**Nimbus**

* Nimbus is free and open source software, provides an “infrastructure as a service”. It supports both the hypervisors Xen and KVM and virtual machine schedulers.

How to deploy Nimbus?

* The main way to deploy nimbus is the “cloudkit” configuration.
* This involves hosting a service and creating an image repository for clients to have their own personal image directory.

Why open source IaaS?

**Experiment and use:** make your own cloud or configure a private cloud

**Customize:** try new things, make the IaaS paradigm work for your application domain

**Main components of Nimbus**

* Workspace service manager-it provides messaging space for the users and manages the messaging system.
* WSRF-this is a protocol implementation use by previous services and client.
* Nimbus platform tools
* Cloudinit.d-cloudinit.d is a tool for launching, controlling and monitoring cloud applications.

**Features**

1. Cloud computing infrastructure

* WSRF and EC2 interfaces
* Xen implementation (KVM in preparation for release)
* Launches flexibly defined groups of VMs and configures their networking can be configured to use familiar schedulers like PBS and SGE to manage VMs
* The workspace pilot
* Launches self-configuring virtual clusters
* The context broker

1. Defines an extensible architecture

* And has been extended by various projects

**To achieve this we focus on three goals:**

* **Enable providers of resources to build private or community IaaS clouds**. - The[Nimbus Workspace Service](http://www.nimbusproject.org/docs/current/faq.html#workspace-service) provides an implementation of a compute cloud allowing users to lease computational resources by deploying virtual machines (VMs) on those resources.
* A complementary tool, [Cumulus](http://www.nimbusproject.org/docs/2.6/faq.html#cumulus), provides an implementation of a quota-based storage cloud.
* Cumulus is designed for scalability and allows providers to configure multiple storage cloud implementations.
* **Enable users to use IaaS clouds**. - An example of a tool in this area is the [Nimbus Context Broker](http://www.nimbusproject.org/docs/2.6/faq.html#ctxbroker), which creates a common configuration and security context across resources provisioned from potentially multiple clouds.
* Nimbus also offers scaling tools allowing users to automatically scale across multiple distributed providers. We call these tools "sky computing tools" as they often operate in a multi-cloud environment combining private and public cloud capabilities.
* **Enable developers to extend, experiment and customize IaaS**. - To achieve this goal we provide a high-quality, highly configurable and extensible [open source implementation](https://github.com/nimbusproject/nimbus).
* For example, the Workspace Service can be configured to support different virtualization implementations (Xen or KVM), [resource management options (including schedulers such as PBS)](http://www.nimbusproject.org/docs/current/faq.html#wpilot), [interfaces (including compatibility with Amazon EC2)](http://www.nimbusproject.org/docs/current/faq.html#wsrf-frontend), and many other options.
* Nimbus components are regularly acceptance tested which allows developers to easily extend them. Over time, the project has attracted [a community of open source contributors and committers](http://www.nimbusproject.org/about/people/).