

CrossCloud Brokers 2014

Held in conjunction with ACM/IFIP/USENIX International Middleware Conference,

Bordeaux, France, December 8-12 2014

<http://www.comp.lancs.ac.uk/~elkhatib/crosscloud/>

The CrossCloud workshop series builds upon the increasing relevance of multi-cloud and federated cloud architectures. The previous edition of the workshop, CrossCloud'14, featured a number of high quality papers tackling different challenges such as working across different legacy APIs, honouring dynamic QoS requirements, abstraction versus granularity, access control delegation, and optimised VM placement and migration.

The high degree of distribution and heterogeneity in multi-cloud architectures leads to a massive development and management complexity for application providers. The concept of a cloud broker is therefore introduced as a way to outsource this complexity and thus to facilitate the adoption of multi-cloud architectures.

This edition of the workshop focuses on the architecture of cloud brokering systems, and more specifically the concept of **Broker as a Service (BaaS)**: How could a cloud broker be provided as an intermediate middleware service? How could this cloud brokering service be offered to different stakeholders, i.e. cloud providers, application providers, and consumers? What are the open challenges and required innovations?

In order to foster a lively discussion about the theory and practice of cloud brokers, we plan to include an interactive and hands-on session (cf. design (te)charrette). The desired outcomes are to develop a new collective understanding of the key architectural aspects in this field, to come to a holistic architecture of the cloud broker concept, and hopefully to affect future research agendas. In this regard, we invite researchers from diverse domains to identify important issues in the form of open research questions, state of the art reviews, standardization efforts, and to propose solutions and experiences including early-stage work.

Topics

We solicit both technical and position papers. Submissions will be refereed by at least 3 TPC members.

Papers will be selected based on their technical merit, originality, and the potential to generate interesting discussions at the event. Authors are encouraged, but not limited, to cover the following topics:

- **Holistic architecture of Broker as a Service (BaaS)**: What are the key components and processes to realise the BaaS concept? How do they interact and how are they deployed? What is the impact of key non-functional concerns, such as scalability, performance, availability, fault tolerance, security, customizability, and interoperability?
- **Efficient and open decision support system**: Which input parameters (e.g. application, cloud environments, monitoring data, QoS requirements) does the broker have to take into account to decide about application deployment and execution? How to represent these different input parameters in a high-level way? How to design the decision support system to maintain efficient dispatching of requests, and to minimise the impact on the overall performance of the broker? How to provide openness towards different decision making algorithms and mechanisms?
- **Scalable multi-cloud and multi-application monitoring**: How to scale the monitoring infrastructure with an increasing number of cloud environments, applications and metrics, without creating a bottleneck? How to ensure monitoring interoperability amongst different cloud environments? What

Call for Papers

are the relevant metrics, at the different levels of the stack, as well as within and towards the cloud (e.g. network access), and how to measure them without introducing additional overhead?

- **Application (re)deployment in heterogeneous, multi-cloud environment:** How to manage in a scalable (and preferably automated) way the (re)deployment of multiple applications in a multi-cloud environment? How to cope with the wide range of different APIs to manage resources?
- **Experiences with multi-cloud architectures or approaches:** Which are the major challenges or issues with existing solutions? How do they perform with respect to performance, scalability, fault tolerance, application reconfiguration, access control delegation, etc.?

Note: the focus of this edition is on the design and the interfaces of a cloud broker architecture (or specific aspects), and less on actual algorithms to optimise allocation, QoS, cost etc.

Important Dates

Paper submission due	September 5, 2014 (23:59 GMT)
Workshop paper acceptance notification	September 30, 2014
Camera-ready workshop papers due	October 10, 2014 (23:59 GMT)

Organization committee / Technical program co-chairs

Yehia Elkhatib (Lancaster University, UK) Stefan Walraven (iMinds-DistriNet, KU Leuven, Belgium)

Steering committee

Gordon S. Blair (Lancaster University, UK) Renato Cerqueira (IBM Research, Brazil)
Raouf Boutaba (University of Waterloo, Canada) Wouter Joosen (iMinds-Distrinet, KU Leuven, Belgium)

Publicity chair

Rolando Martins (ISTC, Carnegie Mellon University, USA)

Check [website](#) for full program committee

Submission guidelines & publication

The workshop is open for two types of submissions: position and technical papers, presenting original research and ideas that have not been submitted or published elsewhere. Submitted papers should adhere to the formatting instructions of the ACM SIG Proceedings Alternate Style. Position papers have to be of 3 pages or less, while technical papers 6 pages or less. Submissions should be in PDF format and single-blind (i.e. authors' names should appear). Submissions are done via the [EasyChair submission site](#).

All accepted papers will be published in the ACM Digital Library as part of the Middleware 2014 proceedings companion. At least one of the authors will have to register for the workshop and present the paper.

Authors of the best (technical) papers will also be invited to submit an extended version of their work to a special article collection at the SpringerOpen [Journal of Internet Services and Applications \(JISA\)](#).

Submitting authors are strongly encouraged to consider complementing their submission with another to the main conference's [demo and posters session](#).

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