

Acknowledgements

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CloudSim

- Motivation
 - provides a generalized and extensible simulation framework that enables modeling, simulation, and experimentation of emerging Cloud computing infrastructures and application services
- CloudSim is developed in the CLOUDS Laboratory, at the Computer Science and Software Engineering Department of the University of Melbourne.
- CloudSim Toolkit 3.0 released at Jan 13, 2012

CloudSim Feature

- Support for modeling and simulation of large scale Cloud computing data centers
- Energy-aware computational resources
- Support for data center network topologies and message-passing applications
- Support for dynamic insertion of simulation elements, stop and resume of simulation
- Support for user-defined policies for allocation of hosts to virtual machines and policies for allocation of host resources to virtual machines

CloudSim Architecture

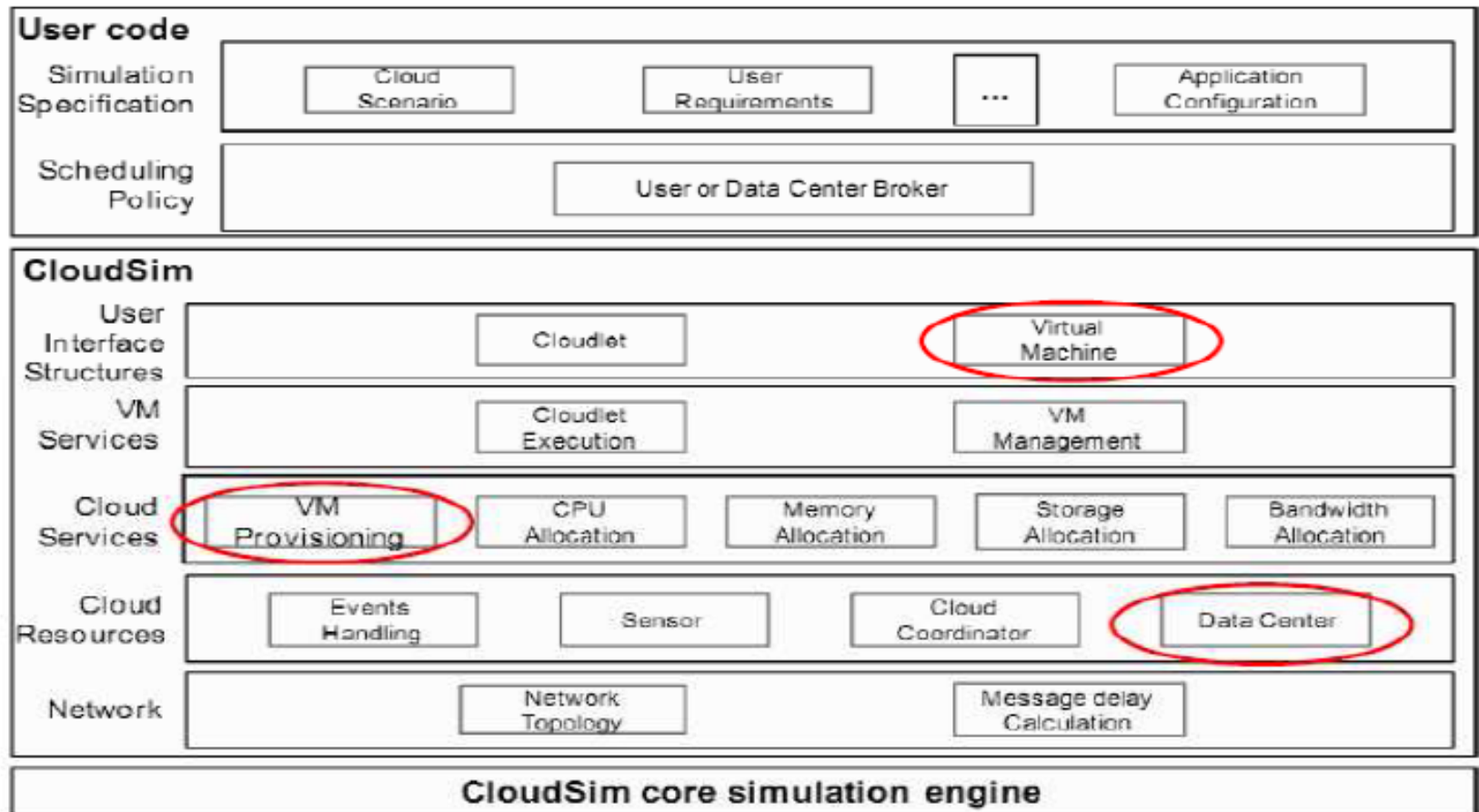


Figure 3. Layered CloudSim architecture.

Reasons for Learning CloudSim

- Cloud resource provisioning
- Energy-efficient management of data center resources
- Optimization of cloud computing
- Research activities
- Limitation: No Graphical User Interface (GUI)

Prerequisites

- We'll need at least basic understanding of how to program in Java
- We'll need some basic OOP concept

CloudSim with Eclipse

- Part 1
 - Setting up Development Environments
- Part 2
 - Use Eclipse with CloudSim
- Part 3
 - Run sample example using CloudSim

Development Environment

- Setting up Development Environments
 - Eclipse Classic
 - JDK 1.6 or later
- CloudSim tool kit

Downloads

- Java Development Kit (JDK) Download
- Eclipse IDE Download
- CloudSim Tool Kit Download

How to use Eclipse with CloudSim

- Extract Eclipse
- Extract cloudsim-3.*.*.zip
- To run Eclipse, double click eclipse.exe
- OPEN ECLIPSE -> NEW -> JAVA PROJECT
 - Write the Project Name
 - Untick the USE Default Location
 - Browse and target it to where you extracted the CloudSim-3.*
 - On JRE Select JavaSE-1.6 or JavaSE-1.7
 - Project Layout: second option
 - Click Next
 - Finally you got the RIGHT screen
 - Select Finish

Simulation Example

- CloudSimExample1.java : shows how to create a datacenter with one host and run one cloudlet on it
- CloudSimExample2.java : shows how to create a datacenter with one host and run two cloudlets on it

Run example using CloudSim

- To run simulation Select project
 - Click “Run” Menu then select “Run Configurations..”
 - Provide simulation name and select search option to choose an example.
 - Select specific example and press OK
 - Click “Apply” after select your Main class
 - Do Step4 and Step5 if you select another simulation main class for simulation
 - Click Run to simulate CloudSimExample1
 - See the Output!

THANK YOU