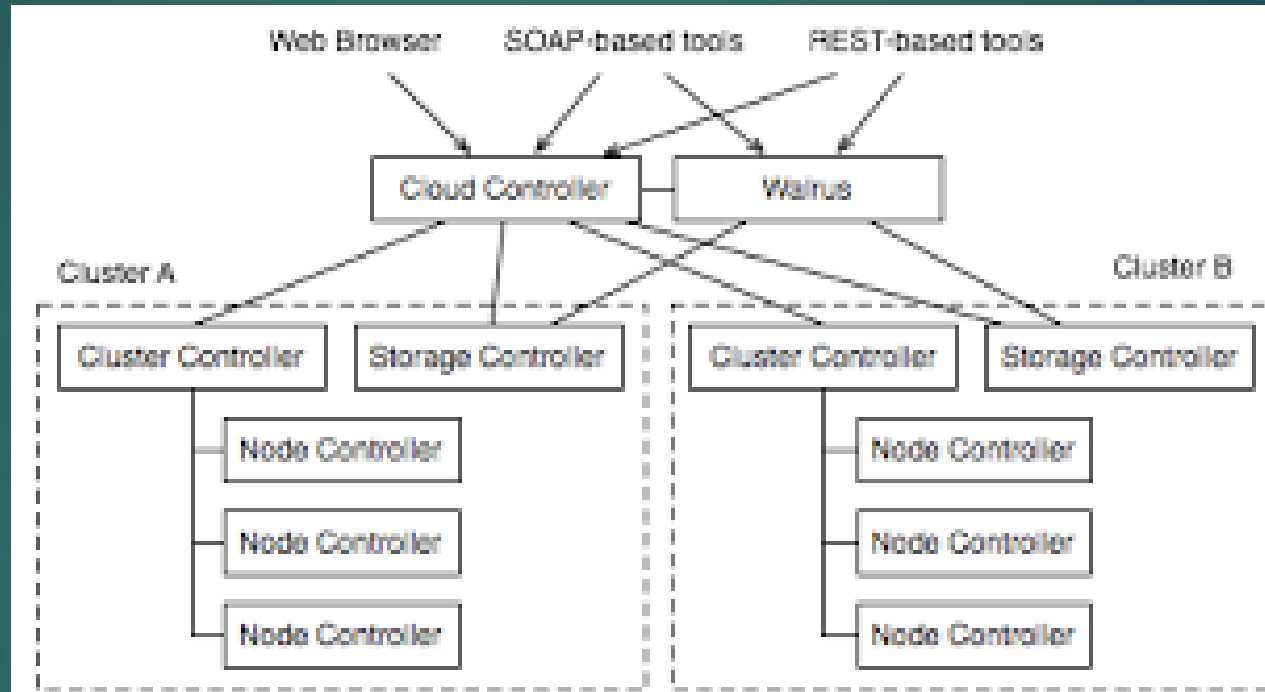


Private Cloud Architecture

Eucalyptus Architecture



- If the customer wants to use private cloud, they must pay. After that they can choose any one of the private cloud architecture which is already deployed.
- This is open source Linux based cloud architecture.
- SOAP- Open source cross platform API testing tools.
- REST- Open source tools (Java Domain)

Eucalyptus Architecture Components

- As a user , we don't want to know about what actually happens inside the cluster.
 - A request needs to be sent to cloud provider,
 - Choose an architecture and send the request
- A request have to be handled by the vendor.
- Cloud Controller -font end- every mode have its own applications.
- While computing the data, it must be stored somewhere, thus SC is used.
- WALRUS- A system technique to store the snapshot or image of the system and store it. It is based on S3 and EC2.
- Each node controller will perform the task and compiled task is taken care by cluster controller.












Eucalyptus Architecture Components

- It is a Linux based software architecture with EC2 and S3 platform.
- It also provides high performance computing (Hs PC)
- CC- cluster controller manages one or more NC, communicate NC and CLC simultaneously. It also manages networking.
- CLC- front end for entire ecosystem
- Amazon EC2/S3 provides web services to client tools on one side and interacts with rest of the components on the other.
- NC- life cycles of instances running on each nodes.
- Interact with OS, hypervisor and cc simultaneously.
- WALRUS Storage- simple file storage system.
- WS3 stores machine image and snap shots. Store and Serve files using S3 APIs.
- SC- Allows creation of snapshot of volume for storing purpose, for each and every instances.

Infrastructure as a Service

OpenNebula

Types of Cloud Services

	What	Who
Software as a Service	On-demand access to any application	End-user (does not care about hw or sw)
		  
	Platform for building and delivering web applications	Developer (no managing of the underlying hw & sw layers)
		  Windows Azure  force.com <small>platform as a service</small>
Service	Raw computer infrastructure	System Administrator (complete management of the computer infrastructure)
 Physical Infrastructure		   

Types of Cloud Deployments

Public Cloud

- Simple Web Interface
- Raw *Infrastructure* Resources
- Pay-as-you-go (On-demand access)
- Elastic & “*infinite*” Capacity



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Private Cloud

A “Public Cloud behind the firewall”

- Simplify internal operations
- Dynamic allocation of resources
- Higher utilization & operational savings
- Security concerns

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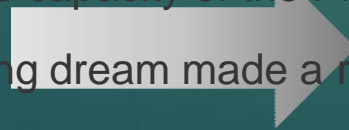
Private Cloud

▶ A “Public Cloud behind the firewall”

- ◀ Simplify internal operations
- ◀ Dynamic allocation of resources
- ◀ Higher utilization & operational savings
- ◀ Security concerns

Hybrid Cloud

- Supplement the capacity of the Private Cloud
- Utility Computing dream made a reality!



Infrastructure as a Service

OpenNebula

Types of Cloud Deployments

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OpenNebula

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The OpenNebula Model

An Enterprise-ready Open-source Platform to Manage Cloud Data Centers

- **Adaptable**: Integration capabilities to fit into any data center
- **Enterprise-ready**: Upgrade process and commercial support
- **No Lock-in**: Broad infrastructure and platform independent
- **Light**: Efficient & simple
- **Proven**: Rigorously tested, mature and widely used
- **Powerful**: Advanced features for virtualized
- **Scalable**: single instance & multi-tier architectures
- Be **interoperable**! rich set of API's & Interfaces
- **Open Source**: Apache License v2