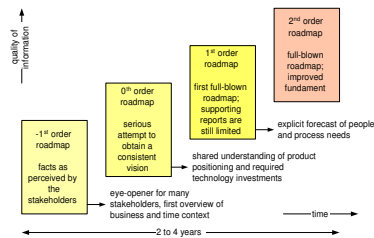


# Change Management; Introducing Systems Architecting Aspects



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## Abstract

The Introduction of anything related to systems architecting, such as methods or techniques, systems thinking, or role and task requires a change management strategy. We will discuss how to introduce these changes into an organization.

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# 1 Introduction

Many organizations do not have explicit roles for systems work or do not use explicit processes, methods or techniques for systems architecting. There are also many organizations that are unaware of any *systems* aspects. The introduction of any *systems* aspect in an organization is far from trivial. Introducing something new induces a negative reaction, not only for *systems* related aspects. The field of *Change Management* addresses the question how to introduce changes into an organization.

Some heuristics from *Change Management* are:

- People do not want to **be** changed. They are quite often willing to change.
- Changing the way of working or changing the culture costs many years.
- It is recommended to work at multiple tracks at the same time: amongst others managerial, operational, strategic, etc.
- Changes are better accepted when the initiators earn credit by showing usable results.

## 2 Earning Credit, Work on Urgent Issues

An effective way to introduce changes, such as new systems architecting methods, or introducing the role of a systems architect, is to earn credit by actively contributing to the organizational results. Earning credit works fastest when urgent problems are resolved. For example, systems architects typically can contribute in trouble shooting during systems integration. The systems integration phase is always hectic with lots of time and resource pressure, where mon-disciplinary engineers point to other disciplines as the source of problems. The integral overview and the systems thinking capabilities of system architects make them into ideal trouble shooters. Unfortunately, systems architects not always fancy this “foot in the mud” work.

An approach that nearly always fails is the “evangelism” approach, where systems architects try to convince the stakeholders of the value of new methods or roles by promoting the (theoretical) benefits. Most stakeholders are wary about unproven claims, especially if the messenger does not have shown any ability yet.

Spending credit is going faster and easier than earning credit. We recommend to keep on earning credit, by working on actual (urgent) issues, when introducing systems aspects. Every time that some small change is introduced, architects have used some of their earned credit. Note that forcing changes costs a huge amount of credit, architects can rarely afford that.

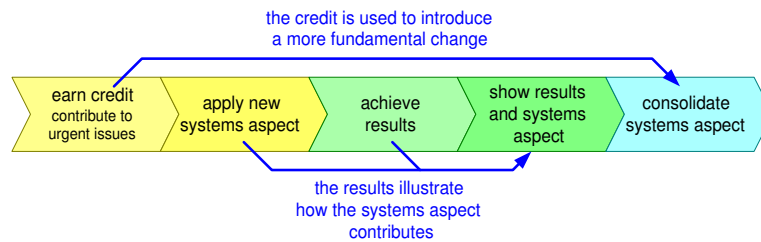


Figure 1: Earn Credit and Work by Example

Figure 1 shows how to introduce changes, earning credit, followed by creating an example, and finally by consolidating the change, using the credit earned initially. This flow shows that the introduction of the change is done by showing an example rather than preaching the change. An example is more easy understood than a theoretical explanation, while the success of the application helps to sell the idea.

### 3 Example: Bootstrapping the Roadmapping Process

Many companies and business units have no ongoing roadmapping activity or only a limited roadmapping activity, for instance a *products* roadmap only. The introduction of a roadmapping process, as described in Section ??, is a daunting task for a system architect. Roadmapping is an improvements at strategic level with mostly a long term impact. System architects need to be sufficiently known and respected in an organization to introduce roadmapping; it requires a significant amount of credit to introduce such long term improvement.

Introduction of a roadmapping process can be viewed as part of a change management process. Based on the Change Management heuristics we recommend to introduce roadmapping in a number of smaller steps. The motto here is: *Think big, act small.*

Figure 2 shows the bootstrapping of a roadmap process, typically taking 2 to 4 years. The benefits of starting with roadmapping become available during the first iteration. The mature roadmap, achieved in 2 to 4 years, will bring the full benefits of organizational efficacy and efficiency.

A good start is to capture the existing visions, plans, budgets, et cetera, and to integrate this information into a “minus one” order roadmap. In most cases posing such questions forces the stakeholders to reflect on the current status. In many cases the stakeholders discover that their outlook is rather unbalanced (for instance, the first half year is covered in minute detail, the latter period is fuzzy) or the outlook appears to be totally inconsistent (for instance, marketing has an entirely different expectation than development). Hopefully, the stakeholders get an overview and gain insight in the broader context.

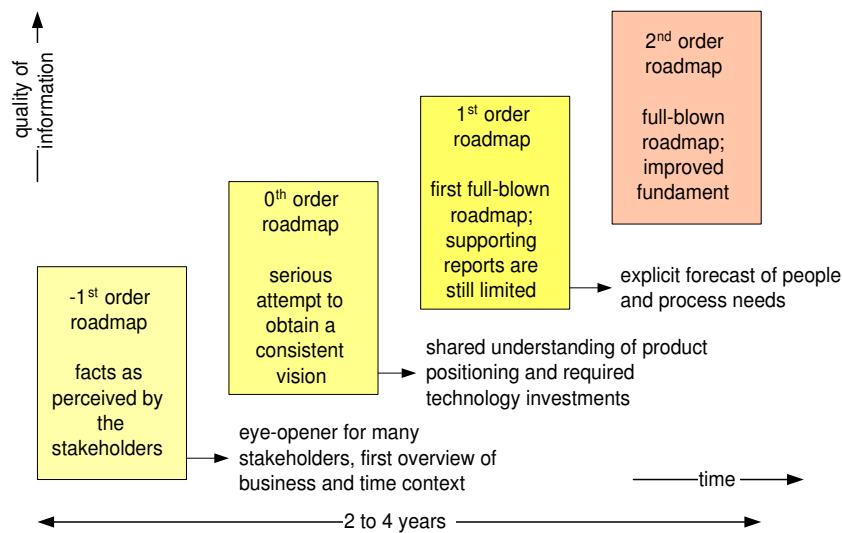


Figure 2: Bootstrapping the Roadmap Process

The result of the “minus one” order roadmap is that the architect gains credit and that the stakeholders are motivated to change somewhat. The stakeholders get ripe to make a next step, for instance to make a zeroth order roadmap.

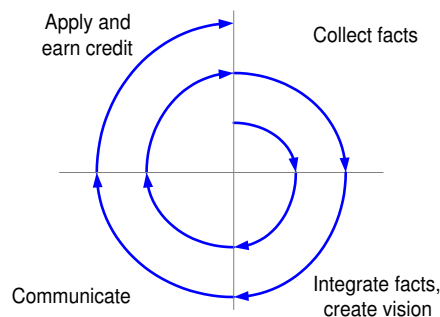


Figure 3: Bootstrapping the roadmap process requires a repetition of 4 steps, as visualized by this spiral

A zeroth order roadmap is the first attempt to get the *market*, the *product* and the *technology* roadmap in place. Such a partial roadmap again helps to earn credit, but it also helps to keep the stakeholders involved. Critical aspect here is the team building aspect. Roadmapping is a team activity, requiring mutual respect and trust, to enable the open and critical communication needed for the selection of the truly essential issues in the roadmap.

The entire roadmapping process is a repetition of the same activities, visualized

in figure 3:

- Collect facts (e.g. market, product, technology)
- Integrate facts and create a vision, where the architect helps in the selection, the simplification, the interpretation, and the presentation.
- Communicate to a broad group of stakeholders in the organization.
- Apply the consequences for the short term and earn credit by showing a positive contribution.

Of course these four steps are not entirely sequential, they represent the main flow of the process.

## References

- [1] Gerrit Muller. The system architecture homepage. <http://www.gaudisite.nl/index.html>, 1999.

## History

**Version: 0, date: July 27, 2010 changed by: Gerrit Muller**

- Created by refactoring Roadmapping, no changelog yet