## 1 Plotting all figures

1.1

Listing 1. Cluster and Node Placement Times
Cluster and Node Placement Times (s)
services cluster—placement—time node—placement—time
light—memory 0,00 2,70
medium—memory 0,00 2,70
large—memory 0,00 2,70
mixture—memory 0,00 2,70

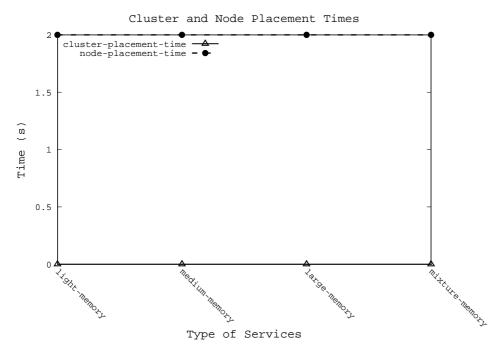


Fig. 1. Cluster and Node Placement Times

1.2

Listing 2. Cluster CPU Utilization Cluster CPU Utilization (%) clusters cluster -1 cluster -2 cluster -3 light —memory 100,00 36,20 98,40 medium—memory 100,00 35,40 98,50 large —memory 100,00 99,90 74,80 mixture—memory 100,00 38,60 97,20

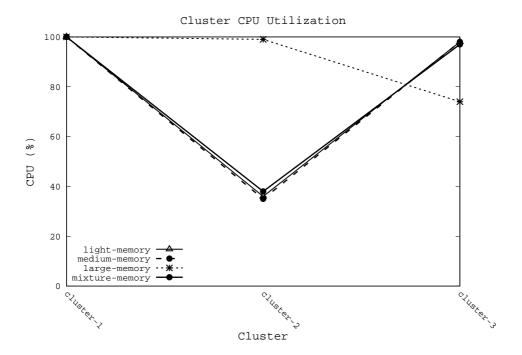


Fig. 2. Cluster CPU Utilization

1.3

Listing 3. Cluster Memory Utilization Cluster Memory Utilization (%) clusters cluster -1 cluster -2 cluster -3 light—memory 6,00 2,00 7,60 medium—memory 25,00 8,60 32,70 large—memory 100,00 100,00 100,00 mixture—memory 6,00 2,00 45,00

1.4

 $\begin{array}{c} \text{Listing 4. Cluster Node Utilization} \\ \text{Cluster Node Utilization (\%)} \\ \text{clusters cluster--1 cluster--2 cluster--3} \\ \text{light--memory } 100,00 \ 100,00 \ 100,00 \\ \text{medium--memory } 100,00 \ 100,00 \ 100,00 \\ \text{large--memory } 100,00 \ 100,00 \ 100,00 \\ \text{mixture--memory } 100,00 \ 100,00 \ 100,00 \end{array}$ 

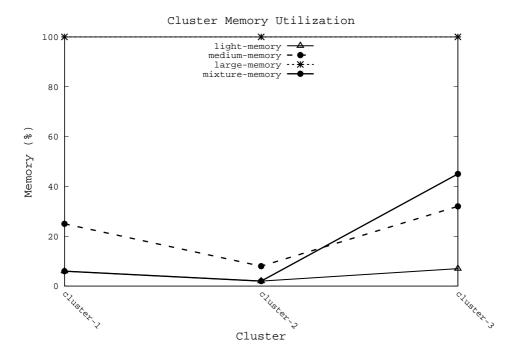


Fig. 3. Cluster Memory Utilization

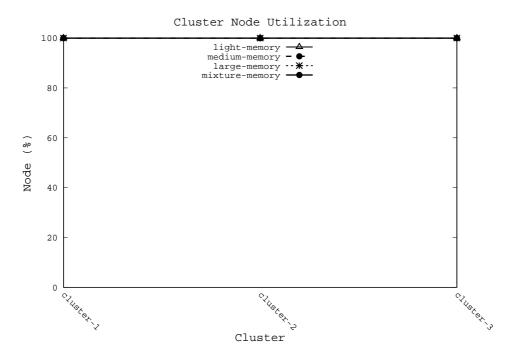


Fig. 4. Cluster Node Utilization

1.5

 $\begin{array}{c} nodes \ cluster-1-node1 \ cluster-1-node2 \ cluster-2-node1 \\ cluster-2-node2 \ cluster-2-node3 \ cluster-3-node1 \\ cluster-3-node2 \ cluster-3-node3 \ cluster-3-node4 \\ light-memory \ 100\,,00 \ \ 100\,,00 \ \ 100\,,00 \ \ 10\,,00 \ \ 0\,,00 \ \ 99\,,90 \\ 99\,,80 \ \ 100\,,00 \ \ 94\,,80 \end{array}$ 

large -memory 100,00 100,00 99,90 100,00 100,00 74,90 74,80 74,90 74,90

mixture—memory 100,00 100,00 99,80 17,50 0,00 99,90 100,00 99,70 90,80

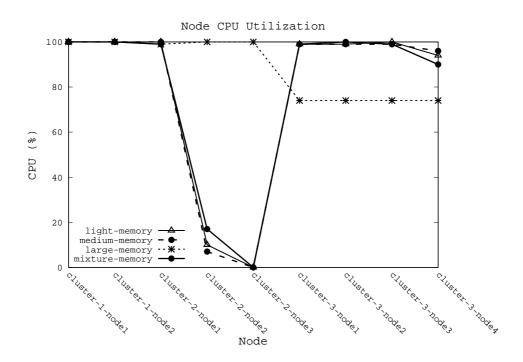


Fig. 5. Node CPU Utilization

1.6

## Listing 6. Node Memory Utilization

Node Memory Utilization (%)

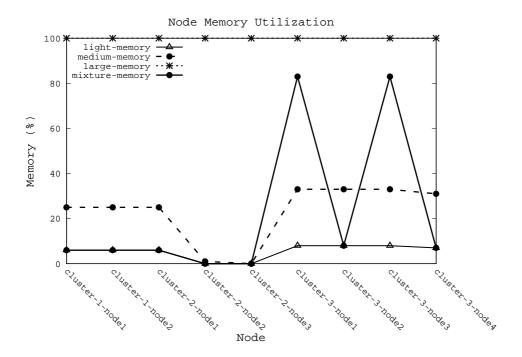


Fig. 6. Node Memory Utilization