



CLOUD
DEVELOPER
DAYS

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CQRS for human beings

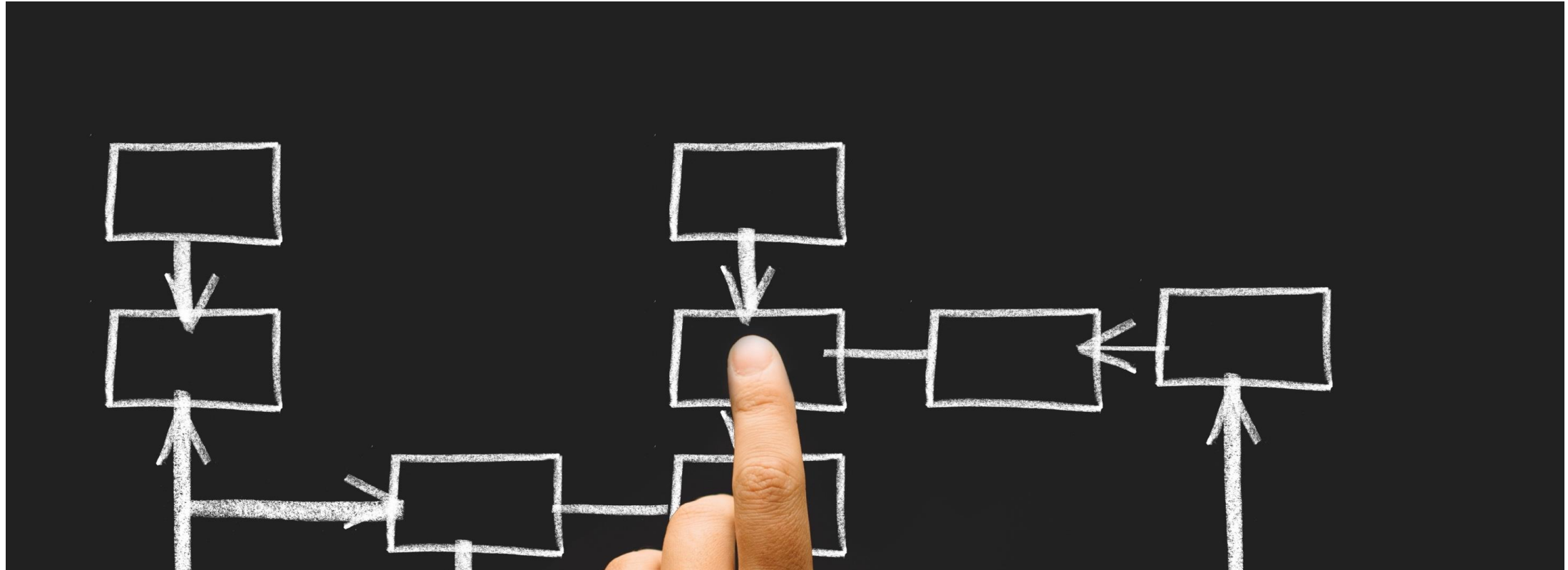
STRATEGIC SPONSORS



GOLD SPONSORS





A story of a workflow...



A trivial approach



Instances		
	Id	[guid]
	Payload	[xml]
	DateCreated	[datetime]
	DateModified	[datetime]

UserTasks		
	Id	[guid]
	UserId	[guid]
FK	InstanceId	[guid]
	DateCreated	[datetime]
	DateModified	[datetime]







...blamed
the PO

We “fixed” it!



Instances		
	Id	[guid]
	Payload	[xml]
	State	[enum]
	DateCreated	[datetime]
	DateModified	[datetime]

UserTasks		
	Id	[guid]
	UserId	[guid]
FK	InstanceId	[guid]
	DateCreated	[datetime]
	DateModified	[datetime]





So we
blamed the
PO... again!





We “fixed” it again!



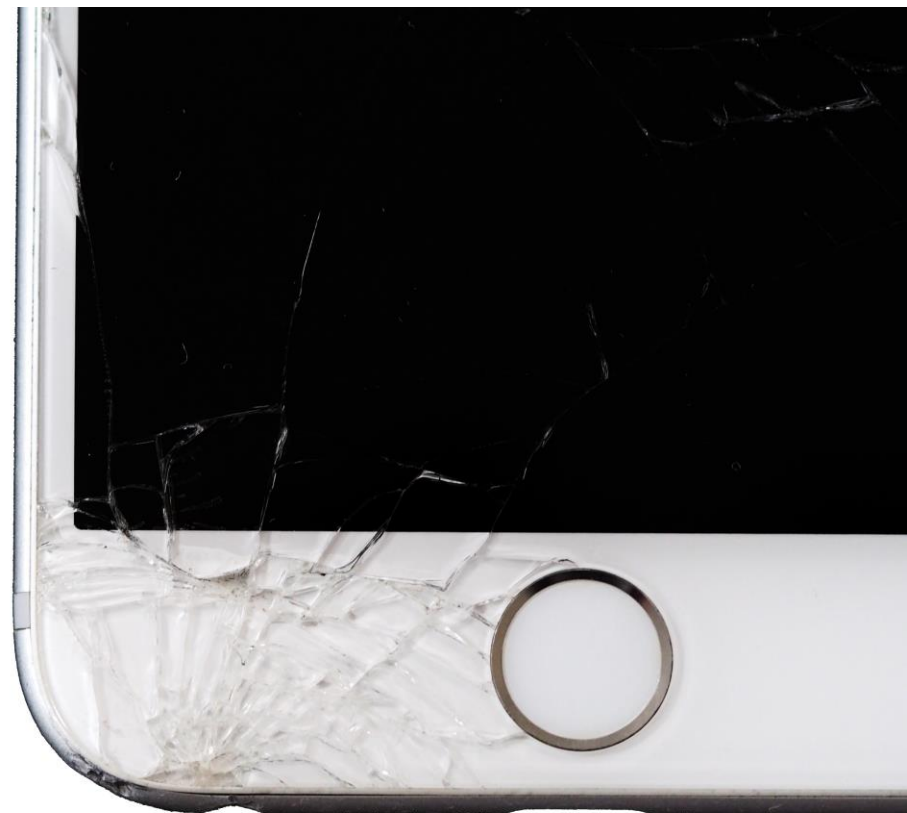
Instances		
 Id		[guid]
Payload		[xml]
State		[enum]
DateCreated		[datetime]
DateModified		[datetime]

UserTasks		
 Id		[guid]
UserId		[guid]
FK Instanceld		[guid]
DateCreated		[datetime]
DateModified		[datetime]

History		
 Id		[guid]
State		[enum]
DateCreated		[datetime]
DateModified		[datetime]

HistoryDetails		
 Id		[guid]
Data		[xml]
FK Instanceld		[guid]
DateCreated		[datetime]
DateModified		[datetime]

We
had many
different
problems...



CQRS to the rescue!!!

Command
Query
Responsibility
Segregation



Separated Read & Write Side

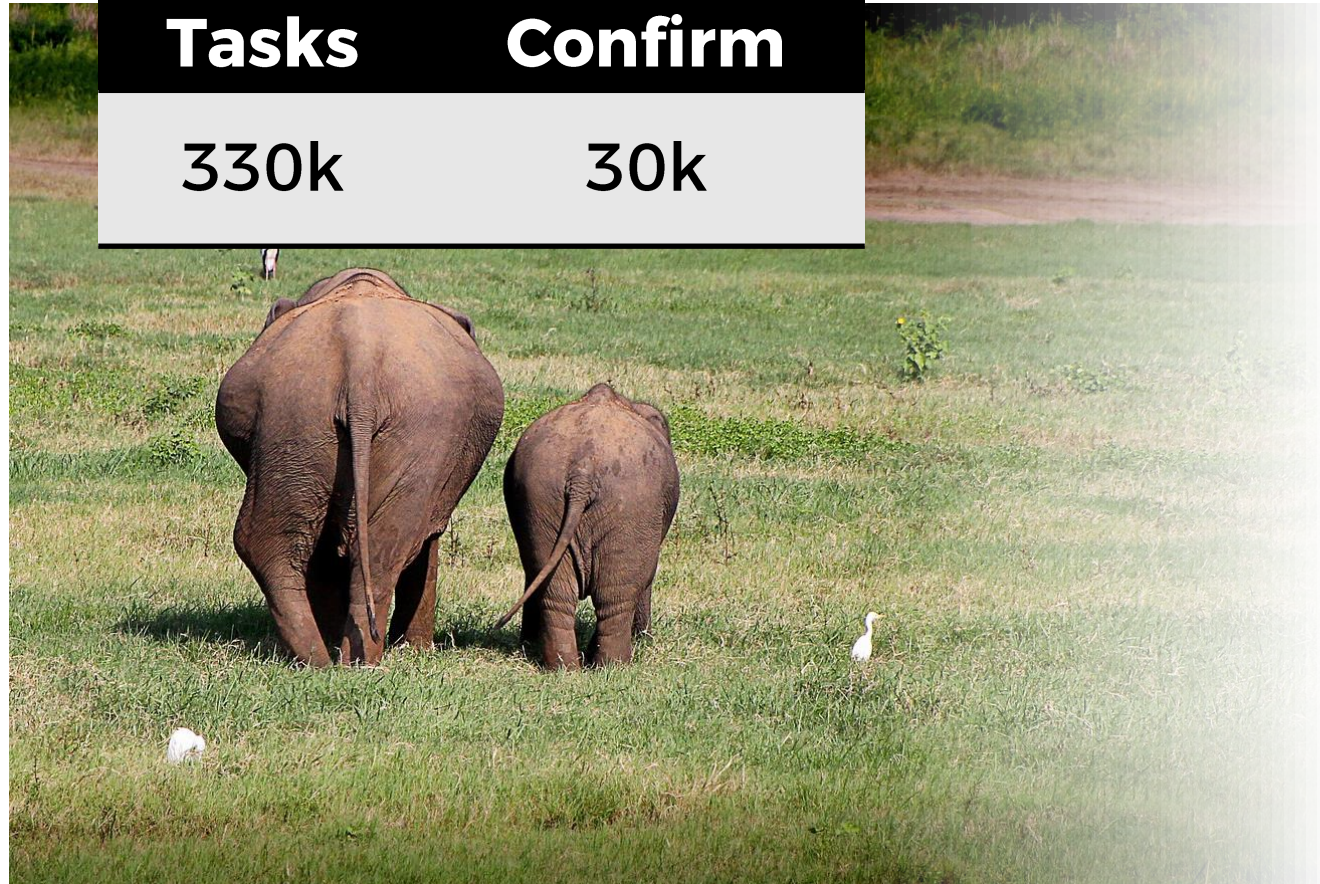


**GET
Tasks**

330k

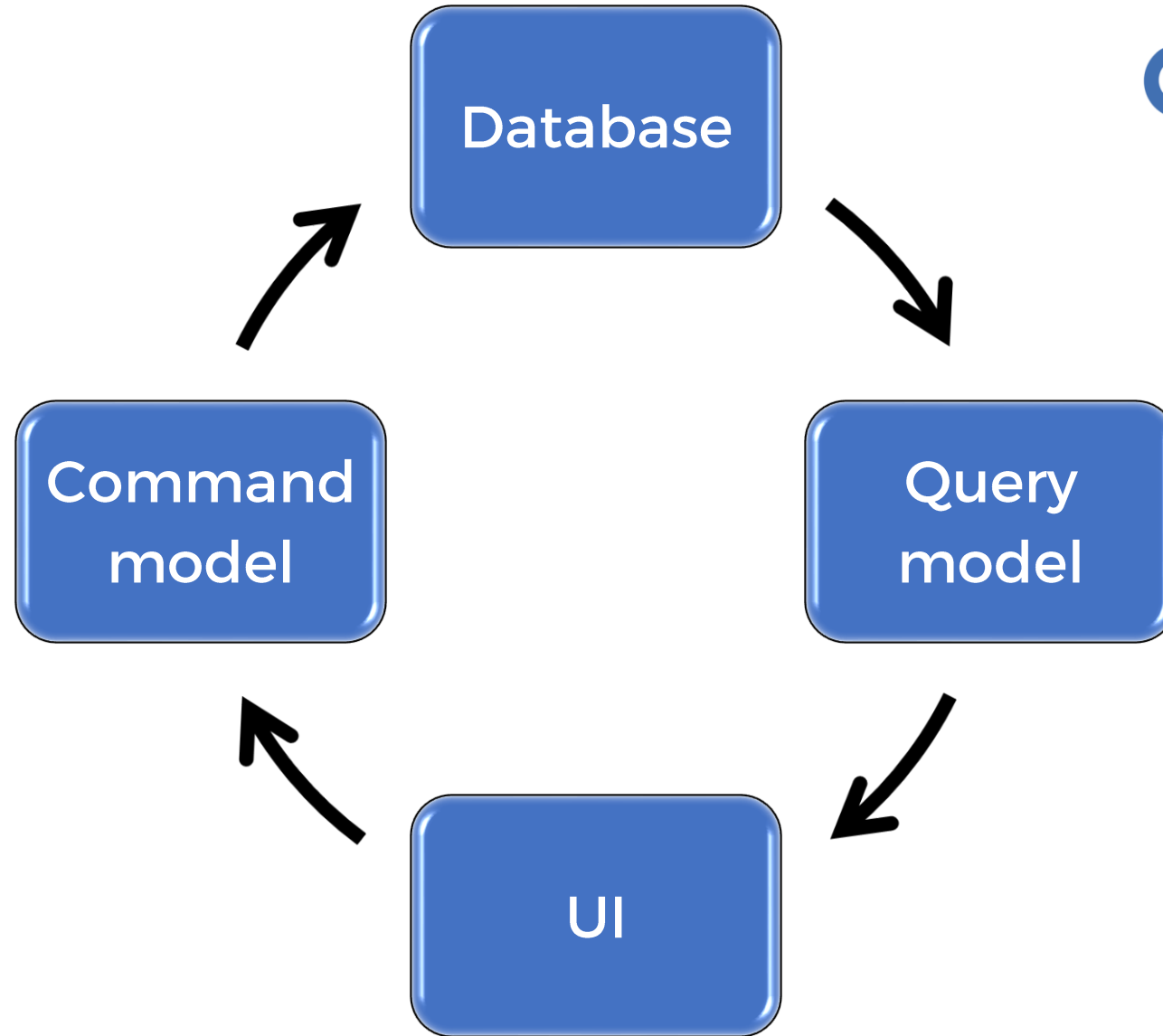
**POST
Confirm**

30k



We read
way more
than we write





Good stuff



- Scale independently
- Read side denormalization
- Write side non UI dependent
- Microservices & cloud friendly

Bad stuff

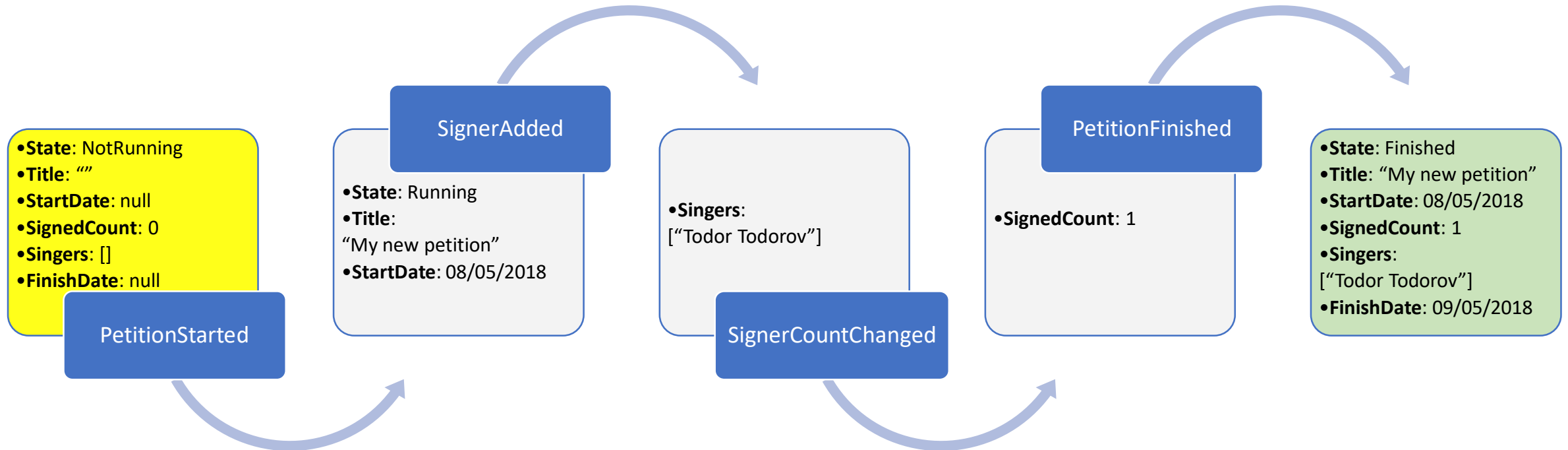
- Eventual consistency
- Growing complexity
- More models to handle



Event Sourcing



PetitionAggregate



What about data size?





- Databases are fast
- EventStore
- Snapshotting
- Google Protobuf



So what
did we
achieve
with this
so far?



GetTasks request in seconds



■ CQRS

■ Monolithic



- Independent scaling
- Better codebase
- Data for UI is there
- Fancy design patterns in our resumes

...no it's not...

Must read:

- ["CQRS" by Martin Fowler](#)
- ["CQRS, Task Based UIs, Event Sourcing agh!"](#)
by Greg Young
- [CQRS in MSDN](#)
- ["CQRS Journey" - book by MSDN](#)
- [Event Sourcing in MSDN](#)
- [Event Sourcing: The Good, The Bad & The Ugly](#)
by Dennis Doomen

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