

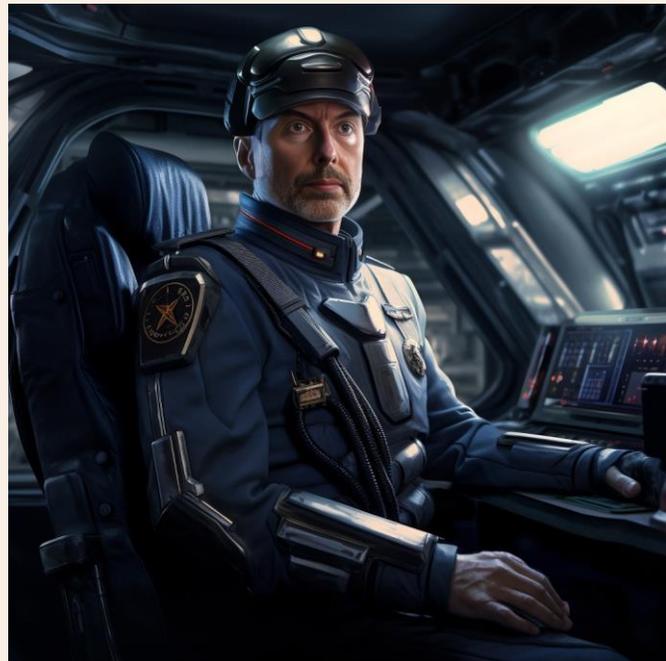
Journey to the Stars:

Principles of Our Microservice Platform and the Role of Platform Engineering

Who we are | The untold story

Christian Edström

Chief Product Owner Developer Platforms

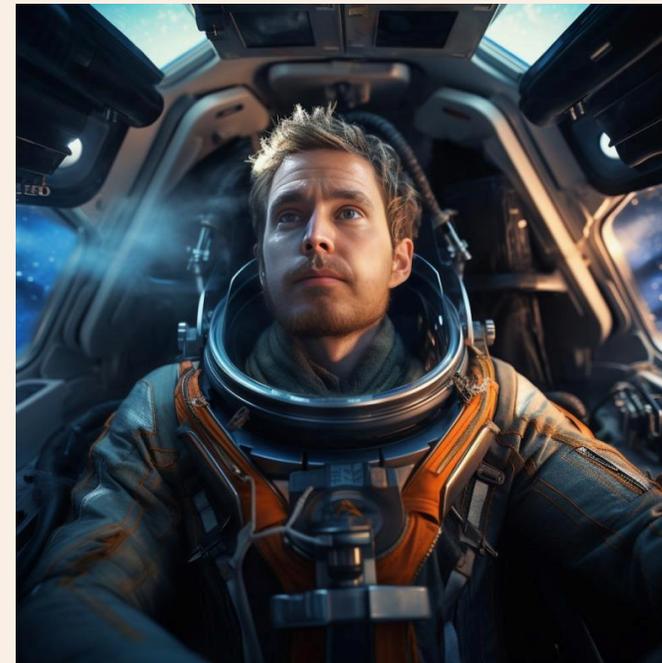


Developer turned manager

Cobol -> Java -> PPT/Excel

Markus Backman

Technology Enterprise Domain Architect



Developer turned architect

SQL -> Java -> PPT

IoT geek



The Evolution | Technology and of ways of working

Architecture

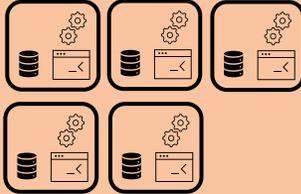
Monolithic



N-tier



Microservices



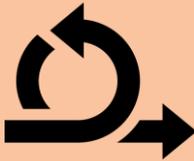
Serverless



Delivery



Waterfall



Agile



DevSecOps

Infrastructure



Mainframe



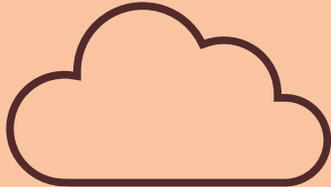
Open systems



Broadband web



Virtualization &
Cloud 1.0

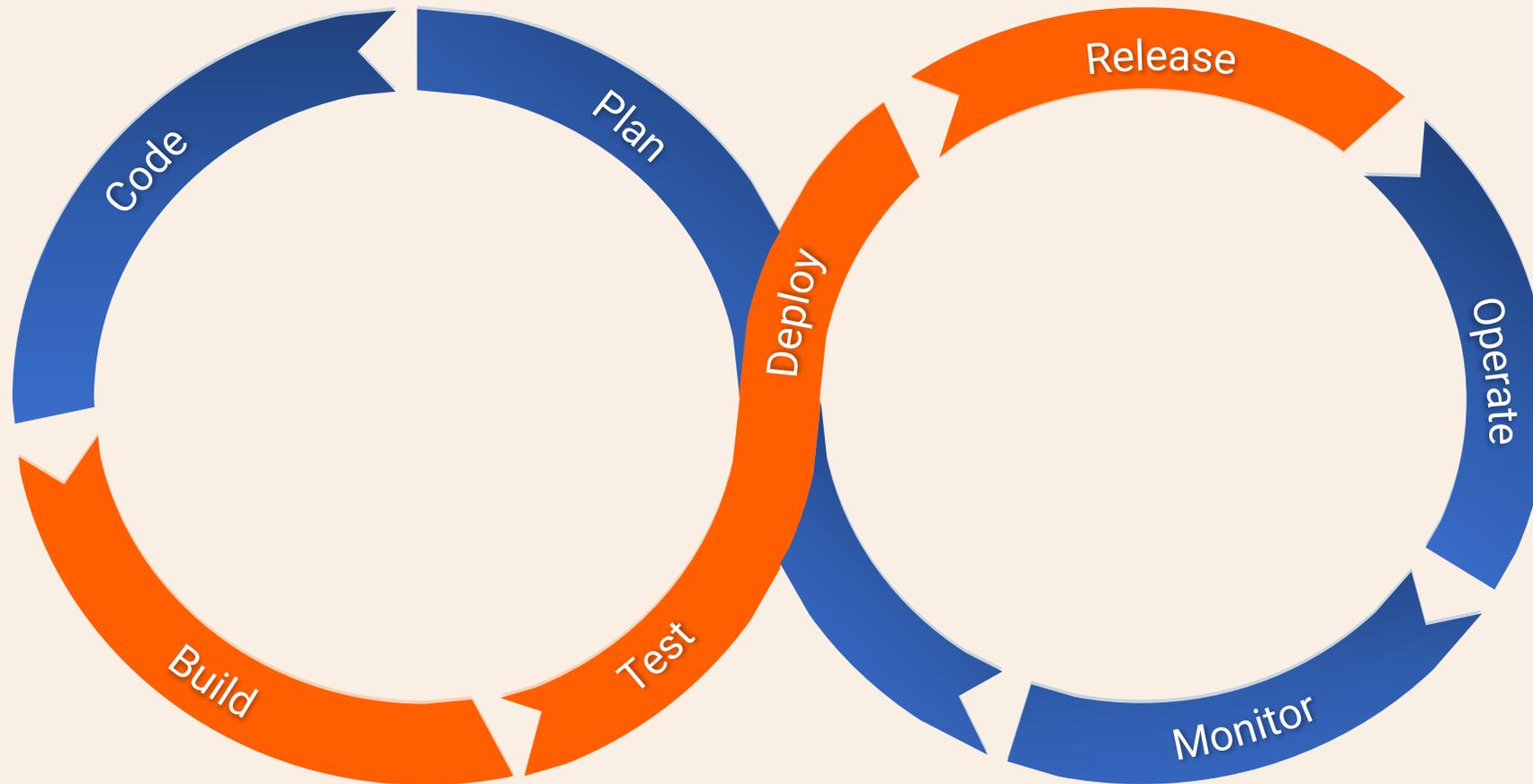


Cloud native infrastructure

A futuristic cityscape at sunset. A prominent skyscraper in the center has a bright beam of light emanating from its top. The sky is filled with clouds and several flying vehicles. The foreground shows other buildings and a body of water. An orange semi-transparent banner is overlaid across the middle of the image.

Has the way we develop software nowadays really changed due to this evolution?

Say hello to the infinity loop of software development

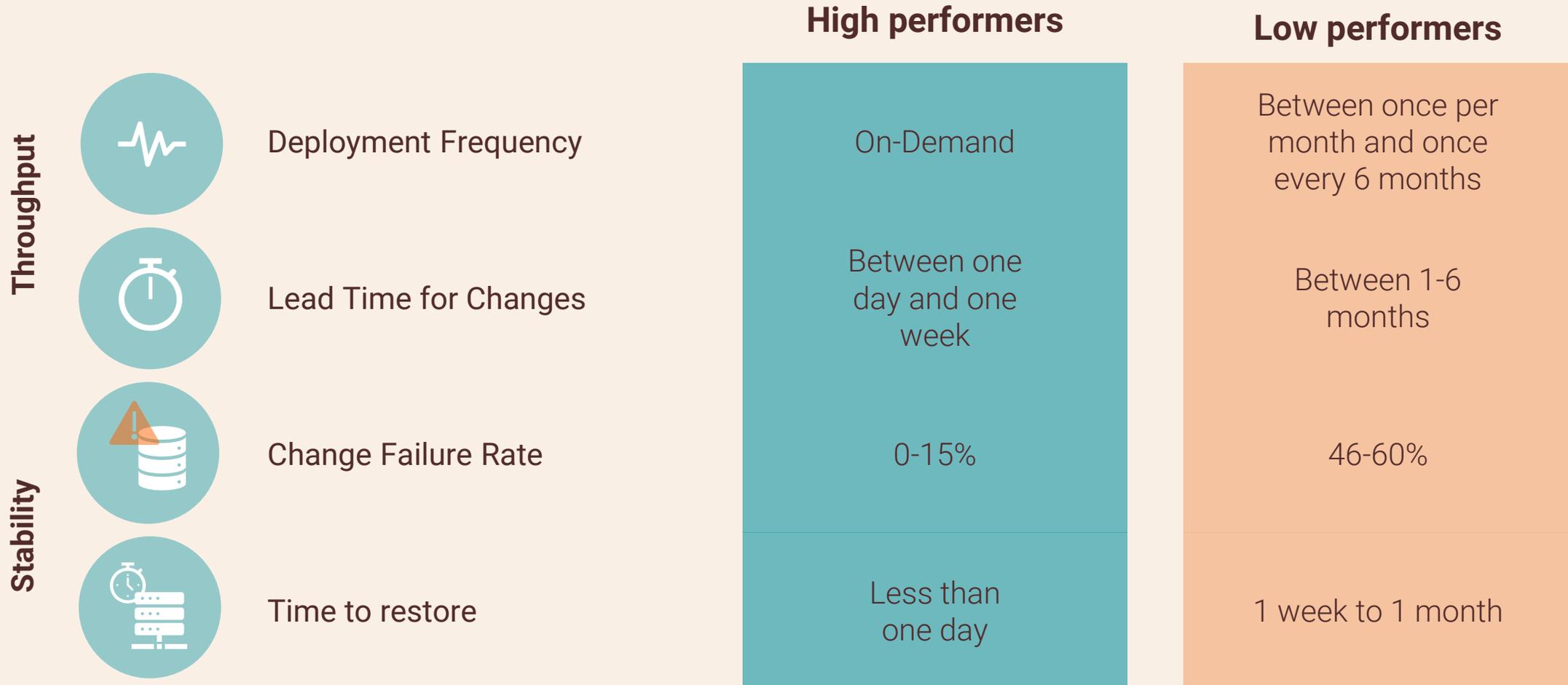


A futuristic control room with two women in dark uniforms standing with their backs to the camera, looking at large digital screens. The screens display various data visualizations, including a large circular graphic in the center. The room is dimly lit with blue and white light accents.

How to measure software delivery efficiency?

The Four Magic Metrics

that drives speed, quality and business value



How is this good for business?

High performers...

29%

More time spent on
new work

2x

More likely to exceed
profitability,
market share &
productivity goals

2.2x

Higher eNPS

2x

Less time spent
remediating security
issues



So, how to scale these practices?

Platform engineering

Platform engineering is the discipline of designing and building **self-service capabilities** to **minimize cognitive load** for developers and to enable fast flow software delivery.



Enterprises with more mature DevOps practices tend to use platform teams.



Increase speed of delivery and scale, prevent re-inventing wheels.



Treating the platform as a product rather than a project



Gartner expects that by 2026, 80% of software engineering organisations will establish platform teams

A futuristic space station is shown in orbit around Earth. The station is a large, complex structure with various modules and antennas. A large orange banner is overlaid across the middle of the image, containing the text "What is our approach?". The background shows the Earth's horizon and a smaller celestial body in the distance.

What is our approach?

It's called Andromeda

A **developer-friendly** application development **platform** based on **micro services architecture** with **managed services** for developing, deploying and operating cloud native applications

What are we aiming for?

Team independency



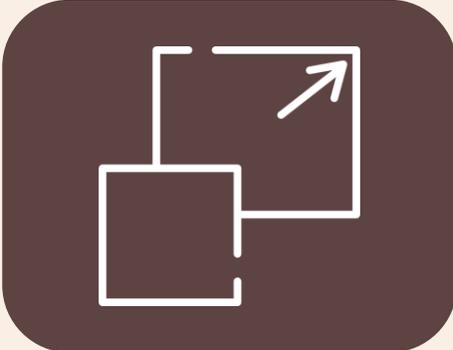
Daily deployments



Developer experience



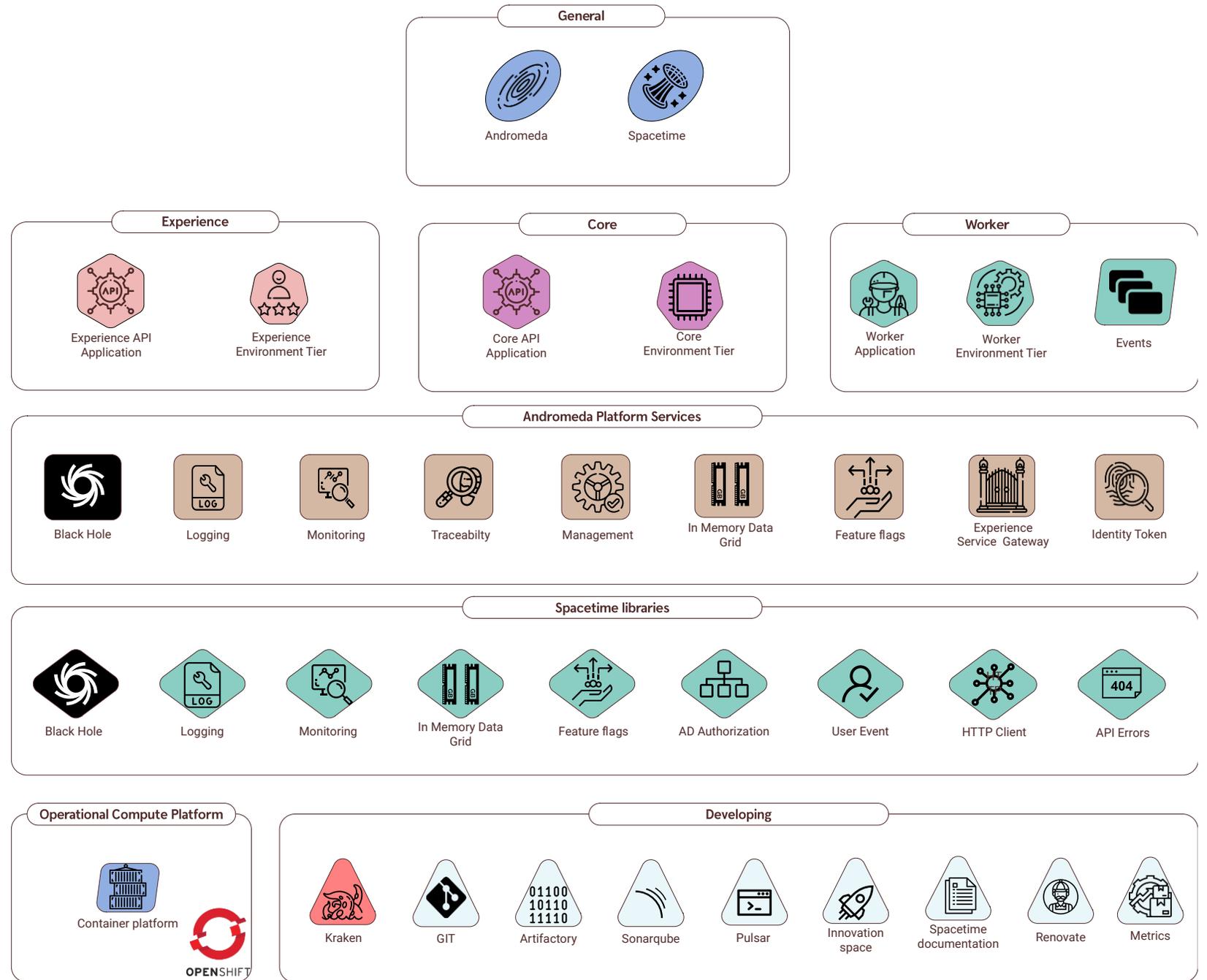
Ability to scale



Compliant by design



The platform - Technology



But it doesn't come without challenges

Technology



The icon depicts a server rack with three units on the left and the binary sequence '1010' repeated twice on the right.

Process



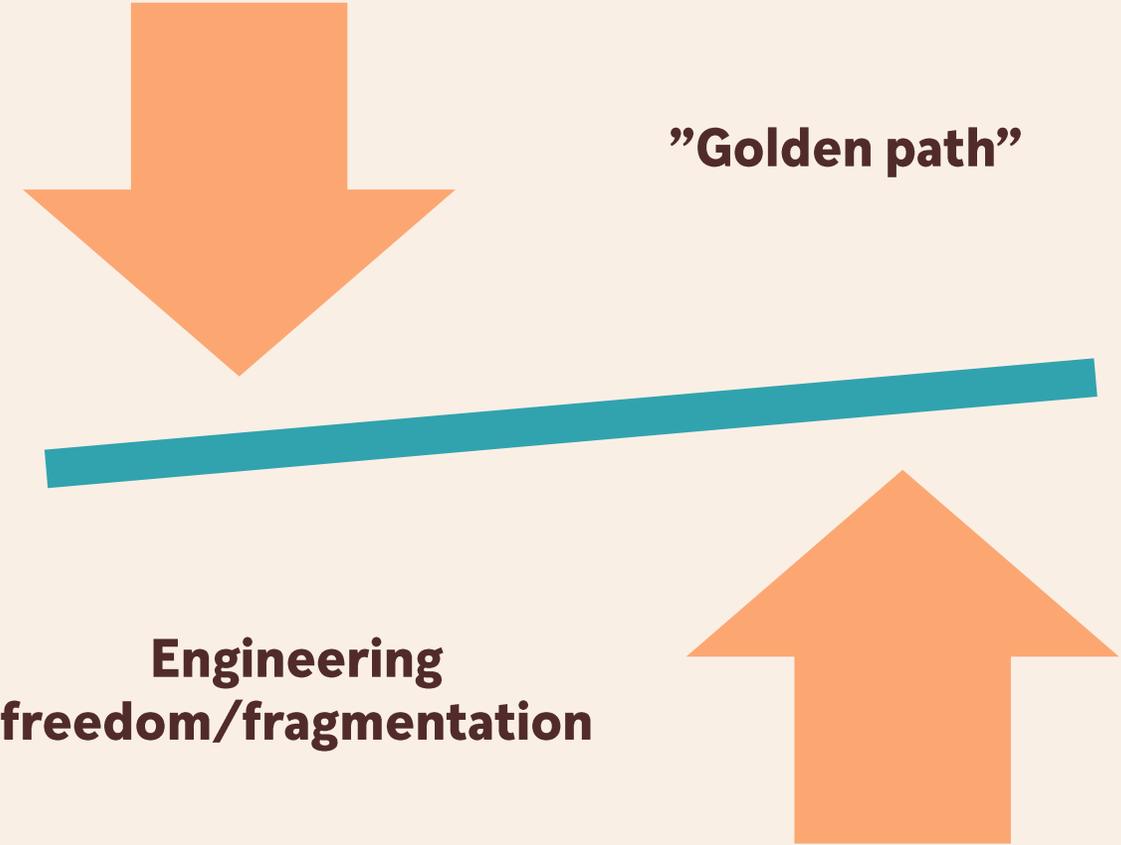
The icon shows a white infinity symbol with a circular arrow on its right side, indicating a continuous or iterative process.

People



The icon features four stylized human figures standing in a row, each with their arms raised in a gesture of celebration or achievement.

Platform engineering - A balancing act



A futuristic robot with a glowing orange visor is shown in profile, looking towards the right. The robot is dark-colored with intricate details and is set against a dark, industrial background with blurred light sources. A semi-transparent orange horizontal band is overlaid across the middle of the image, containing the text.

Technology is the easy part, culture is hard

A large, spiky, spherical object with a grid-like pattern and glowing orange points, set against a dark blue background with a bright orange horizontal band.

How do we work with building the right culture?

Gamify deployment...



Microservices!

2000 XP

Four apps in production! One for each developer?

P & C insurance adv & dist., *yesterday*



We bet our weekend plans!

1 XP

Deploy on a Friday after 15:00

Swedbank Gateway (SGW), *yesterday*



My little cluster

2000 XP

Three apps in production! Easy peasy by now!

P & C insurance adv & dist., *yesterday*



Like it's nothing

5000 XP

100 successful deploys to production!

Online Savings, *yesterday*



Happy APO

1000 XP

50 JIRAs shipped to production!

P & C insurance adv & dist., *2 days ago*



A regular schedule

2500 XP

Monthly deploy streak of 5 months!

Online Pension Private, *2 days ago*



No pain, no gain

1 XP

We're only human, that's 10 failed deploys. Thank you auto-rollback pipeline!

P & C insurance adv & dist., *2 days ago*



Could you have a look at my PR?

1000 XP

Code reviewed and approved by 5 different people

Common Inforum, *2 days ago*



Same procedure as every year, James

10000 XP

Deploy at least once every month for 12 months in a row!

Kundportalen, *2 days ago*



Same procedure as every year, James

10000 XP

Deploy at least once every month for 12 months in a row!

Digital Security, *3 days ago*



Today again

500 XP

Again today? You deployed yesterday!

Finance Company Sweden, *3 days ago*



Market opening!

500 XP

Deploy during the stock market opening

Finance Company Sweden, *3 days ago*

Communicate successes...

Your metrics

Deployment frequency Weekly ★★★ Position 71 out of 127	Lead Time for Changes One Week ★★★★ Position 16 out of 127	Active developers 10 or more ★★★★★ Position 26 out of 127
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We have a strong belief that deploying often leads to amazing results like better code quality, resilient applications, lower risk, fewer incidents, happier customers and much more.

Team of the month!

Team Digital Corporate Banking is the best team within your area this month. They deployed 37 times to production last month. Please make sure that the team is rewarded for their hard work on changing the way Swedbank develop software!

Deployment frequency Weekly ★★★	Lead Time for Changes One Week ★★★★
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...as well as friendly reminders

Weekly update



Andromeda Metrics Bot

Till: Markus Backman

torsdag 3 augusti 2023 15:29

core-user-event

Deployment Frequency
WEEKLY

Lead Time For Change
ONE MONTH

Active Developers
9

Helm upgrade

Upgrade the applications Helm version to **12.10.0** from 12.9.3.

Pending updates

The latest version that hasn't been deployed is 7.36.7.

This unreleased version contains **4 changes** (0 feature, 0 bug fixes, 4 renovates upgrades, 0 other).

There are **1 open pull requests** that has not yet been approved.

core-actimize	20.0.1+9	12.9.3	3.1.0	No
core-365id	20.0.2+9	12.9.3	3.1.2	No
core-security-metadata	20.0.2+9	12.9.3	3.1.2	No
exp-signing	20.0.2+9	12.9.3	3.1.2	Yes
core-bgticket	20.0.2+9	12.9.3	3.1.2	No
core-flow-info	20.0.2+9	12.9.3	3.1.2	Yes

...and help teams to help themselves

What your team is doing good to reduce impact is

You deployed only commits with low risk (CHORES, FIX, etc.).

You have more than 3 developers that are actively working with the application.

You have at least 10 successful deployments in a row for this application!

What your team can do to reduce impact in the future

Your application doesn't leverage the test stages: Service tests, Baseline tests

Consider using Feature Flags to reduce the risk of the deployments.

The developers could improve their application security training scores in Secure Code Warrior.

Try to deploy more often so the number of commits is kept low.

You should ensure that you team has experience performing a rollback of an application.

The impact is calculated based on the content of the deployed changed and how you and your team is working to reduce impact.

What your team is doing good to reduce impact is

Andromeda Spacetime latest

An Application Development Platform built on modern principles.

Microservice architecture patterns

MacOS or Windows!

Kubernetes, Spring Boot 3, Java 20

Join the community!

Join 869 other developers currently working on Andromeda.

Build a microservice

So far, there are 527 repositories labeled with spacetime in Bitbucket!

Ready for production

75 teams are together running 243 apps in production!

Deploy when you want

35 deploys to prod today, 6561 this year, the team decides when to deploy!

Latest deploy

core-savings-portfolio was deployed 4 hours ago by Savings Backend

Leaderboard

Well done Digital Security for deploying to prod 69 times this month!

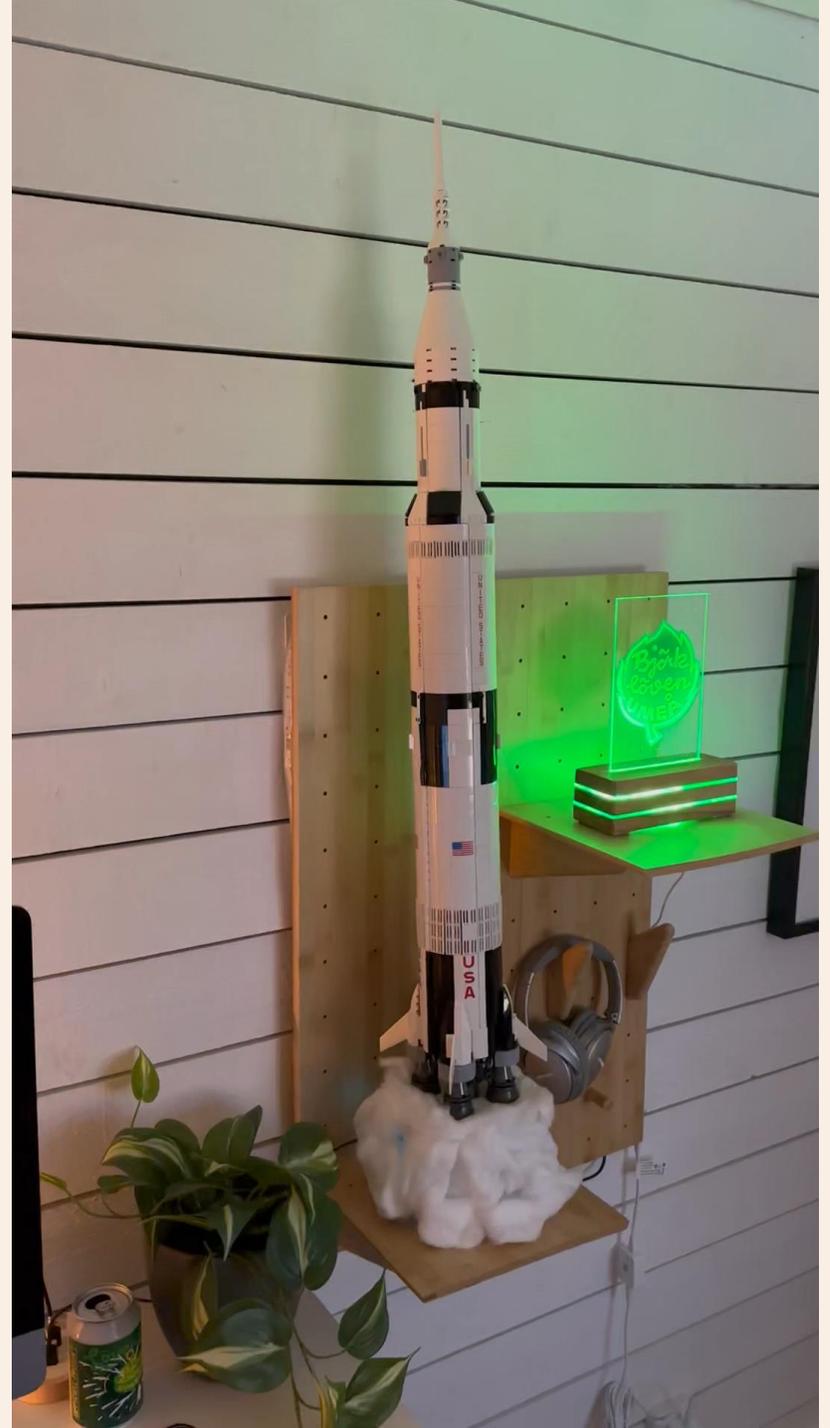
Teams

Get started now



Andromeda rocket

Breaking the glass to reach the physical world



A cinematic scene set on a desolate, orange-hued planet. In the center, a lone figure in a dark suit walks away from the viewer along a path of debris. In the background, a massive, futuristic structure, possibly a space station or a large ship, lies in ruins. The structure is partially destroyed, with bright orange flames and smoke rising from its base. The sky is a hazy, orange-brown color, filled with numerous small, dark spheres that resemble planets or moons. A large, bright light source, likely the sun, is positioned behind the central structure, creating a strong backlighting effect and casting long shadows. The overall atmosphere is one of isolation and the aftermath of a catastrophic event.

Questions?

Swedbank

