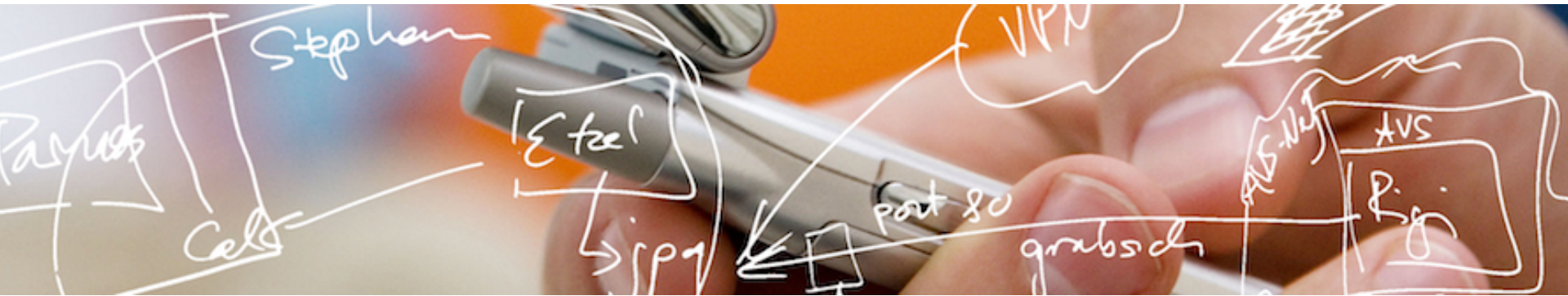


SWITCHengines

How Can "The Cloud" Help Education



SWITCH

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Cloud



By Joydeep (Own work) [CC BY-SA 3.0 (<http://creativecommons.org/licenses/by-sa/3.0/>)], via Wikimedia Commons

**You use something, only
on demand and pay only
what you use**

How does the “cloud” look like?



Google google.com/datacenters



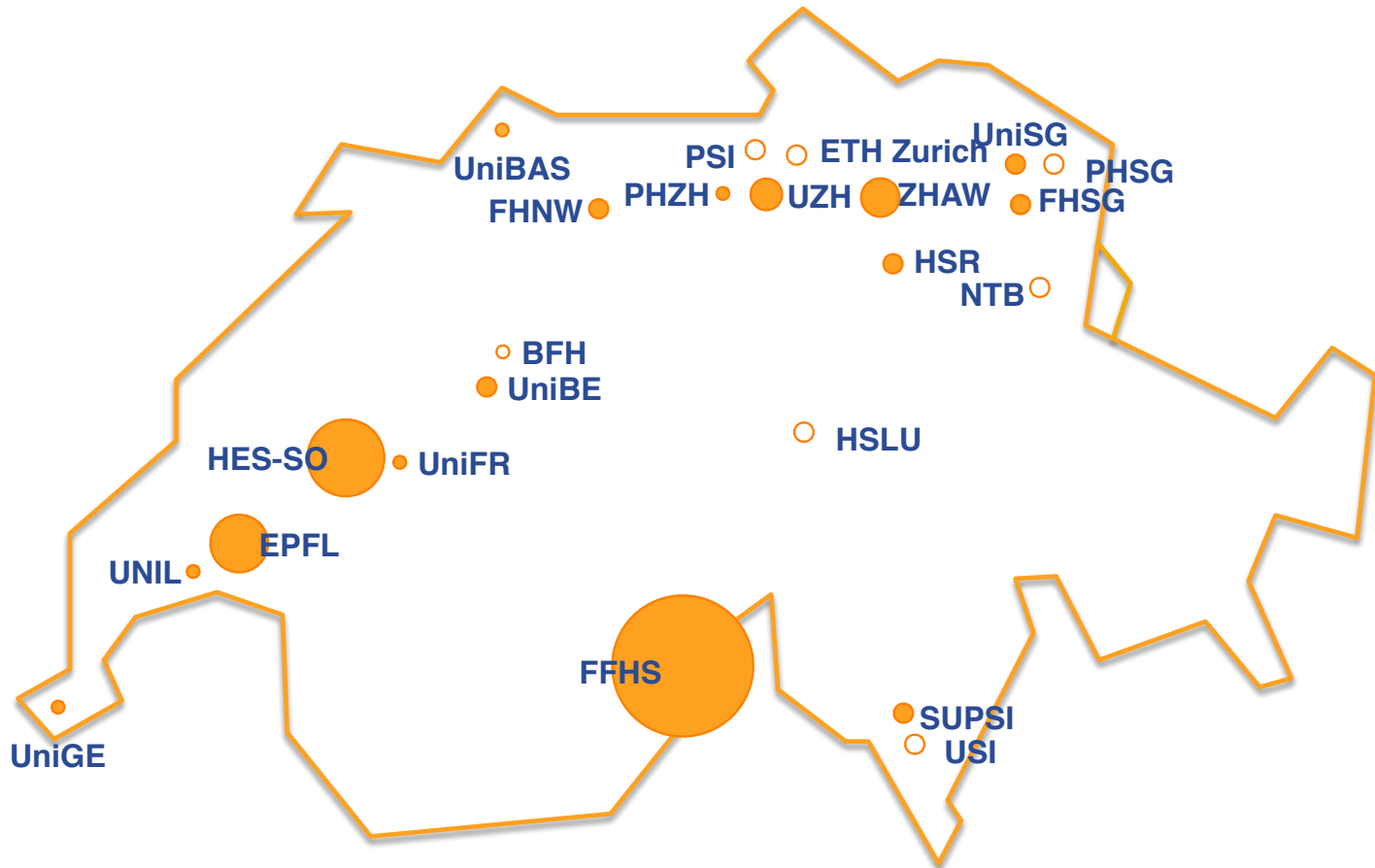
„CERN Server 03“ von Florian Hirzinger - www.fh-ap.com - Own work (Florian Hirzinger). Lizenziert unter CC BY-SA 3.0 über Wikimedia Commons - http://commons.wikimedia.org/wiki/File:CERN_Server_03.jpg#/media/File:CERN_Server_03.jpg



SWITCHengines in Numbers

- Total of 120 Servers
- 1296 CPU Cores for Virtual Machines
- 9 TB RAM
- 576 Disks, each with 4 TB – 2.3 PB of raw capacity
- Around 20 TB of SSD storage
- Currently running around 1000 virtual servers
- Used in many institutions

Engines Usage



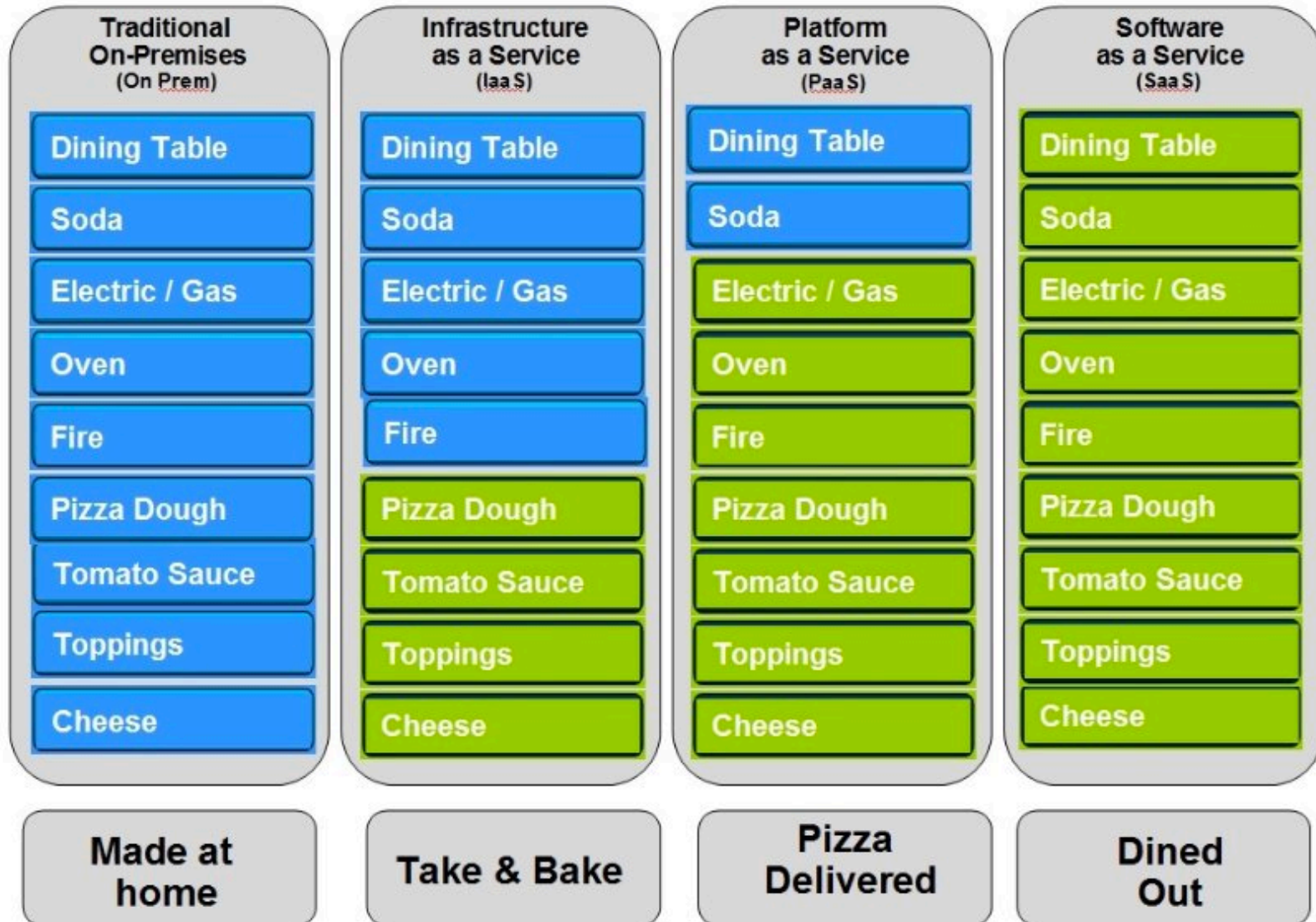
“Services”

Infrastructure as a Service

Platform as a Service

Software as a Service

Pizza as a Service



■ You Manage ■ Vendor Manages

Some Examples

- SWITCHtube – Lectures in the cloud
- SWITCHdrive – Shared files in the cloud
- Collaboration Tools – easily deploy web based tools
- SWITCHengines – build infrastructure in the cloud
 - Rstudio / Jupyter for classroom usage (various)
 - Pre-Configured / Licensed Matlab / SPSS instance
 - Give each student a VM (or more) to learn to install servers (FFHS)
 - Run an instance of a OpenEDX (MOOC)
 - Combine the the last two use cases to get additional benefits
 - And so much more...

Where do we want to go?



<http://flickr.com/photos/glennharper/49536169/>