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UberCloud

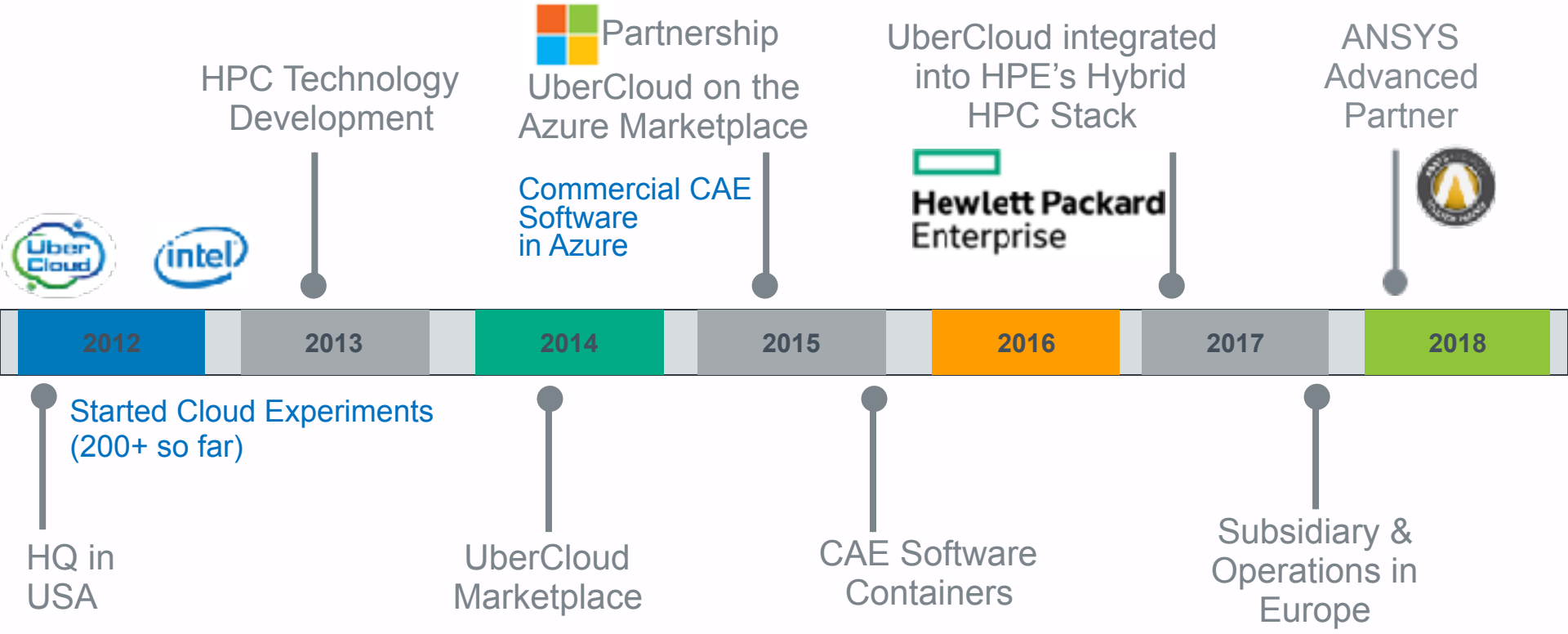
The Application Container Factory

Delivering performance to compute intensive applications

Burak Yenier

CEO, UberCloud

Brief History



Containers have interesting properties

- immutable
- independent from host OS
- light weight - easy to build and store
- user space isolation
- easy to script - user defined images

Image credit: https://3docean.net

Complete Technical Computing Cloud Solutions
On Azure and HPE

High Performance Enterprise Cloud Platform

Example: UberCloud ANSYS Offering

HPC Performance
Desktop Look and Feel

Full Desktop User Interface

Pre and post-processing in the cloud

Flexible Cluster Sizing

Flexible Licensing

Example: UberCloud ANSYS Containers on HPE bare-metal hardware

HPC Performance
Desktop Look and Feel

HPE - UberCloud Solution

UberCloud's software packaging technology makes CAE software available on HPE

Uber Cloud

Rstor.io

Cloud28

HPE OneView | CMU

HPC services

Legacy HPC | Private Cloud | Public Cloud

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HPE's focus is the Hybrid HPC Platform

Example: ANSYS UberCloud Container on Azure

Azure Hardware

UberCloud Software Container

- ✓ ANSYS R19, Workbench, Fluent, APDL & SpaceClaim, …
- ✓ UberCloud IP for distributed service discovery, key-value store
- ✓ Libraries and drivers for InfiniBand and GPUs
- ✓ Remote HD graphics with Azure GPUs

Cluster Creation and Management

CYCLE COMPUTING

- ✓ CycleCloud to create and delete HPC clusters on-demand
- ✓ Fully integrated management stack

UberCloud Deployment

- ✓ Setup and validate the stack in UberCloud's Azure subscription

CHALLENGES FACED BY THE HPC COMMUNITY

Remote Access to Hybrid Infra

Hardware Specialization and Cost Management

Lack of Standards and Blue Prints for Cloud Deployments

Flexible Licensing

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