Organizational Architecture in SAFe

Dealing with Complexity
Dr. Wolfgang Brandhuber

SPCT, Agility Health Radar & Kanban Trainer

Kegon AG
"There is always an easy solution to every problem - neat, plausible, and wrong."

H. L. Mencken

But there are ways to find complex solutions to complex problems.
These are the symptoms ...

Source: Leading SAFe 4.5

Source: VersionOne 12th Annual State of Agile Report
... but what is the Root Cause?

Hypothesis:

The complexity of the systems you are building grows higher than the ability of the organization to handle that complexity
Ability of Organizations to deal with complexity

"Glass ceiling" Maximum complexity we are currently able to deal with
Conway’s Law

Organizations which design systems ... are constrained to produce designs which are copies of the communication structures of these organizations“

Direct conclusion of Conway’s Law

Organizational Development is the first step of Product Development.

Inversion of Conway’s Law

Systems can only be as complex as the ability of the organization to handle complexity.

Drivers of Complexity

- Non-functional Requirements
- Expertise needed (Alignment of Experts)
- Technical Debt
- Lack of Alignment
- Unstable Social Environments
- Lack of Knowledge
- Unclear Processes
- Market Pressure
- Time Pressure
- Client Expectations
- Centralized Decision-Making
- Insufficient Training
... and just NFRs alone include all these complexity drivers...

Non-functional Requirements

- Adaptability
- Installability
- Replaceability

- Modularity
- Reusability
- Analysability
- Modifiability
- Testability

- Confidentiality
- Integrity
- Non-repudiation
- Accountability
- Authenticity

- Maturity
- Availability
- Fault tolerance
- Recoverability

Functional Suitability
- Functional completeness
- Functional correctness
- Functional appropriateness

Portability
- Time behaviour
- Resource utilization
- Capacity

Performance Efficiency
- Co-existence
- Interoperability

Maintainability
- Appropriateness recognizability
- Learnability
- Operability
- User error protection
- User interface aesthetics
- Accessibility

Security
- Functional Suitability
- Maintainability
- Security

Usability
- Functional Suitability
- Usability

Reliability
- Functional Suitability
- Reliability

Source: iso25000.com
In every case the ability to deal with complexity is restrained by the strength of the communication structure of the organization building the system.
What is Organizational Architecture?

Organizational Architecture encompasses everything that enables an organization to cope with higher levels of complexity by improving the communication and collaboration structure of the organization.
Two sides of the same coin

Technical Architecture
- Enterprise Architect
- Solution Arch/Eng
- System Arch/Eng

Organizational Architecture
- STE
- RTE
- Scrum Master
- Lean-Agile Center of Excellence

Source of Icons: www.scaledagileframework.com
Everyone please stand up.

Add up how many Full Time Equivalents (FTEs) you have in the **technical architecture roles** in your transformation like System Architects, Solution Architects and Enterprise Architects.

Add up how many Full Time Equivalents (FTEs) you have in the **organizational architecture roles** in your transformation like Release Train Engineers, Solution Train Engineers and People in the Lean Agile Center of Excellence (LACE).
Remain standing if you have an organizational architect in your transformation.

If you do not have at least one organizational architect, please sit down.
Activity

- Remain standing if your Organizational Architecture FTEs are a quarter or more of your Technical Architecture FTEs.
- If your Organizational Architecture FTEs are less than a quarter of your Technical Architecture FTEs, please sit down.
Remain standing if your Organizational Architecture FTEs are **half or more** of your Technical Architecture FTEs.

If your Organizational Architecture FTEs are **less than half** of your Technical Architecture FTEs, please sit down.
Remain standing if your Organizational Architecture FTEs equals or exceeds your Technical Architecture FTEs.

If your Organizational Architecture FTEs are less than your Technical Architecture FTEs, please sit down.
Education & Experience of a Technical Architect

- **2 yrs**
  - Basic studies
  - Degree: Bachelor

- **2 yrs**
  - Advanced studies
  - Degree: Master

- **4 yrs**
  - Practical Work Experience

8 years of formal and practical experience
Activity Part II

- Everyone please stand up.
Remain standing if your Organizational Architects have received any formal training regarding their roles.

If you do not have any Organizational Architects or if your Organizational Architects have not received any formal training, e.g. Implementing SAFe, RTE or Scrum Master training, please sit down.
Activity Part II

- Remain standing if the average of formal education plus practical experience of your Organizational Architects is **two years or more**.

- If the average of formal education plus practical experience of your Organizational Architects is **less than two years**, please sit down.
Activity Part II

- Remain standing if the **average** of formal education plus practical experience of your Organizational Architects is **four years or more**.

- If the **average** of formal education plus practical experience of your Organizational Architects is **less than four years**, please sit down.
Activity Part II

- Remain standing if the **average** of formal education plus practical experience of your Organizational Architects is the **same amount of education** as your Technical Architects.

- If the **average** of formal education plus practical experience of your Organizational Architects is **not** the same amount of education & experience as your Technical Architects, please sit down.
Activity Part II

- Remain standing if the **average** of formal education plus practical experience of your Organizational Architects is **eight years or more**.

- If the **average** of formal education plus practical experience of your Organizational Architects is **less than eight years**, please sit down.
Dilemma of Organizational Architecture

Organizational architects have to cope with the same complexity as technical architects but usually have less capacity, less specialized education, experience and support.
Where do we start? Change for the Change

- **Build up your Lace Team:** Depending on the focus of your transformation build up a coaching staff with experts in each area with the same capacity as your technical architects.
Questions
Thank you!

Coming soon - presentation downloads at:

safesummit.com/presentations
Please rate this session

1. Open “Schedule” on mobile app and locate session
2. Tap star rating at top of screen
Back Up
but what is an expert in our context?

Starter Workshop

- The first step is to get an alignment of what “Expert” means to us.
- To get the alignment we collaboratively fill out a radar maturity model.
- Ideally this radar should be published within the train and be transparent for all.
- Everyone should be able to contribute.
- The LACE Team is the steward of these Alignment Radars.
.... but what is an expert in our context?

**Starter Workshop**

- The first step is to get an alignment what „Expert“ means to us.
- To get the alignment we collaboratively fill out a radar maturity model.
- Ideally this radar should be published within the train and be transparent for all.
- Everyone should be able to contribute.
- The LACE Team is the steward of the Alignment Radars.
Building a Scrum Coach Radar

Dimension „Formal Training“

SAFe Scrum Master
SAFe Advanced Scrum Master
Building a Scrum Coach Radar

Dimension „Reading List“

- Scrum Guide (Schwaber & Sutherland)
- Scrum: The Art of Doing Twice the Work in Half the Time (Sutherland)
- Scrum Pocket Guide (Verheyen)
- The new new product development game (Nonaka & Takeuchi)
- Coaching Agile Teams (Adkins)
- Scrum Mastery (Watts)
Next step: Creating an Update Snake

- Collecting ideas and thoughts during your everyday work
- Very useful: Sticky notes on your desk to quickly catch your ideas
Next step: Update Event

- Refinement of Artefact with input from all Update Snakes
  - Lace-Team meets to discuss and align on the new items
  - A regular cadence is usually helpful (e.g. weekly or twice a week)
  - If you deem a time-box beneficial a good start is 15 or 30 minutes
There’s never an end state of an Alignment Radar
Probably Deming was right ….

The management challenge

Only management can change the system

It is not enough that management commit themselves to quality and productivity, they must know what it is they must do.

Such a responsibility cannot be delegated.

—W. Edwards Deming

“…and if you can’t come, send no one”
—Vignette from Out of the Crisis, W. Edwards Deming