SRE – going beyond SLI, SLO, SLA

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About Me

- 42 years, married with 2 kids

- From Uppsala, living in Stockholm

- MSc Engineering Physics + Economy

- Experience from Vodafone, Ongame, Nokia, NetEnt and now SEB

- cloudcloud.dev

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What SRE is NOT:

- A fancier title for SysAdmins

- DevOps with a new name

- What came before Platform Engineering

"SRE is what happens when you treat operations as a software problem."
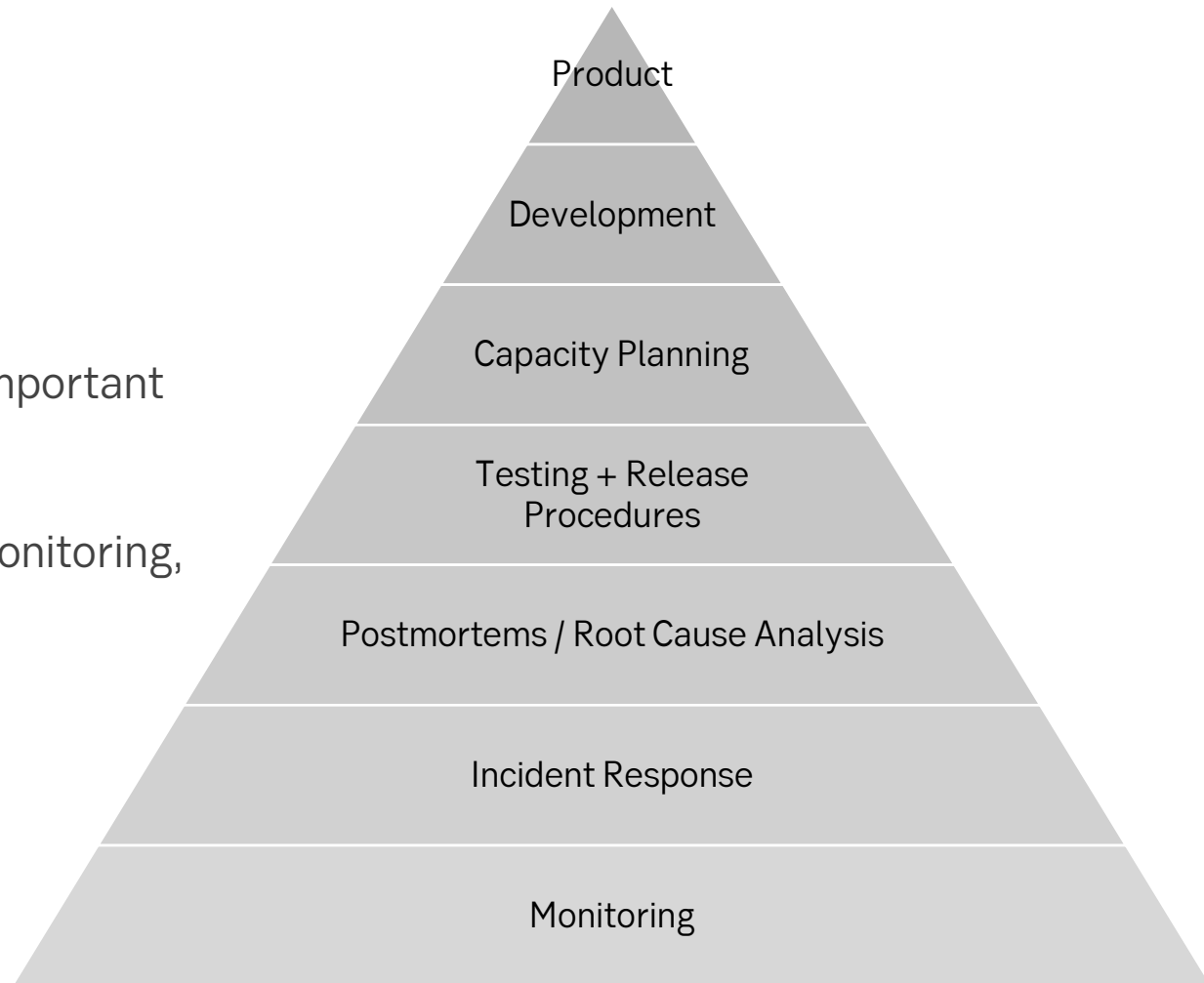- Ben Treynor, Google

What is SRE?

Site Reliability Engineering is a software-first approach to IT operations supported by a set of corresponding practices.

SYSTEMS

CODE

SRE

A BUTTLOAD OF SERVERS

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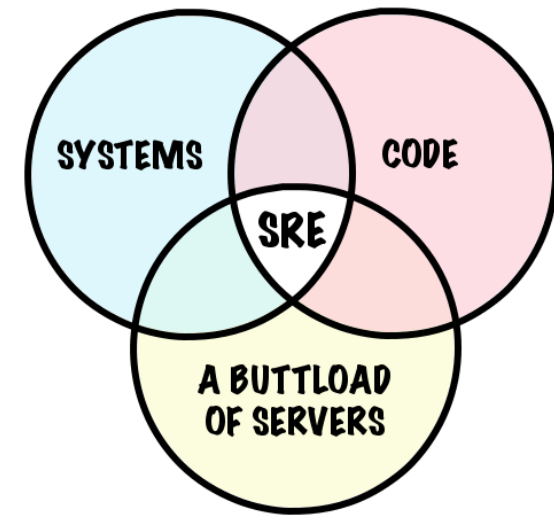
Reliability Is the Most Important
Feature of any Product.

Your Users, Not Your Monitoring,
Decide Your Reliability.

Product

Development

Capacity Planning

Testing + Release
Procedures

Postmortems / Root Cause Analysis

Incident Response

Monitoring

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```
class SRE implements interface DevOps {

...

}
```

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DevOps

SRE

GOAL: Bridge the gap between development and operations

GOAL: Bridge the gap between development and operations

DevOps is a mindset and culture of collaboration

SRE is a set of practices and principles
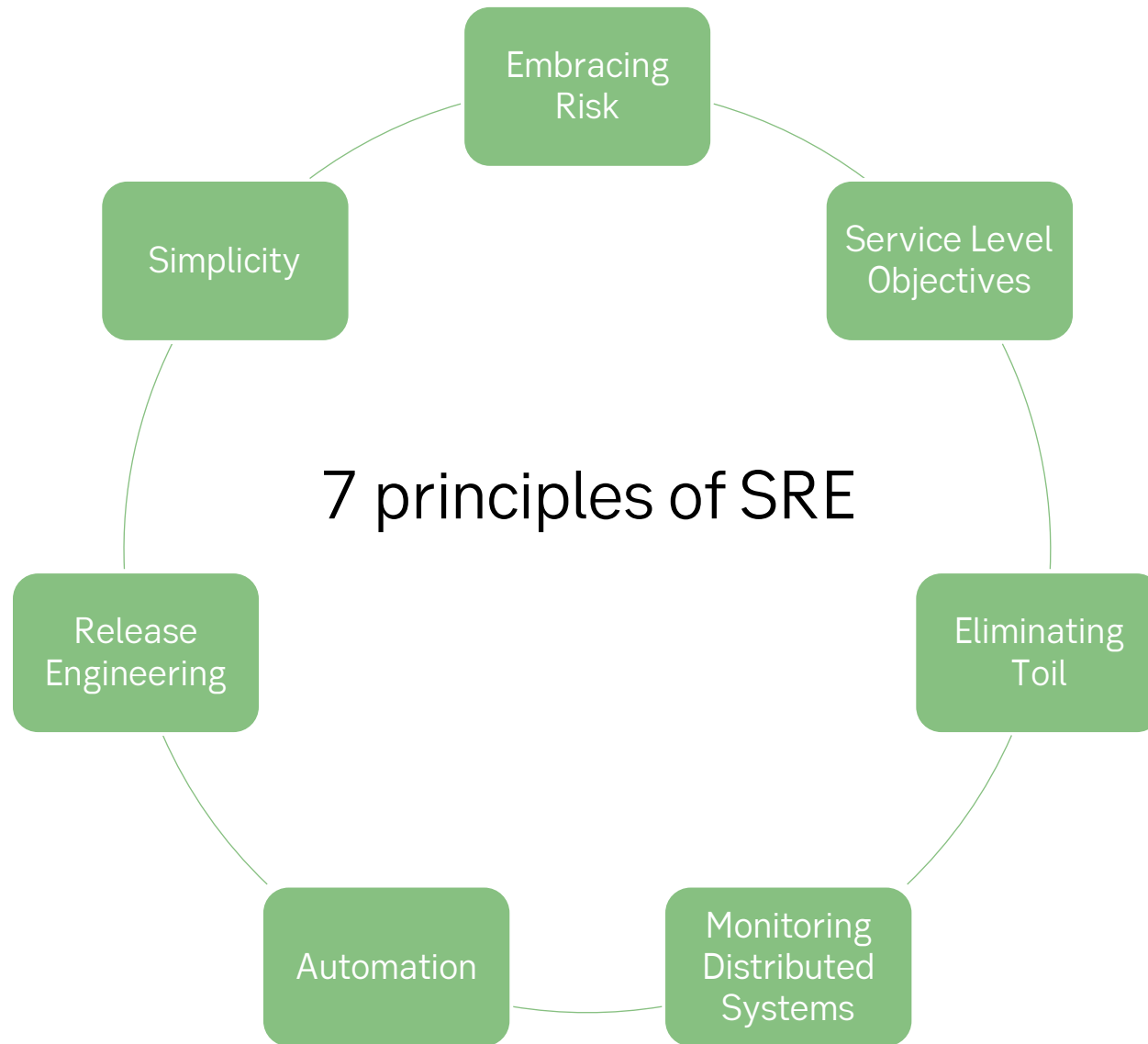
Birth date: 2009 by Patrick Debois, IT Consultant and Agile practitioner

Birth date: 2003 by Ben Treynor, Google's VP of Engineering

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7 principles of SRE

Embracing Risk · Service Level Objectives · Eliminating Toil · Monitoring Distributed Systems · Automation · Release Engineering · Simplicity

Site Reliability Engineering Principles (sre.google)

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Google SRE "Fun" Facts

- Google places a 50% cap on the aggregate Ops work for all SREs.

- The remaining 50% of a SRE team's time must be spent on development.

- Google's SRE team is one central organism, involved in everything from internal networking to developer tools, as well as customer-facing products.

- SRE support is not automatic or for all dev teams at Google. SREs are intentionally few in numbers.

- SRE teams are funded by the development teams and made up of at least six SREs each.

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Site Reliability Engineering's role is to support the teams with Container Runtime Platform, CI/CD, Kafka as a Service, Cloud expertise, SRE practices and operational excellence.

Guiding Principles:
- Inspire the use of new technology and best practices.
- Lead with expertise and by example
- Support with an open mind and curiosity
- Help to self help
- Self-service is the best service

Identity
Chapter

Container &
Delivery
Chapter

Observability
Chapter

Site Reliability
Engineering

Stockholm – Kyiv – Hyderabad

Kafka
Chapter

Network
Chapter

Principles of Operation:
All team members have the same permissions to all systems and tools they are administering to avoid permission paralysis as well as spread knowledge and minimize single person dependencies.

All team members work off the same tech stack, some more skilled than others in their respective areas of interest but they are encouraged and supported to pair up for collaboration with other team members.

Members in all chapters have On-Call responsibility for the two On-Call streams in SRE, Network and SRS (Site Reliability Services).

Chapters are groups of Site Reliability Engineering team members working within a set functional area, sharing knowledge, tools, code and practices.

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Job Ad for an SRE

What's the deal?

As a Site Reliability Engineer (SRE) you are responsible for building and maintaining shared infrastructure running on both public and private Cloud, as well as developing automation and self-services for our development teams.

SREs are pragmatic operators and software craftspeople applying sound engineering principles, operational discipline, and mature automation to our environments and the codebase.
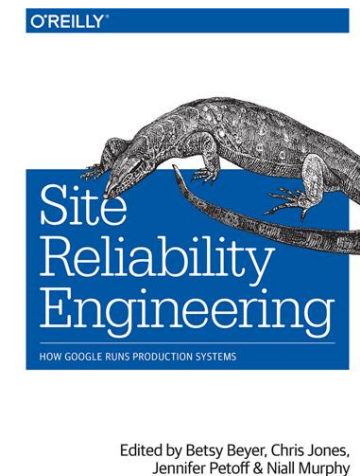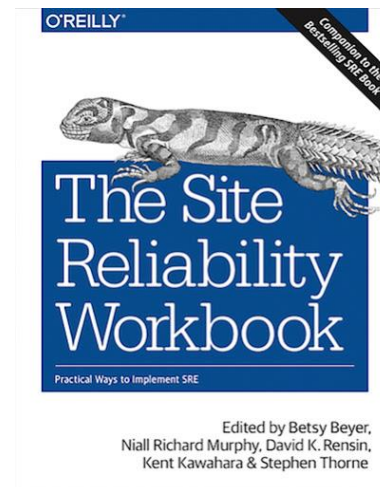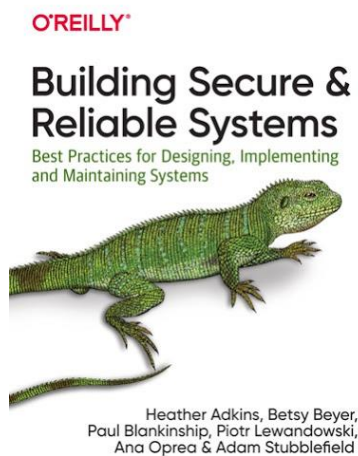
Who are you?

We believe that you are motivated with a DevOps, Agile and continuous learning mindset. You think about systems, edge cases, failure modes, behaviors and specific implementations. You have proven skills in cross-team collaboration and communication.

Skills:

- Solid Linux background
- Strong ops skills and mindset
- Knowledge in Kubernetes
- Experience with cloud computing platforms such as AWS or GCP
- CI/CD systems such as Jenkins, GitHub, ArgoCD or similar
- Experience with SQL and NoSQL technologies
- Good coding/scripting knowledge and skills
- Understanding of networking tech
- Background of working in the modern development organization

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Read more (sre.google)

Google SRE: Site Reliability Engineering at a Global Scale - The New Stack

The SRE Engagement Model - Google - Site Reliability Engineering (sre.google)

SRE at Google: How to structure your SRE team | Google Cloud Blog

Site Reliability Engineering at Google • Christof Leng • GOTO 2018 - YouTube

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