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Benefits of Standard Cloud Interfaces for OpenNebula

Constantino Vázquez Blanco

dsa-research.org

Distributed Systems Architecture Research Group
Universidad Complutense de Madrid

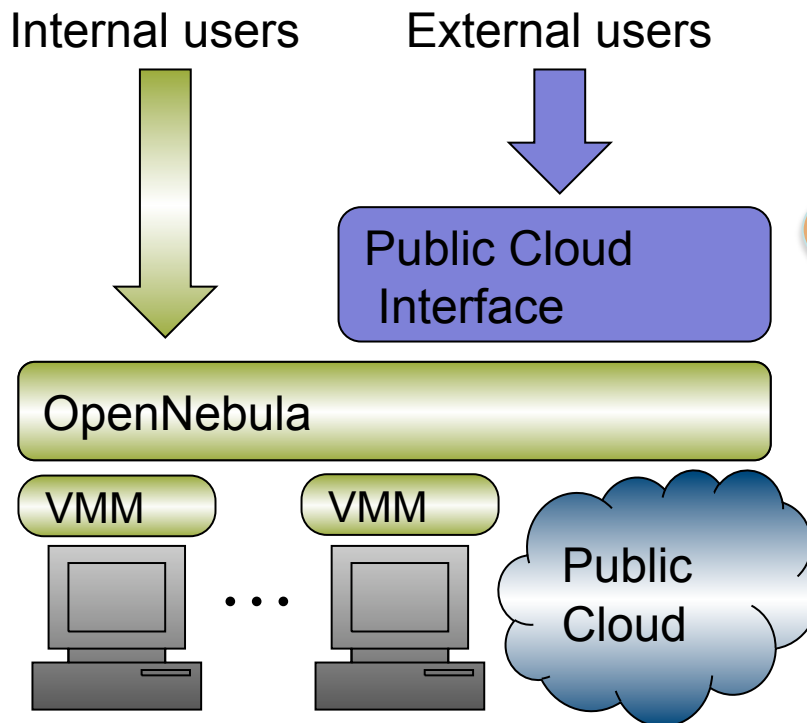


What is OpenNebula?

Benefits of Standard Cloud Interfaces for OpenNebula

Extending the Benefits of Virtualization to “Distributed Infrastructures”

- Dynamic deployment and re-placement of virtual machines on a pool of physical resources
- Transform a rigid distributed physical infrastructure into a flexible and agile virtual infrastructure



• Public Cloud: Remote interfaces to private clouds

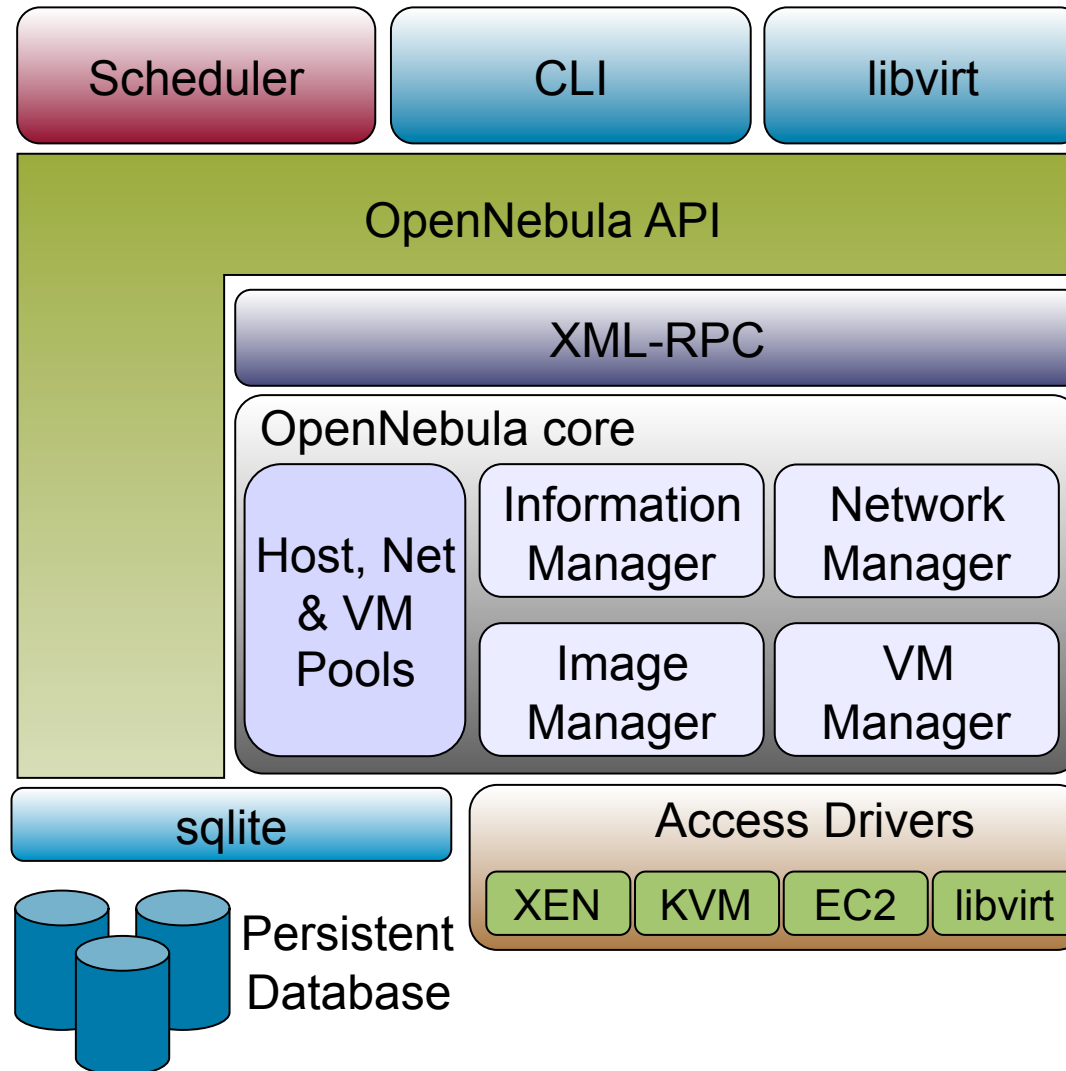
• Private Cloud: Virtualization of cluster or data-center for internal users

• Hybrid Cloud: On-demand access to public clouds



Open and Flexible Architecture

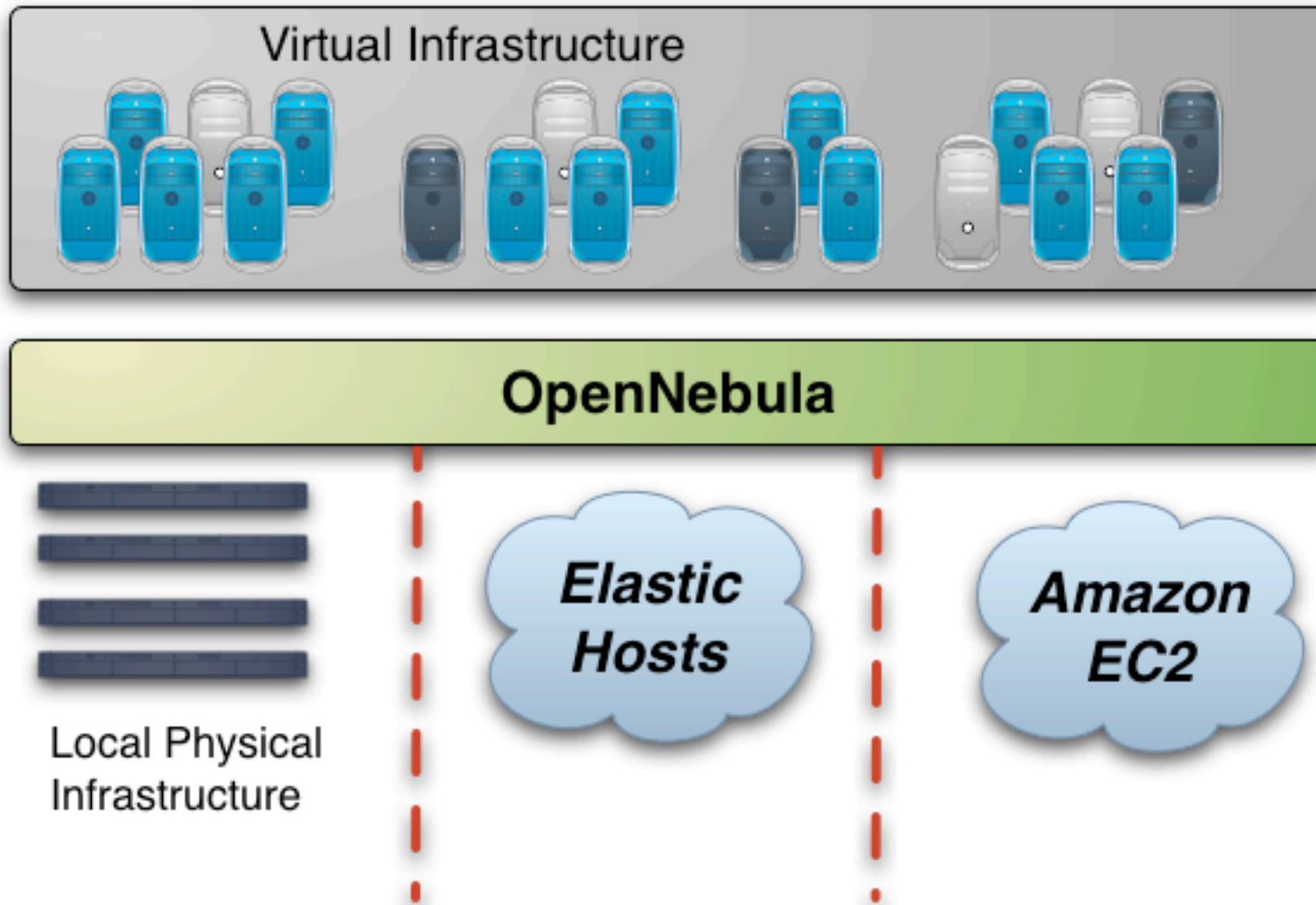
Benefits of Standard Cloud Interfaces for OpenNebula



Cloud Interoperation

Benefits of Standard Cloud Interfaces for OpenNebula

Service running on geographically distributed resources





How do we achieve Interoperation

Benefits of Standard Cloud Interfaces for OpenNebula

Common template

- Richer attributes for local deployment
- Specific section for each cloud provider with limited attributes

Image Management

- Need to preregister images in S3 / Drives API
- Checkpointing not allowed: no migration
- Different possibilities: EC2 1 image, EH multiple

Network Management

- Local VMs = total control
- EC2, EH = public IPs
 - SGE Use Case: Need to set up VPN

How do we achieve interoperability

Benefits of Standard Cloud Interfaces for OpenNebula

Mapping of VM life-cycle commands

OpenNebula	Amazon EC2	ElasticHosts Server API
create	ec2-run-instances	/servers/create
shutdown	ec2-terminate-instances	/servers/ SERVER/shutdown
cancel	ec2-terminate-instances	/servers/SERVER/ destroy
save	N/A	N/A
restore	N/A	N/A
migrate	N/A	N/A
poll	ec2-describe-instances	/servers/ SERVER/info

Conclusions

Benefits of Standard Cloud Interfaces for OpenNebula

Benefits of OCCI WG for OpenNebula

Public Cloud

- Integration with the emerging ecosystem that will be created around OCCI WG
- Reference implementation on top of OpenNebula (in the context of RESERVOIR)

Hybrid Clouds

- Single interface to access different providers
- Develop a plug-in to access OCCI
 - will provide access to all standard compliant clouds



The OpenNebula VM Manager

THANK YOU FOR YOUR ATTENTION!!!
More info, downloads, mailing lists at
www.OpenNebula.org

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www.reservoir-fp7.eu/

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