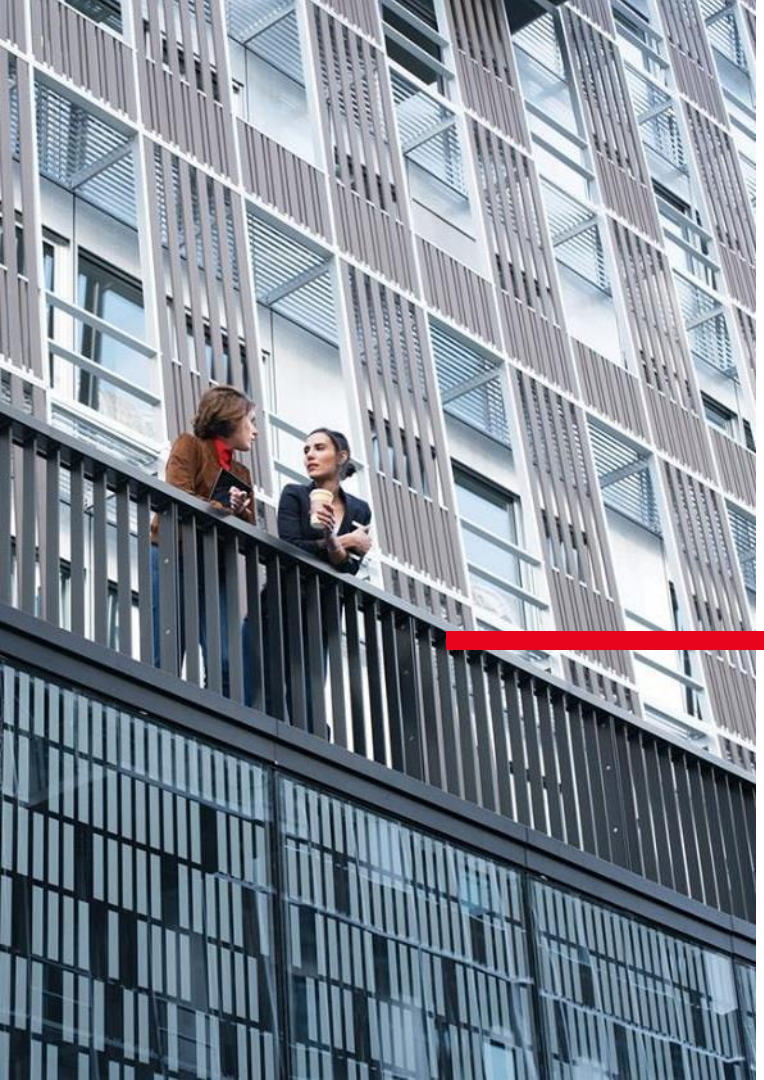


FROM EMERGING TO LIVING ARCHITECTURE

REX from Patrice Fricard & Sébastien Charette

THE FUTURE IS YOU

SOCIETE GENERALE

AGENDA

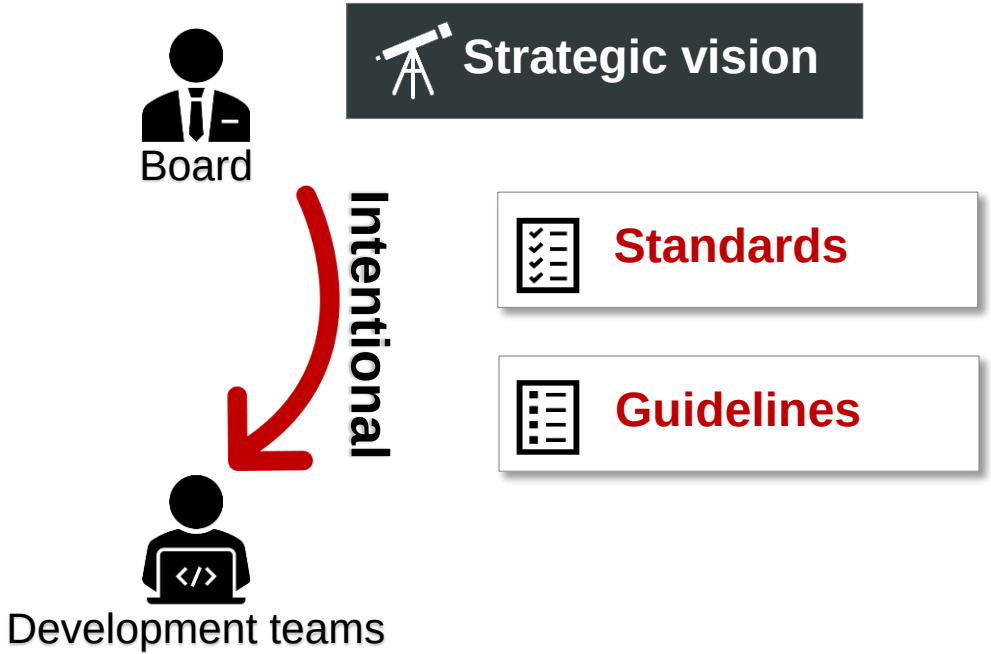
Why do we have what we call “Living Architecture” ?

How do we manage it?

What is used to set it ?

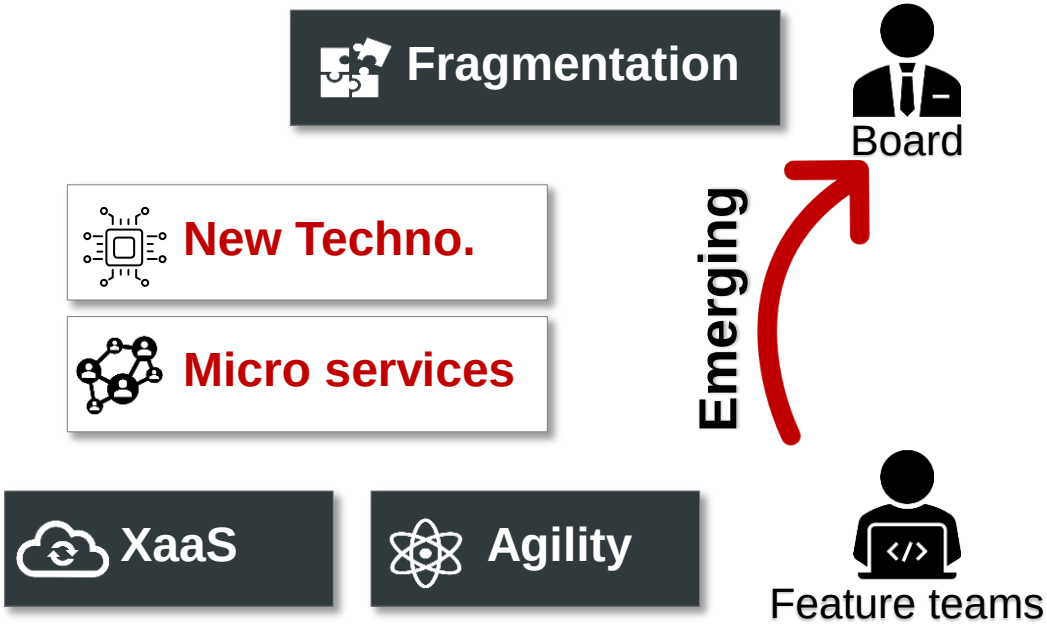
SOCIETE GENERALE

REMINDER ON INTENTIONAL ARCHITECTURE



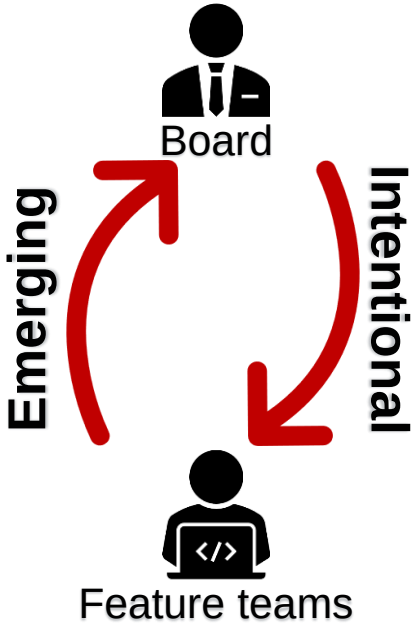
Strategic vision comes top-down through standards and guidelines

AGILITY BRINGS EMERGING ARCHITECTURE



Concrete implementation is defined bottom-up from Feature teams

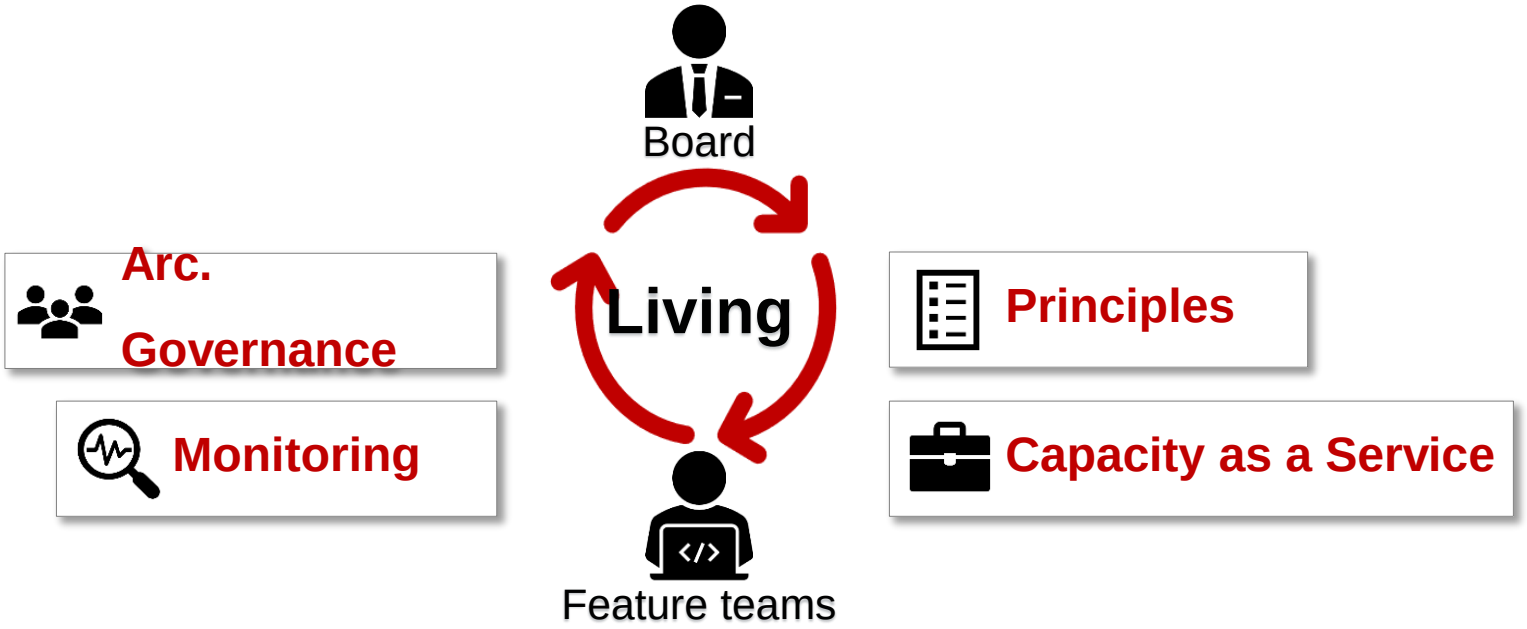
SUSTAINABILITY & LIVING ARCHITECTURE



Sustainable & evolutive systems require a balance between intentional & emerging

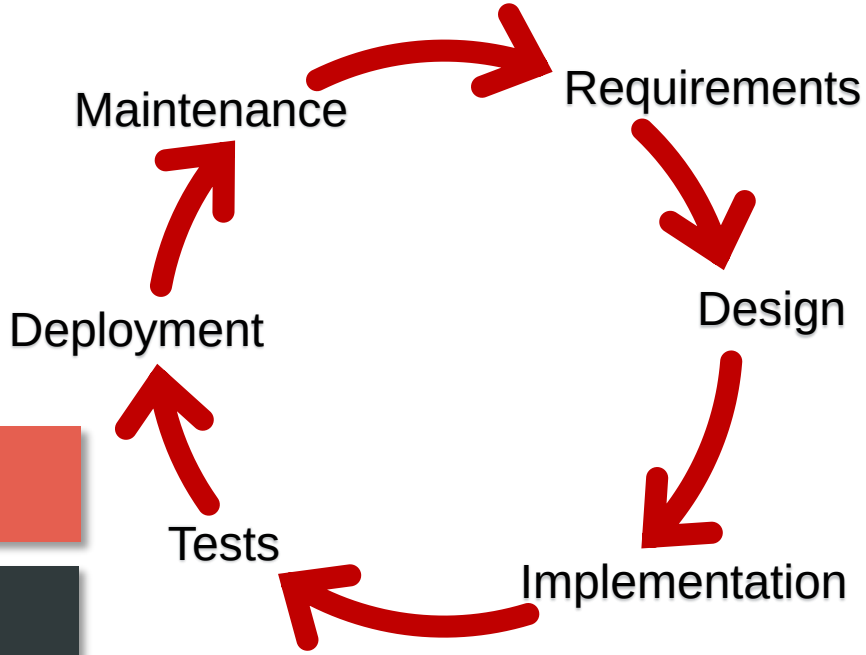
SOCIETE GENERALE

SUSTAINABILITY & LIVING ARCHITECTURE



Sustainable & evolutive systems require a balance between intentional & emerging

INTEGRATION IN TEAM DAILY ACTIVITIES



Declarative

Production

Architecture

Tests

Static Checks

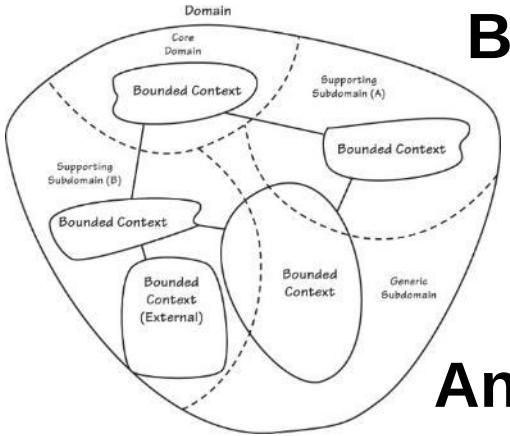
SOCIETE GENERALE

DECLARATIVE

DOMAIN DRIVEN DESIGN

CONTRACT FIRST

DECISION LOG



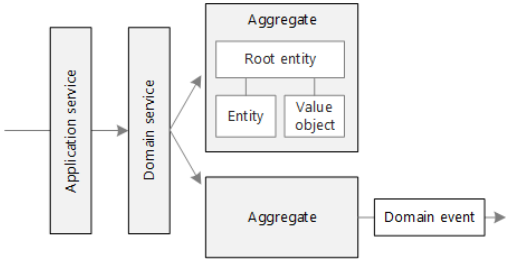
Bounded Context

Ubiquitous Language

Context Map

Anticorruption Layer

Tactical Patterns



https://docs.microsoft.com/en-us/azure/architecture/microservices/model/tactical-ddd

SOCIETE GENERALE

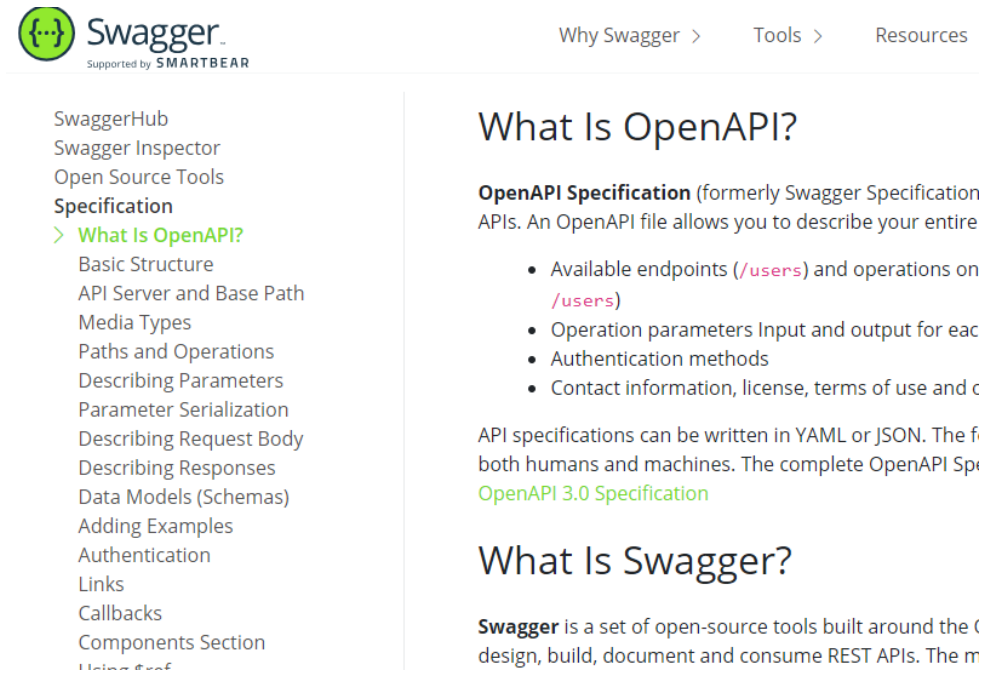
DECLARATIVE

DOMAIN DRIVEN DESIGN

CONTRACT FIRST

DECISION LOG

SOCIETE GENERALE



DECLARATIVE

DOMAIN DRIVEN DESIGN

CONTRACT FIRST

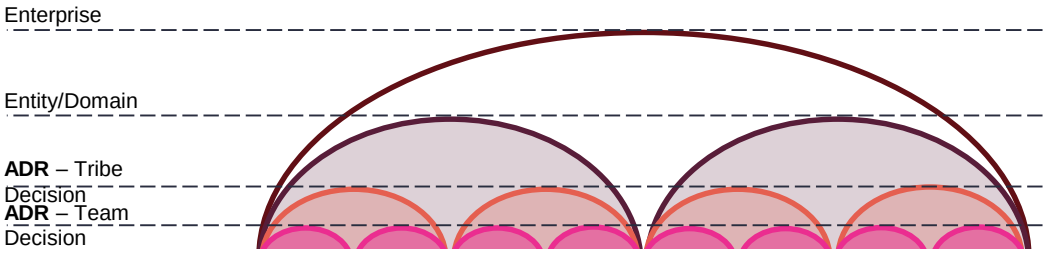
DECISION LOG

SOCIETE GENERALE

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)

STATIC CHECKS

CODE REPOSITORY

=

SOURCE OF INFORMATION

SOCIETE GENERALE

STATIC CHECKS

GATHERING DATA IN CODE REPOSITORIES

CODE ANALYSIS

BEHAVIOR DRIVEN DEVLOPMENT

Configuration files

Project Object Model

Diagram (plantUML)

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

SOCIETE GENERALE

STATIC CHECKS

GATHERING DATA IN REPOSITORIES

CODE ANALYSIS

BEHAVIOR DRIVEN DEVLOPMENT

Check quality

Check security

« Lint » your contract

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

SOCIETE GENERALE

STATIC CHECKS

GATHERING DATA IN REPOSITORIES

CODE ANALYSIS

BEHAVIOR DRIVEN DEVLOPMENT

SOCIETE GENERALE

Use it to generate the documentation from the test description

Cukedoctor

https://github.com/rmpestano/cukedoctor

TEST TO SUSTAIN

SOFTWARE ARCHITECTURE TEST

CONTRACT TESTING

https://www.archunit.org/

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

SOCIETE GENERALE

TEST TO SUSTAIN

SOFTWARE
ARCHITECTURE
TEST

CONTRACT TESTING

SOCIETE GENERALE

Consumer-Driven Contracts

PACTS

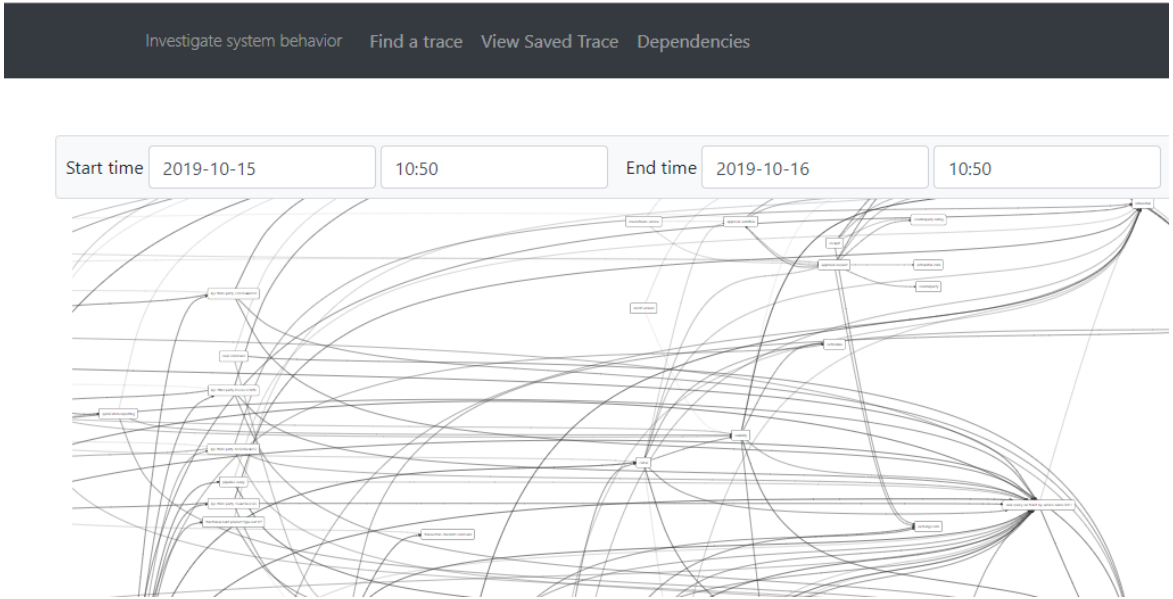
PRODUCTION

TRACE FLOWS

CHECK STANDARD

CHAOS ENGINEERING

ZIPKIN



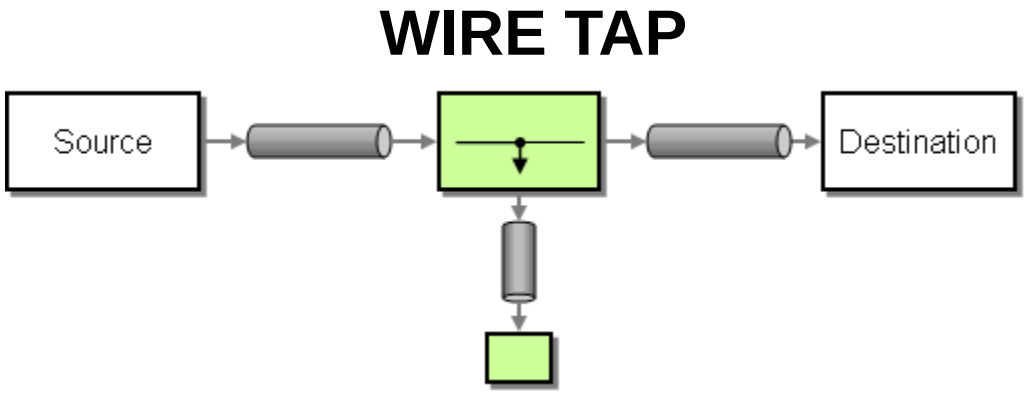
SOCIETE GENERALE

PRODUCTION

TRACE FLOWS

CHECK STANDARD

CHAOS ENGINEERING



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

+

JSON Schema

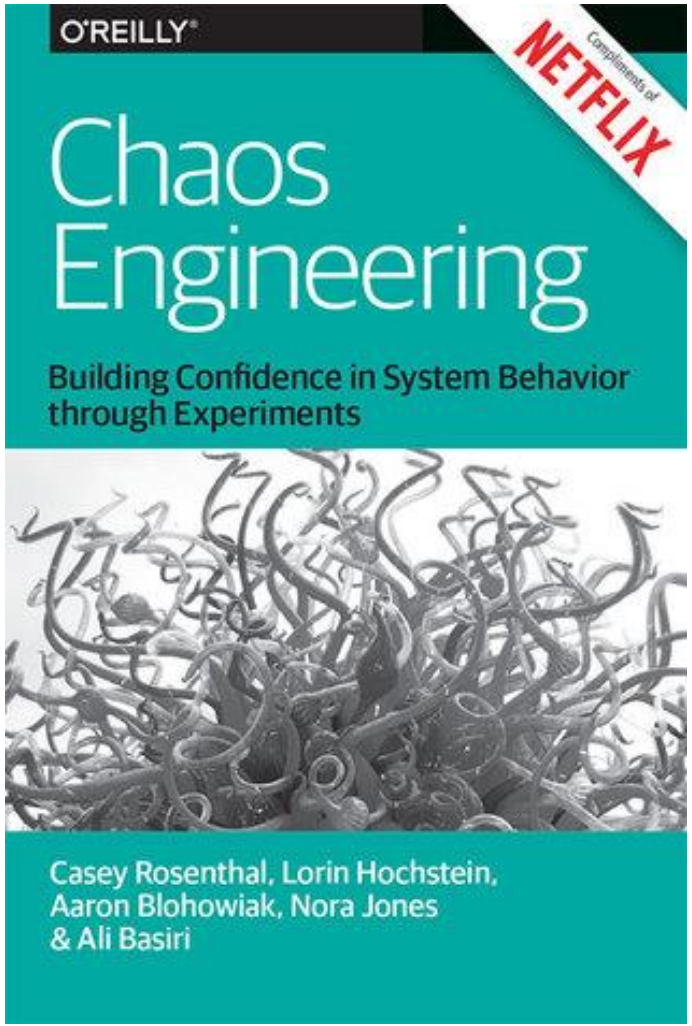
SOCIETE GENERALE

PRODUCTION

TRACE FLOWS

CHECK STANDARD

CHAOS ENGINEERING



SOCIETE GENERALE

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

SOCIETE GENERALE

THE FUTURE IS YOU

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