

## UBIVERTEX - Letter of Intention

Institute/Company

Name: INRIA Rennes – Bretagne Atlantique

Country: France

Activity domain: Research Institute in Computer Science (EPST)

Number of employees:  <50  <250  > 500

Name of the department/research team: KerData

Scientific contact

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Challenge descriptions:

The KerData research team at INRIA Rennes – Bretagne Atlantique (<http://www.irisa.fr/kerdata/>) is focusing on large-scale is investigating innovative techniques for scalable, high-throughput, concurrency-optimized data and metadata management on scalable distributed platforms, with a strong focus on cloud computing. The team has developed a strong know-how in this area as a leader of several projects on cloud data management in partnership with Microsoft and IBM, such as the MapReduce ANR project (2010-2014, <http://mapreduce.inria.fr/>), and the A-Brain Microsoft Research - INRIA project (2010-2013, <http://www.msri.inria.inria.fr/Projects/a-brain>). The UBIVERTEX platform will let us to make further progress in the area of cloud data management by enabling us to address following challenges:

- Design optimized virtual storage software services for cloud data-mining applications (e.g., based on the MapReduce paradigm) on a multi-datacenter virtualized infrastructure.
- Advanced (e.g., concurrency-optimized, versioning-oriented) cloud services both for user-level data storage and for virtual machine image storage and management at IaaS level.
- Investigate the storage requirements for a wide range of applications that require different tradeoffs between consistency, availability and performance on multi-datacenter clouds and provide a set of storage building blocks allowing to propose such trade-offs.

Type of commitment (internship, Phd grant, engineering staff):

2 PhD students ,1 internship

Number of persons involved in these challenges: 5

Signature of  
Scientific Contact:  
Gabriel Antoniu



Date: 5/9/2011

Signature of the  
Legal Representative:

Date: