TESTIMONIALS

"Cloud in a Box" offers ready to use standard infrastructure for empowering and educating next generation software engineers with skills in Cloud application programming using Aneka and conducting advance research in powering emerging BigData and Internet of Things (IoT) applications.

Dr. Rajkumar Buyya

Dr. Rajkumar Buyya is a Redmond Barry Distinguished Professor and Director of the Cloud Computing and Distributed Systems (CLOUDS) Laboratory at the University of Melbourne, Australia. He is also serving as the founding CEO of Manjrasoft Pty Ltd., a spin-off company of the University

"We have setup the Private Cloud by using "PDCloud in a Box" which offers Hands on Lab practice for IaaS & PaaS and also for carrying out the Research & Development for our Students & Faculty

HOD, IT

GMR Institute of Technology Rajam, Andhra pradesh

Cloud in a Box -

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Lab orientation on Cloud Computing with

Do It Your self (DIY) Private, Hybrid and Public Cloud

Adapting open source Cloud Computing in Academics and Teaching

PRODEVANS

PRODEVANS's CLOUD IN A BOX – PDCloudEx

INNOVATION
for the Future

OPEN SOURCE CLOUD SOLUTION SPECIALLY CRAFTED FOR EDUCATIONAL INSTITUTIONS !

Cloud based IT Infrastructure deployed on Campus to give students the exposure to cutting edge technologies. Makes then Industry ready.

- Access to all DevOps ready apps for real time experience on Software Development & infrastructure operations.
- Leverage the cloud set up for academic projects
- BigData, Data Science, AI, Machine Learning, IoT
- Workshop on OpenStack, PaaS & SaaS
- Aneka: PaaS for Cloud Based Application Development
- Scalable Dingle Multinode Infrastructure Setup
- Demonstrations on Cloud Technology
- Instruction on OpenSource CL 110
- Document Management System for Projects

OpenStack based Cloud Insights on Cloud Computing through RedHat OpenStack - a world leader in OpenSource Technologies

"Cloud in a Box Course Outline"

- Review of Cloud Computing Landscape
- Deep dive into IaaS, PaaS & SaaS
- OpenStack architecture & use cases
- PaaS - Aneka, Hadoop Big Data, Containers, DevOps
- Changing landscape of Clould Technologies
- Software Defined Network (SDN) & Software.
- Launching an OpenStack Instance
- Managing images, flavours and private networks
- Preparing & Deploying an Internal Instance
- Managing Ephemeral & Block Storage
- Managing Object Storage
- Managing External Networks and Storage
- Preparing & Deploying an External Instance
- Customizing an Instance with Cloud init
- Deploying Scalable Stacks & Configuring for Auto Scaling
- Installation of OpenStack PoC using PackStack

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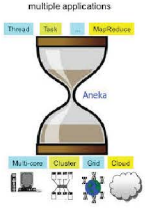
GOLD

IaaS+PaaS+SaaS (OpenStack+Aneka+BigData)

openstack.

HARDWARE : Rackmountable 3 SERVERS IaaS

- 2* XEON Processors (Hexa Core or above)
- 128GB RAM or above
- 6TB SATA Hard disk Drives (Or) 6TB SAS Hard disk Drives (To be configured on RAID)
- Monitor/KBD/Mouse
- OpenStack
- No Operating System



PaaS – Aneka Computing Platform (Optional)

Aneka Cloud Computing Software on Windows VMs with .NET
(Windows OS to be provided by customer)

Big Data, Hadoop, Data Science, Machine Language, R & NoSQL VM with Hadoop, Hbase, Hive, Elastic Search, Kibana, Cassandra, Spark, R Studio & Preloaded Datasets

Pre configured VM with Hadoop/Hbase/Hive/ Elastic search Kibana/Cassandra/SPARK, R Studio and Pre Loaded data sets for Machine Learning using R.

TRAINING (10 DAYS ONSITE)
4 Days Openstack+3 Days Aneka Cloud+3 Days On Big Data/Data Science

OPTIONAL: 8TB NAS (NETWORK ATTACHED STORAGE)

QNAP 4-Bay NAS Quad core 1.7GHz, 2GB DDR3,1x 10GbE SFP+ LAN, 2x GbE LAN, with 4Nos x 2TB 7.2K RPM drives bundled (~8TB RAW storage, ~5TB usable storage after RAID-5 config) 2 years warranty.

Note – Computing cores, RAM and disk storage can be increasedas per the customer requirement.

OpenStack Platform delivers Infrastructure-as- a-Service (IaaS) capabilities, fulfills demands of a prodution-scale environment and meets the required performance, scalability, and security objectives.

KEY BENEFITS

Ease of Management

Live VM management for resizing, run, reboot and terminating instance

Accelerated Provisioning

Template based faster provisioning with Glance image services include discovering, registering, and retrieving virtual machine images

Flexibility

Ability to ramp-up / ramp-down virtual machines in minutes; thus efficiently managing peak work-loads

Cost

Template based faster Reduced TCO and tighter IT spend control with centralized view of billing, metering and chargeback

Agility

Ability to provision and deploy virtualized resources more quickly and, once deployed adjust as needed.

Secure

Enforce policies for Infrastructure, container hosts and mark the non-compliant nodes/hosts

Adaptability

Distributed and asynchronous architecture for High Availability (HA) and system scalability

Capacity Utilization

Quota based capacity , resource utilization with predictable projections

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WHAT **WE DELIVER**

IaaS

Combines integrated Red Hat technologies that lets you build and manage an Open, Private Infrastructure-as-a-Service (IaaS) - at a much lower cost than alternatives.

- VM Provisioning
- Windows
- Networking
- Linux
- Cinder
- Image Service

CMP

- Self Service Portal
- Capacity & Utilization
- VM/Instance Provision
- Chargeback
- Integrate Cloud, Infrastructure, and Containers
- Service Catalog
- Smart State Analysis
- Remote Console

PaaS

Cloud Platform that automates the hosting, configuration, deployment, and administration of application stacks in an elastic cloud environment.

Aneka Cloud Application (CAP) development platform for building software applications in Private/Public/Hybrid Clouds, based on Thread, Task and MapReduce models.
(Optional)

Apache Hadoop custom built Big Data Environment. VM for Analytics & Data Science (Optional)

Software Defined Storage

Gluster - a Software Defined Storage (SDS) platform for handling high performance tasks of Analytics & Virtualisation
Object Storage - Management of data as Data Objects for unstructured storage
Ceph - Object Storage for exponential data growth that brings in scalability & flexibility

Object Storage - management of data as data objects in contrast to other storage architectures like filesystems. Object Storage systems allows the storage of unstructured data.

Ceph is a web-scale Object storage, having software-defined architecture that provides ability to manage exponential data growth efficiently, flexibly, and automatically.

Database-as-a-Service (DbaaS)

OpenStack Database-as- a-Service (Trove) allows users to utilize the features of a relational and non-relational database engines. It automates administrative tasks such as deployment, configuration, patching, backups, restoration and monitoring

CloudForms

CloudForms is a complete Cloud Management Portal (CMP) that provide capabilities such as Multitenancy, Proactive capacity planning, Compliance and policies, Cloud-bursting, Analytics, Container management among others.

SILVER

IaaS + PaaS (OpenStack+Aneka)

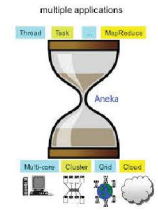
openstack®

Hardware: Rack mountable 2 Servers IaaS

- 2x Intel xeon processor Hexa core
- 128GB RAM
- 6TB SATA/SAS Hard disk drives with RAID
- Display monitor and necessary peripherals
- OpenStack

PaaS – Aneka Computing Platform (Optional)

Aneka Cloud Computing Software on Windows VMs with .NET



TRAINING: 7 Days Onsite Training

- **Hands On Training for 4 Days On OpenStack**
- **3 Days Hands On Aneka Cloud**

Day 1: Overview of aneka container architecture , deployment models of Aneka PaaS and Deployment on public clouds using AWS.

Day 2 : Fundamentals of parallel and distributed computing, Overview on Aneka Thread programming model; Developing Cloud Applications using Aneka Threads like Mandelbrot, Image processing and Aneka Multithreads.

Day 3: Fundamentals of Aneka Task Programming, Developing applications using Aneka Task Programming like convolution, etc; Parameter sweep application development; Fundamentals of Aneka map Reduce; Developing data intensive applications using Aneka Map Reduce; Demonstration of Dynamic provisioning – Hybrid Cloud deployment.

OPTIONAL: 8TB NAS (NETWORK ATTACHED STORAGE)

QNAP 4-Bay NAS Quad core 1.7GHz, 2GB DDR3,1x 10GbE SFP+ LAN, 2x
GbE LAN, with 4Nos x 2TB 7.2K RPM drives bundled (~8TB RAW storage,
~5TB usable storage after RAID-5 config) 2 years warranty

Note – Computing cores, RAM and disk storage can be increased as per the customer requirement.

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BRONZE

openstack®

IaaS
(OpenStack)

HARDWARE

Rack mountable One Server IaaS

- 2x Intel xeon processor Hexa core
- 128GB RAM
- 6TB SATA/SAS Hard disk drives with RAID
- Display monitor and necessary peripherals
- OpenStack

TRAINING

4 Days Onsite Hands On Openstack Training

WARRANTY

3 Years Hardware warranty by respective OEMS HP/DELL/Lenovo/Acer &
1 Year remote support for Openstack.

OPTIONAL: 8TB NAS (NETWORK ATTACHED STORAGE)

QNAP 4-Bay NAS Quad core 1.7GHz, 2GB DDR3,1x 10GbE SFP+ LAN, 2x GbE 10/100/1000 Mbps LAN, with 4Nos x 2TB 7.2K RPM drives bundled (~8TB RAW storage, ~5TB usable storage after RAID-5 config) 2 years warranty.

Note – Computing cores, RAM and disk storage can be increased as per the customer requirement.

OUR SERVICES

On demand Self Provisioned computing resources for project & research activities
Transform the existing lab infrastructure into Cloud Computing that delivers tools & technologies as Services. No more installations on individual servers

OpenStack based Private Cloud Deployment
Initial Set up with one server that can be scaled up or down on demand
Add Computing resources as and when required
Deployment on Linux & Windows

"WE LIKED OPENSTACK'S FLEXIBILITY AND MODULAR ARCHITECTURE WHICH CLOSELY MATCHED OUR NEED TO DELIVER FREEDOM OF CHOICE TO CUSTOMER" – P. V. Aneesh, Head T&D, COSS India

LEARNING PATH

Deep Dive into Cloud Computing Architecture aligned towards IaaS
OpenStack Installation set up with its components: Compute, Network & Storage
In depth coverage of Infrastructure Services & OpenStack Dashboards
Review of Virtualization layers such as KVM, XEN, VMWARE
Review of Virtualization Formats such as QC02, XVA, OVF
Creation of VM Instances in OpenStack using QCOW2 images

At the end of the course students should be able to

- **Understand Virtualization Concepts**
- **Understand Virtualization Formats**
- **Understand Virtual Machine Management through OpenStack**

SCOPE :
STUDENTS ARE ABLE TO UNDERSTAND VIRTUALIZATION TECHNOLOGIES, FORMATS SUPPORTED AND VIRTUAL MACHINES MANAGEMENT THROUGH OPENSTACK.

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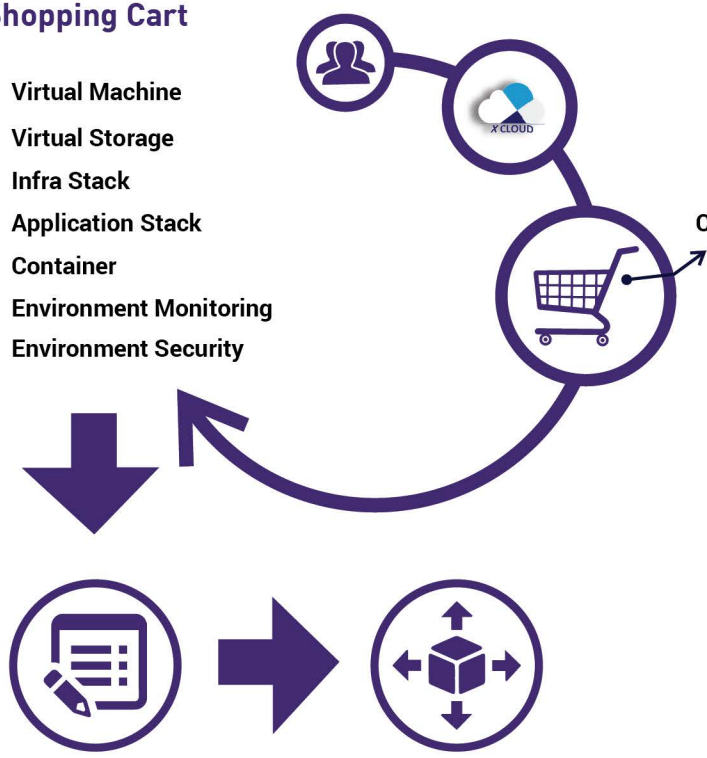
PDCloudEx ARCHITECTURE

User Selects one or more items into the Shopping Cart

- Virtual Machine
- Virtual Storage
- Infra Stack
- Application Stack
- Container
- Environment Monitoring
- Environment Security



Service Delivered

User Customisation

Backend

ManageIQ · openstack. · ANSIBLE · heat · X CLOUD · RAILS · mongoDB · GLUSTER · OPENSHIFT origin · Nextcloud · EasyIoT Cloud · Manjrasoft

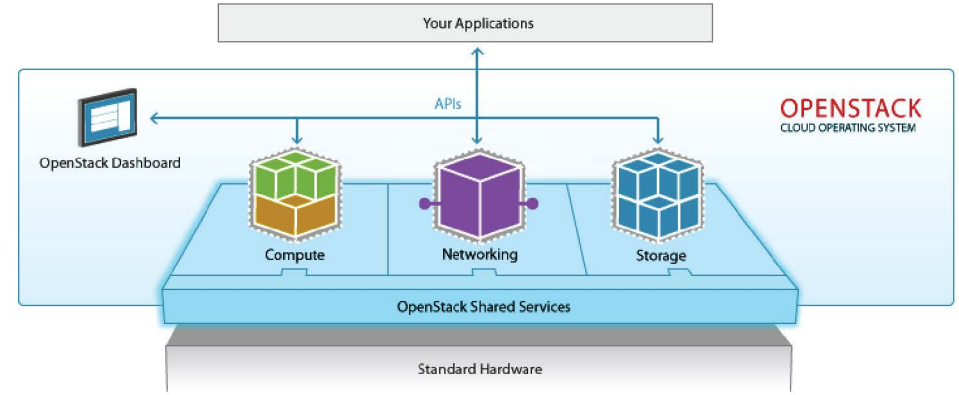
PDCloudEx

Cloud in Box

Pre Configured private cloud platform on OpenStack for Compute, Network & Storage.

Integrated with Hadoop on a Single Compute Box.

Especially crafted for Academic needs at a price that institutions can afford!



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