

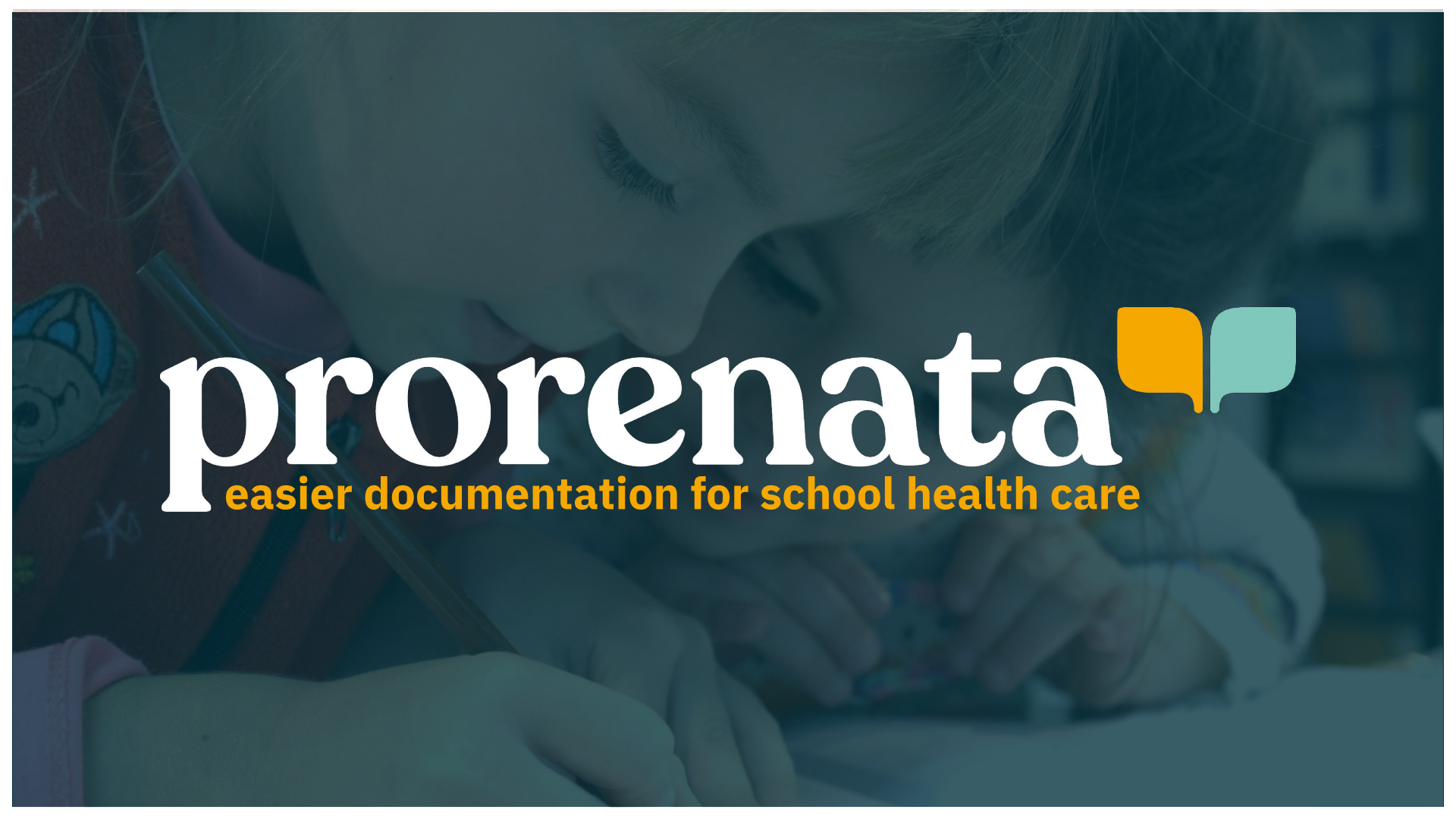
Sensitive data in a Swedish public cloud - how, when and why?

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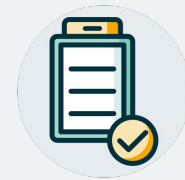
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easier documentation for school health care

Why?

Why do we need to have sensitive data in Sweden



- GDPR
- CLOUD Act
- FISA 702
- Schrems II
- NIS directive
- OSL
- PdL
- Data Sovereignty

When?

When did this become urgent?



- May 2018 GDPR
- October 2018 eSAM
- February 2019 project start
- October 2019 Prorenata first move
- April 2020 Prorenata second move
- June 2020 Schrems II

What?

What did we have?



- AWS Aurora (MySQL 5.7) ~800 GB
- AWS S3 ~50 TB
- AWS Secret Manager
- Monolith Django/Python servers + services
- Traditional VPC (ELB, EC2, Elasticache, etc)

What?

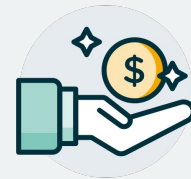
What do we have now?



- OpenStack
- Swift object storage
- Orchesto for encryption
- MySQL with ClusterControl
- Kubernetes with Rancher
- Setup with terraform
- From one staging server to tens of test environments
- 1Password for secrets
- From 11 sub processors to 3
- All on Elastx

How?

How did we make the move?



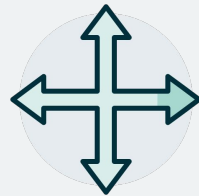
- **Planning** (eight months from start to finish)
- **Patience** (moving terabytes of data takes time)
- **Resources** (me, other senior developers)
- **Money** (double infrastructure, consultants)

How?

How did we choose technologies?



- Moving from servers as pets to servers as cattle
- Minimal vendor lock in
- Know our stack
- Low maintenance
- Performant and reliable
- Encrypted and secure
- Recrutable



Alternatives

Roads not taken

- VMWare
- Bare metal co-location
- Docker Swarm
- Kubernetes-as-a-service
- “Serverless” (jelastic, etc)
- Stick with AWS

What happens next?



- Managed kubernetes?
- MySQL -> PostgreSQL?
- DB Sharding
- More services
- More DevOps

We're hiring!



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