PES Institute of Technology

IEEE computer society

Ordell Ugo ...beginning vision

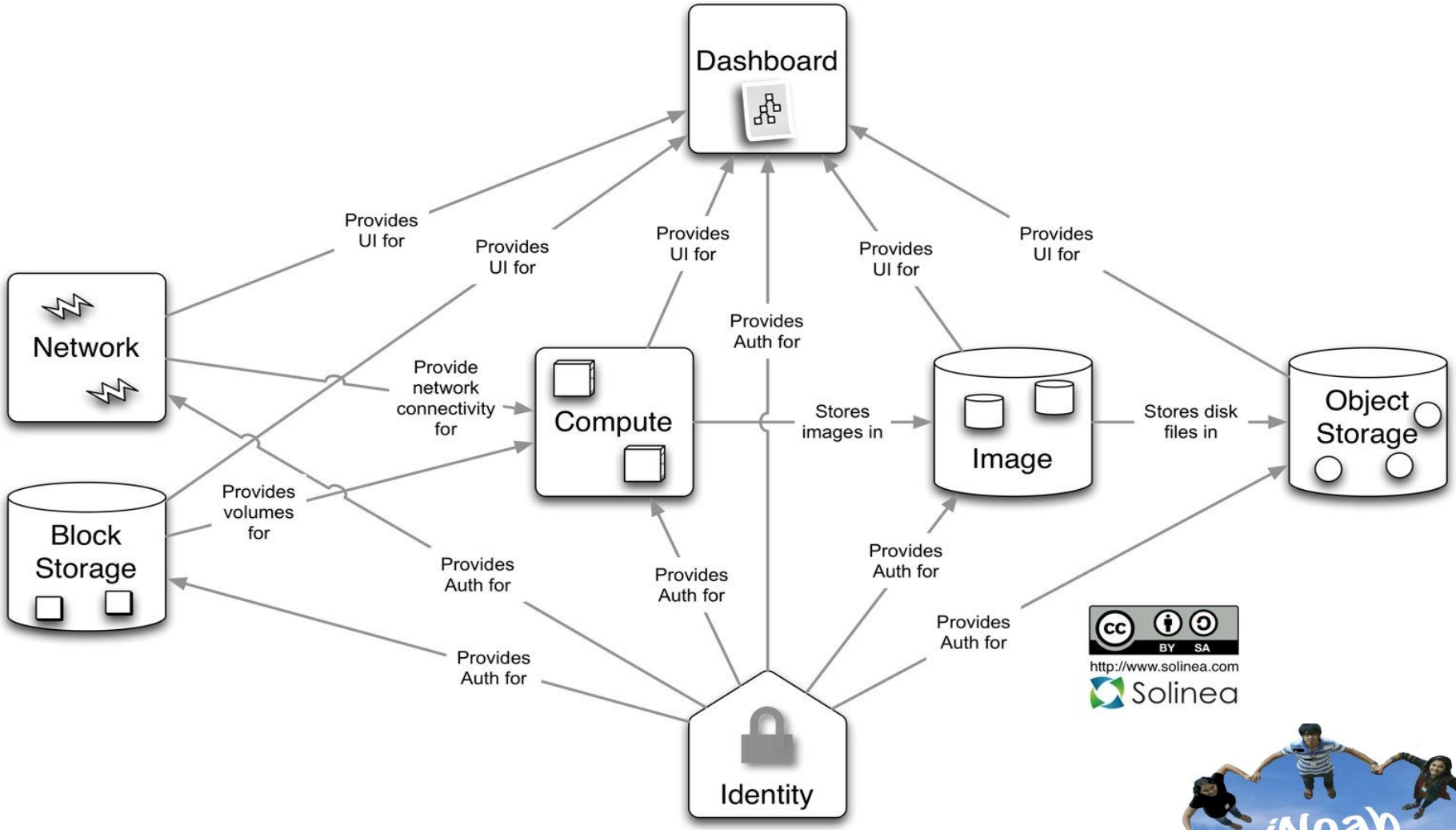
Compute Node

Compute Node

- This is where the Virtual machines/instances are created and stored(hence more RAM is required or you can add more than one compute node)
- Compute Node is responsible for the running of the VMs.
- Everything associated with the VMs like assigning and removing public IP addresses, attaching and detaching block storage, adding security groups, etc are all reflected on the Compute Node.

Conceptual Architecture

How does Compute interact with the other services ?


Dashboard
Network
Compute
Image
Object Storage
Block Storage
Identity
Provides UI for
Provides UI for
Provides UI for
Provides UI for
Provides UI for
Provides Auth for
Provide network connectivity for
Stores images in
Stores disk files in
Provides volumes for
Provides Auth for
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http://www.solinea.com
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Compute Node Services

- KVM
- Nova-Compute
- Quantum OVS agent

Hypervisor (KVM)

- KVM is a hypervisor or a piece of computer software, firmware or hardware that creates and runs virtual machines. Cloud involves creation and running of VMs (instances). Thus having a hypervisor is necessary.
- A computer on which a hypervisor is running one or more virtual machines is defined as a *host machine*. Each virtual machine is called a *guest machine*. The hypervisor presents the guest operating systems with a virtual operating platform and manages the execution of the guest operating systems. Multiple instances of a variety of operating systems may share the virtualized hardware resources.

Nova-Compute

- It manages communication with hypervisor and virtual machines.
- It is worker daemon that creates and terminates virtual machine instances via the hypervisor's APIs.
- It accepts requests from the queue(RabbitMQ) and then performs a series of system commands (like launching a KVM instance) to carry them out while updating state in the database through nova-conductor.

Quantum OVS-Agent

- Open vSwitch is a virtual switch for hypervisors providing network connectivity to virtual machines.
- It runs on every Compute Node.