



VMWARE

Arnaud Burkhalter



Unil

VIRTUAL MACHINE INFRASTRUCTURE

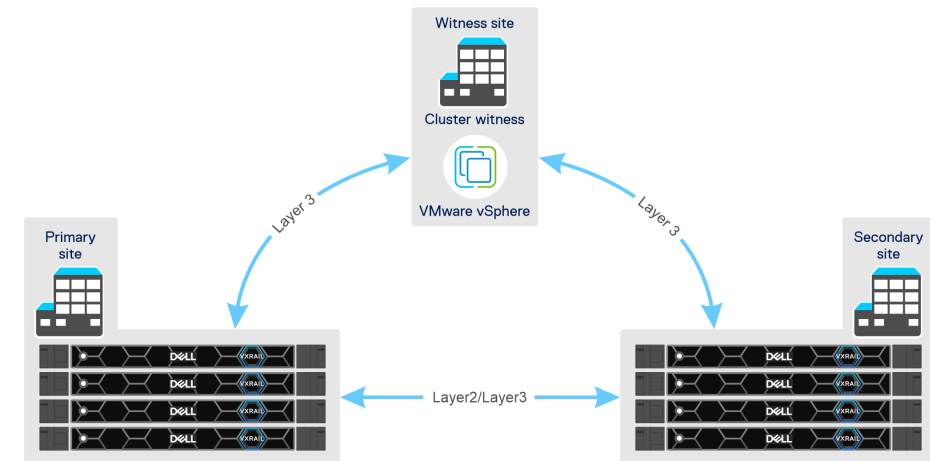
- **Mission:** Provide infrastructure to host VMs for the faculties and administrative purpose. Don't include VM for research projects which are hosted in dedicated infras (DCSR)
- Hyperconverged Infrastructure VxRail with vSAN
- Stretch clusters

- **Main cluster - VxRail / vSAN Cluster**

- Hosting all non-research UNIL VMs
- VMware ESXi
- 16 Nodes (2 sites x 8 nodes)
- Cluster Capacity
 - Storage : 670 TB full flash vSAN
 - Memory : 28 TB RAM
 - CPU: 1824 cores
- 1200 Virtual Machines
- Linux & Windows Servers

- **SAP - VxRail / vSAN cluster**

- Dedicated to SAP applications VMs
- VMware ESXi
- 6 Nodes (2 sites x 3 nodes)
- Cluster Capacity
 - Storage : 84 TB full flash vSAN
 - Memory : 12 TB RAM
 - CPU: 384 cores
- 20 VMs
- Linux Servers



VIRTUAL MACHINE INFRASTRUCTURE

- Some other smaller standard vSphere clusters.
- No VxRail, No vSAN, non-stretched

- **DAS01_test – Non-stretched**

- Hosting infra test VMs
- VMware ESXi
- 2 Nodes
- Cluster Capacity
 - Storage : 7 TB
 - Memory : 1 TB RAM
 - CPU: 80 cores
- 37 Virtual Machines
- Linux & Windows Servers

- **DAS02_phone – Non-stretched**

- Hosting Avaya phone application VMs
- VMware ESXi
- 2 Nodes
- Cluster Capacity
 - Storage : 5 TB
 - Memory : 255 GB RAM
 - CPU: 40 cores
- 11 VMs
- Linux appliances

- **MAX**

- Hosting Witness VMs
- VMware ESXi
- 1 Node
- Cluster Capacity
 - Storage: 21 TB
 - Memory : 1.3 TB RAM
 - CPU: 64 cores
- 8 VMs
- Host Linux & Windows Servers

VM CREATION - PORTAL

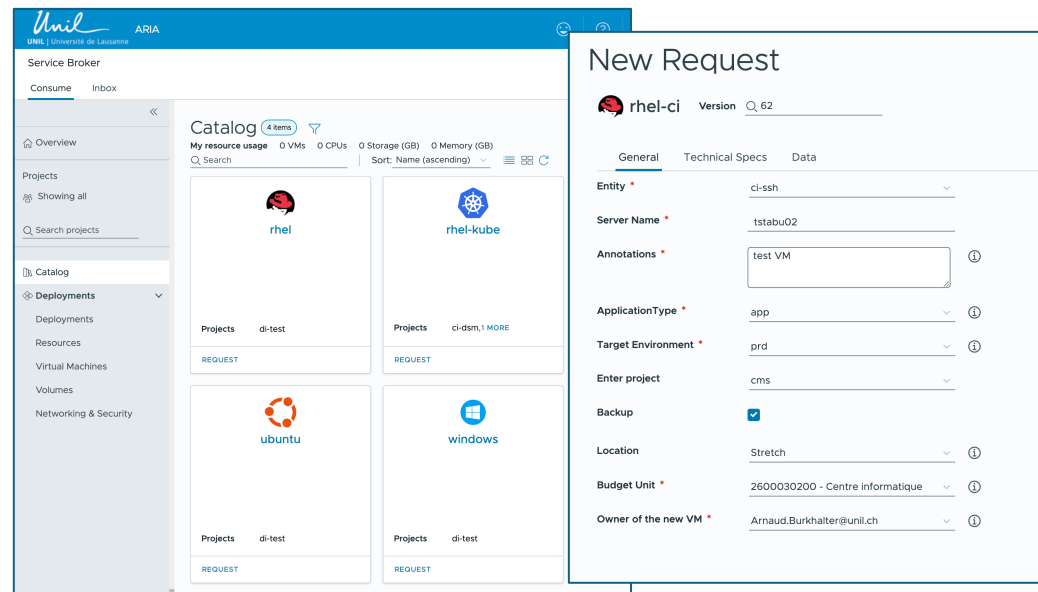


UNIL provide a [portal to deploy VM](#) in a fully automated way. The faculty members can create their VM without needed contacting IT.

Based on product VMware ARIA Automation (previously vRealize Automation)

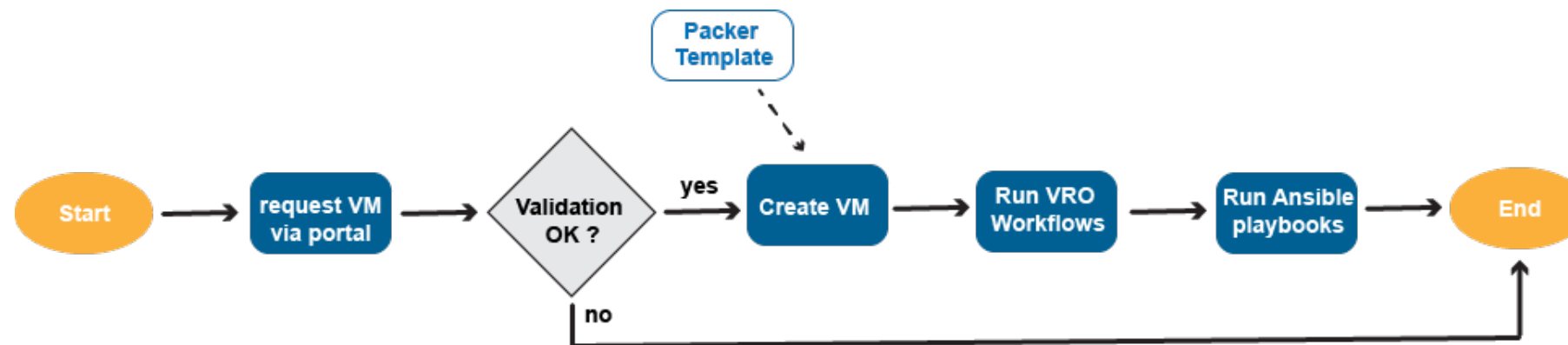
Portal usage:

- VM request
- VM management: replace the vcenter for the basic tasks on VM (for non-IT users)



VM CREATION - PORTAL

- Template: In ARIA, we use OS Image template, created with HashiCorp [Packer](#).
- VM Creation: ARIA is linked with vCenter for VM creation. Use of YAML to define blueprints.
- VM Creation – Customization: [Workflow](#) scripting (JavaScript, Python, Node.js) for customization tasks during deployment.
- Post-deployment: call [ansible playbook](#) to execute customization tasks.



question



question

Thank you

The logo for the University of Lausanne, featuring the word "Unil" in a blue, cursive script font.