

Swedbank

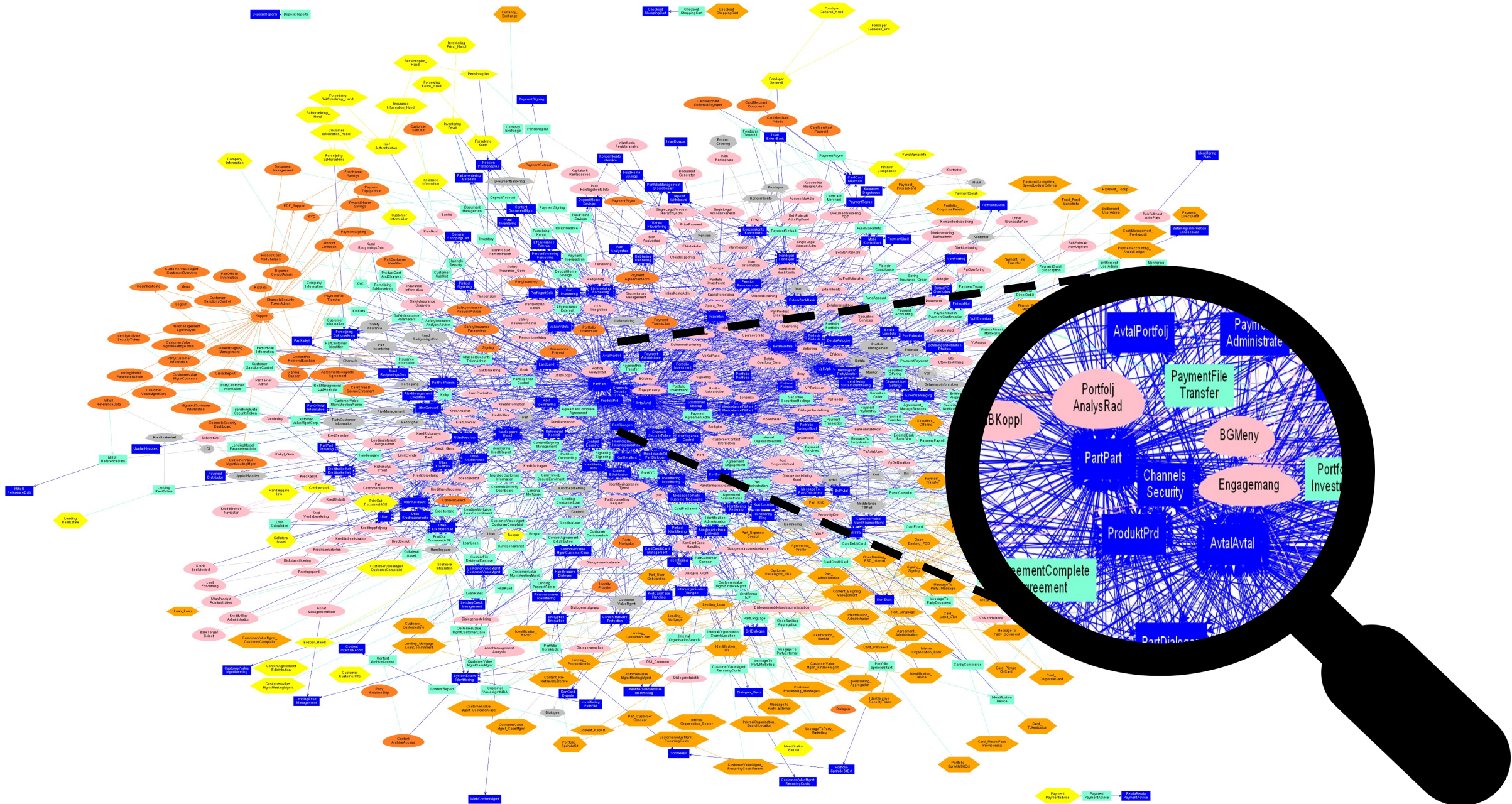


Space, the final frontier

Building a modern development platform at Swedbank
Microservices, containers, CI/CD, autonomous teams...

Who am I?

- **Niklas Mörnesten, software engineer at Swedbank the past 11 years**
- **Career highlights:**
 - **Compiling and running Hello World in Cobol on an actual mainframe**
 - **Taking down the Swedish internet bank by changing a few lines of JavaScript**
 - **Being part of building Swedbank's new backend application development platform called Andromeda**



Decisions 2019

- **Build a new platform based on microservices & create a platform team**
- **No easy migration – let teams re-write their existing functionality into independent microservices**
- **Gradually restrict development in the monolith**
- **Decommission monolith 2029**

- **Needed to keep and attract engineers**



Andromeda

An application development platform with managed services for developing, deploying and operating cloud-native applications

Team independency



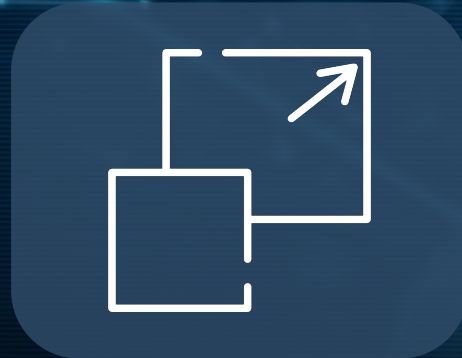
Daily deployments



Developer experience



Ability to scale group wide



Compliant by design



Trade-offs

- Java only, or anything that runs in a container?
- Spring Boot only? Or any framework?
- Shared libraries?
- Support 50 test environments? Just one?






























































The hard part – culture change

Culture change

- We push teams to try deploying more often
- Manual testing
- Need to coordinate release with others
- A feature should be released on a specific date

Make it simple to deploy

Status	Application	Last deployed	Pending changes by	Pending features	Pending JIRAs	Open pull requests	Code diff	Deployers
⚠	worker-user-event-migrator	last week	   	 3  4 7 commits	2 JIRAs	3 PRs	0.14.19..0.14.26	  
⚠	core-feature-flag	last week		 3 3 commits	0 JIRAs	0 PRs	0.18.17..0.18.19	  
⚠	pseudo-id	last week	 	 1  2 3 commits	1 JIRAs	0 PRs	2.3.8..2.3.11	  
✓	core-user-event	4 days ago	  	 2  1 3 commits	1 JIRAs	5 PRs	5.26.2..5.26.5	  
✓	exp-idp	4 days ago		 2 2 commits	0 JIRAs	0 PRs	1.0.23..1.0.25	  
✓	core-idp-token	3 days ago		 1 1 commits	0 JIRAs	0 PRs	3.0.14..3.0.15	  
✓	core-blackhole-token	3 days ago	   	 3  1  3 7 commits	2 JIRAs	0 PRs	0.20.12..0.22.0	  
✓	exp-user-journey	2 days ago	 	 1  1  1 3 commits	1 JIRAs	5 PRs	1.2.1..1.3.2	  
✓	service-gateway	yesterday		0 commits	0 JIRAs	3 PRs		 

Gamify deploying



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

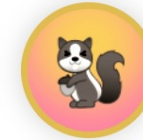
100 successful deploys to production!
Online Savings, *yesterday*



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

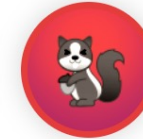
We're only human, that's 10 failed deploys. Thank you auto-rollback pipeline!
P & C insurance adv & dist., *2 days ago*



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

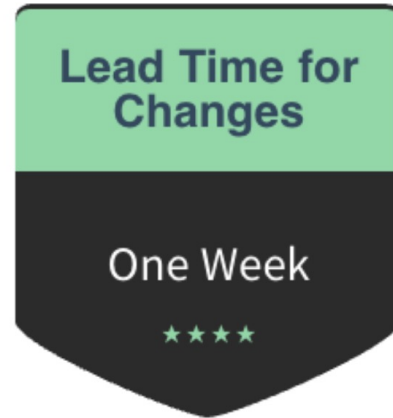
Deploy during the stock market opening
Finance Company Sweden, *3 days ago*

Send monthly leaderboard updates

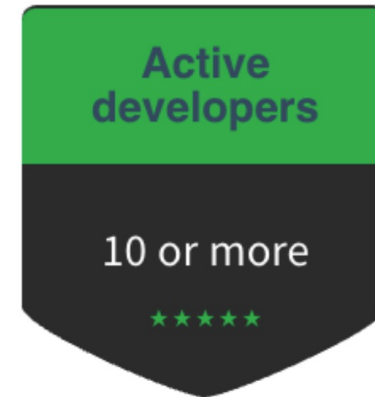
Your metrics



Position 71 out of 127



Position 16 out of 127



Position 26 out of 127

We have a strong belief that deploying often leads to amazing results like better code quality, resilient applications, lower risk, fewer incidents, happier teams and much more.

Send reminders



Have you forgotten to deploy?

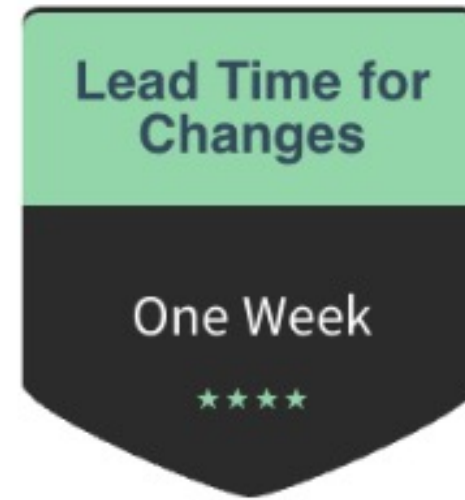
The version of the application that runs in production is 1.0.10 but in version control, you have version 1.0.15 that could be deployed.

This unreleased version contains **5 pending changes** (0 feature, 0 bug fixes, 2 renovates upgrades, 3 other changes).

E-mail management

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!





Current status

Andromeda Spacetime^{latest}

An Application Development Platform built on modern principles.

Microservice architecture patterns

MacOS or Windows!

Kubernetes, Spring Boot 3, Java 19

Join the community!

Join **662** other developers currently working on Andromeda.

Build a microservice

So far, there are **386** repositories labeled with spacetime in Bitbucket!

Ready for production

58 teams are together running **146** apps in production!

Deploy when you want

36 deploys to prod today, **649** this year, the team decides when to deploy!

Latest deploy

Omega External was deployed **1 hour ago** by **Finance Company Sweden**

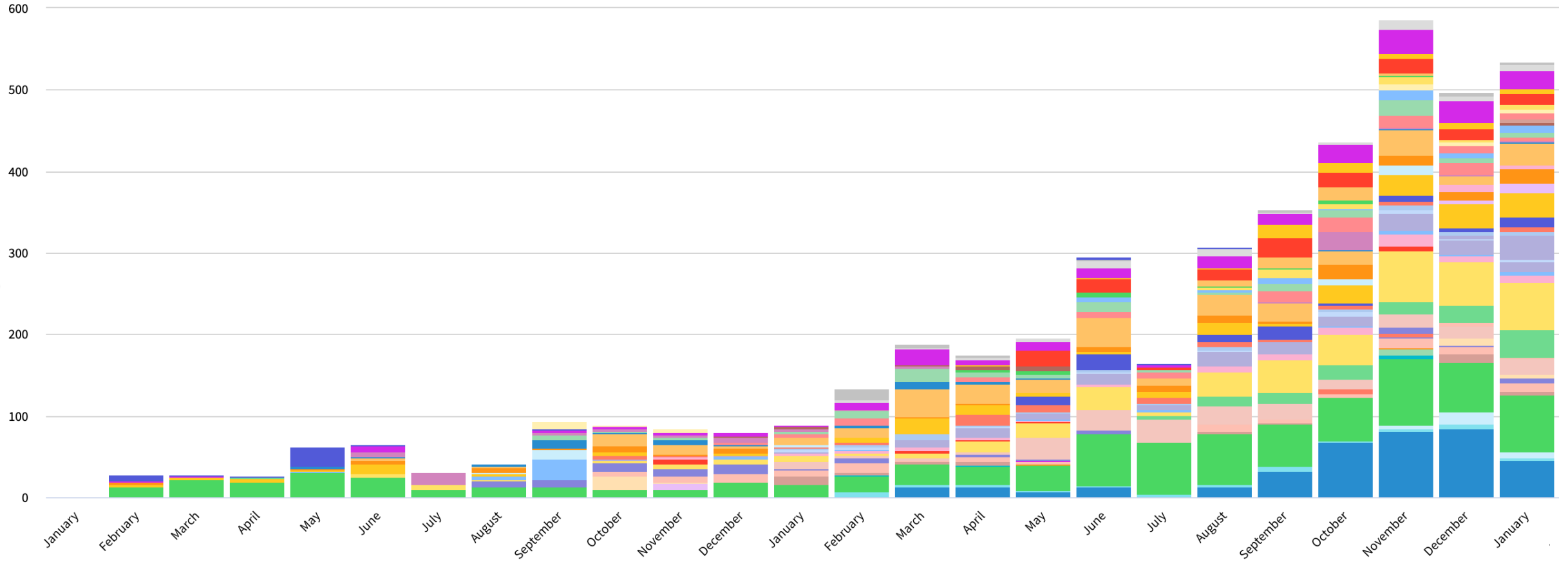
Leaderboard

Well done **Account Aggregation Service** for deploying to prod **17** times this month!

Teams

Get started now

Deploys per month



Swedbank

