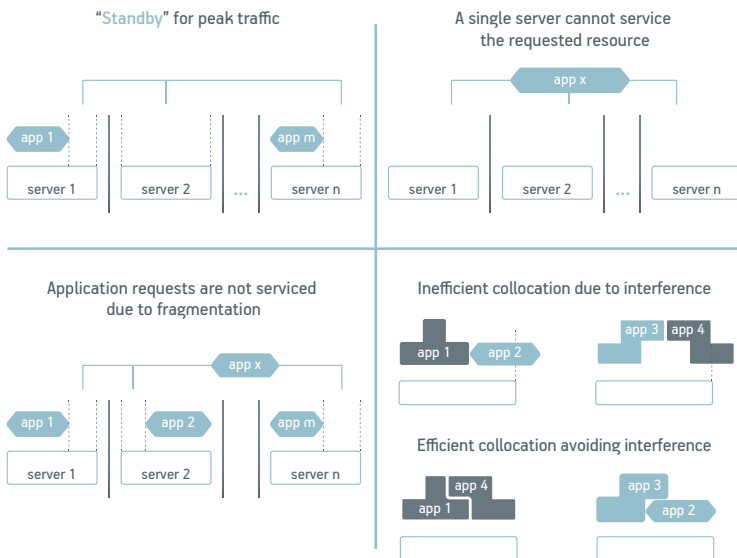


## ACTiCLOUD in a nutshell

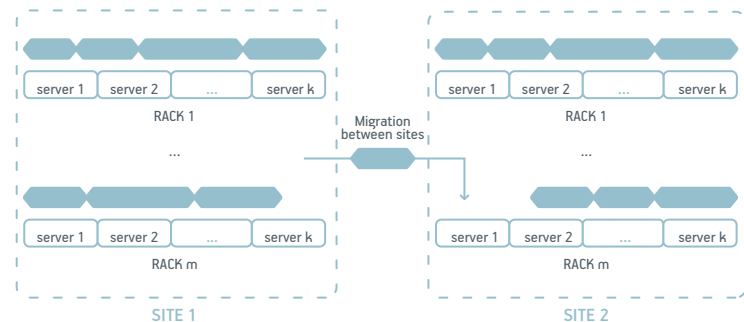
- ACTiCLOUD is motivated by the severe resource inefficiency in the cloud
- Targets at least 1.5 improvement in resource utilization by:
  - pooling resources at the rack scale
  - enforcing effective application collocations
  - enabling resource management across geographically distributed cloud sites
- Works across the entire stack from the hypervisor up to the database engine to deliver cloud resources to large, in-memory databases

## The problem: resource inefficiency in the cloud



## The ACTiCLOUD approach

- Breaks the two critical barriers that hinder fluidity of cloud resources today
  - the server barrier
  - the data center barrier
- Utilizes European technology provided by NUMASCALE and KALEAO for hardware-assisted resource disaggregation.
- Extends OnApp's MicroVisor to pool resources at the rack scale



## ACTiCLOUD service offer

- Resource efficiency at three levels:
  - Rack level
  - Cloud-site level
  - Cross-site
- Cloudification of in-memory databases ( MonetDB, Neo4j )
- Enhanced services for IaaS, PaaS & DBaaS providers

## CONSORTIUM



CONTACT PERSON:  
Prof. Nectarios Koziris  
Dr. Georgios Goumas  
[WWW.ICCS.GR](http://WWW.ICCS.GR)



CONTACT PERSON:  
Dr. Julian Chesterfield  
[WWW.ONAPP.COM](http://WWW.ONAPP.COM)



CONTACT PERSON:  
Einar Rustad  
Atle Vesterkjær  
[WWW.NUMASCALE.COM](http://WWW.NUMASCALE.COM)



CONTACT PERSON:  
Prof. John Goodacre  
[WWW.KALEAO.COM](http://WWW.KALEAO.COM)



CONTACT PERSON:  
Dr. Jim Webber  
[WWW.NEO4J.COM](http://WWW.NEO4J.COM)



CONTACT PERSON:  
Prof. Dr. Martin L. Kersten  
Dr. Ying Zhang  
[WWW.MONETDB.ORG](http://WWW.MONETDB.ORG)



CONTACT PERSON:  
Dr. Mikel Lujan  
Dr. Christos Kotselidis  
[WWW.MANCHESTER.AC.UK](http://WWW.MANCHESTER.AC.UK)



CONTACT PERSON:  
Prof. Erik Elmroth  
[WWW.UMU.SE](http://WWW.UMU.SE)

## CONTACTS

**Project Coordinator:** Prof. Nectarios Koziris, [nkoziris@cslab.ece.ntua.gr](mailto:nkoziris@cslab.ece.ntua.gr) › [www.acticloud.eu](http://www.acticloud.eu)  
**Scientific Manager:** Dr. Georgios Goumas, [goumas@cslab.ece.ntua.gr](mailto:goumas@cslab.ece.ntua.gr) › [twitter.com/ACTiCLOUD](https://twitter.com/ACTiCLOUD)



This research has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement no 732366 (ACTiCLOUD)



# ACTiCLOUD

**ACTiCLOUD: ACTivating Resource Efficiency  
and Large Databases in the CLOUD**

[www.acticloud.eu](http://www.acticloud.eu)