



FROM EMERGING TO LIVING ARCHITECTURE

REX from Patrice Fricard & Sébastien Charette

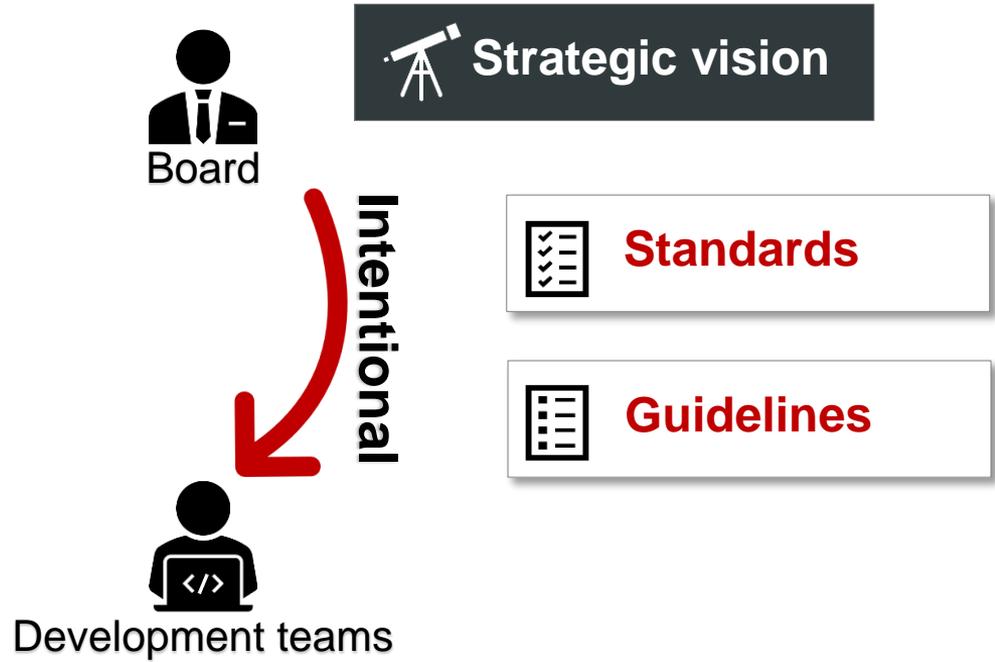
AGENDA

Why do we have what we call “Living Architecture” ?

How do we manage it?

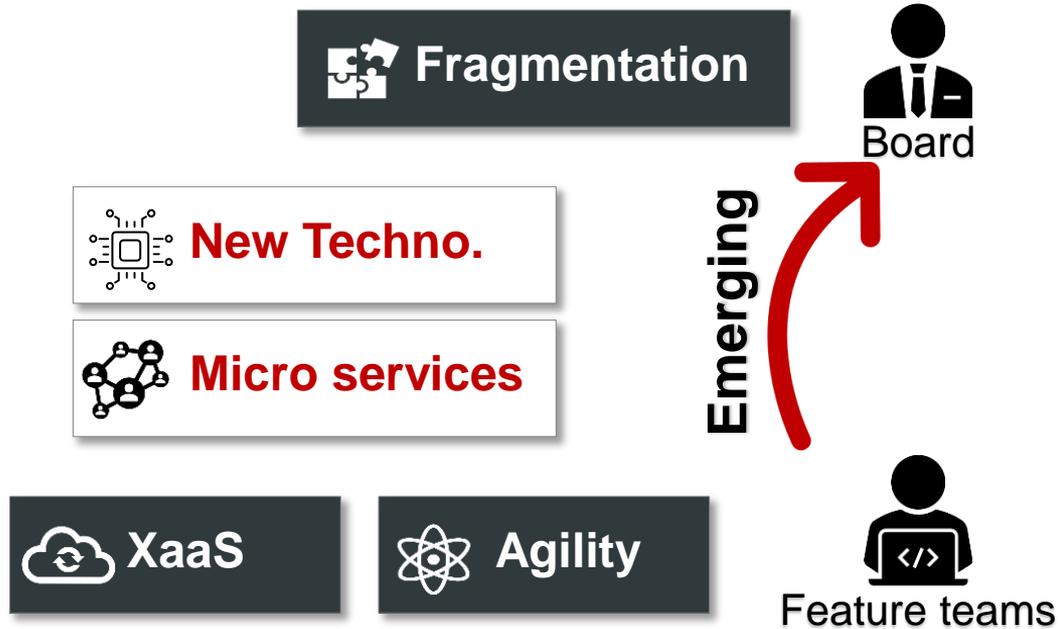
What is used to set it ?

REMINDER ON INTENTIONAL ARCHITECTURE



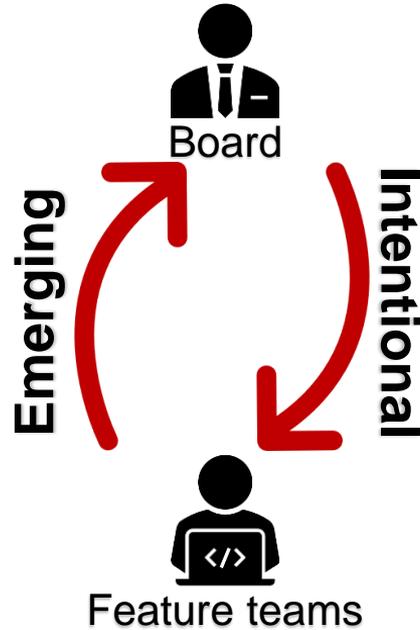
Strategic vision comes top-down through standards and guidelines

AGILITY BRINGS EMERGING ARCHITECTURE



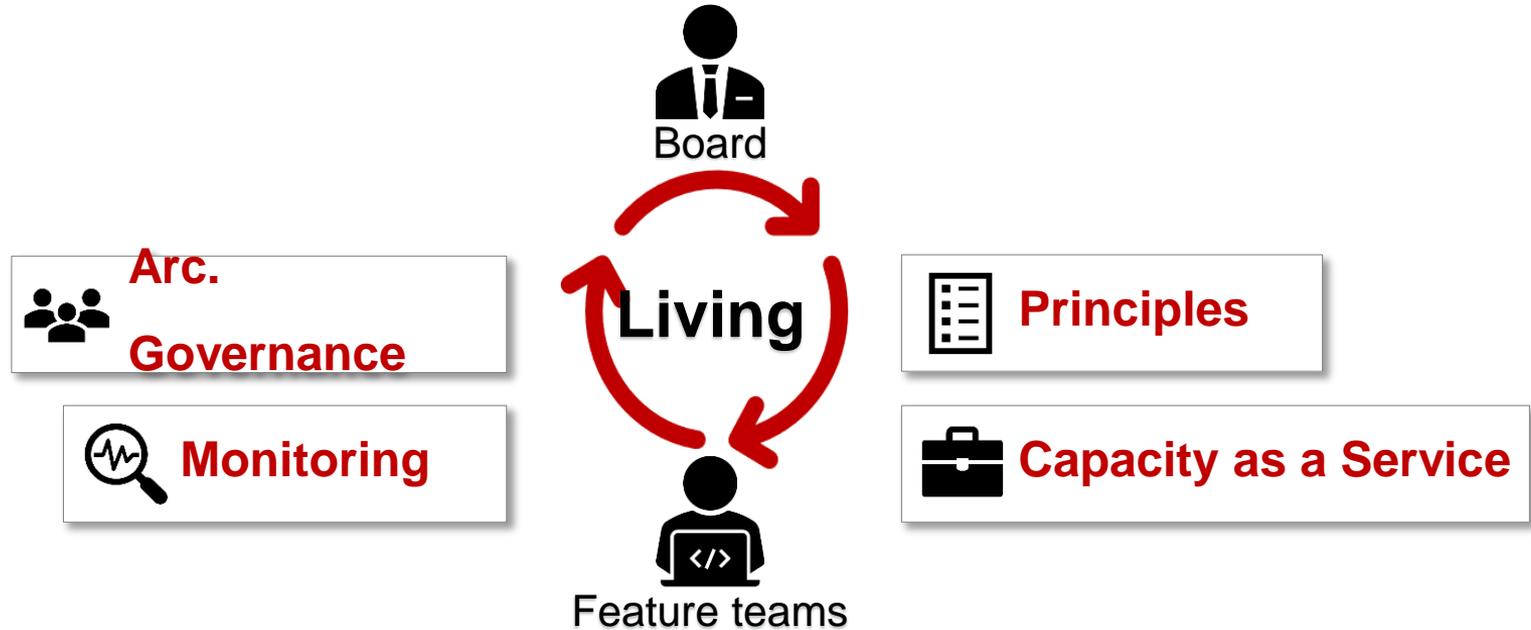
Concrete implementation is defined bottom-up from Feature teams

SUSTAINABILITY & LIVING ARCHITECTURE



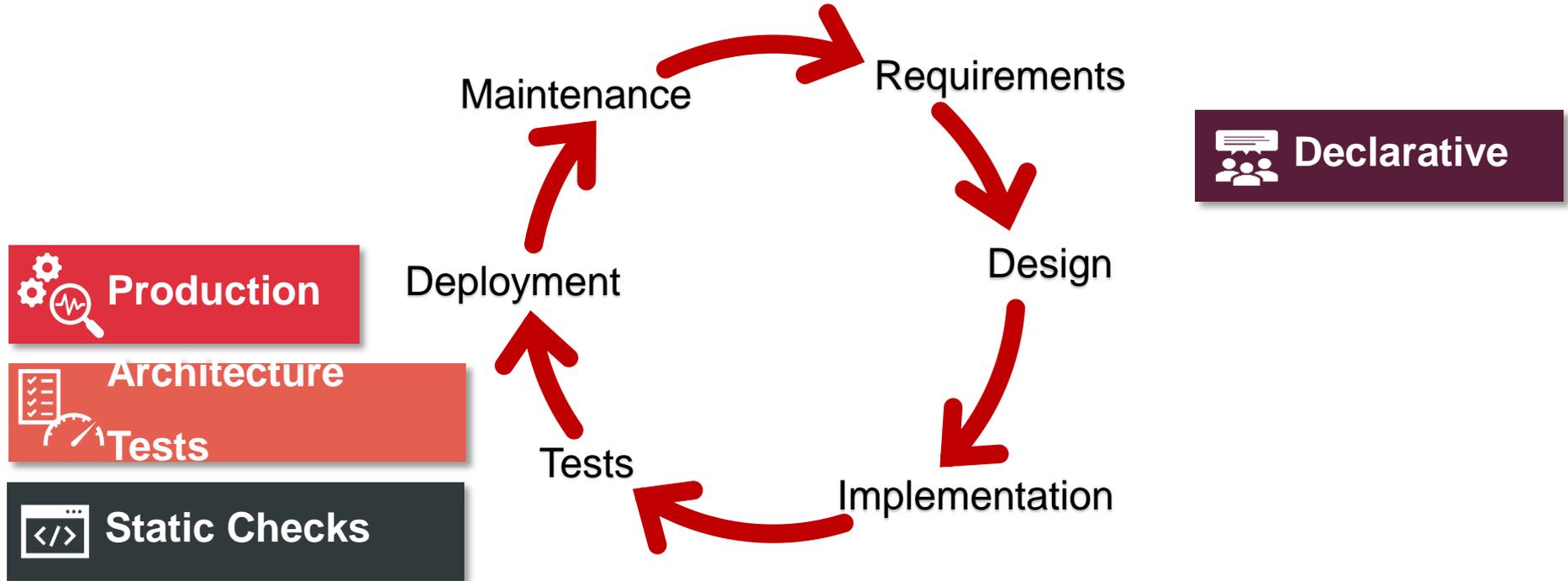
Sustainable & evolvable systems require a balance between intentional & emerging

SUSTAINABILITY & LIVING ARCHITECTURE



Sustainable & evolvable systems require a balance between intentional & emerging

INTEGRATION IN TEAM DAILY ACTIVITIES

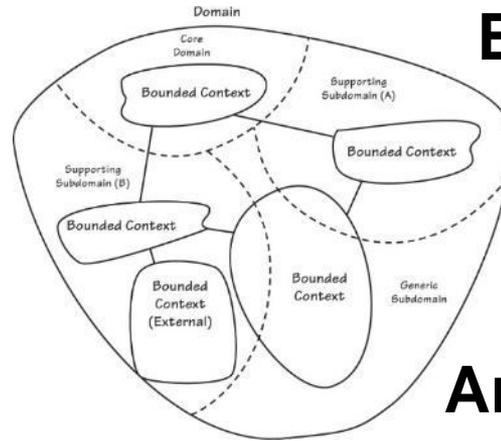


DECLARATIVE

DOMAIN DRIVEN
DESIGN

CONTRACT FIRST

DECISION LOG



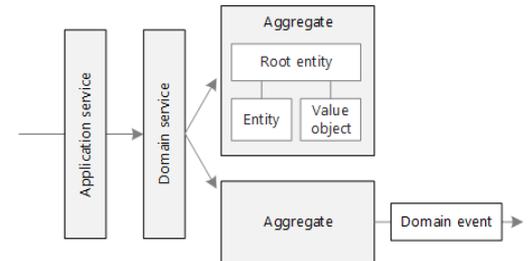
Bounded Context

Ubiquitous Language

Context Map

Anticorruption Layer

Tactical Patterns



DECLARATIVE

DOMAIN DRIVEN DESIGN

CONTRACT FIRST

DECISION LOG



SwaggerHub
Swagger Inspector
Open Source Tools
Specification

> **What Is OpenAPI?**

- Basic Structure
- API Server and Base Path
- Media Types
- Paths and Operations
- Describing Parameters
- Parameter Serialization
- Describing Request Body
- Describing Responses
- Data Models (Schemas)
- Adding Examples
- Authentication
- Links
- Callbacks
- Components Section
- Using Swagger

What Is OpenAPI?

OpenAPI Specification (formerly Swagger Specification) APIs. An OpenAPI file allows you to describe your entire

- Available endpoints (`/users`) and operations on `/users`)
- Operation parameters Input and output for each
- Authentication methods
- Contact information, license, terms of use and c

API specifications can be written in YAML or JSON. The file is designed to be readable both for humans and machines. The complete OpenAPI Specification is available in the [OpenAPI 3.0 Specification](#)

What Is Swagger?

Swagger is a set of open-source tools built around the OpenAPI Specification to design, build, document and consume REST APIs. The m

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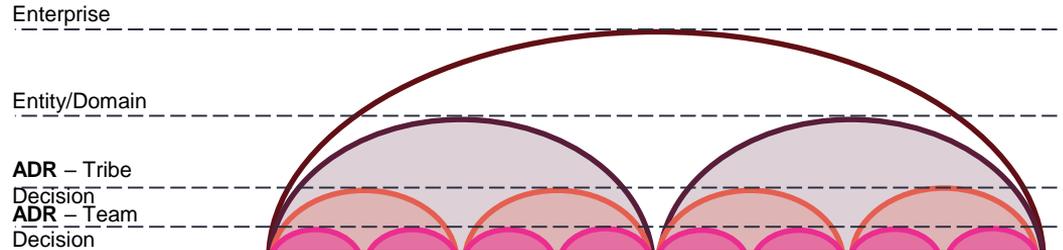
DECISION LOG

Architecture Decision Record...

Michael Nygard

<http://thinkrelevance.com/blog/2011/11/15/documenting-architecture-decisions>

...at all levels



Architecture levels (adapted from Malan and Bredemeyer 2002)

**CODE REPOSITORY
=
SOURCE OF INFORMATION**

STATIC CHECKS

GATHERING DATA
IN CODE
REPOSITORIES

CODE ANALYSIS

BEHAVIOR DRIVEN
DEVELOPMENT

Configuration files



Project Object Model



Diagram (plantUML)



<https://github.com/societe-generale/github-crawler>

STATIC CHECKS

GATHERING DATA
IN REPOSITORIES

CODE ANALYSIS

BEHAVIOR DRIVEN
DEVELOPMENT

Check quality



Check security



« Lint » your contract



<http://opensource.zalando.com/zally/>

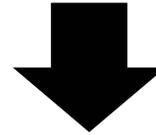
STATIC CHECKS

GATHERING DATA
IN REPOSITORIES

CODE ANALYSIS

BEHAVIOR DRIVEN
DEVELOPMENT

**Use it to generate the documentation
from the test description**



Cukedoctor

<https://github.com/rmpestando/cukedoctor>

TEST TO SUSTAIN

SOFTWARE
ARCHITECTURE
TEST

CONTRACT
TESTING



<https://www.archunit.org/>



<https://github.com/societe-generale/arch-unit-maven-plugin>

TEST TO SUSTAIN

SOFTWARE
ARCHITECTURE
TEST

CONTRACT
TESTING

Consumer-Driven Contracts



PACT 

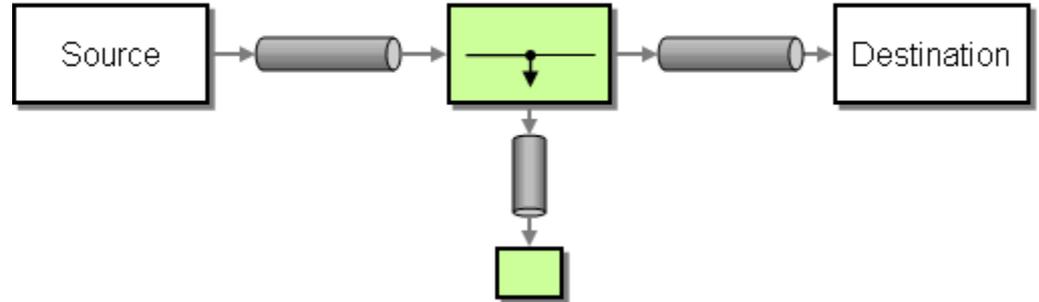
PRODUCTION

TRACE FLOWS

CHECK STANDARD

CHAOS
ENGINEERING

WIRE TAP



<https://www.enterpriseintegrationpatterns.com/patterns/messaging/WireTap.html>

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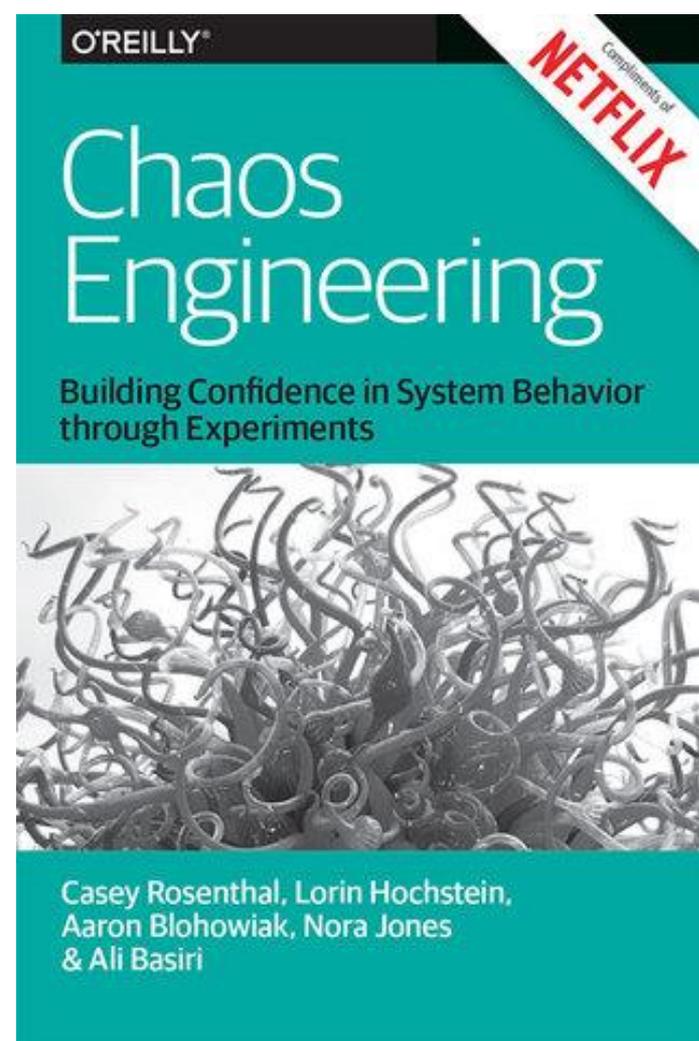
JSON Schema

PRODUCTION

TRACE FLOWS

CHECK STANDARD

CHAOS
ENGINEERING



TAKE AWAYS

Fitness to keep some controls & chaos to allow innovation

**Balance Emerging &
Intentional architectures
based on maturity**



**Monitor
your evolving architecture**



**Foster fitness & chaos
at the same time**



**Stay open for
evolutions & innovations**

**THE FUTURE
IS YOU**



**SOCIETE
GENERALE**