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 $-1\ 0.00\ 2.00$ replicas $-5\ 0.00\ 5.00$ replicas $-10\ 0.00\ 10.00$

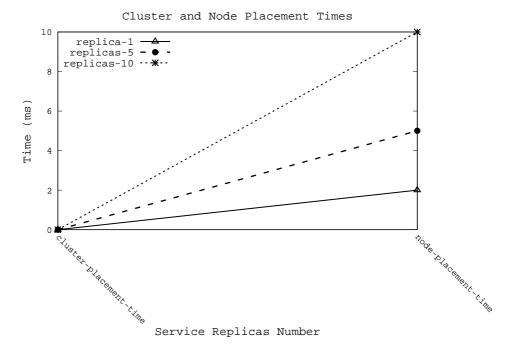


Fig. 1. Cluster and Node Placement Times

1.2

 $\begin{array}{c} \text{Listing 2. Cluster CPU Utilization} \\ \text{Cluster CPU Utilization (\%)} \\ \text{replications cluster-1 cluster-2 cluster-3} \\ \text{replica-1 21.00 0.00 0.00} \\ \text{replicas-5 31.00 0.00 0.00} \\ \text{replicas-10 42.00 0.00 0.00} \end{array}$

Cluster CPU Utilization

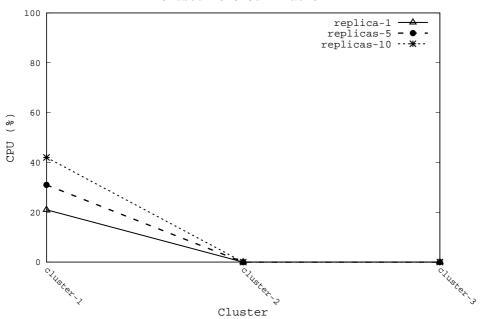


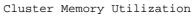
Fig. 2. Cluster CPU Utilization

1.3

 $\begin{array}{c} \text{Listing 3. Cluster Memory Utilization} \\ \text{Cluster Memory Utilization (\%)} \\ \text{replications cluster--1 cluster--2 cluster--3} \\ \text{replica--1 } 3.00 \ 0.00 \ 0.00 \\ \text{replicas--5 } 10.00 \ 0.00 \ 0.00 \\ \text{replicas--10 } 19.00 \ 0.00 \ 0.00 \end{array}$

1.4

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



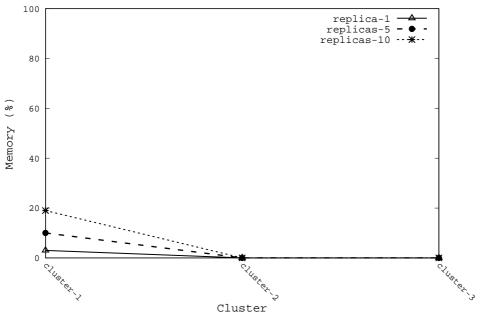


Fig. 3. Cluster Memory Utilization

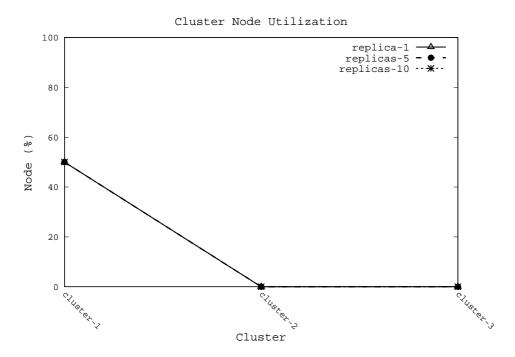


Fig. 4. Cluster Node Utilization