



Microservices, DevOps e silver bullet

FSFE Milano @ Linux Day Palermo 2018

27/10/2018

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Chi sono



Solution Architect per Red Hat, specializzato su Application Development e Modernization, JBoss Middleware e OpenShift, ho oltre 10 anni di esperienza su soluzioni Open Source.

Sono membro di Free Software Foundation Europe, e partecipo attivamente a diverse iniziative (es. Public Money Public Code)





Chi siamo



La **Free Software Foundation Europe** è un'associazione che incoraggia gli utenti ad **avere il controllo della tecnologia.**

Il Software Libero garantisce a tutti il diritto di usare, studiare, modificare e condividere il software. Questi diritti aiutano a sostenere altre **libertà** fondamentali come il diritto di parola, la libertà di stampa e la **privacy.**





FSFE Local Groups



- **Milano**
- **Roma**
- **Sicilia**
- ...
- **FSFE Italia**



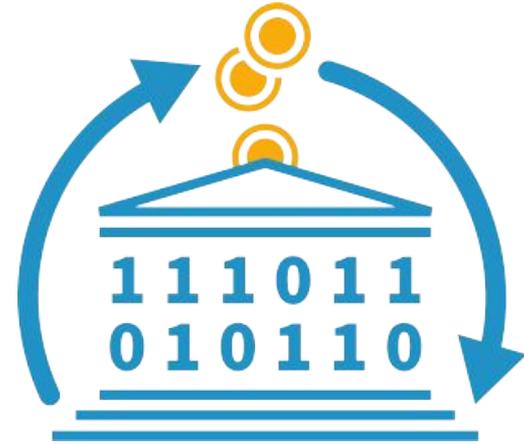


Public Money, Public Code



Vogliamo che la legge richieda che il software finanziato pubblicamente e sviluppato per il settore pubblico sia reso pubblicamente disponibile sotto una licenza Software Libero/Open Source

Se è denaro pubblico (**public money**), allora dovrebbe essere pubblico anche il codice sorgente (**public code**).



<https://publiccode.eu>



Ask Your Candidates 2018 Italy



Questionario ai maggiori partiti politici

- ✓ Qual è la Sua posizione sull'impiego del Software Libero e Open Source all'interno della Pubblica Amministrazione?
- ✓ È favorevole a rendere obbligatorio nella Pubblica Amministrazione l'uso di formati digitali aperti al posto di formati proprietari?
- ✓ È favorevole all'introduzione all'interno dei programmi scolastici ed universitari di quegli elementi che caratterizzano la diffusione e lo sviluppo di soluzioni aperte attraverso l'uso di Software Libero e Open source?
- ✓ Come si pone rispetto al **Codice dell'Amministrazione Digitale** (in particolare Art. 68 e 69. Riuso delle soluzioni e standard aperti) e in caso favorevole modificherebbe qualcosa?
- ✓ Qual è la Sua posizione o quella del Suo partito sul tema della Net-Neutrality?

- ✓ Movimento 5 Stelle, Liberi e Uguali, Partito Democratico e Potere al Popolo - sono favorevoli all'adozione del Software Libero e di formati aperti da parte della Pubblica Amministrazione, e allo stesso modo in scuole ed università.
- ✓ I partiti intervistati auspicano un maggiore controllo sull'applicazione della legge, ed alcuni anche il consolidamento della normativa esistente nell'interesse dei cittadini e dei servizi pubblici a loro rivolti.

CAD in linea con i principi di PMPC

Business & IT: 80's to Future



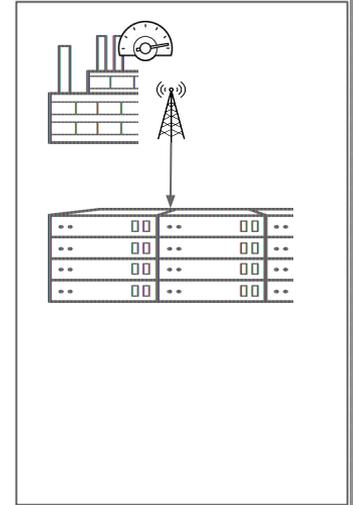
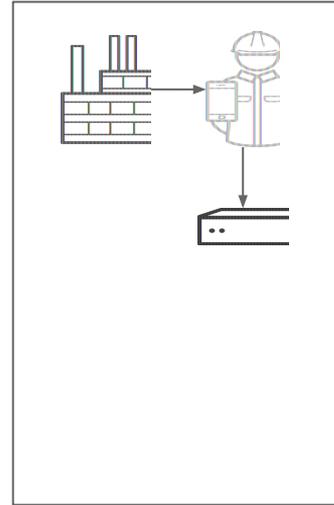
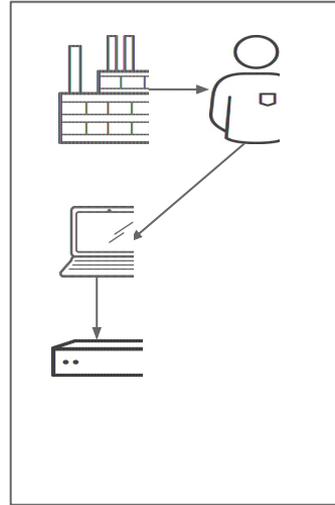
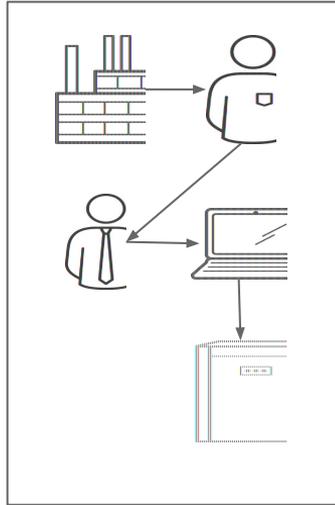
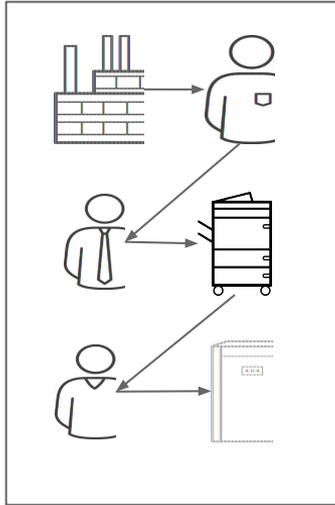
ChUI

GUI

Web

Mobile

Things



80's

90's

00's

10's



Business & IT: 80's to Future



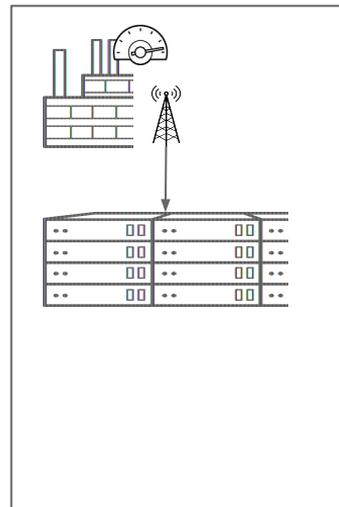
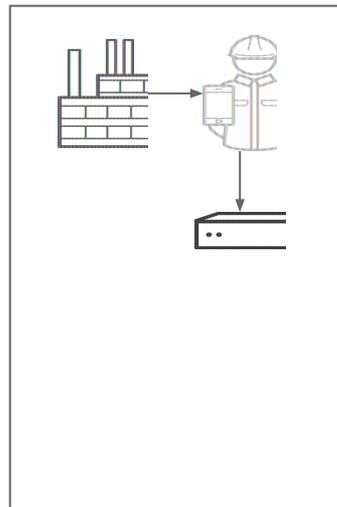
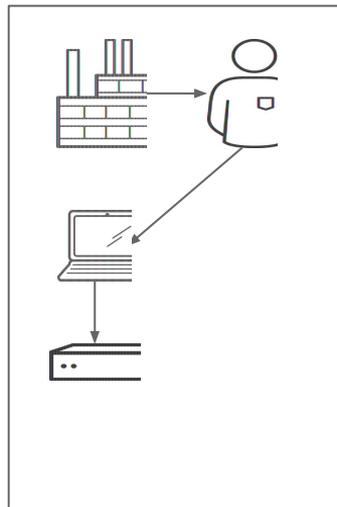
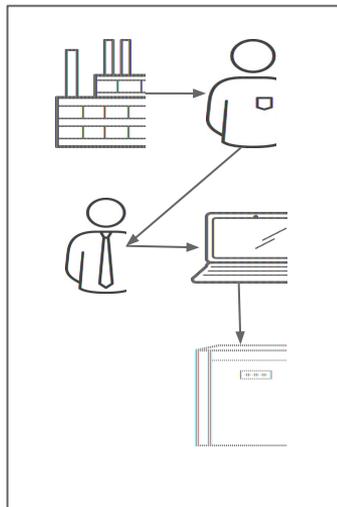
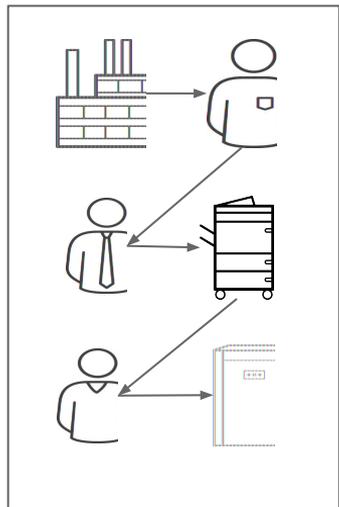
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80's

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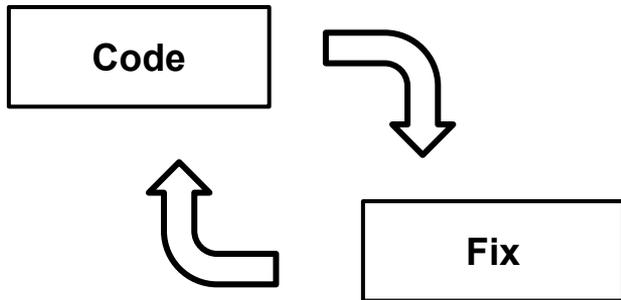
10's



Three stylized stars in yellow, light blue, and dark blue are positioned in the top-left corner of the slide.

A bit of history

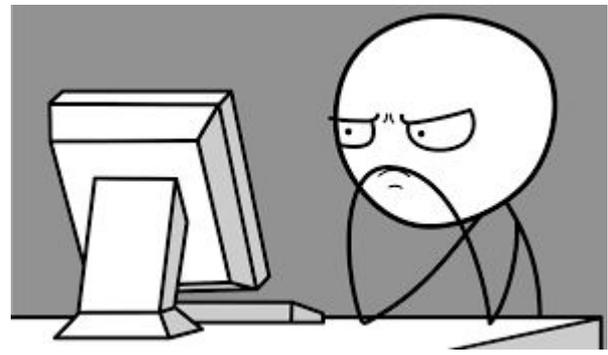
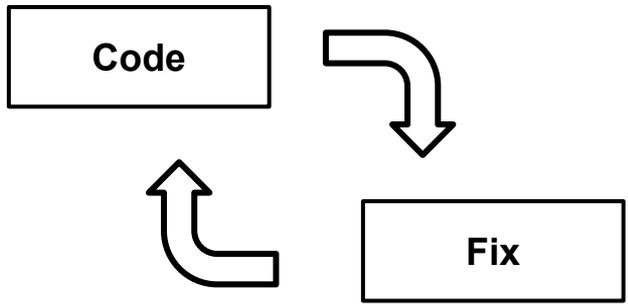
Code and Fix



Since: ???

A bit of history

Code and Fix

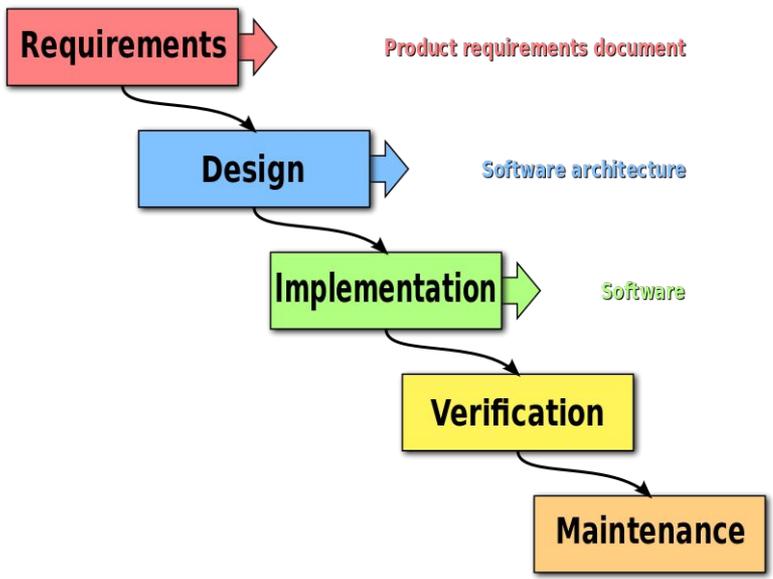


Since: ???



A bit of history

Waterfall

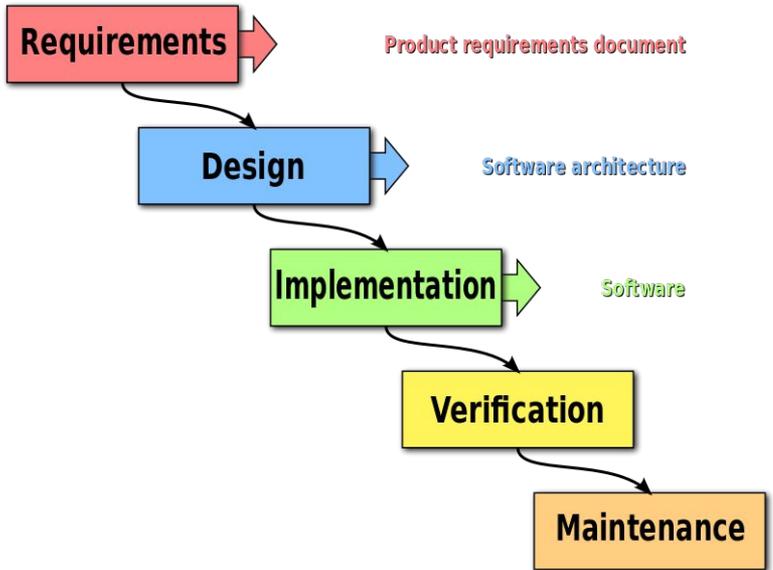


Since 1960



A bit of history

Waterfall



Winston Royce

Since 1960



A bit of history



Agile

Individuals and interactions
over processes and tools

Working software
over comprehensive documentation

Customer collaboration
over contract negotiation

Responding to change
over following a plan

Since 2001



A bit of history

Agile

Individuals and interactions
over processes and tools

Working software
over comprehensive documentation

Customer collaboration
over contract negotiation

Responding to change
over following a plan



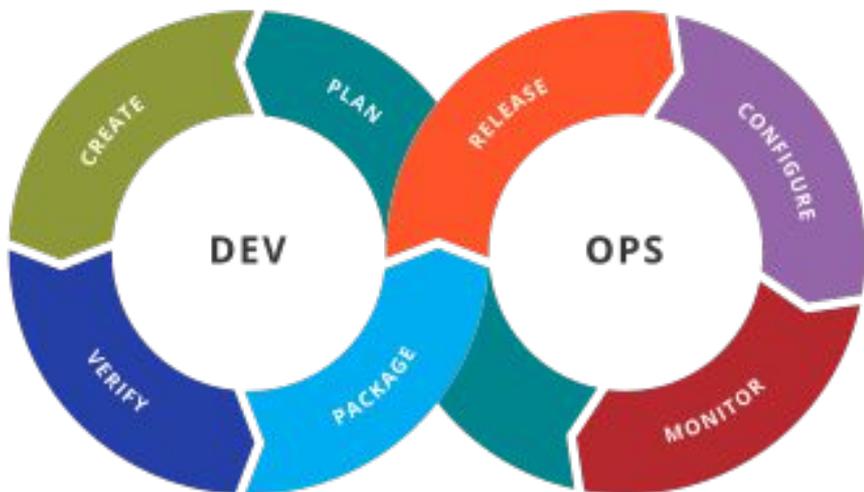
Since 2001



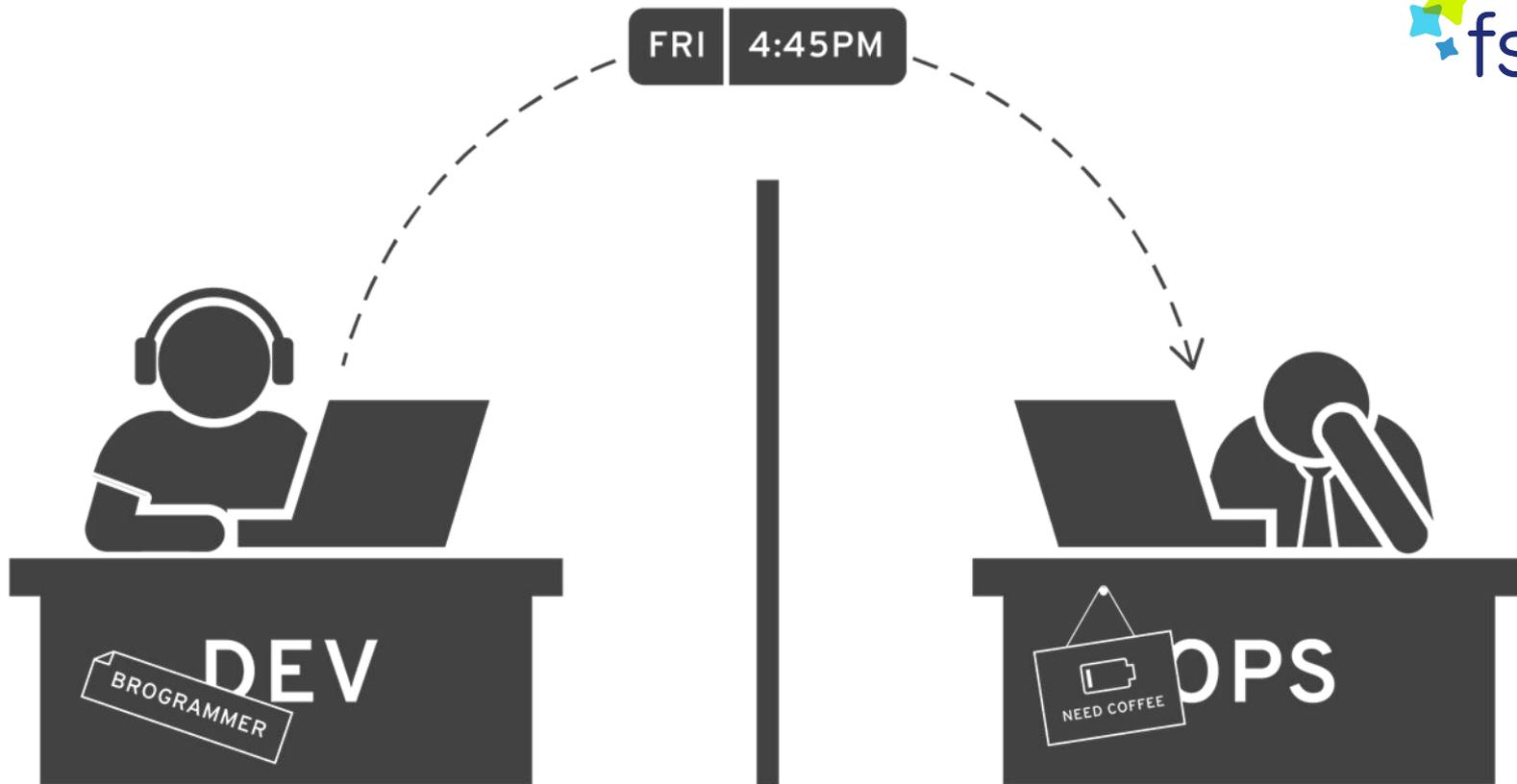
A bit of history



Aaaaand, DevOps!!!



Since 2009





What it takes to DevOps



We have Jenkins, we do DevOps!

We do lots of deploys, we do DevOps!

Ops do not fight with Devs anymore, we do DevOps!

We don't do documentation, we do DevOps!



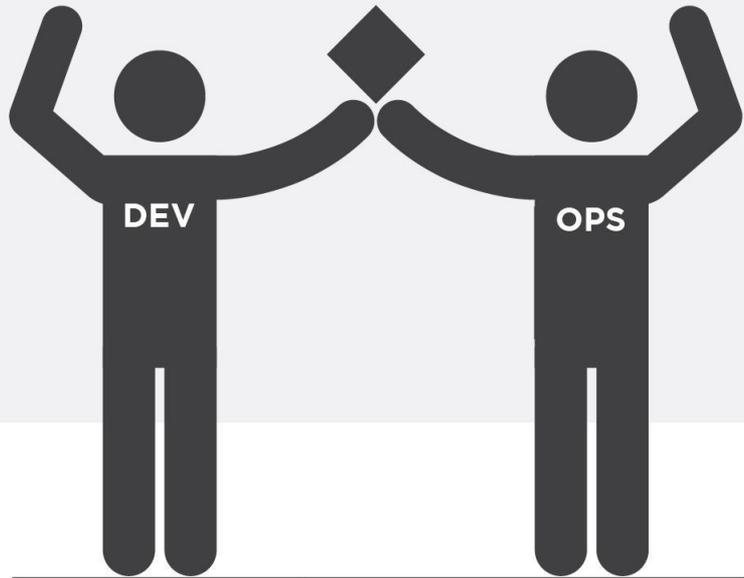
What it takes to DevOps



DevOps is a philosophy and a collection of tools.

Committing to the tools enables you to adopt the philosophy.

We don't do documentation, we do DevOps!



WALL OF CONFUSION

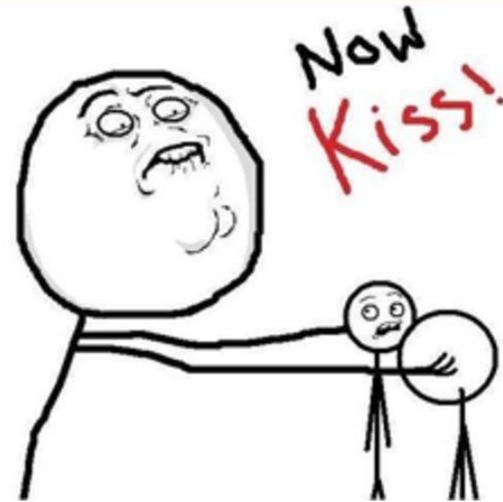




DevOps ♥ OpenSource



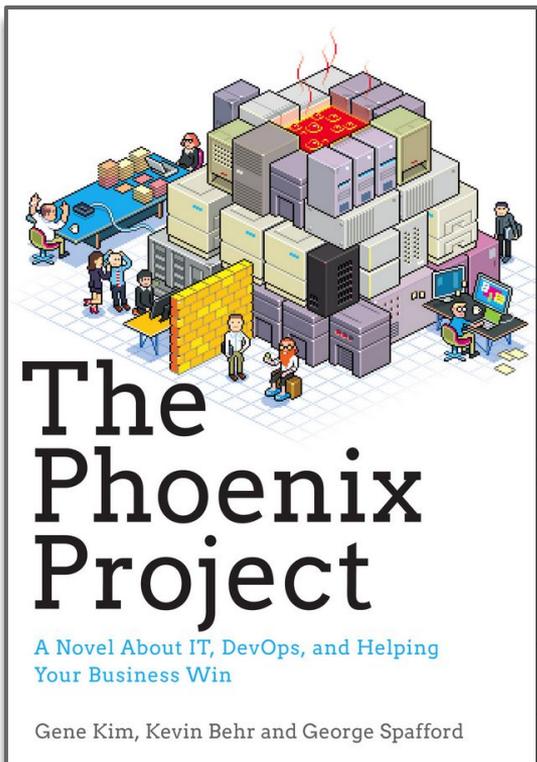
- Open exchange
- Participation
- Rapid prototyping
- Meritocracy
- Community





DevOps ♥ OpenSource





10 Deploys a Day



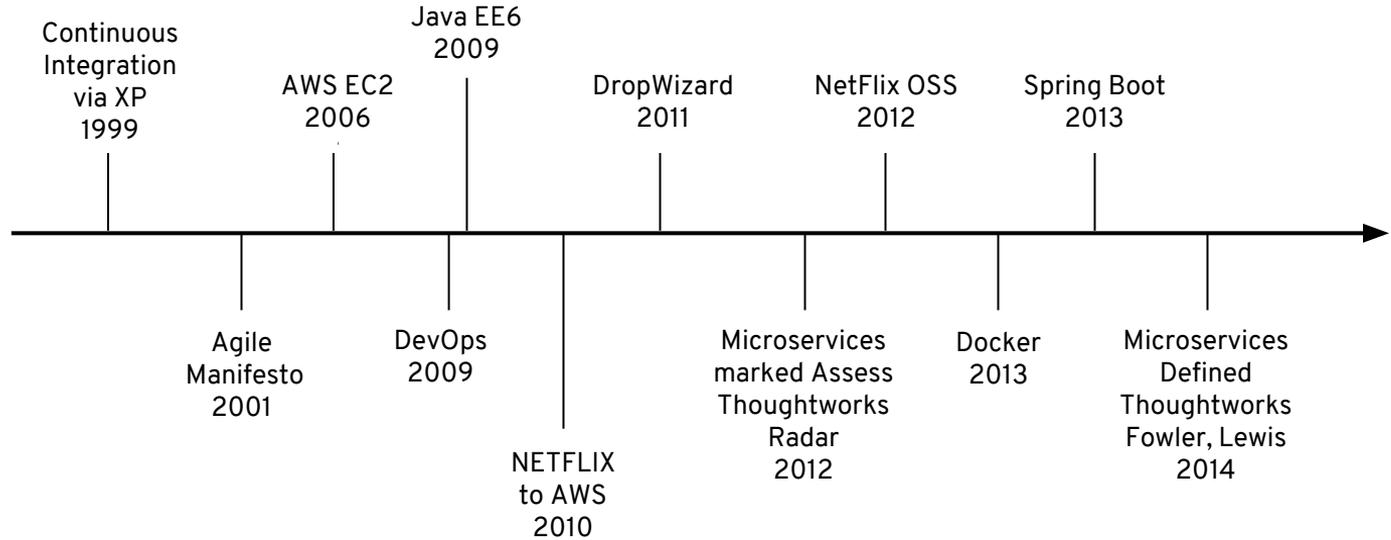
Why microservices?



Break things down (organizations, teams, IT systems, etc) down into **smaller pieces** for **greater parallelization and autonomy** and focus on **reducing time to value**.



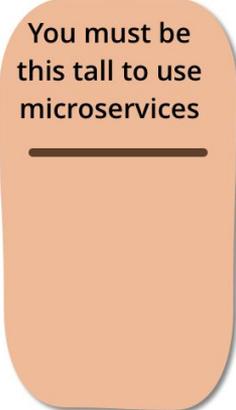
A BRIEF HISTORY OF MICROSERVICES





You Must Be This Tall

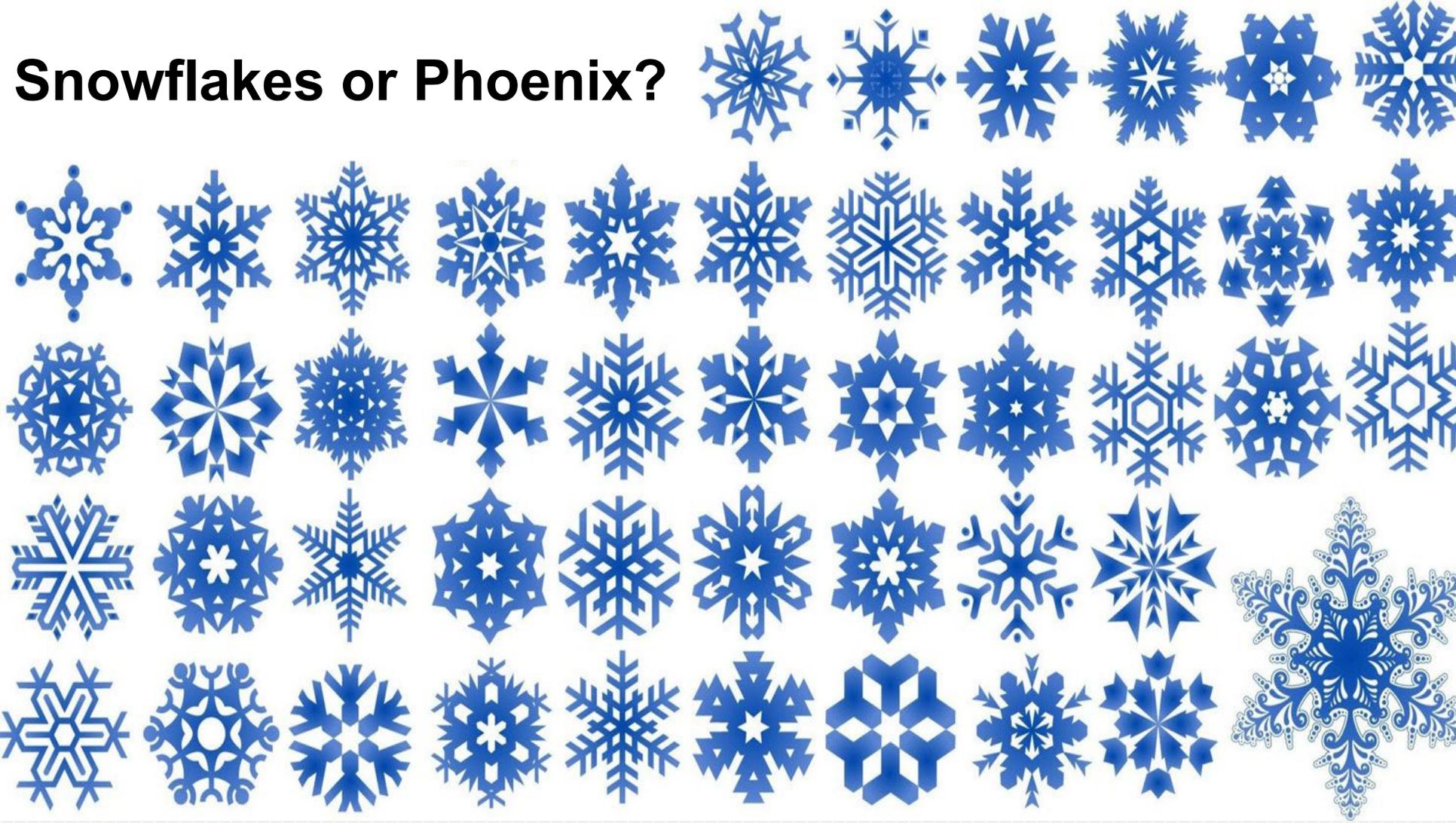
1. Self-Service, on-demand, elastic infrastructure as code
(how many days/weeks to provision a new VM?)
2. Dev vs Ops
(who is on the pager for production app outage?)
3. Automation
(phoenix vs snowflake?)
4. CI & CD
5. Deployment Pipeline



You must be
this tall to use
microservices



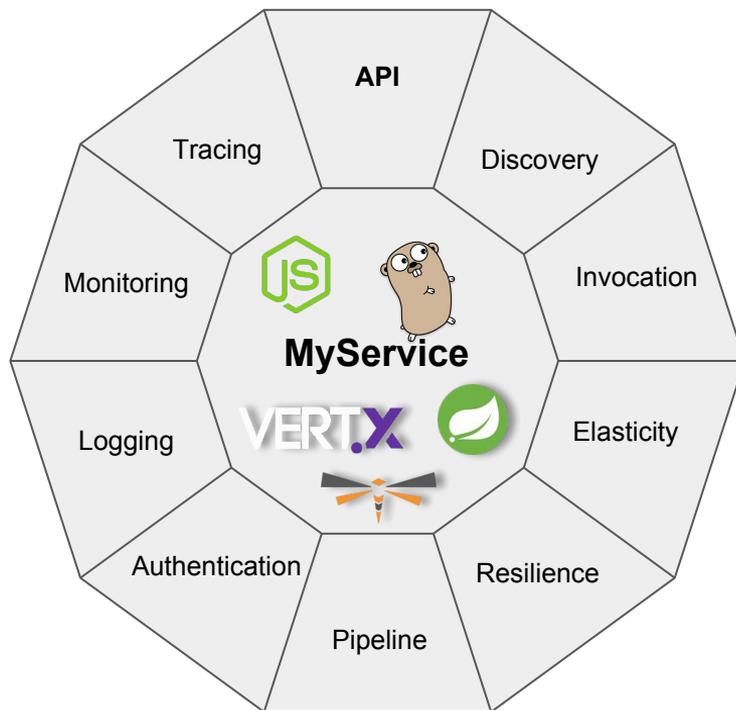
Snowflakes or Phoenix?



Snowflakes or Phoenix?



Microservices'ilities





Microservice \cong Container



<https://www.flickr.com/photos/63975655@N07/>

Container (no more) = Docker



LXC Initial release

Mar '13



Open Container Initiative

Jul '15



Moby

Jun '17



PodMan

Sep '17

Aug '08

Docker Initial release



Jun '15

CNCF



Apr '17

Buildah



Aug '17

CRI-O





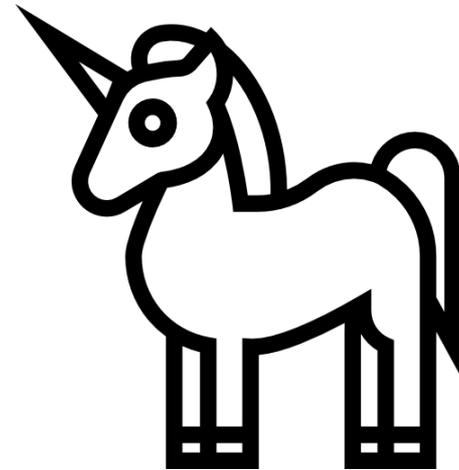
Microservices == Distributed Computing



<https://www.flickr.com/photos/danramarch/>

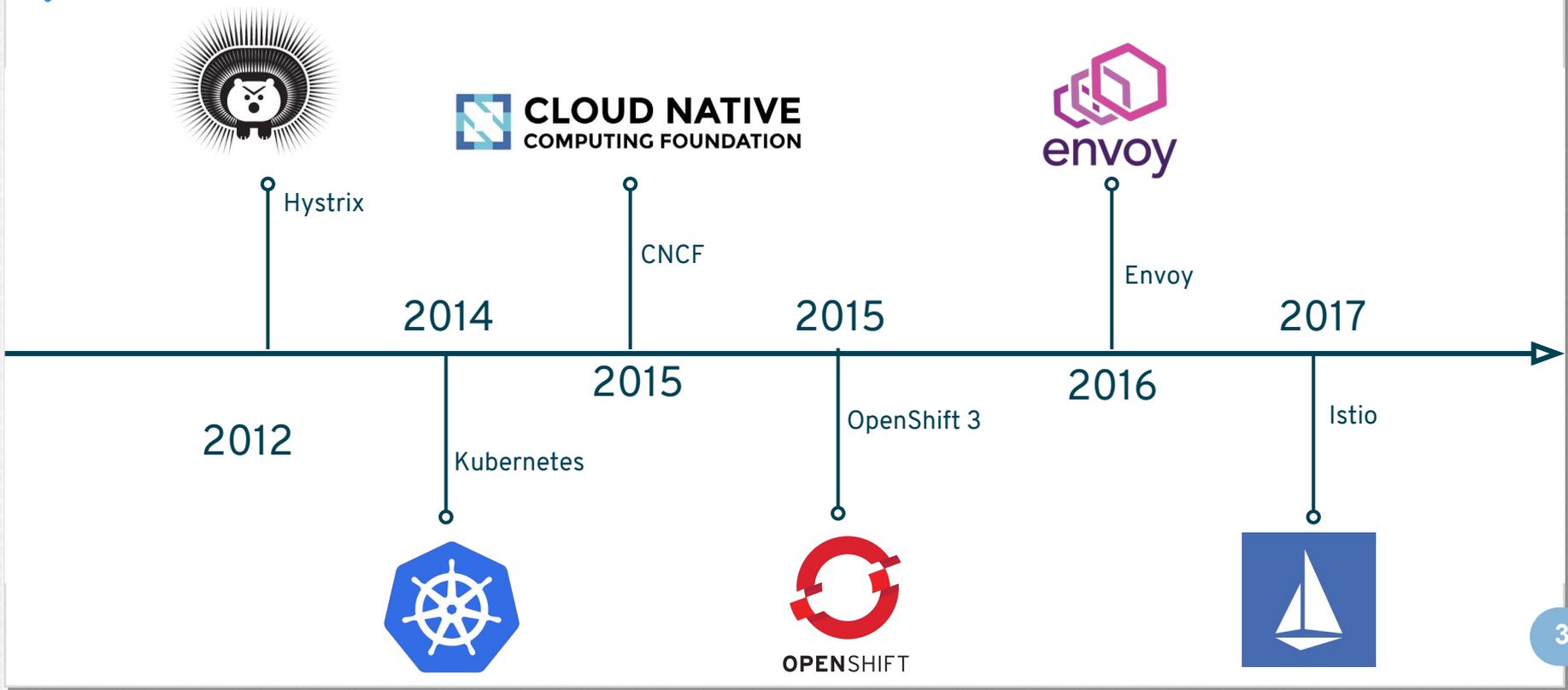
Fallacies of Distributed Computing

- The Network is Reliable
- Latency is zero
- Bandwidth is infinite
- Topology does not change
- There is one administrator
- Transport cost is zero
- The network is homogeneous



https://en.wikipedia.org/wiki/Fallacies_of_distributed_computing

Containers at scale





15 MAY 2018

Microservices in Adopt?



Rebecca Parsons
Chief Technology Officer

[Technology »](#)

[Microservices »](#)

[Approaches »](#)



Microservices play a major role in many organizations today. The movement gained momentum with [the seminal article](#) by James Lewis and Martin Fowler, followed by Sam Newman's book and numerous talks and articles by ThoughtWorkers, folks from Netflix, Google, and many [others](#). Microservices quickly made it to the Trial ring on the



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silver bullet

DICTIONARY

THESAURUS

silver bullet noun

Definition of *silver bullet*

: something that acts as a magical weapon

especially: one that instantly solves a long-standing problem



FSFE Milano

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<https://fsfe-milano.gitlab.io/>

Telegram: @fsfemilano

<https://lists.fsfe.org/mailman/listinfo/milano>

<https://fsfe.org>