Configuration Management vs. Container Automation

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- DevOps

Agenda

1. Motivation
2. Pitfalls & Lessons Learned
3. Use Cases
4. Conclusions
5. Q&A

Motivation

- Several backgrounds
- Different opinions
- Experience in small to large scaled enterprise environments
- (Some) beers and discussions
- Goal: Share ideas/lessons learned

Pitfalls & Lessons Learned

„Config Management sucks“ (Pitfalls)

- Software development „at its best“
  - VCS/refactoring/pair programming/CI/CD
  - Code quality is important
- Over-Engineering (Generic Code)
  - KISS
- „Configuration Management is Legacy (OS) Management!“
  - Lightweight containers (process isolation) to reduce OS management „overhead“?

„Containers suck, too“ (Pitfalls)

- „Docker is still a hype!“
  - Gives you lots of opportunities
  - Choose your tool stack wisely
  - Avoid „Bing Bang“ changes
- Lack of well-known/established open standards
  - Open Container Initiative
  - CNI (CoreOS) vs. CNM (Docker)

„Containers suck, too“ (Pitfalls)

- „Docker security is a mess!“
  - Basic understanding of cgroups/caps/ns are helpful
  - Physical separation!
  - Talk & work with your devs
- „Images on Docker Hub are insecure!“
  - Just community contributions
  - Docker images are packages/artifacts, treat them like VMDK/VHD/VDI/DEB/RPM
  - Build your own (lightweight) (base) images
  - Use base images without lots of userland tools if possible (e.g. Alpine Linux)

„Containers suck, too“ (Pitfalls)

- Over-Engineered Dockerfiles („/bin/bash“)
  - KISS
  - Software/Process isolation
  - Replace **large** shell scripts with CM running **outside** the container
- Scheduling/Orchestration is a whole new area
  - KISS if possible
  - Step-by-step/Smooth migration


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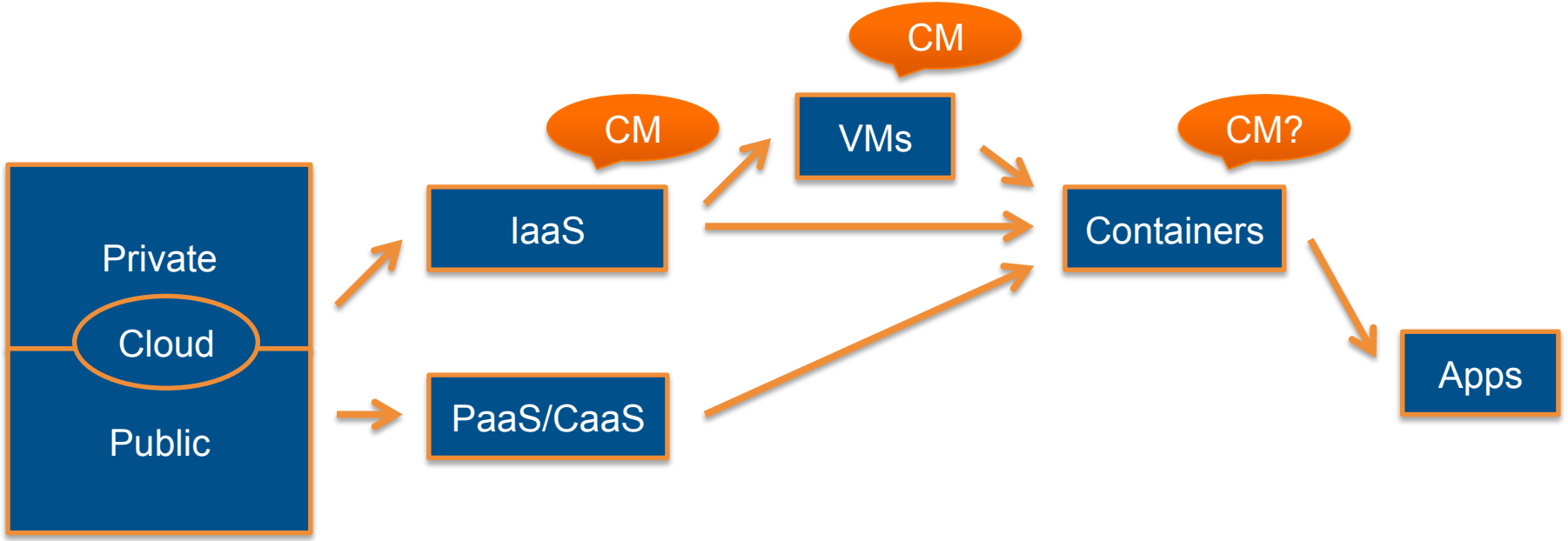
um unsere Kunden glücklich zu machen.
Und uns selbst.

Use Cases

Setup


CM
CM
VMs
CM?
Private
Cloud
Public
IaaS
Containers
PaaS/CaaS
Apps

Use Cases

- Continuous integration & delivery
- Microservices (rapid deployment)
- Blue/Green Deployment (immutability)

Conclusions

Conclusions

- Containers aren‘t the holy grail, but enhance architecture
- Containers have lower overhead compared to VMs
- Containers and CM share the same problems
- Containers won‘t work without Dev(+)Ops cooperation
- Containers and CM Systems will coexist ☺

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Q&A

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