

# Maximizing Velocity with SOA @Yammer

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# What is Velocity?

$$\vec{v} = \frac{d}{t}$$

# What is SOA?

## Technology

Software design paradigm enabling organizational flexibility through composable, loosely coupled, fault tolerant business services with clearly defined, published interfaces.

# What is SOA?

## Technology

Software design paradigm enabling organizational flexibility through composable, loosely coupled, fault tolerant business services with clearly defined, published interfaces.

+

## People

A decentralized human-organizational structure enabling small, directed, autonomous, extremely effective engineering teams.

# Technology + People

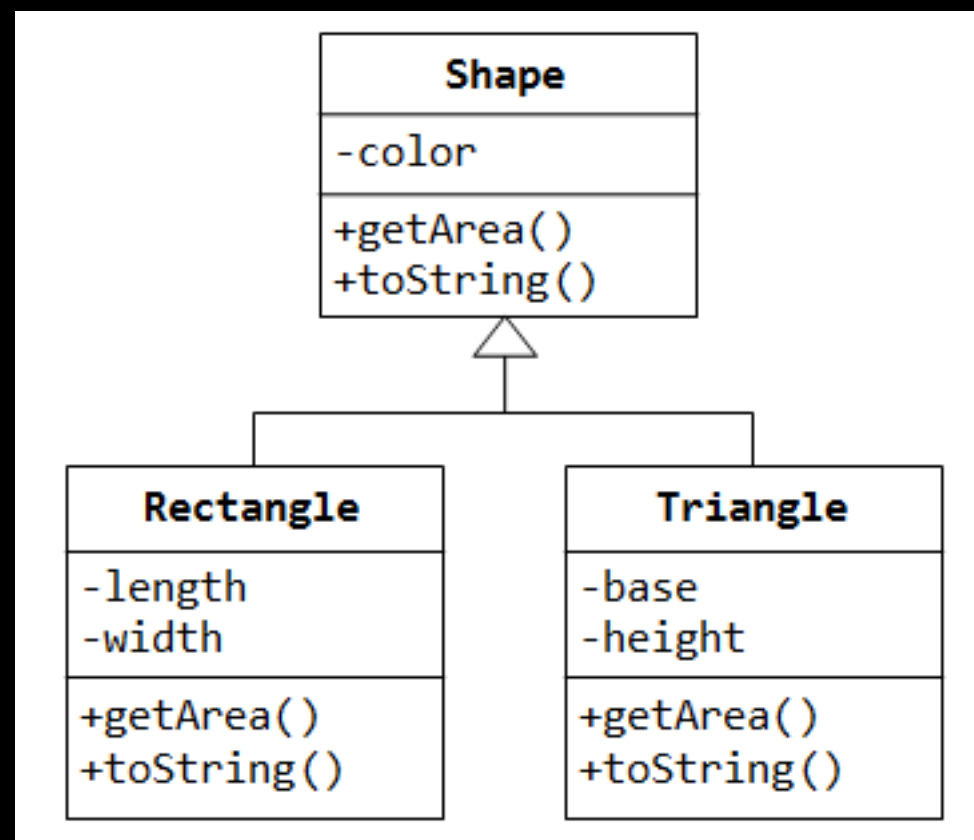


# VS the monolith

- Large, complex, unfocused
- Difficult to reason about
- Shared state/data



# OOP Similarities



- Encapsulation
- Focused functionality
- Clear interfaces
- Reusability



# Organizationally

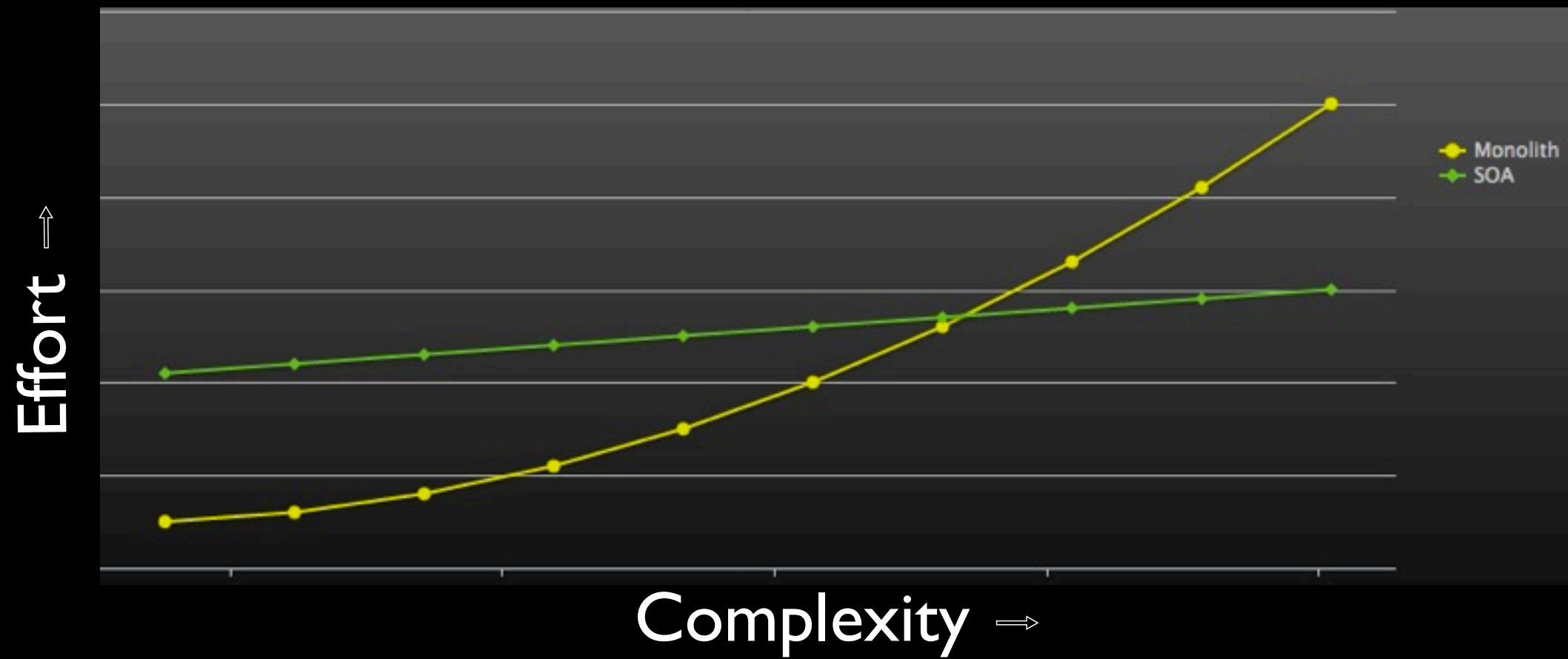
“Organizations...are  
constrained to produce  
designs which are copies of  
the communication structures  
of these organizations.”

-Conway's law

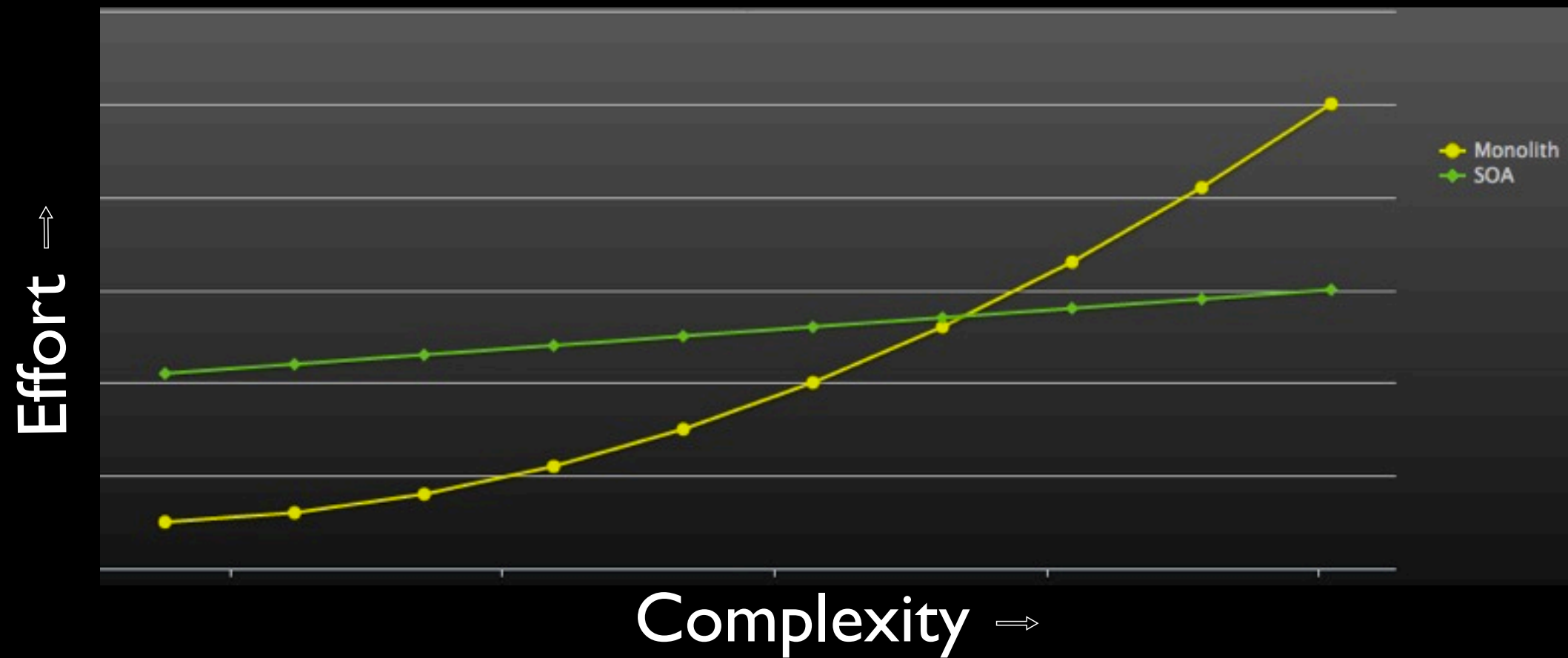


Panacea?

# Costs

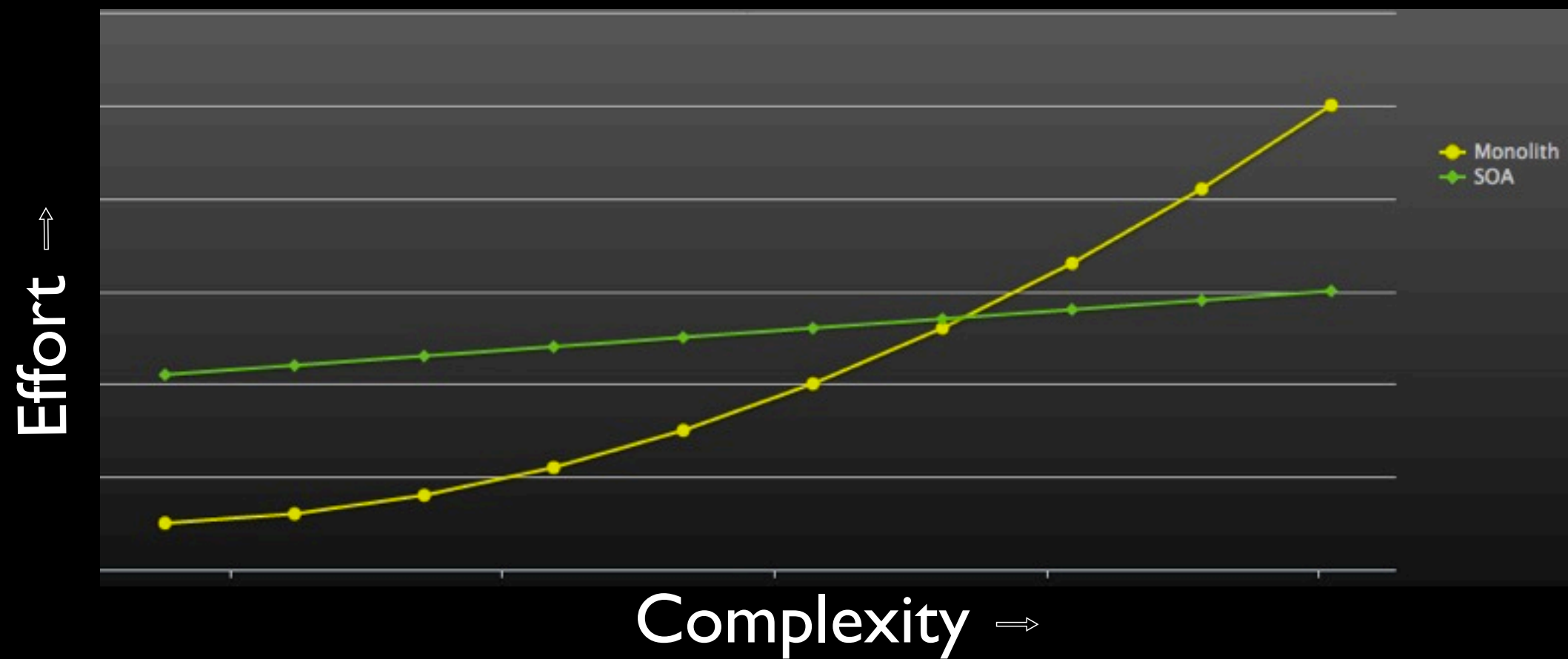


# Costs



Monolith:  $\frac{x(x-1)}{2} + D$

# Costs



Monolith:  $\frac{x(x-1)}{2} + D$

SOA:  $Cx + 3D$

# When is SOA worth it?



# Babies

# Baby Tech

- Web framework



- Database



- @Yammer

- Rails

- Postgres

- Normal Architecture

- 1 Web / 1 Db



# Maximize Velocity



1. Get to Market
2. Find a fit



# Terrible Twos

# Two Tech

- Caching
  - Feature services
  - Solr / Lucene / Redis / whatever
- @Yammer
  - Memcached
  - Solr/tsearch/Lucene
  - Redis
  - Normal Architecture
    - n webs
    - Master-slave dbs

# Maximize Velocity



1. Best tool for job
2. Focused team & tools

# Bootstrapping SOA

@Yammer -  
Core Services team to own service creation &  
maintenance



“Reliability”

“Uptime”

“Disaster  
Recovery”



“MTTR”

“MTBF”

# Learning to Speak

# Speaking Tech

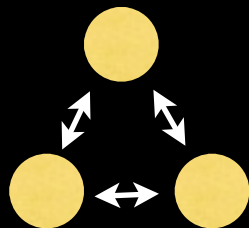
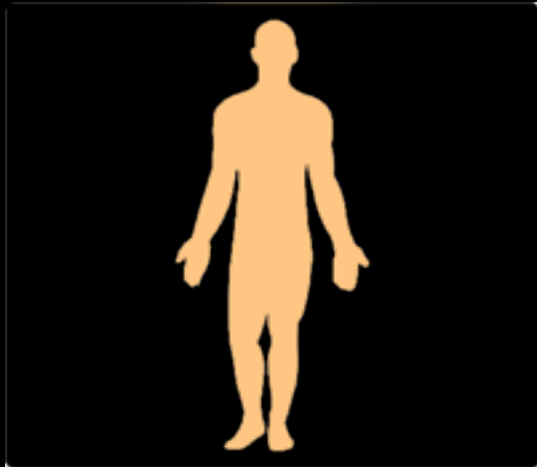
- MTTR - (semi) Automated Recovery
- Monitoring
- Backups
- @Yammer
  - Smorgasbord :-(
- Normal Architecture
  - Ganglia / Nagios / Cacti / whatever
  - In-house recovery scripts

# Maximize Velocity

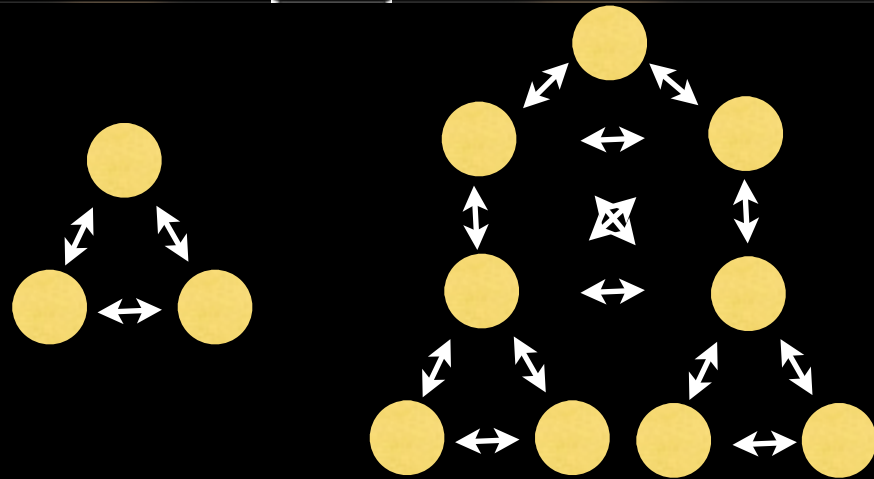
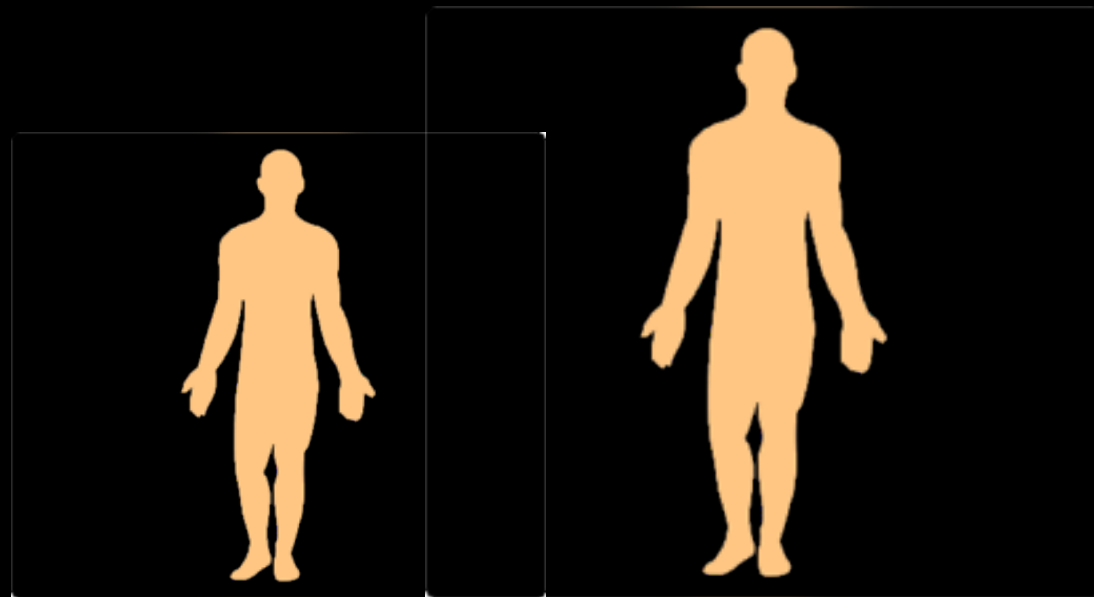


1. Monitor
2. Automate Recovery
3. Standard provisioning

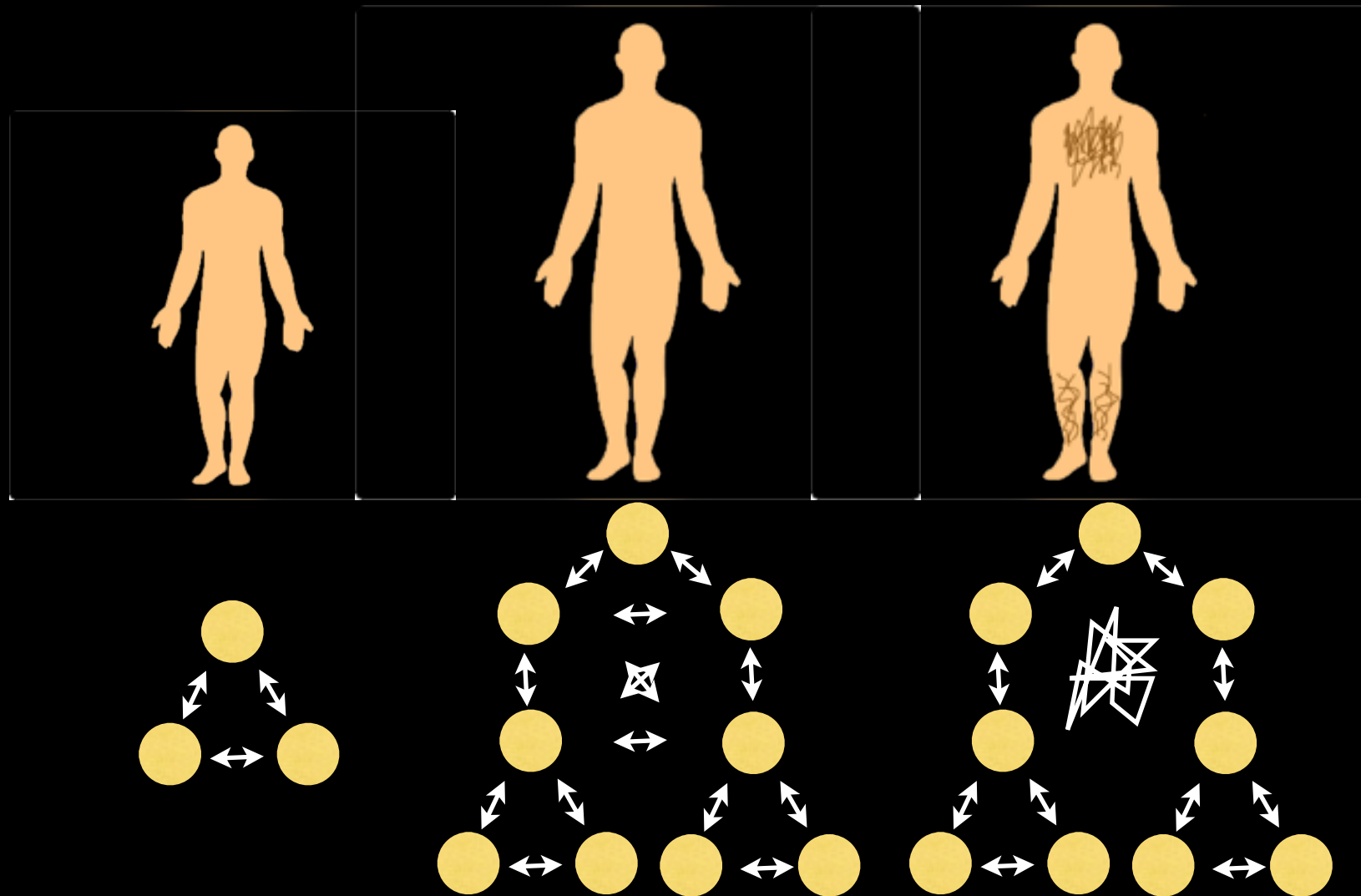




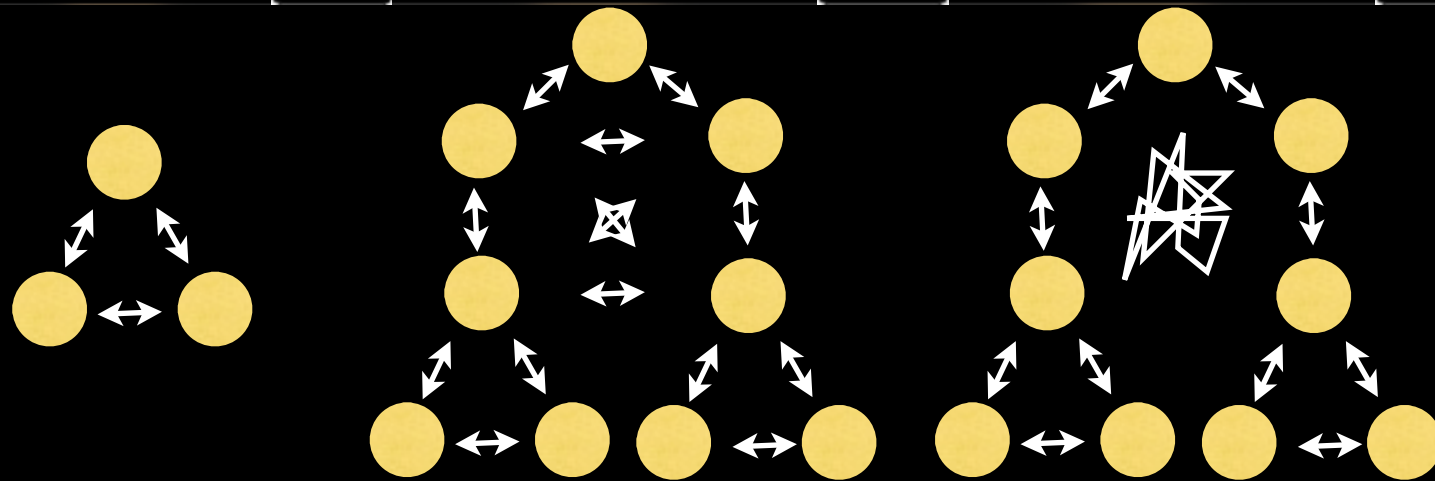
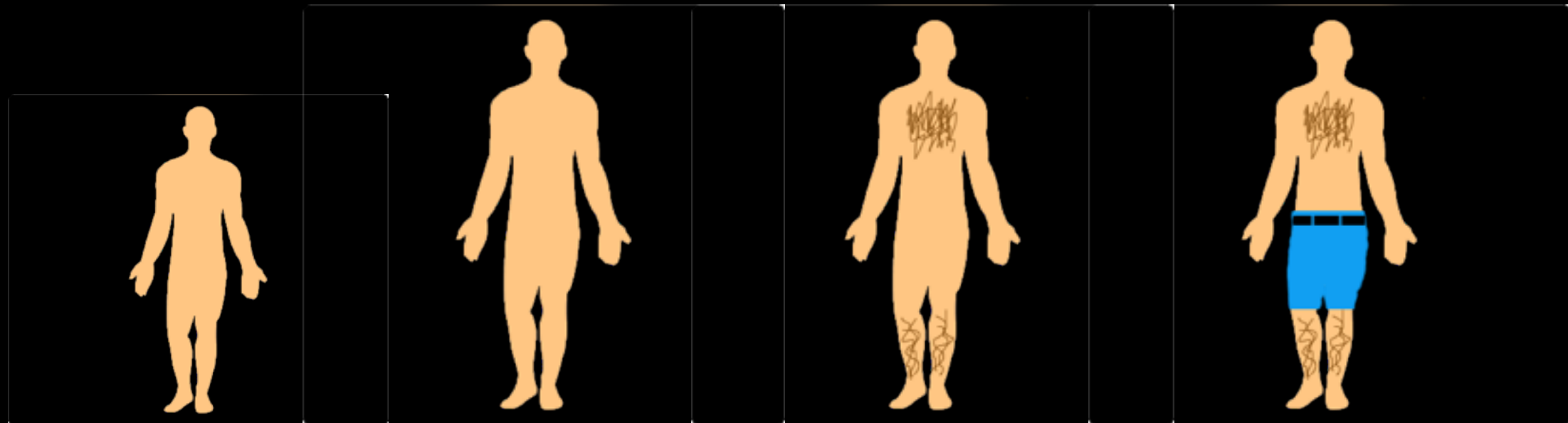
# Adolescence



# Adolescence



# Adolescence



# Adolescence





**amazon**

The Amazon logo, featuring the word "amazon" in a bold, black, sans-serif font. Below the word is a yellow curved arrow pointing from the letter 'a' to the letter 'z'.



**amazon**



# Cross-functional Teams



# Cross-functional Teams

## Search Infrastructure



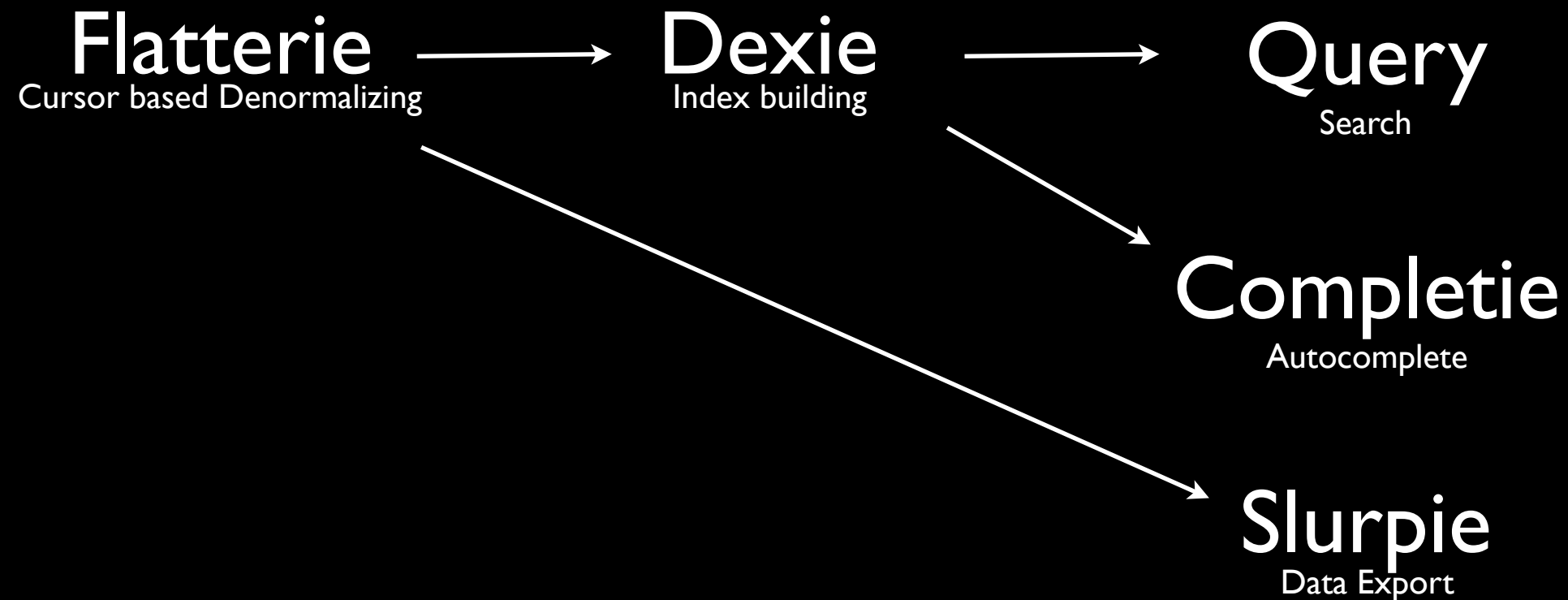
# Cross-functional Teams

## Search Infrastructure

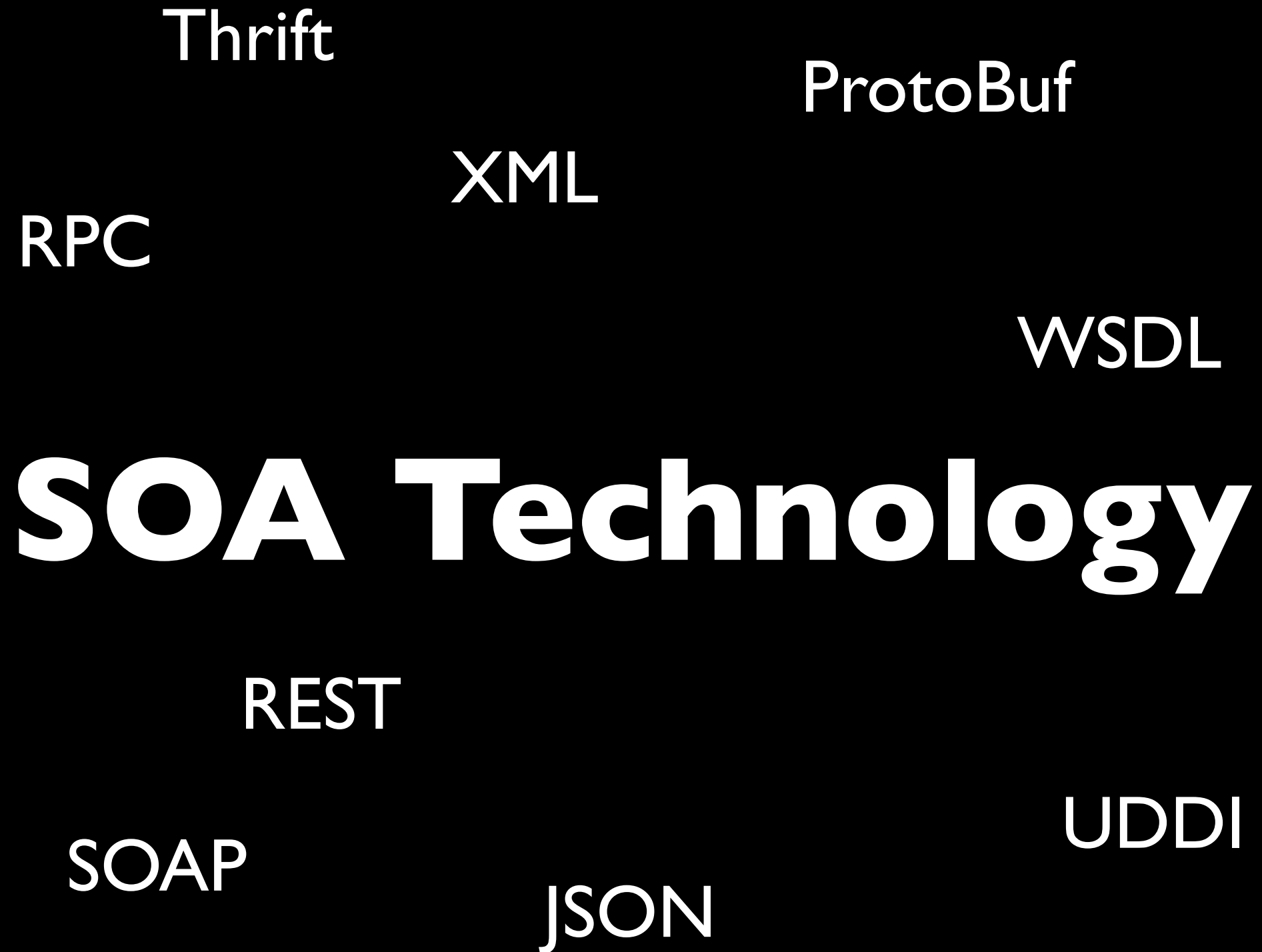


# Cross-functional Teams

## Search Infrastructure



**DISTRUST**



# Adolescent Tech

- Varies widely - Tooling, Provisioning
- @Yammer
- Dropwizard - <https://github.com/codahale/dropwizard> - Jetty, Jersey, Jackson, Metrics, Guava, Log4j, Hibernate Validator
  - Quickly deploy monitored, alerting, metrics reporting, logging fat Jars
- Diploymacy - Deploy artifacts from CI
- Partie - Framework for distributed BDB-HA KV store

# Maximize Velocity



1. Standardize tools
2. Minimize time to production



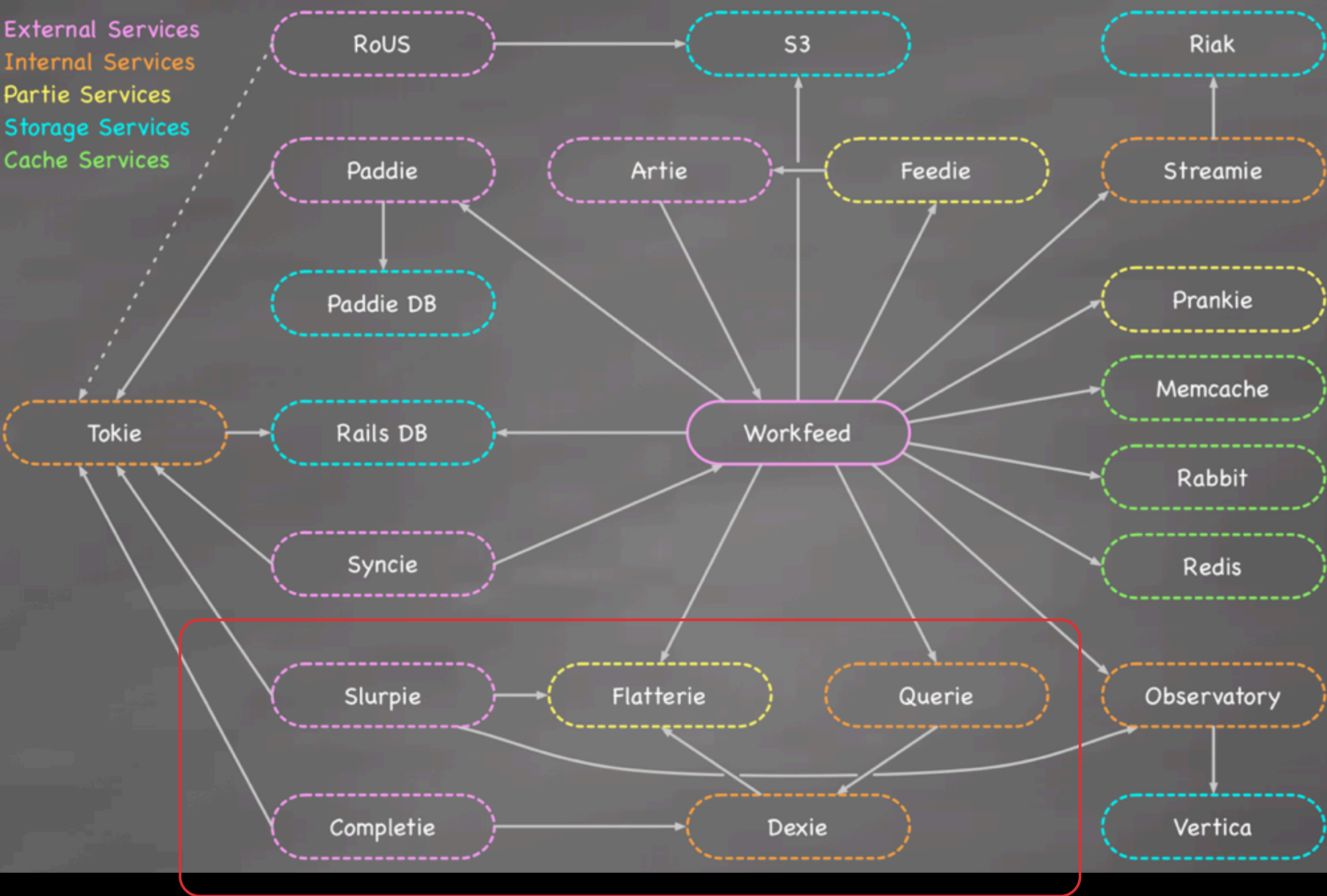
# Adulthood



# Adult Tech

- @Yammer - Specialized Domain Services
  - Feedie - 10+ Billion messages, 45 node cluster
    - <http://vimeo.com/41062751>
  - Streamie - Activity stream deliveries, Riak
    - <http://basho.com/blog/technical/2011/03/28/Riak-and-Scala-at-Yammer/>

External Services  
Internal Services  
Partie Services  
Storage Services  
Cache Services



# SOA Setup Tips

- Internalize SOA
- Direct, Decentralize, Divide & Conquer
- Monitor Everything
- Limit dependencies
- Handle Failure Modes
- Keep it simple

# yammer<sup>≡</sup>

is hiring

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