Cloud

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You use something, only on demand and pay only what you use
How does the “cloud” look like?
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

Traditional On-Premises (On Prem)
- Dining Table
- Soda
- Electric / Gas
- Oven
- Fire
- Pizza Dough
- Tomato Sauce
- Toppings
- Cheese

Infrastructre as a Service (IaaS)
- Dining Table
- Soda
- Electric / Gas
- Oven
- Fire
- Pizza Dough
- Tomato Sauce
- Toppings
- Cheese

Platform as a Service (PaaS)
- Dining Table
- Soda
- Electric / Gas
- Oven
- Fire
- Pizza Dough
- Tomato Sauce
- Toppings
- Cheese

Software as a Service (SaaS)
- Dining Table
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- Oven
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- Toppings
- Cheese

Made at home
Take & Bake
Pizza Delivered
Dined Out

You Manage  Vendor Manages

https://www.linkedin.com/pulse/20140730172610-9679881-pizza-as-a-service
Education as a Service?
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/