

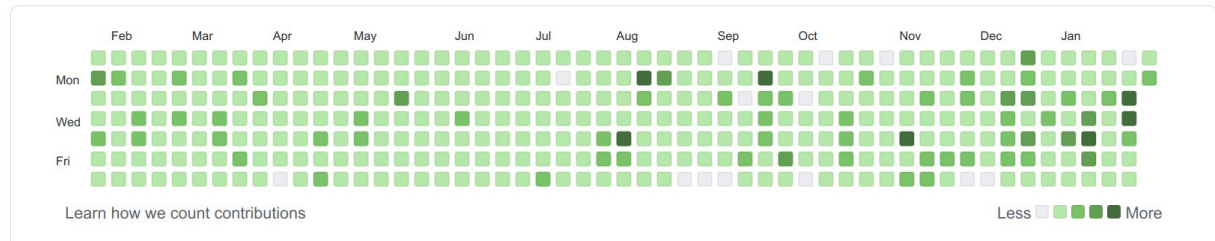
Thor Henning Hetland

totto

The Geekfather. A community guy..

11,008 contributions in the last year

Contribution settings ▾



Thousands of releases per year, 24/7 with no downtime, with a team of 5.

Let's talk about productivity in software development.

XOR EXOREACTION

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Intro

In this presentation, I will share some experiences on how and why we do things quite differently from others. The goal is to optimize for productivity and value creation in software development.

I will talk about areas such as effective distributed teams across time zones, ownership of solutions, technology, processes, and value creation. We'll take a look at how we *grow* business-critical microservice-oriented solutions for our customers.

We will also share some insights into our tools and why we invest in building a better platform, libraries, and tools for NoOps organizations.

Agenda

- A bit about the context and scope of what we do for customers.
- What do we do differently than others?
- Let's discuss the key differences a bit more closely, including the controversial details.
- What are the premises, and how can we achieve them?
- Q&A



Disclaimer



- We know that what we are and how we do things are highly optimized and pushing the limits of developer productivity
- Your team, organization, skill-set, and challenges are likely to be very different
- *..but maybe by sharing this we can be of some help to you in seeing the value in doing things a bit differently*

Some context and scope - technology and processes 1/2

- We're a custom-build, actively optimized company to push and show what's really possible in bespoke software development & lifecycle management
- “Last mile” mentality company
- very focused on pushing the limits in our practises and in technology
- *We have the people to do just that*

custom development all time zones
**Full active life cycle
MANAGEMENT**
auto-updating environments customer value

people github
VISION
AWS Messi
bleeding-edge
x3 Java champions
MOTIVATION semantic controlled
24/7 NoOps
FOCUS GO
actively optimized
Tooling visuale CloudNative
XORCERY processes SKILLS
provisioning
WHYDAH Native Open Source
Nerthus

Some context and scope - technology and processes 2/2

- We work as a highly motivated team, across customers, users, codebases and timezones.
- *We push ourselves in mastering the customers domain, and we actively engage the customer to reach new heights in our combined journey.*
- We love coding the hard stuff
 - performance, scalability, resilience, high-change, high-availability,
 - complexity, security, encryption and more...
- Our customers know and decide WHAT
 - *We know and decide how*
 - We work very tightly with our customers to build respect and understanding, we identify ourselves as the customers own IT development and operations department
- We're only successful WHEN the customer is successful
 - Treat the customer investment as your own hobby (investment)





What do we do differently from others?

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What do we do differently than the rest?

- We're a 24x7 organized, actively distributed across most time-zones.
- We're cloud-native & microservice default - we grow software solutions
- We have the people to push the limits
- We're not afraid to invest in building our own libraries, technology and tooling across customers where needed to boost efficiency and productivity.
- We have experienced the pitfalls and consequences of most of today's common practises, and want to deliver better for our customers

A small rant on the term “*Best Practise*”

Hvis “best practise” var en **ting** så ville det

- vært definert av “*noen*”
- og scopet til gitte problemstillinger
- som ville måtte bruke lang tid på å bli enige
- som betyr at praksisen i beste tilfelle ville være
 - en bra praksis
 - for noen problemstillinger
 - for mange år siden...
- ..eller en *ekte selvmotsigelse*..

...men i praksis så er det en leverandør-drevet herse-teknikk for overtale kunder til å gjøre ting på den måten leverandøren selv ønsker...



Let's dive into some details

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Controversial details

- Natively distributed team
 - actively across all timezones
- Social Coding
 - *Branches and PRs are mostly waste*
- Microservices
 - *We grow software*
- NoOps
 - *Who has time to do ops?*
- Homegrown libs, frameworks and tooling
 - *Investment in productivity*
- And also almost
 - **No meetings**
 - **No timesheets**

Natively distributed

- **Async** communication by default
 - Text over voice/video..
 - Keeping the same information accessible to everyone is essential
 - Developer-time, not manager-time
- **experts at work (almost) 24x7**
 - operations - almost free, as we have experts already at work
 - development - chained timezone development when it makes sense

Social Coding

- grow software, continuously small commits - tiny, tiny steps
 - Micro-commits make it way easier for everyone in the team to understand and follow as the codebase growth
 - If a developer has the wrong idea, everyone can catch it and discuss/contribute. Much faster and cheaper
- trunk-based development
 - Remember: the fastest way to develop software is to do everything correct at once
 - Everything should be solid for release to production at any time
- Keep the logic explicit over “smart|compact” to reduce the WTF/min for others and reduce the chance of bi-effects in change in production
- OpenSource (ASL v2) by default
 - Enable a good, layer-free use and re-use of the code for us and our customers.

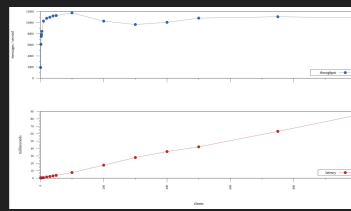
Microservices - growing software

- Split the work in many small codebases (We have around 300-500 active)
 - get environment up and running as early as possible to test/verify
 - “it does not work until it has been running for 3 months on servers - no *“it works for me”* allowed
 - Makes it fast and easy to onboard new people, or for others to get started, learn, fix bugs, enhance and release updates
 - typelibs og sdk
 - Re-use what’s possible/meaningful across the same solution, other solutions and customers
- High-availability (HA)
 - SLA - we’re in the “many nines”
 - We leverage shared state for performance and reliance
 - We develop for clustered by default
- XORcery
 - Grow from an event-sourced monolith to microservices
- Stingray/Messi
 - Our own building blocks for more traditional microservice software stacks which works better for active lifecycle deployments.

NoOps - we really do not have the time to do ops..

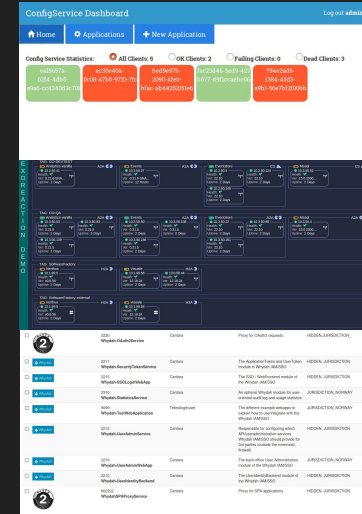
- **No kubernetes / istio and friends**
 - no docker
 - unless when we need it
- **Semantic version controlled environments**
 - pull-based fire & forget environments (no more testing against “wrong version”)
- **Continuous patching**
 - Operating systems, code dependencies, running software
 - If something isn't patched in 7-days, oil-lamps will warn the team.
- **Side-by-side test and verification of new releases in production**
 - Where possible

Homegrown tooling



Feel free to take these for a spin.
Engage to extend them to support
your needs. Together we can make
everything better.

- Most existing tooling is build by the technology giants, it is expensive to use/run for small companies
 - buri, nerthus, stingray, messi, xorcery
- Not much tooling exist which is optimized to “grow software”
 - visuelle, nerthus, buri, wamper, http-loadtest, *-baselines, *-BaseCommands
- The NoOps tooling scene isn’t that great (yet?)
 - nerthus, buri, vili, pull-based semantic-updates
- A lot of the typical libraries and frameworks isn’t that great to operate and maintain over time
 - stingray, property-*, jau/configservice
- Security, efficient and control over continuous CVE-patching
 - stingray, nerthus, buri ++



..and almost

~~TIMESHEET~~

Image from: Chris Farmand



Image from: Government Digital Service



What are the premises,
and how can we achieve them?

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What are the pre-conditions, and how to meet those

- **Mission**
 - Moving at speed outside the beaten tracks require a very strong dedication and sense of direction to succeed - a strong vision and autonomy is key here.
- **People and skill-sets**
 - Without some key strengths in your team, it will be very difficult. We try to employ the best, and have a good balance between developers with excel in:
 - developing (new) technology,
 - customer/solution development experts and
 - tooling/automation/infrastructure/software factory experts.
- **Culture**
 - Desire to solve the problem(s) - *no excuse accepted*
 - Things are moving at high speed, so the utmost key is to optimize work and culture on **learning**. Plan to fail, but fail fast. Lessons learned from failing is the best kind of learning.
 - **Explorative** coding to get to the state where you can code tests against the hypothesis, and validate them with customer(and users) is needed to limit “waste” as we grow software.

Rebel Share
June 15th

Tusenvís av releaser per ár, 24/7 uten nedetid med et team på 5

La oss snakke om produktivitet i programutvikling.



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Q&A

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Conclusion - How to get started

- Check out the open source tools and tooling in the Cantara organization on GitHub.
- Maybe we could have one of your teams spend 6-12 months with eXOREaction.
- Alternatively, Ægis can provide customer-specific workshops and consulting.

