CoherentPaaS

Abstract

Cloud data management, Big Data and the Internet of Things raise specific challenges with respect to scalable data management, both in real-time and offline. Big Data analytics puts the emphasis on large queries over big cloud data stores. The emerging Internet of Things applications also raise specific challenges with respect to real-time data management. Developing cloud applications at large scale is also complex due to the lack of coherence support. In this landscape there is an increasing demand for efficiency and scalability that has resulted in the implementation and use of a wide diversity of different cloud data stores – each one specialized and optimal for specific processing, thus leading to a “no one size fits all” situation. This trend has resulted in a large proliferation of APIs, a lack of a common programming framework and a lack of coherence across different cloud data managers for the corresponding different technologies (traditional environments provided full coherence that has been totally lost in the cloud landscape). CoherentPaaS addresses all these issues. CoherentPaaS will provide a rich PaaS with different “one size” data stores optimized for particular tasks, data, and workloads. CoherentPaaS will integrate NoSQL, SQL data stores, and complex event processing data management systems with holistic coherence and that will be accessed by means of a common query language. CoherentPaaS will thus enable the development of new cloud, BigData and IoT applications that exploit the performance and scalability of new cloud
data management technologies, while hiding the complexity of the underlying technology under a unified query language and holistic coherence across data stores that will simplify application development. CoherentPaaS outcomes will enable application developers to program with a unified framework that will attain simplicity thanks to the common query language and holistic coherence, scalability guaranteed by each cloud data management technology, and efficiency by enabling to use different cloud data managers specialized for the required tasks.