

DevOps in compliancy constrained environments

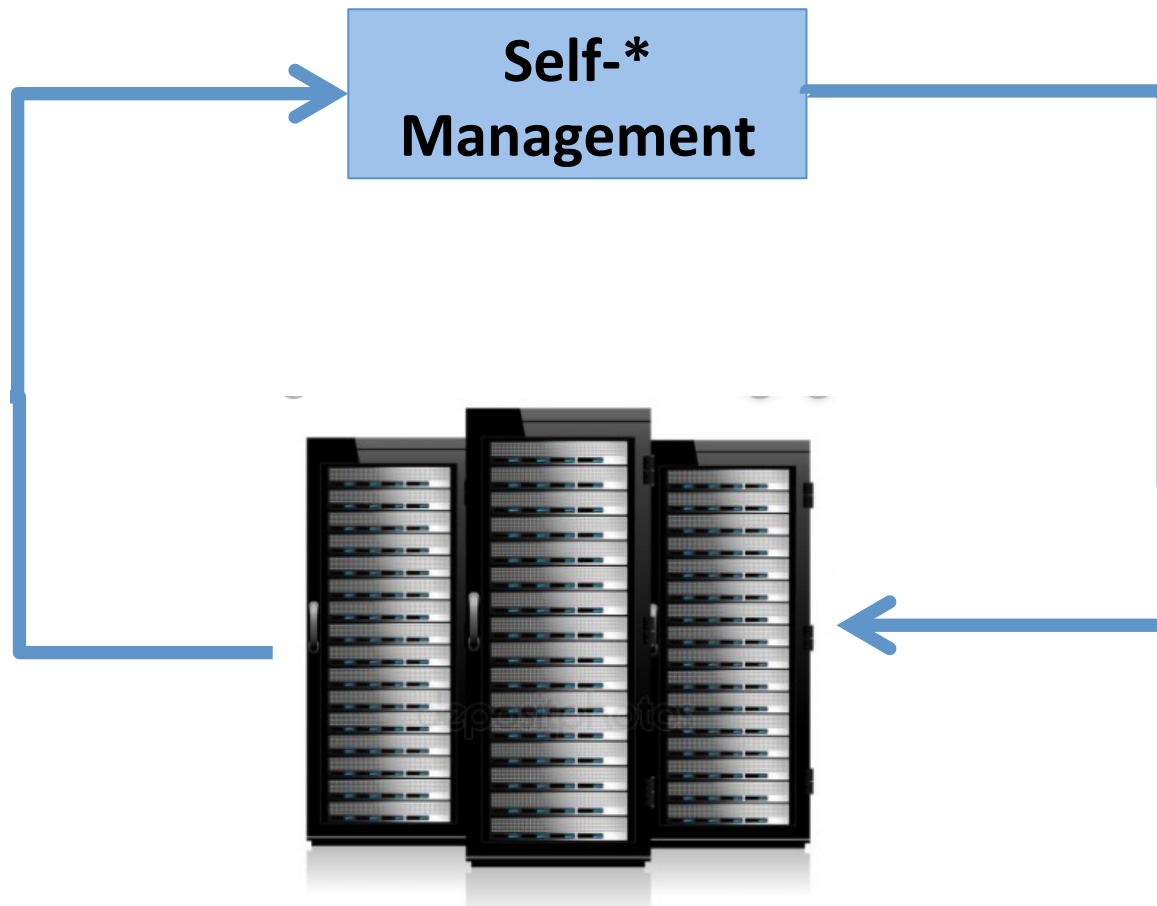
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Background: self-driving (datacenter) **operations**



Optimize operations

Goals:

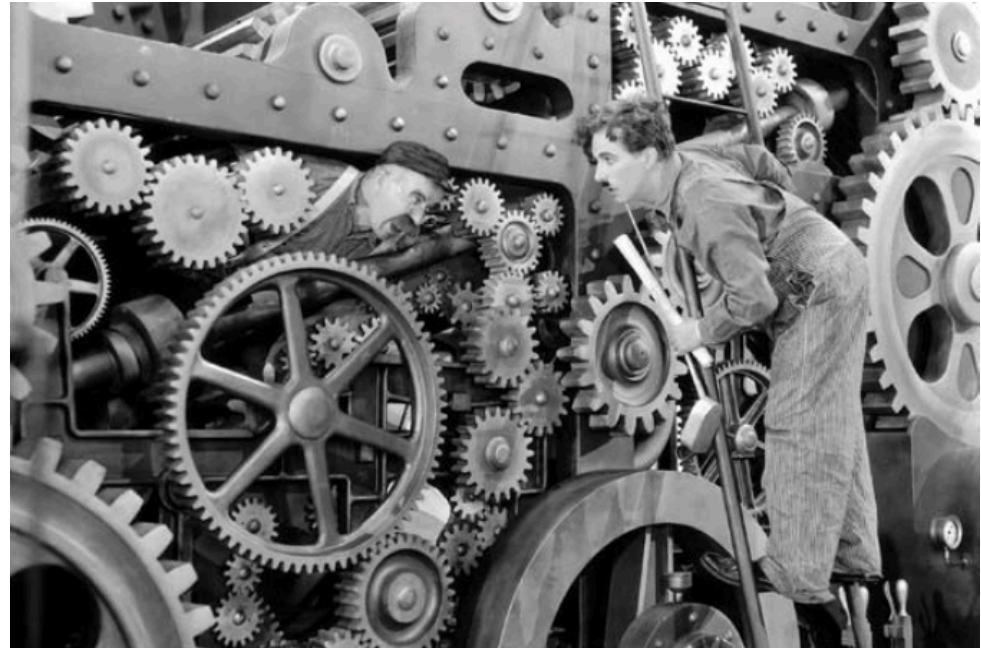
Cost

Energy

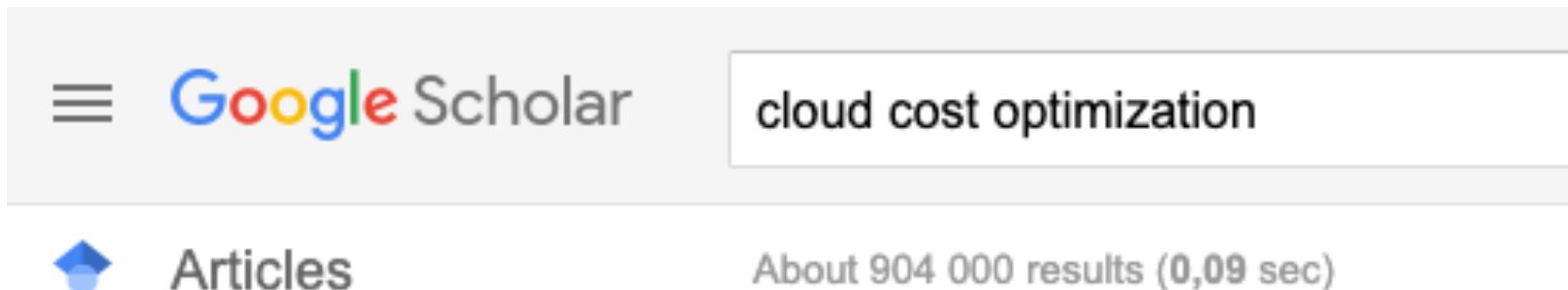
Utilization

Constraint:

performance



Well studied area...



What about DevOps?

- Context: *cloud native computing*
- A cloud native definition:


build better software faster using containers etc...
...in other words: run Kubernetes!

Goal: Optimize software development velocity

Constraints?

security and *compliance* common...

DevOps concepts to the rescue

- Version control
 - Automation
 - CI/CD?
 - GitOps!
 - Single source of truth, with strict enforcement
 - Audit trail
 - Separation of responsibility (pull, don't push)
- 
- Code
 - Software artifacts
 - Configuration (IaaS)
 - Policies (security & compliance)

Selected challenges

- Interpretation of regulatory requirements
 - “must use firewalls”, “no default pwds”, “antivirus”, etc.
 - For cloud native?
 - Only partly technological...
- Deep dependency analysis for vulnerabilities
 - Automatically find out which CVEs affect code
- More advanced (reasoning) self-* capabilities
 - Current solutions mostly binary (action allowed or not)

Thanks!

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github.com/elastisys