Software Requirements Specification
Bin-packing VM Consolidation Algorithm

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1 INTRODUCTION

1.1 Product overview

This project takes as input

- Physical machines and their capacities

- Virtual machines and their capacity requirements

It computes the residual capacity in each physical machine after adding the virtual machines. The physical machines are sorted in ascending order of their residual capacity. The project provides the feature of consolidating the virtual machines in different physical machines into minimum number of physical machines. Another feature provided by this project is to shutdown a physical system by migrating the virtual machines in that physical machine into other physical machines. This project uses greedy bin packing algorithm for this purpose.

2 SPECIFIC REQUIREMENTS

2.1 External Interface Requirements

2.1.1 User Interfaces

The GUI displays

- All the physical machines

- Virtual Machines in each physical machine

- Buttons for adding a vm, deleting a vm, for consolidation and turning off the physical machine

2.1.2 Hardware Interfaces

No specific hardware module is being used for this project

2.1.3 Software Interfaces

No specific hardware module is being used for this project

2.1.4 Communication Protocols

This project doesnt use any communication protocols

2.2   Software Product Features

- Displays the details of which vm is in which pm

- Provides the ability to add or delete a vm

- Provides the ability to switch of a physical machine by migrating all the vms in that pm to other pms.

- Provides the ability to consolidate all vms in minimum number of physical machines

Use Case Add VM