



SOFTWARE ECOSYSTEMS

Interview with Slinger Jansen
Part I

Dear listeners, welcome to a new issue of the IT-Radar. Our guest today is Slinger Jansen. He is assistant professor at the Department of Information and Computer Science at the University of Utrecht. Together with Anthony Finkelstein and Sjaak Brinkkemper he published a research agenda for software ecosystems titled: „A Sense of Community“. Today we want to talk with Prof. Jansen about Software ecosystems.

Professor Jansen, in 1996 James Moore published a book called „The Death of Competition“. In this book he described business ecosystems as economic communities that are supported by individual organisms, who might be organizations or people. Within such a system there are supposed to be one or more enterprises of central importance that determine the development of the roles and positions of the other organisms. Do you think that this description is still apt for software ecosystems in 2011?

Great question. I do actually agree with that definition of business ecosystems, and if you look at software ecosystems, the definition is also still apt. I see a business ecosystem as a data set of business

organisms on which you can lay particular filters. If we look at all the participants in the community surrounding electric vehicles, we get the ecosystem of electric vehicles. Software ecosystems are similar in that sense—it is just putting on the software glasses or the software filter and your perspective is software centered.

Within an ecosystem or within a software ecosystem you can then filter further, for example, by looking at Microsoft partners, the shop implementers, the Eclipse plug-in developers, or even the Google app engine developers. One particular kind that I find really interesting is the open source ecosystem variant, because when I talk about software ecosystems, typically people have a very commercial view of them, especially in the information systems domain.

In the computer science domain open source ecosystems are subject to research because usually the information in them is quite open and traceable. It is possible to trace back which developer did which contribution and which organization he came from simply by looking at the developer's e-mail address. It is definitely an interesting branch of research that should not be ignored. Therefore, I try to look at both commercial and open source ecosystems.

Jan Bosch and others consider software ecosystems direct descendants of software product lines. What are the essential differences between software product lines and software ecosystems, or what do these concepts have in common?

A good point they are making is that software ecosystems are sort of a natural evolution from software product lines. What I do not agree with is that it is considered the next step, because I would say that it is probably several steps ahead of some product lines. But we should not forget that Jan Bosch is a good friend of mine. Therefore, I know where he and the other people claiming this come from. Jan Bosch, for example, has a very strong architecture background. So, in general, they have done great work; we should definitely not ignore their research in software product lines, but I think there are two aspects that make software ecosystems more interesting than software product lines and even more than just an evolutionary step.

The first aspect I see is the extensibility of the platform by third parties. This means that we are no longer just talking about a large internal organization that is producing software assets, but now we are looking at a whole ecosystem of external participants who are also creating software assets. Furthermore, depending on the level of control, this can even be done without the company knowing or without the keystone player or the person in charge or the company in charge of the software product line knowing. I find that really interesting. The second aspect that I think should be added here and that makes software ecosystems more than an evolutionary step is its commercial facet. This refers to the fact that the channels to which you can sell your components are very different from those in software product lines. Of course, with software product lines you can have a general store within your company providing all the different software assets. But to me that is sort of a bleak version of the app stores I am looking at on my iPad or my

HTC Android phone. Therefore, I think that the app stores and the partnering models surrounding them are more than just one evolutionary step.

That sounds like a gap companies have to bridge. Would it be a good idea for a company to start establishing a product line before starting with a Software ecosystem, or is it possible to directly try establishing a ecosystem?

That depends partially on how advanced a certain company is: How far are they? How stable is their architecture? How extensible is their architecture? Personally, I think I would not mind skipping the software product lines and architecting it in such a way that you can go to an app store for instance. If I were a traditional company with just a product and not yet a software product line, I think I could design the products in such a way that they become a platform. Once there is a platform one can easily move on to a Software ecosystem, whereas the idea behind software product lines includes having random configurations of software assets. Therefore, it is much more a pile of components from which one can choose desired sets. Such a set can be a very minimal set from the total set. That is different with a platform. If we look, for instance, on the software on my mobile phone right now, I think 90% still comes from Google, because I have Android, and only 10% are the apps that are running on it. In that sense to me the platform thinking is even more important than just a software product lines thinking.

Read more about challenges for companies and the special software ecosystem around Google in the next part of the interview.

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