



CoherentPaaS

Coherent and Rich PaaS with a Common
Programming Model

ICT FP7-611068

Holistic Transaction Management D4.6

September 2014



Document Information

Scheduled delivery	30.09.2014
Actual delivery	24.10.2014
Version	1.0
Responsible Partner	UPM

Dissemination Level:

PU Public

PP Restricted to other programme participants (including the Commission)

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

Date	Editor	Status	Version	Changes
14. 09.2014	Ricardo Jimenez	Draft	0.1	Initial template
18. 09.2014	Iván Brondino	Draft	0.2	
05.10.2014	Marta Patiño	Draft	0.3	
18.10.2014	Iván Brondino	Draft	0.4	Peer reviews
24. 10.2014	Ricardo Jimenez	Draft	1.0	Final version

Contributors

Ricardo Jimenez-Peris

Iván Brondino

Marta Patiño-Martínez

Internal Reviewers

Rui Oliveira

Angelos Bilas

Acknowledgements

Research partially funded by EC 7th Framework Programme FP7/2007-2013 under grant agreement n° 611068.

More information

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

1. Executive Summary

This deliverable describes the holistic transaction management architecture. The holistic transaction management provides a set of components that implement transaction management: log, snapshot counter and conflict detection. These components are decoupled so that they can be scaled-up independently. The holistic transaction management implements snapshot isolation; therefore all data stores accessed in a transaction need to provide multi-version data and write-write conflict detection. The data stores either use their own log and functionality to redo transactions, or provide the logging information to the holistic transaction management. Applications can bracket transactions directly or through the common query language. In both cases a proxy client to the transaction manager is used at the client side. At each data store a local transaction manager must be deployed.