

ENIGMA

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Ethyca

Gone but not forgotten

Technical & Practical Challenges In Operationalizing Modern Privacy Rights

Just Imagine

“Sani-Now”: Your On-demand Sanitization Company in 2020





“Sani-Now”: Your On-demand Sanitization Company in 2030

A Data Deletion Request?



So who’s responsible for **privacy**?

It’s not so hard!



Challenges in Operationalizing Privacy

You have to solve for...	...so you...
Accuracy	Get compliant
Scale	Cost-optimization
Speed	Satisfied customers
Flexibility	Stay compliant

Primary Stakeholders in Privacy Compliance

1. Legal
2. “The Business”
3. Software Engineers…!

1. Legal Stakeholders

Key considerations

- Decrease risk for company
- Not aware of technical limitations

2. Business Stakeholders

Key considerations

- Make money
- Reduce cost
- ...also not aware of technical limitations

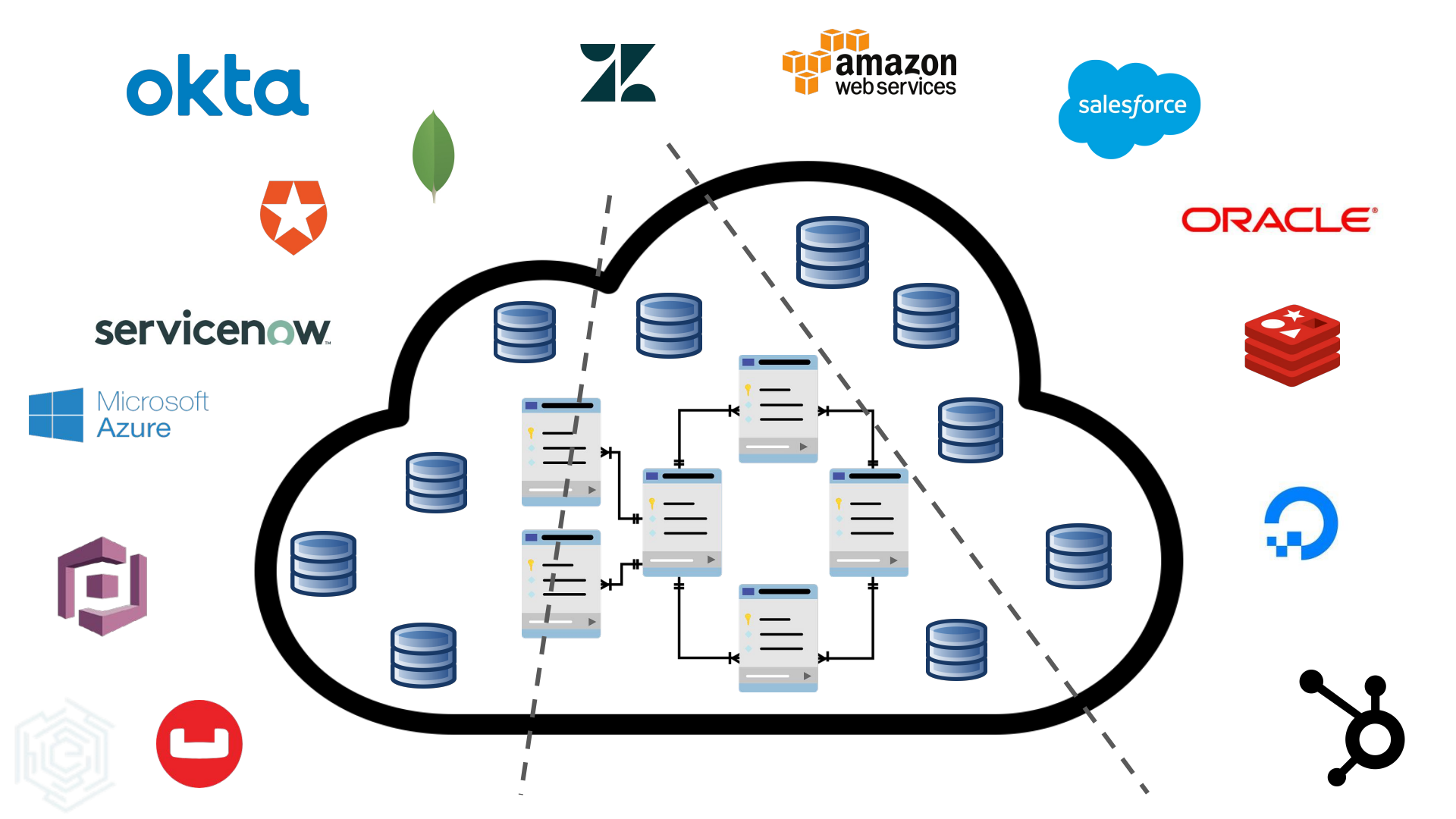
3. Engineers

Key considerations

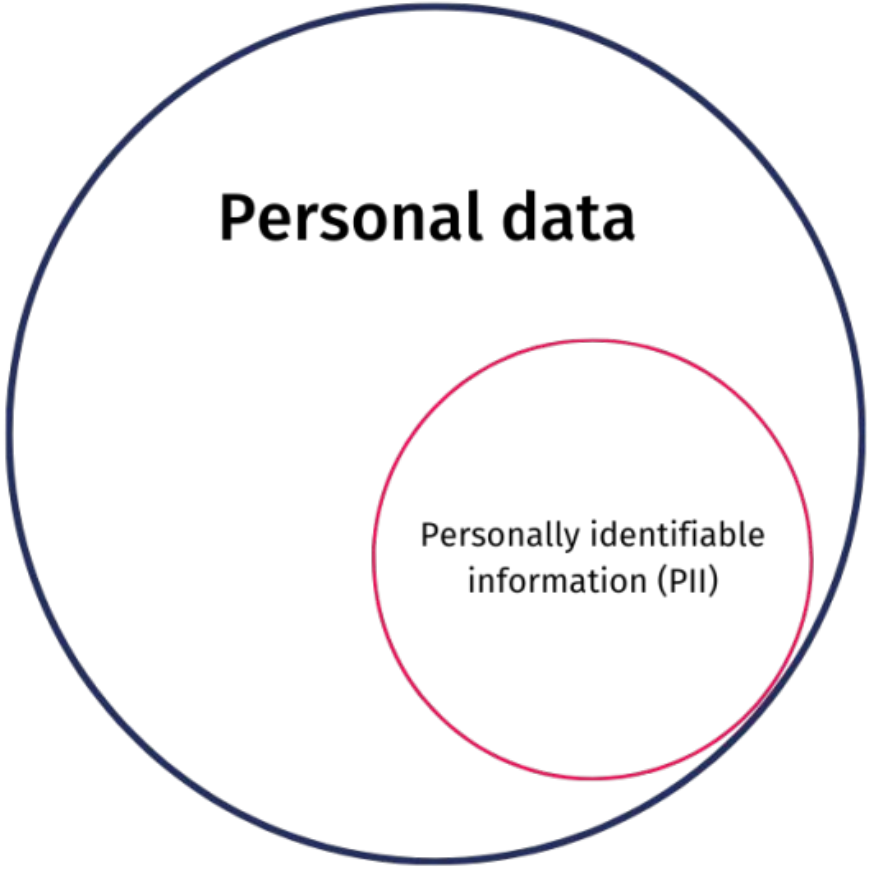
- Legacy data systems
- Lots of data systems
- Dynamic data systems

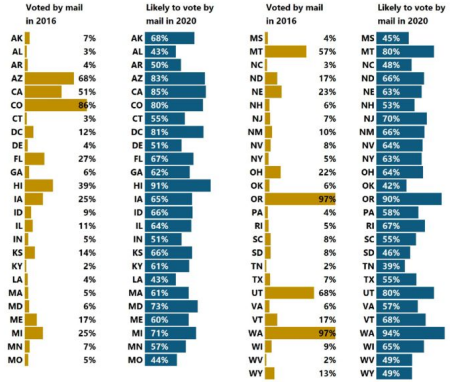
Houston, we have a **problem**.

accuracy

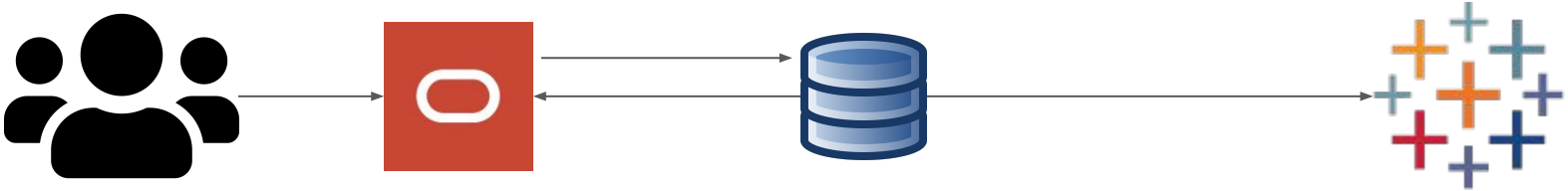

okta
amazon
web services
salesforce
ORACLE
servicenow
Microsoft
Azure

What is PII, anyways?





User PII data



ppl_we_sanitize_table				
id	**firstname**	**lastname**	**birthdate**	**email**
123	Michael	Bluth	2020-08-01	banana@gmail.com
234	Tobias	Funke	2020-05-15	blueself@hotmail.com
345	Bob	Loblaw	2020-03-23	lawblog@doubletalk.com
456	Steve	Holt	2020-10-17	gobson@yahoo.com

pseu·do·nym·ize

\ ˈsü-dä-nə-ˌmīz \

usertable

id	firstname	lastname	email
123	Michael	Bluth	banana@gmail.com
234	Tobias	Funke	blueself@hotmail.com
345	Bob	Loblaw	lawblog@doubletalk.com
456	Steve	Holt	gobson@yahoo.com



usertable

id	firstname	lastname	email
[illegible]	2u0RqZjOmi	vhghHa2kNmP6	Si6wuRfqRbIi9l/Y9Hm
234	Tobias	Funke	blueself@hotmail.co
345	Bob	Loblaw	lawblog@doubletalk.
456	Steve	Holt	gobson@yahoo.com

Houn-Gee Chen, Charlie C. Chen, Louis Lo & Samuel C. Yang (2008) Online privacy control via anonymity and pseudonym: Cross-cultural implications, Behaviour & Information Technology, 27:3, 229-242, DOI: 10.1080/01449290601156817

Smith, D (2017) Secure pseudonymisation for privacy-preserving probabilistic record linkage, Journal of Information Security and Applications, 34:2, 271-279, DOI: 10.1016/j.jisa.2017.01.002

accuracy

1. Define what PII is for your organization
2. Understand where and how data impacts adjacent systems
3. Make a plan to consistently pseudonymize, modify, return and retain data

scale

ppl_we_sanitize_table				
id	**firstname**	**lastname**	**birthdate**	**email**
123	Michael	Bluth	1975-08-01	banana@gmail.com
234	Tobias	Funke	1979-05-15	blueself@hotmail.com
345	Bob	Loblaw	1961-03-23	lawblog@doubletalk.com
456	Steve	Holt	1990-10-17	gobson@yahoo.com
789	Maeby	Funke	1991-07-04	surelysister@yahoo.com
012	Lucille	Bluth	1958-12-12	sea.word@gmail.com

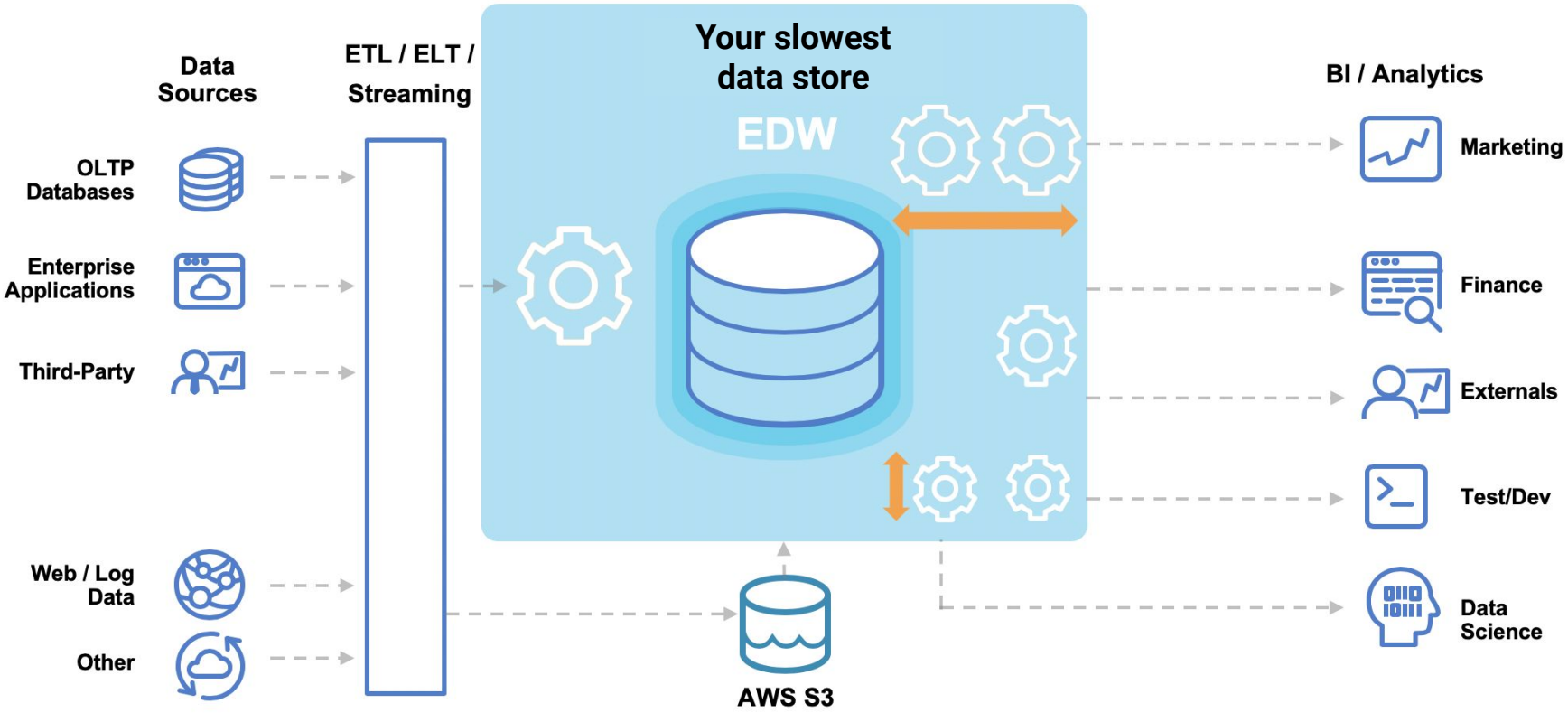


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234	55f93722f9	b761a5a2c	4422e28b5bk	4cfb609c80423dec92dd4b8
345	cd9fb1e148	00b83db0e	d67b4fb11ec	996e71613a728a7f551616b
456	6f0773d262	9acf456dc	7e6fc732b3e	3d40d44519399f4be7f6e6a
789	c69a69078e	b761a5a2c	826597993ac	d325947263a1e6e13fd58db
012	bb8db7cdc(	d7c13604c	600df7a2669	860b45e386c33e40cc2e4eb

scale

1. Create a repeatable process
2. Automate what you can
3. Plan for your least performant systems

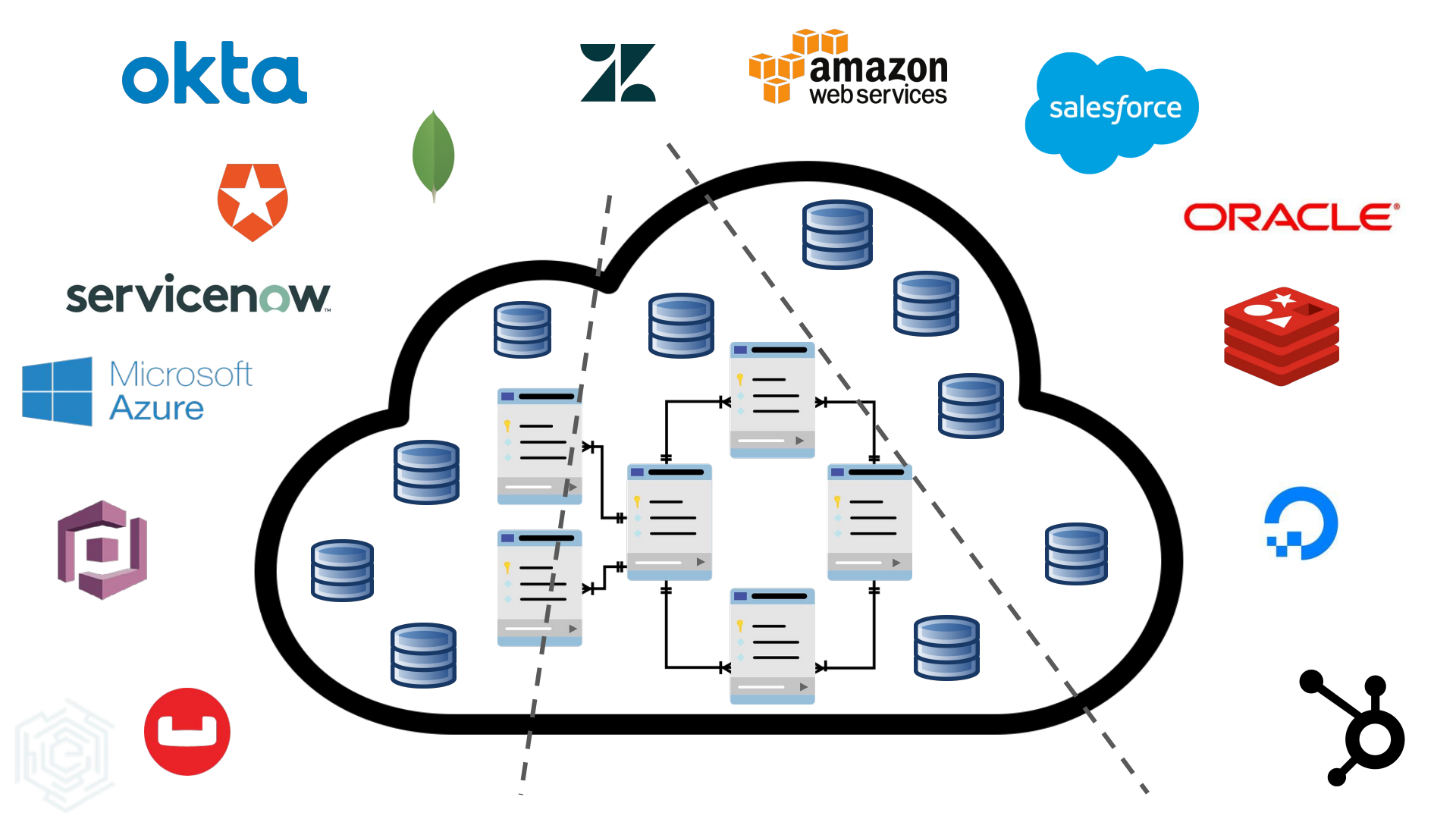
speed

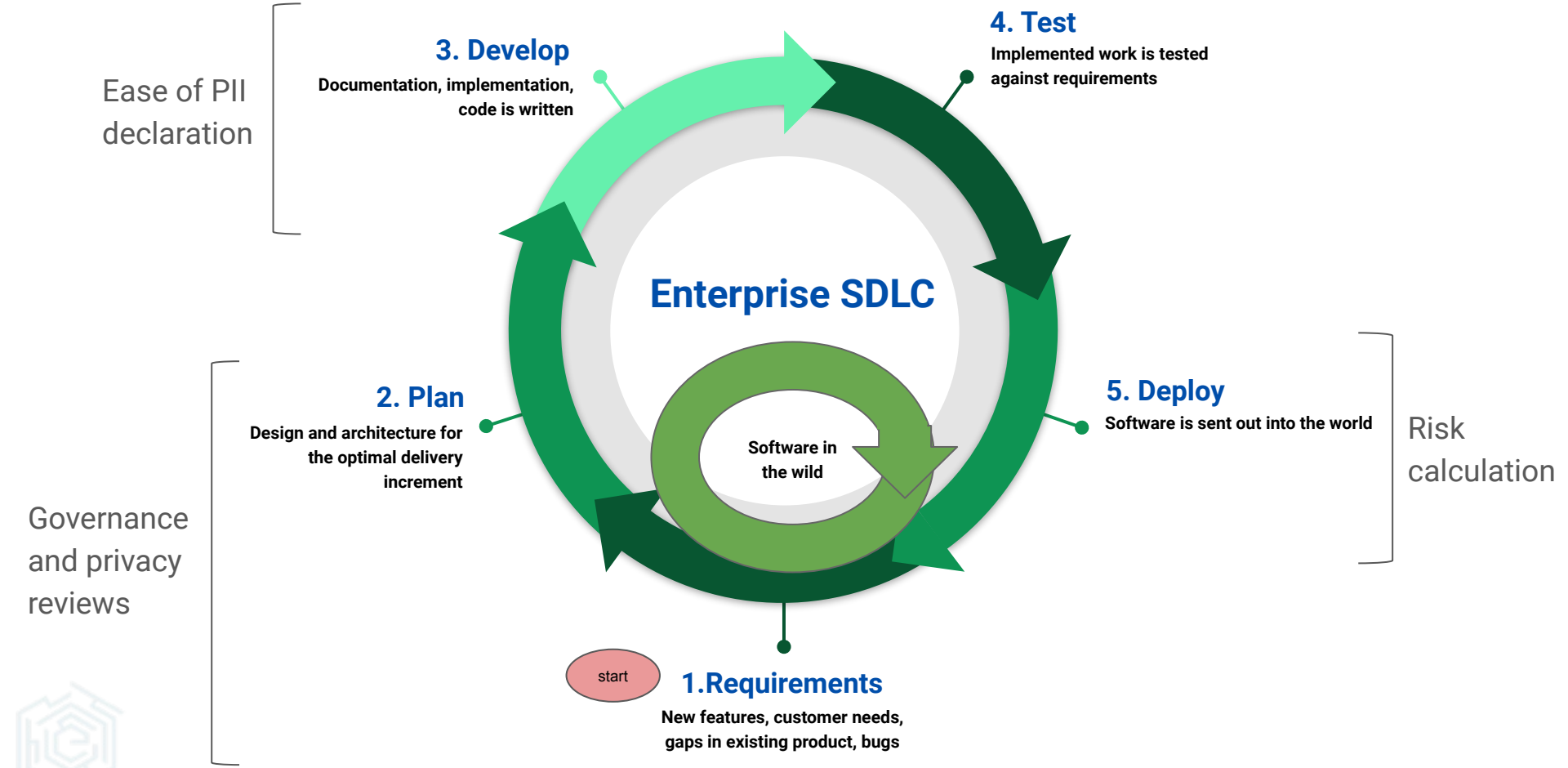

Data Sources
ETL / ELT / Streaming
Your slowest data store
EDW
BI / Analytics
OLTP Databases
Enterprise Applications
Third-Party
Web / Log Data
Other
Marketing
Finance
Externals
Test/Dev
Data Science
AWS S3

speed

1. You are only as fast as your slowest data system
2. Have a plan for contacting data subjects

flexibility


okta
amazon
web services
salesforce
ORACLE
servicenow
Microsoft
Azure


Ease of PII declaration
3. Develop
Documentation, implementation, code is written
4. Test
Implemented work is tested against requirements
Enterprise SDLC
Software in the wild
2. Plan
Design and architecture for the optimal delivery increment
5. Deploy
Software is sent out into the world
Risk calculation
Governance and privacy reviews
start
1.Requirements
New features, customer needs, gaps in existing product, bugs

flexibility

1. Extensible subject request execution
2. Solve for privacy before software is ever deployed
3. It’s never too early to identify when/how PII will be used

The TLDR

Operationalizing Privacy is Within Reach

You have to solve for...	...so you...
Accuracy	Get compliant
Scale	Cost-optimization
Speed	Satisfied customers
Flexibility	Stay compliant

...by working with...

1. Legal
2. “The Business”
3. Software Engineers...!

Why?

data privacy > compliance

change begins with **you**

Thank You

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vp product at ethyca
an automated data privacy SaaS company

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@iamkelllly
https://linkedin.com/in/kelly-huang