

Comments on the Cloud Computing Software and Services Orientation Paper

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Objective 1: What's in that probably shouldn't be

- Given the existing playing field and the dynamics and later inertia of “networks of users”, a less ambitious and more realistic objective and motivation should be considered. Otherwise we spend too much time on technology and completely lose the marketplace with no chance to regain even with superior offerings later on.
- It is not clear why “*Mobile Cloud service development environments*” would be novel and what remains to be researched since lots of products and OSS solutions already exist on the market.

Objective 1: What should be added or emphasized

- Rather than just “*respond to the advent*” of new hardware and other factors, actively include research on deep rearchitecting including these layers
- „*Cloud infrastructures (virtual/physical)...*“
There is a mismatch between the listed areas, most of which have been work-in-progress for some time and the intended “*breakthrough*”. If the intention is to really make a difference then more specific research questions around focused challenge, i.e. “what for” rather than “what”. Useful examples would be realtime data stream management in Cloud environments, the hard algorithmic problems of machine learning and the real-time presentation/visualization of results to various types of end users - all in a utility-like provisioning model.

Objective 2: What's in that probably should not be

- While „complexity“ certainly is *an* issue, it's not clear whether it is the *most important* one overall and almost certainly not the most relevant for **innovation**
- „*technology of software engineering does not allow simulating and testing realistically*“

Individual components of larger systems can usually be tested and testing the 100% case is neither practical nor useful. There are some inherent limitations and we find it hard to believe that a new generation of tools will bring us any fundamental improvement here.

- „*tools ... to develop and bring to the market innovative software*”
Innovation in software is quite distinct from the quality argument made earlier
- „*...thousands of developers ... Open source...*“
While a valid observation, it is unclear how this relates to the „why“

Objective 2: What's in that probably should not be

WHAT

- „*Teams ... different platforms ... social networking tools ...*“
These topics are being addressed already by the communities out there who collaborate every day. This is not a subject matter for research since adoption will be driven by communities - not research projects
- “*Preserve privacy and security when using the public internet*“
How is this related to tools?
- „*Encourage the rapid prototyping of open source applications through early and active involvement of users*“
Not a research problem as such

Objective 2: What should be added or emphasized

While it makes sense to address the tool dimension, in today's world the architectural dimension is much more critical and relevant to the future than the engineering dimension.

The competition primarily advances along the architectural and technological capabilities and all tools-related questions follow the architectural ones.

Thus, researching one-size-fits-all tools will not bring the intended benefit. Tools are tools - they are even usually built specifically for specific systems / architectures to be able to master them. Thus, if tools should be put onto the agenda a stronger statement regarding their "application domain", i.e. in which techno-architectural context they are supposed to be applied is needed.