

Virtualisierung

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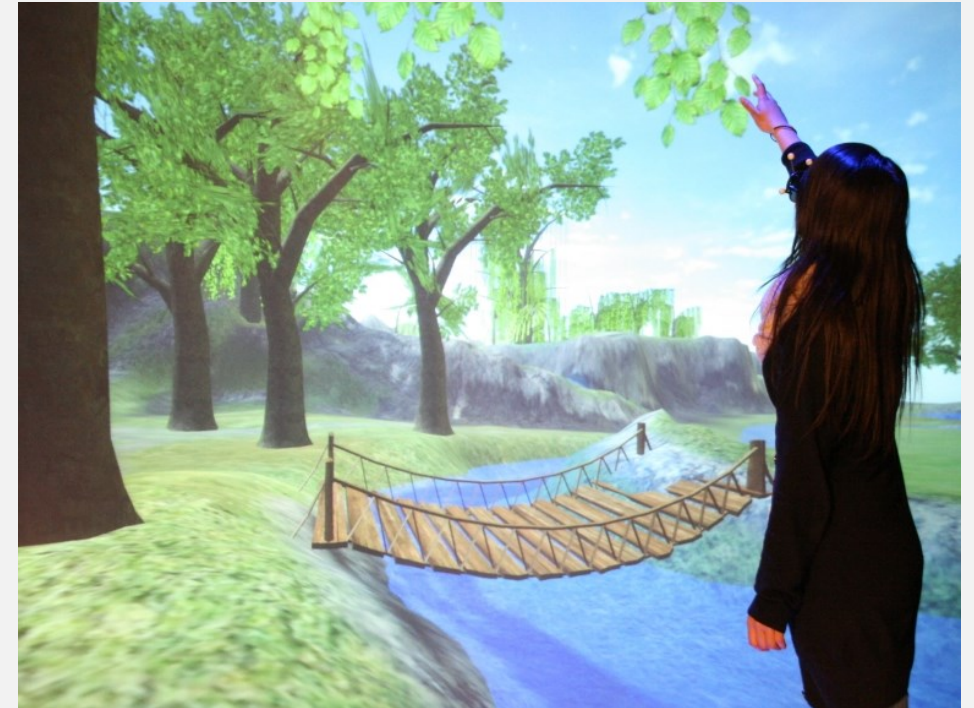


QA|WARE

Virtualisierung: die Erzeugung von virtuellen Realitäten und deren Abbildung auf die physikalische Realität.

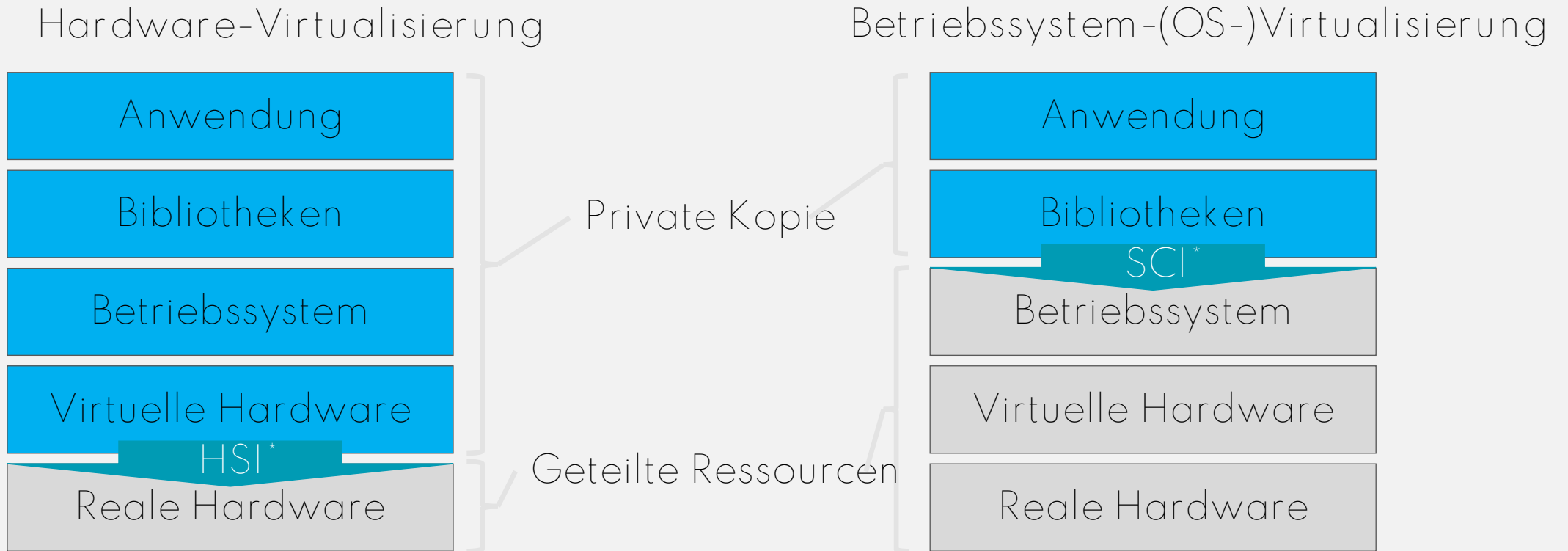
Zweck:

- Multiplizität → Erzeugung mehrerer virtueller Realitäten innerhalb einer physikalischen Realität
- Entkopplung → Bindung und Abhängigkeit zur Realität auflösen
- Isolation → Physikalische Seiteneffekte zwischen den virtuellen Realitäten vermeiden



<http://www.techfak.uni-bielefeld.de>

Hardware- vs. Betriebssystem-Virtualisierung

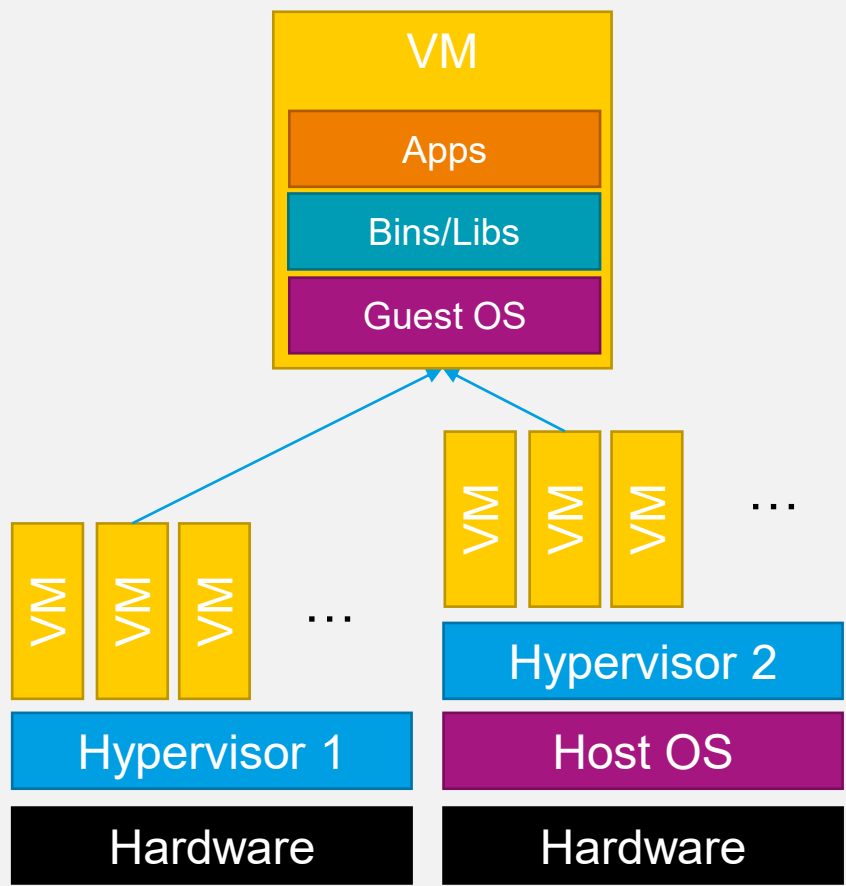
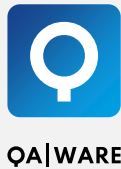


- Stärkere Isolation
- Höhere Sicherheit

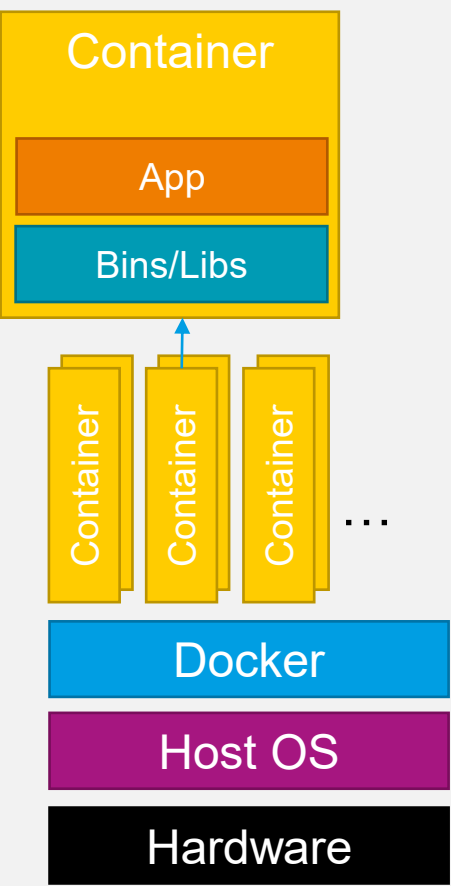
- Geringeres Volumen der privaten Kopie
- Geringerer Overhead
- Kürzere Startup-Zeit

*) HSI = Hardware Software Interface
SCI = System Call Interface

Containerization mit Docker



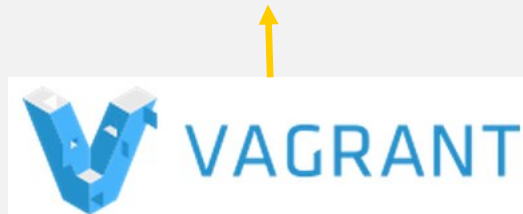
Type 1 / Type 2 Virtualization



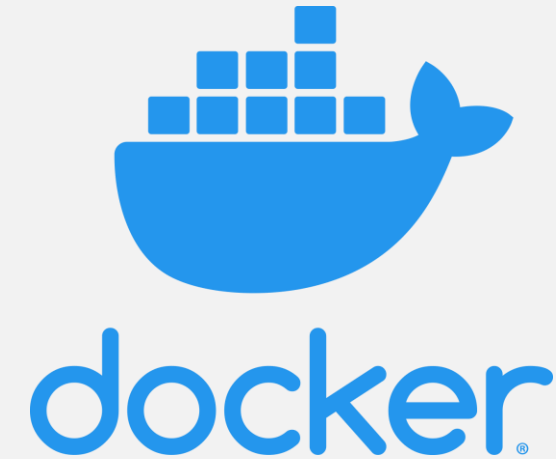
Containerization

Beispielhafte Technologien

Hardware-
Virtualisierung: Vagrant
und VirtualBox



Betriebssystem-
Virtualisierung: Docker



Google Runs All Software In Containers

May 28, 2014 by Timothy Prickett Morgan



The overhead of full-on server virtualization is too much for a lot of hyperscale datacenter operators as well as their peers (some might say rivals) in the supercomputing arena. But the ease of management and resource allocation control that comes from virtualization are hard to resist and this has fomented a third option between bare metal and server virtualization. It is called containerization and Google recently gave a glimpse into how it is using containers at scale on its internal infrastructure as well as on its public cloud.

We are talking about billions of containers being fired up a week here, just so you get a sense of the scale.

<http://www.enterprisetech.com/2014/05/28/google-runs-software-containers>