Roadmap IaaS pour 2020

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Infrastructure as a Service (IaaS):

- Evolution of home made service "Servers Virtualization" (MyVM) to a "Self Service Portal" solution automatized to a maximum (vRA)
- Platform « à la carte»
- No bottleneck for provisioning up to dates VMs, KPI to identify to dynamize the Self Service solution like provisioning speed, sizing optimization (vROPS); lifecycle Management, etc..
- Base to evolve to XaaS (vRO): S3aaS (available), BackupaaS(available), K8saaS, DevOPS, ...
- Micro-segmentation (NSX-T) with DMZaaS and more
- Every monitoring modules and charge back operational (vRNI; vRLI; vROPS; vRBC)

Technical aspects:

- No need to have an IP before requesting a new VM anymore
- Automatic naming for new VMs on a per business group bases (ITServices) automatic registered in xaas.epfl.ch DNS zone (vRO/Powershell/EBS)
- DNS alias request in main epfl.ch DNS zone (day2 operation) (vRO)
- Environmental segmentation (Prod, Test, Dev) for new VMs. (NSX-T/vRO tagging)
IaaS @ EPFL – organizational structure – 2 Tenants

ITServices : regrouped by Services

- Every VMs of a service in the same Business Group (members are shared access and/or user role)
- 1 group with support role and 1 group with Group Manager role for the whole tenant
- Every request that consume resource (new deployment, reconfigure, change lease) must be approved
- Approval policy with 2 level:
  - First level is for infrastructure approval
  - Second level is hierarchical (Services directors)

EPFL : regrouped by faculty and units (~900)

- Every VMs of a unit in the same Business Group (members are shared access and/or user role)
- 1 group with support role per faculty (7) (group of corresponding units) and 1 group with Group Manager role for the whole tenant
- Every request that consume resource (new deployment, reconfigure, change lease) must be approved
- Approval policy with 2 level:
  - First level is for infrastructure approval
  - Second level is hierarchical (1 group of approbator per faculty (7))
Roadmap SDDC 2020/21

- Q4/2019: Kubernetes aaS
- Q1/2020: Site Protection VMs, vSAN sc
- Q1/2020: POC VMware on AWS vRA, NSX-T
- H2/2020: Kubernetes aaS
- H1/2021: vRA 8.x

23.01.2020: Backup aaS Done
Q1/2020: POC NSX Adv LB
Q2/2020: SAP HANA HCI, vSAN sc
H2/2020: NAS aaS RFP
**Vision:** “Shared Computing facilities” by Central Services

- **Hardware as a Service**
  Hardware rented on a daily basis, IP network

- **Infrastructure as a Service**
  Virtual machine, container, storage, load balancer… rented in a mid/long-term approach

- **Scientific Computing as a Service**
  Parallel computing environment and support, including HPC distributed clusters, GPGPUs, management layer, dynamic scheduling, dedicated programming environment, software development and optimization services.
Questions?