MARKET IMPLEMENTATION OF CLOUD INTEROPERABILITY AND PORTABILITY RESEARCH IN IaaS AND PaaS

CLOUDCOM2011 CONFERENCE WORKSHOP - WEDNESDAY, NOVEMBER 30TH, 2011

Organized by the Cloud4SOA project, the “Market Implementation of Cloud Interoperability and Portability Research in IaaS and PaaS” workshop at the IEEE CloudCom 2011 conference highlighted these topics in a comparative discussion between researchers and commercial providers.

The workshop examined several of today’s interoperability and portability research efforts in the infrastructure and platform layers of the Cloud stack, and analyzed the feasibility of their implementation into market offerings. This balance between research and practicality brought together market perspectives from the IaaS and PaaS arena with commercial providers interacting with several European FP7 projects such as Mosaic, Optimis, Contrail, gSLM, e-Fiscal and Cloud4SOA.

Interoperability and portability are increasingly relevant needs in Cloud computing as it continues its rapid adoption through infrastructure and platform offerings. For the user, these capabilities are key to counteract the risk of vendor lock-in, a primary barrier for user uptake. On the provider side, complex scenarios in the IaaS layer such as Cloud brokerage, Cloud bursting, hybrid Clouds and multi-Cloud federation require provider-to-provider collaboration largely based on the interoperability of various infrastructures. In addition, in the “year of the PaaS” (Gartner, March 2011), portability is of great importance, as applications developed in one platform’s ecosystem quickly become over-dependent on that particular platform’s future.

A workshop panel brought out several observations across interoperability-related priorities and outlook. Flip the page for a look!
Portability for the customer:
For the majority of the customer profiles of Cloud computing, portability is a growing priority: the ability to port applications and data from Cloud to Cloud. This is particularly important in today’s quickly evolving age of Cloud computing offerings, where potential customers are concerned of investing in a particular infrastructure or platform and hampering their flexibility in a developing IT market segment: “vendor lock-in”.

Portability for the provider:
Conventional wisdom reminds us that portability is not seen as the best business interest of many Cloud providers, particularly the current leaders. It’s a two-way door, where providers would gain and lose customers through migration of their applications, services and data. However, Cloud solution portfolios in general are entering a phase where they’re not just responding to the original well-known market drivers (CapEx to OpEx, pay-per-use models, self-service, effects of economy, etc.), but are becoming mature and numerous enough where the current barriers being targeted by providers to be solved as potential competitive advantages. The lack of portability is one such barrier that customers want resolved before investing significantly in a platform, and as such, PaaS offerings are beginning to emerge with “avoid lock-in” marketing strategies with various techniques.

Panelists
Jorge Ejarque
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Interoperability timeline in the market:
Interoperability is not so far away on the IaaS layer, helping to set up complex scenarios such as Cloud bursting, brokerage, federation, etc. In comparison, such advances the PaaS layer are still very far off, with current uncertainty on standards, technology choices on the platform and their implications on what’s delivered on top. “Component-ization” and re-use of Cloud architectures can help prepare more efficiently for many interoperability-required use cases.

Developer flexibility:
PaaS’s relationship with portability can be seen in parallel markets. For example, through the well-publicized mobile phone market: portability layers and programming abstractions make it easier for application developers to diversify their deployment and success between competing platforms while minimizing the resources needed in parallel development.