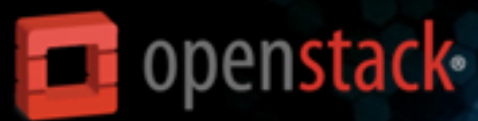**KLE** Technological University

Creating Value
Leveraging Knowledge

KLE Tech Private Cloud

openstack

KLE Tech cloud is an OpenStack-based Cloud Orchestration and Management System
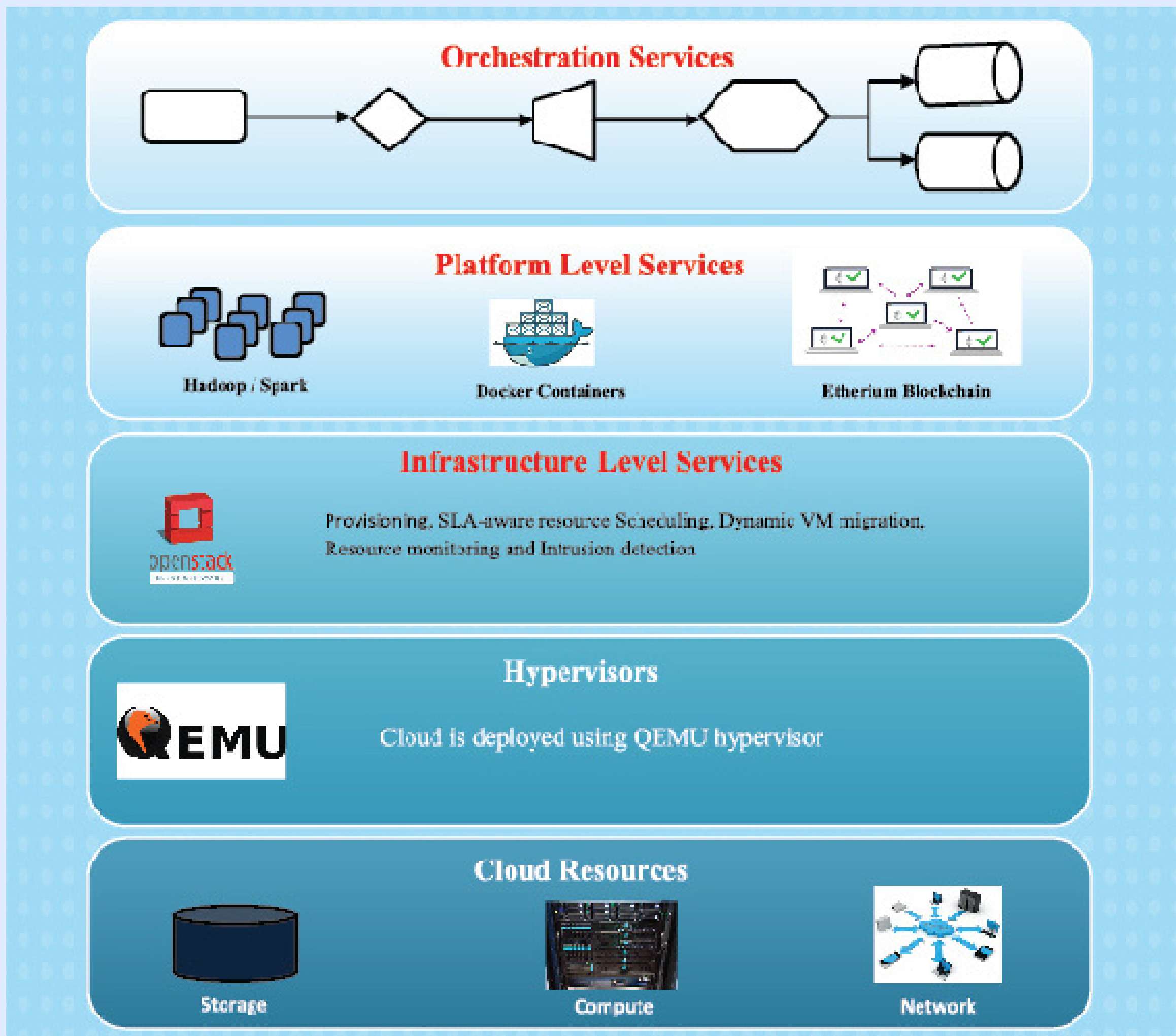
Key Features

- Virtual Machines Provisioning
- Hadoop Cluster Provisioning
- Docker Containers Provisioning
- Blockchain Provisioning
- storage as service
- Dynamic resource utilisation monitoring
- SLA-aware VM scheduling
- Dynamic live VM migration
- Intrusion detection engine

Center for Cloud Computing and Networking

SCHOOL OF COMPUTER SCIENCE AND ENGINEERING

About Lab:

KLE TECH Academic Private Cloud is a cloud orchestration and management software for on-demand provisioning of cloud services. It is developed to provide common infrastructure and research environment for students and faculty working in the area of Cloud, SDN, Big Data Analytics and Blockchain. KLE TECH Academic cloud is a layered architecture consisting of five layers.

Architecture of KLE TECH Cloud Orchestration and Management Software

Service Provided by private cloud

Orchestration Services

Cloud automation describes a task or function accomplished without human intervention. Cloud orchestration describes the arranging and coordination of automated tasks. Our Cloud provides a user-friendly web portal for students and faculty for on-demand provisioning of cloud services.

Platform Level Services

Our cloud provides three PaaS services namely Map-reduce as a service, Docker container as a service and Blockchain as a service.

Infrastructure Level Services

We provide five IasS services namely VM provisioning, SLA-aware Scheduling, dynamic VM migration, Resource monitoring and Intrusion detection engine.

Hypervisors

Our Cloud is deployed using QEMU hypervisor.

Equipments in Lab

Slnb	Equipment	Number Of Equipment
1	Server: Dell Poweredge R440 server, Processor- 2X Intel Xeon gold 6130 2.1g, 16C/32T,10.4GT/s, 22M Cache Turbo, RAM DDR4, Memory 128GB,4x2TB SAS 12GBPS HDD	4
2	Server: Dell Poweredge R430 server	2
3	Server: HP Proliant DL160 Gen9 server	1
4	KVM Switch	1
5	Computer Systems: HP ProDesk	6

Students in Lab