

State Channels

James Young

History doesn't repeat itself but
it often rhymes

- *Mark Twain*

Friendster 2003

"Friendster was having a lot of technology problems ... people could barely log into the website for two years ... Friendster had lost a lot of market share in the U.S. for stability issues."

Facebook Nov 2010

- Query response times: 4ms reads, 5ms writes.
- Rows read per second: 450M peak

CryptoKitties Dec 2017

“All of the blockchain read activity caused our daily requests to explode from 2 Billion/day to over 4 Billion/day ... the miners reset the gas price to make transactions cost more ... when the fees are so inhibitive, it's game over.”

peak reads/sec

FB 2010 = 45,000,000

ETH 2018 = 46,300

**Majority of agreements
are bilateral**

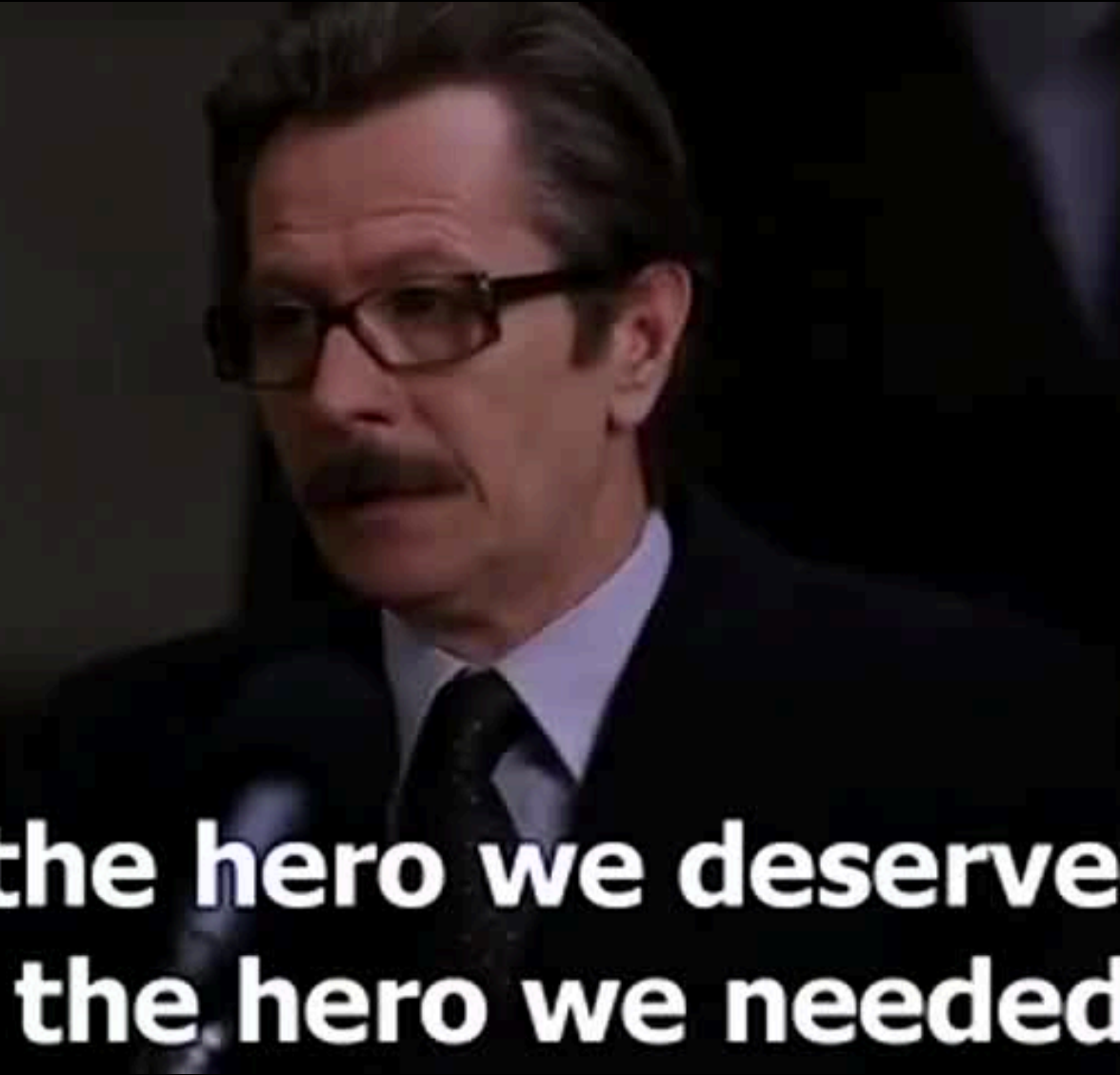
**Why do people sign
contracts?**

**When do people go
to court?**

Blockchain for dispute resolution

**Threat of blockchain
is good enough**

**off-chain transactions are
just signed messages**

A close-up shot of actor Gary Oldman. He is wearing a dark suit, a light blue shirt, and a dark tie. He has dark-rimmed glasses and a mustache. He is looking slightly to his left with a serious expression. The background is dark and out of focus.

**Not the hero we deserved,
but the hero we needed.**



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While I'm certainly 100% for decentralization when it's feasible AND better, I suspect a hybrid-model of centralized services that is built atop of a decentralized platform might be more suitable for a certain class of things.

6:48 PM - 24 Mar 2018

good/bad news

- Good : can implement now
- Bad : dApps need to be re-written

Evolution

1.Payment channels

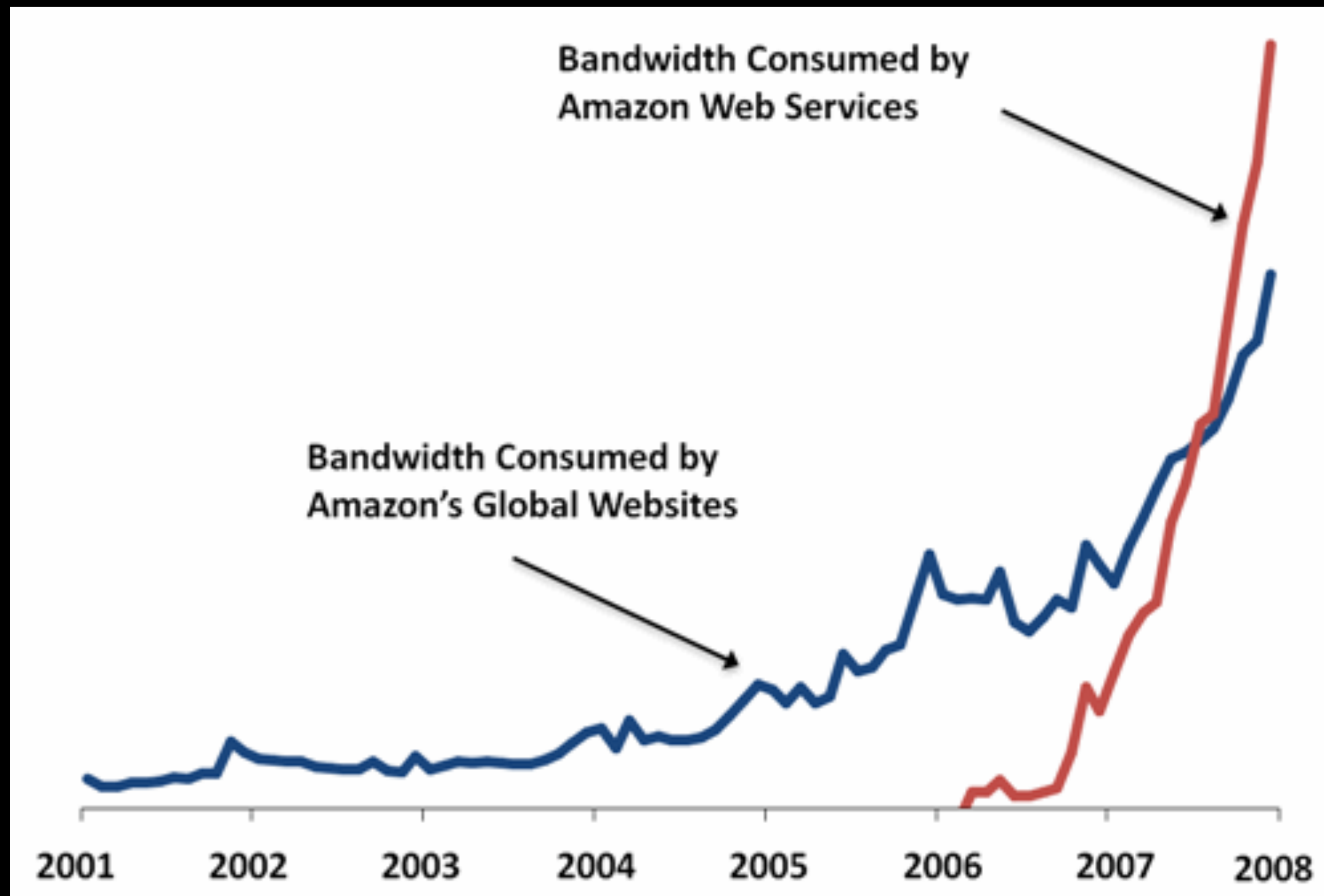
2.State channels

3.Generalized State Channels

Projects

- **Lightning** : lightning.network
- **Raiden** : raiden.network
- **Funfair** : funfair.io
- **Counterfactual** : counterfactual.com

Amazon vs AWS



<https://aws.amazon.com/blogs/aws/lots-of-bits/>

Moloch DAO
aws for eth

coase theorem

The eco-system is the
corporation

tokens bind us
together

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