## 1 Plotting all figures

1.1

Listing 1. Cluster and Node Placement Times Cluster and Node Placement Times (ms) replications cluster—placement—time node—placement—time replica  $-1\ 0.00\ 0.00$  replicas  $-5\ 0.00\ 4.00$  replicas  $-10\ 0.00\ 8.00$ 

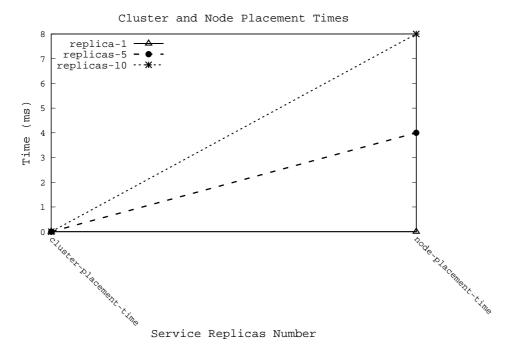


Fig. 1. Cluster and Node Placement Times

1.2

 $\begin{array}{c} \text{Listing 2. Cluster CPU Utilization} \\ \text{Cluster CPU Utilization (\%)} \\ \text{replications cluster-1 cluster-2 cluster-3} \\ \text{replica-1 } 21.00 \ 0.00 \ 0.00 \\ \text{replicas-5 } 96.00 \ 0.00 \ 12.00 \\ \text{replicas-10 } 93.00 \ 25.00 \ 99.00 \end{array}$ 

## Cluster CPU Utilization

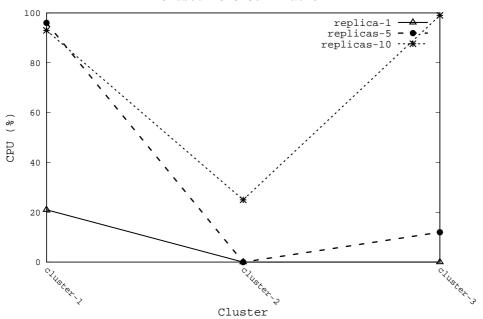


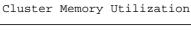
Fig. 2. Cluster CPU Utilization

1.3

 $\begin{array}{c} \text{Listing 3. Cluster Memory Utilization} \\ \text{Cluster Memory Utilization (\%)} \\ \text{replications cluster--1 cluster--2 cluster--3} \\ \text{replica--1 } 3.00 \ 0.00 \ 0.00 \\ \text{replicas--5 } 17.00 \ 0.00 \ 0.00 \\ \text{replicas--10 } 34.00 \ 0.00 \ 0.00 \end{array}$ 

1.4

 $\begin{array}{c} {\rm Listing\ 4.\ Cluster\ Node\ Utilization} \\ {\rm Cluster\ Node\ Utilization\ (\%)} \\ {\rm replications\ cluster-1\ cluster-2\ cluster-3} \\ {\rm replica-1\ 100.00\ 0.00\ 0.00} \\ {\rm replicas-5\ 100.00\ 0.00\ 50.00} \\ {\rm replicas-10\ 100.00\ 50.00\ 100.00} \end{array}$ 



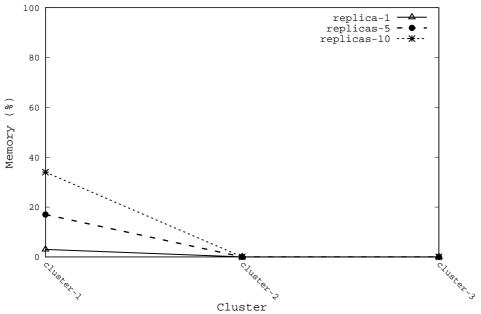


Fig. 3. Cluster Memory Utilization

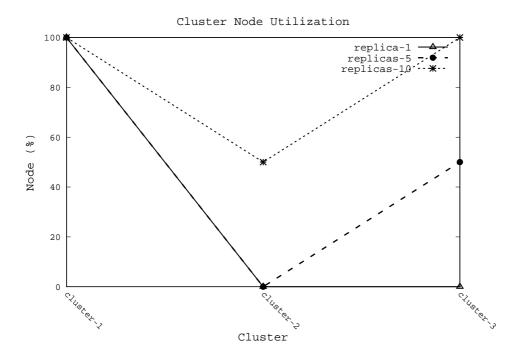


Fig. 4. Cluster Node Utilization