

Recession proof SOA

SOA4SOA is the solution

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Only extraterrestrials just arrived from outer space can have missed the fact that we are in a global economic recession right now. Maybe it will blow over soon, but many expect worse conditions ahead. Organizations prepare for a period with very little room to maneuver. Revenue is drying up and the only way to make a profit is to cut cost and wait for better times. Projects are stopped as it is recognized their business cases are no longer valid. This includes many SOA initiatives, even when based on solid business cases at the time. Only projects that directly reduce cost in a very short term are started or kept alive.

A question that is often asked these days is: "does this mean that SOA as an architectural style should be halted?" The answer is a firm NO as will be discussed below. The current recession offers opportunities to improve the conditions for the successful application of SOA. The answer is targeted rationalization of the IT landscape, in order to ultimately get the right set of business services: Sanitation and Optimization under Architecture as a precondition for Service-Oriented Architecture. Or simply put: SOA4SOA.

Economic boom versus recession

During times of recession other criteria are used to determine which initiatives to launch than in times of an economic boom. During a recession the most attractive initiatives are those that promise short term cost reduction. In boom times there is a strong preference for revenue increasing initiatives. The main driver for Service-Oriented Architecture (SOA¹) is increasing agility, requiring investment in the development of a business service portfolio and associated infrastructure. Typically the benefits of SOA will only surface after a couple of years (reuse through time). Investment in SOA requires a long term perspective. A perspective the CIO cannot afford during a recession. Still we persist in our vision that SOA as an architectural style is the way to go. So what should the CIO do now? Go against the flow and continue investing in SOA? Or reduce SOA investments and surrender to the pressure of the organization to reduce cost.

Let us first investigate what the challenges for the application of SOA are in a booming economy. There are advantages and disadvantages. Subsequently we will look into the challenges for SOA during a recession. We conclude by distilling our concise advice.

¹ In this article the acronym SOA is used for Service-Oriented Architecture, except where explicitly indicated otherwise.

SOA during economic boom

The application of the SOA paradigm during an economic boom has the following advantages:

- **Sufficient budget.** Sufficient budget means the best consultants can be hired to determine what solution is best and then follow up on that advice and buy and implement the best solutions.
- **Many business opportunities.** Many commercial opportunities exist and therefore many business cases for implementing services [1].

Application of SOA during boom times also has disadvantages:

- **Too much budget.** This means business management can easily be persuaded by vendors to buy the latest miracle tool and hire an army of product specialists. This often leads to tooling overkill in terms of enterprise service buses, service registers, event handlers, version control systems, business process management tools, specific test tools and so on. Then let the army of configurators do their magic, within budget and timelines of course, and wait for the improved business agility to kick in. Of course this never happens. The complexity has increased rather than reduced, the SOA investments are higher than expected and show much less benefit than expected. The SOA paradigm gets the blame and is left behind, probably for a long time. That the effort required for SOA is often underestimated is generally recognized [2].
- **Too little attention for architecture.** The availability of budget is seen as sufficient. With no need to really think it through, no need to think about the structure and fitting of the solution into the IT landscape. Decision makers are convinced that it is just a matter of buying the best software and the best consultants and that the perfect service portfolio will be created 'automatically'. There is little patience with architects who only see problems and are hindering progress.
- **Too little attention for governance.** For the same reasons as above the general idea is that there is little need for governance. Without architecture there is little to govern anyway.
- **Root causes are not addressed.** A major obstacle for the realization of a service is a fragmented and low quality backend system landscape. Because a miracle tool is positioned to magically tie it all together with a little configuration there is no need to improve the IT landscape from the source. Also the army of product specialists does not understand the intricacies so it's better left alone. Just cover it with a layer of integration software and the problem is at least invisible. Obviously an unrealistic and damaging approach. The new tooling increases complexity and also does not really solve the problem.

The conclusion is that even during a booming economy there are a lot of challenges in the application of the SOA paradigm. Let's see how this looks during a recession.

SOA during a recession

Surprisingly the application of the SOA paradigm during a recession has a number of advantages:

- **Root causes are addressed.** In order to cut cost on IT, existing systems are investigated and rationalized. This forms an excellent chance to improve consistency and coherence as well. While the case is cost cutting, the effect is a much better foundation to build business services on.
- **No more blind faith in miracle tools.** The illusion of miracle tools that make all your problems go away with just a little configuration is quickly exposed.
- **No more product specialists.** Product experts may have a lot of knowledge of the latest tools and methodologies but not of the intricacies of the existing situation, consisting of many point-to-point interfaces and redundancies in functionality and information definitions. While really that is the place a lot of money can be saved. The focus now moves to experts with deep knowledge of the current situation and specialists on rationalizing and migration.
- **Time to think first.** During a recession internal personnel are let go only as a last resort or 'saved' for the moment the economy is picking up again. The effect is that there is more time available to think before taking any action. This is true for management, business people and IT personnel as well².
- **Attention for architecture.** As money is scarce and personnel is available these are really the perfect conditions for enterprise architecture. The organization can no longer afford to make mistakes and have projects fail. Money will be spent on activities which will guarantee results.
- **Attention for governance.** Same arguments as the previous one. Business management takes no risks and does everything that is needed to prevent mistakes or derailments. They are really 'on top'. This *is* governance. These are ideal circumstances for effective governance.

For the application of SOA during a recession there is obviously also a big disadvantage:

- **Less budget.** Management is hesitant to spend money on IT. As business cases for improving agility through business services will probably dry up entirely as the benefits will only come when there are opportunities for revenue increase. Delaying makes very much sense. The business service portfolio will not be extended. Except in rare cases.

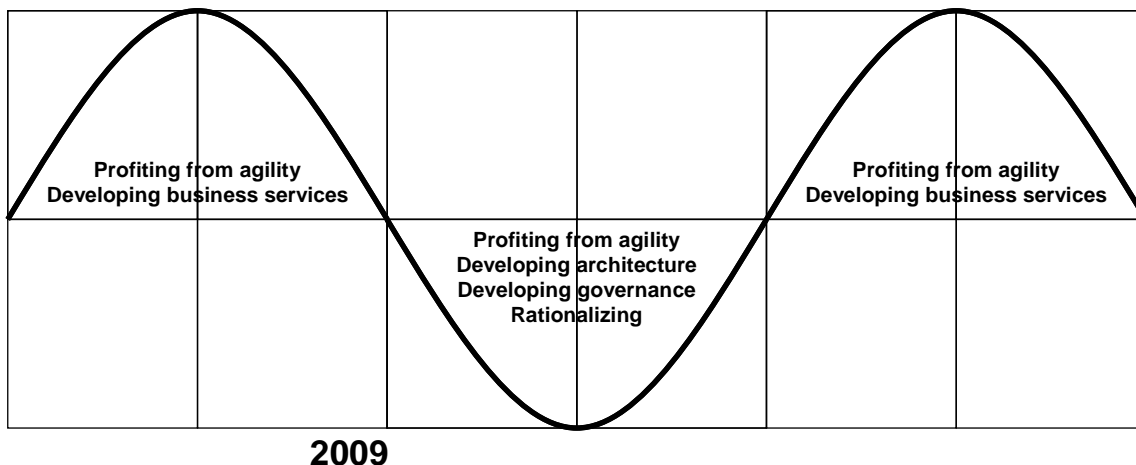
² Speech by the Dutch minister of social and employment affairs J.P.H. Donner at the yearly conference of the FME-CWM in Nijkerk on November 12, 2008: *"Your chairman points to the tension that exists between the need to save skilled personnel wherever possible for your organizations in order to be able to react quickly when demand improves again and the substantial need to cut cost during the current rapid drop in demand"*.

Recession advantages

An economic recession is really a blessing in disguise for architecture, governance, rationalization of legacy systems and - indirectly - SOA (by improvement of SOA *conditions*). In good economic times many initiatives are launched with little attention for structure, coherence, governance and the removal of obsolete IT components. In bad economic times more time is spent thinking before money is spent. There is more interest in saving money by removing obsolete IT components. Especially the clean up creates the conditions for successful application of SOA. Some years ago already **S**anitation and **O**ptimizing under **A**rchitecture was advocated [4]. The reduction of complexity and cost are the main drivers for the rationalization of the IT landscape. An attractive side effect is that it improves the conditions for SOA. Less overlapping functionality, less applications, less different information definitions and fewer databases not only mean a substantial reduction in maintenance and administration cost. But also make it easier to extend the business service portfolio in the future. Fewer systems means a reduced integration effort. Also a Canonical Data Model may be introduced during rationalization. It provides insight into which information definitions and databases can be removed. This model is also an essential element of SOA as it ensures consistent semantics across services.

When creating business cases we advocate to explicitly investigate the extent they contribute to improving the conditions for SOA. When there are multiple business cases for cutting cost those contributing most to SOA must be selected first. When for example there are two business cases for cost reduction and one concerns rationalization of *management information* systems and the other the rationalization of the *customer information* systems it is clear the customer information system case should get preference. Customer information systems generally form a crucial core for many SOA initiatives that will be launched as soon as the economy booms again. As a general architecture principle the improvement of the quality of 'up stream' processes and information is more important than the improvement of 'down stream' processes and information. Even without SOA this is the preferred approach because 'down stream' processes and information depend on the 'upstream' quality (garbage in, garbage out).

The diagram below shows where the focus should be during a booming economy and where it should be in times of recession:



Our advice

It is clear that we are in a recession. So let's start improving architecture and governance and looking for business cases to rationalize parts of the IT landscape. For example the rationalization of backend systems that play a large role in developing business services in future SOA scenarios. Start with those systems containing the core information of the organization like customers, products and contracts. **S**anitation and **O**ptimization under **A**rchitecture as preparation for **S**ervice **O**riented **A**rchitecture. SOA4SOA!

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3. Berg, Martin van den, Norbert Bieberstein en Erik van Ommeren, *SOA for Profit*, 2007
4. Bakker, Huub, Martin van den Berg and Arie van Deursen, *Slopen onder Architectuur, Het systematisch op orde houden van de ICT-assetportfolio*⁴, Contribution to LAC2003, http://www.lac2003.nl/papers/M_van_den_Berg.pdf

³ in English: *SOA in The Netherlands, a digital affection?*

⁴ in English: *Demolition under Architecture, Keeping the IT-asset portfolio clean in a systematic way.* (or to arrive at the SOA acronym: **S**anitation and **O**ptimization under **A**rchitecture)