CoherentPaaS

Coherent and Rich PaaS with a Common Programming Model

ICT FP7-611068

Scalable SQL and SQL-like data stores

D6.2 Cloud SQL-like data stores extensions implementation v1

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RE   Restricted to a group specified by the consortium (including the Commission)
CO   Confidential, only for members of the consortium (including the Commission)

Revision History

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23.09.2014	Savary	Draft	0.1	Sketch of structure
10.10.2014	Nedev	Draft	0.2	Add MonetDB extension implementation and integration overview
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More information

Additional information and public deliverables of CoherentPaaS can be found at:
http://coherentpaas.eu

Executive Summary

This document describes the progresses of the three SQL-like data stores, namely, a column-oriented data store (*MonetDB*), an in-memory analytical database (*ActivePivot*), and an SQL engine (*DQE*), in the context of implementing extensions to integrate the CoherentPaaS ecosystem.

Each SQL-like data store will:
- Expose the global design decisions regarding extensions' implementation and motivations for choosing it.
- Provide low level implementation details, including encountered issues.
- Update the roadmap sketched in deliverable D6.1

Background

In CoherentPaaS we bridge three data modelling domains: SQL-based systems, NoSQL based systems, and graph-based systems. In WP6 we focus on the SQL-based approach and extend it towards the scalable Cloud processing. Both scale-up, i.e. more powerful processor nodes, and scale-out, i.e. larger clusters, are considered from the perspective of the individual product offerings.

The ambition of CoherentPaaS is to consolidate transaction processing and distributed heterogeneous query processing within a single software layer. WP6 will produce a set of SQL Cloud data stores to be integrated into the CoherentPaaS framework. These data stores will include: MonetDB, ActivePivot, and DQE.

The extensions required for each data store have been identified in deliverable D6.1: Cloud SQL-like data stores extensions design.

ActivePivot's roadmap for 2014-Q3 consists in implementing multi-version concurrency control (MVCC) for its transactional engine.