAppliance

What makes CloudDBAppliance unique?

New Bullion generation: The new hardware platform being built by Bull able to reach 800 CPU cores, 140 TB of main memory along with new MME and GPU accelerators technologies in a single computer.

LeanScale ultra-scalable Full SQL, Full ACID database: A new version of LeanScale to scale up linearly at the scale of the new Bullion.

LeanScale ultra-efficient Full ACID key-value data store: LeanScale's Kivi ultra-efficient storage engine redesigned to scale up efficiently in many-core NUMA servers such as the new Bullion.

ActivePivot in-memory MOLAP: A new version of ActivePivot redesigned to be able to scale up to the dimension of the new Bullion. It will be integrated with LeanScale to provide analytical query support over operational data.

Real-Time Analytics: A new set of algorithms that compute analytics in a continuous and/or incremental manner over data stored in LeanScale.

Ultra-Scalable data streaming: A new data streaming engine able to scale up very efficiently in the Bullion and integrated with LeanScale DB and Kivi to enable real-time correlation and/or update of operational data with the streams at very large rates, in the order of millions of events per second.

Operational data lake: LeanScale database will be integrated with Bull's Hadoop/Spark data lake, that is, a database providing operational capabilities and enabling correlation with historic data stored in the data lake.

Partners



Contacts

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