GridKa School 2015 Big Data Virtualization Modern Programming

Contribution ID: 45 Type: not specified

Software Defined Data Center

Thursday, September 10, 2015 1:00 PM (5 hours)

Running traditional data centers, engineers have to face many challenges, such as running multiple different workloads. In this workshop we will have a look at such a data center and identify the challenges that have to be faced when using these architectures. After this we look at a basic use case and implement it for a traditional data center. In the next step we will have a look at new technologies for Software Defined Data Centers (SDDC). This enables us to compare how these new technologies cope with the problems found earlier and help make data centers more flexible.

A big benefit of SDDCs is running dynamic and flexible workloads while archiving high resource utilization.

A SDDC contains these (and more) technologies:

Software defined Networking (SDN)

Software defined Storage (SDS)

Data Center Operating System (DCOS)

The goal of this workshop is to build your own mini SDDC with a reference software stack based on:

CentOS / CoreOS

Docker

Mesos and Mesosphere

(Quobyte)

(OpenVswitch)

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Requirement for participation:

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Basic knowledge of data centers

An additional tutorial for deepening the topic is available on Friday http://indico.kit.edu/indico/event/89/session/35/contribution/53 $\,$

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Session Classification: Software Defined Data Center

Track Classification: Data Center Management