**Whale Methodology**

**Makespan** is the time when the execution of the last task is finished. It is one of the

famous metrics for performance of scheduling methods. Lower makespan depicts best

and optimal task scheduling of VMs

Whale Algorithm

WOA is a new Meta-heuristic algorithm devised by S. Mirjalili and A. Lewis [29]. it is

inspired form the natural phenomenon observed in hunting patterns of humpback whales.

Humpback whales are one of the most interesting species of the whale family. The most

interesting thing about them is their special hunting and foraging method called Bubble-net

feeding. They prey on krill or small schools of fish by creating distinctive bubble in a circu-

lar or ‘9’ shaped path after diving 10–15 m down. The WOA method is done in three steps.

1. Encircling the prey

2. Exploitation phase—Bubble-net attacking

3. Exploration phase—search for prey











