

# 1 Plotting all figures

## 1.1

Cluster and Node Placement Times (s)

| services    | cluster-placement-time | node-placement-time |
|-------------|------------------------|---------------------|
| light-cpu   | 0,40                   | 7,00                |
| medium-cpu  | 0,00                   | 2,60                |
| large-cpu   | 0,00                   | 1,50                |
| mixture-cpu | 0,20                   | 4,00                |

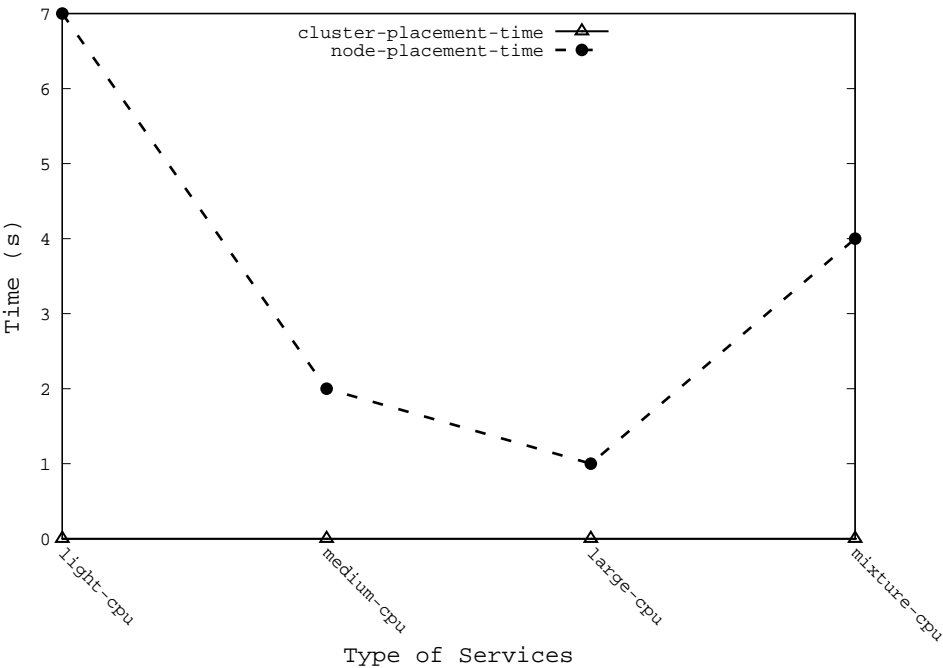


Fig. 1.

## 1.2

Cluster CPU Utilization (%)

| clusters    | cluster-1 | cluster-2 | cluster-3 |
|-------------|-----------|-----------|-----------|
| light-cpu   | 99,80     | 0,00      | 30,00     |
| medium-cpu  | 100,00    | 38,60     | 97,10     |
| large-cpu   | 100,00    | 36,40     | 98,40     |
| mixture-cpu | 99,90     | 41,00     | 98,00     |

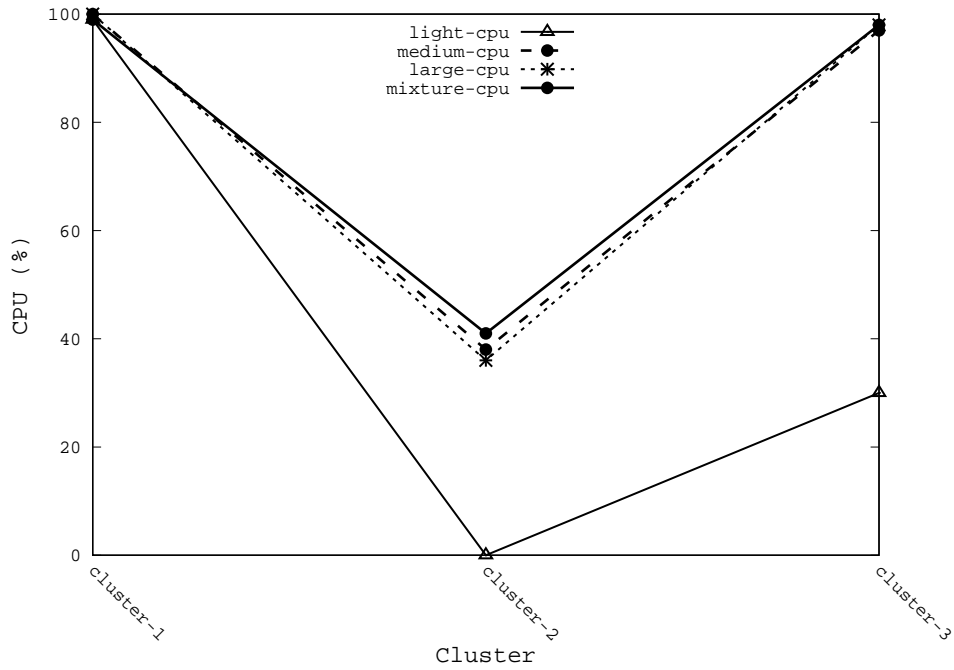


Fig. 2.

### 1.3

| Cluster Memory Utilization (%) |           |           |           |
|--------------------------------|-----------|-----------|-----------|
| clusters                       | cluster-1 | cluster-2 | cluster-3 |
| light-cpu                      | 12,00     | 0,00      | 3,00      |
| medium-cpu                     | 1,00      | 0,00      | 1,00      |
| large-cpu                      | 0,00      | 0,00      | 0,00      |
| mixture-cpu                    | 9,00      | 0,00      | 1,00      |

### 1.4

| Cluster Node Utilization (%) |           |           |           |
|------------------------------|-----------|-----------|-----------|
| clusters                     | cluster-1 | cluster-2 | cluster-3 |
| light-cpu                    | 100,00    | 0,00      | 100,00    |
| medium-cpu                   | 100,00    | 100,00    | 100,00    |
| large-cpu                    | 100,00    | 100,00    | 100,00    |
| mixture-cpu                  | 100,00    | 100,00    | 100,00    |

### 1.5

Node CPU Utilization (%)

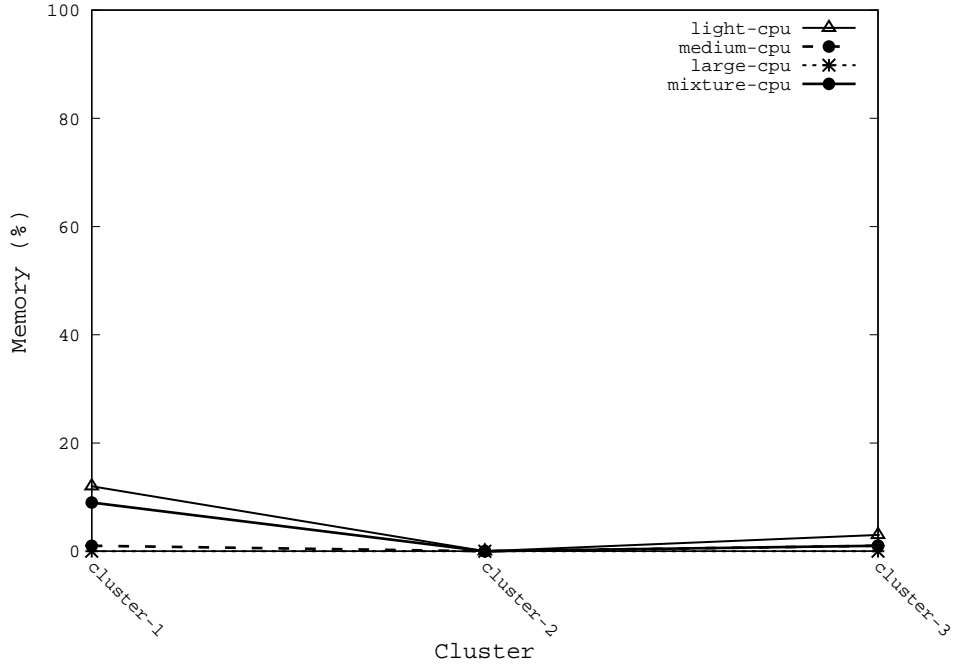


Fig. 3.

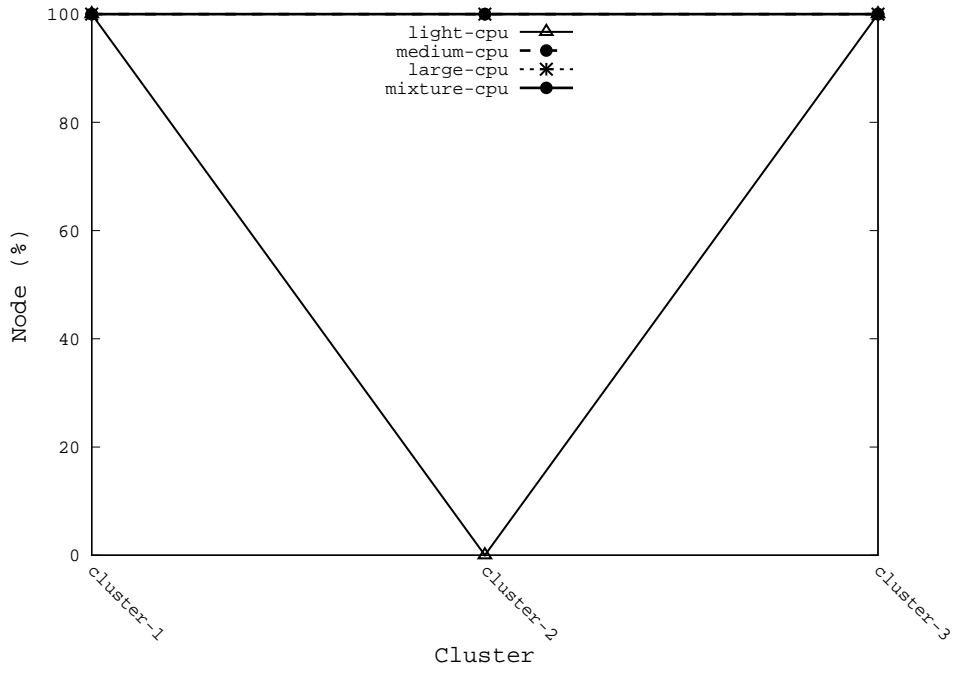


Fig. 4.

| 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-cpu | 99,80           | 99,90           | 0,00            | 0,00            | 0,00            | 35,00           | 85,00           | 0,00            | 0,00            |

|             |        |        |        |       |      |       |       |
|-------------|--------|--------|--------|-------|------|-------|-------|
| medium-cpu  | 100,00 | 100,00 | 100,00 | 17,50 | 0,00 | 99,70 | 99,70 |
|             | 99,60  | 90,90  |        |       |      |       |       |
| large-cpu   | 100,00 | 100,00 | 99,90  | 10,00 | 0,00 | 99,90 | 99,90 |
|             | 99,90  | 94,80  |        |       |      |       |       |
| mixture-cpu | 99,90  | 100,00 | 100,00 | 25,00 | 0,00 | 99,80 | 99,90 |
|             | 93,00  | 100,00 |        |       |      |       |       |

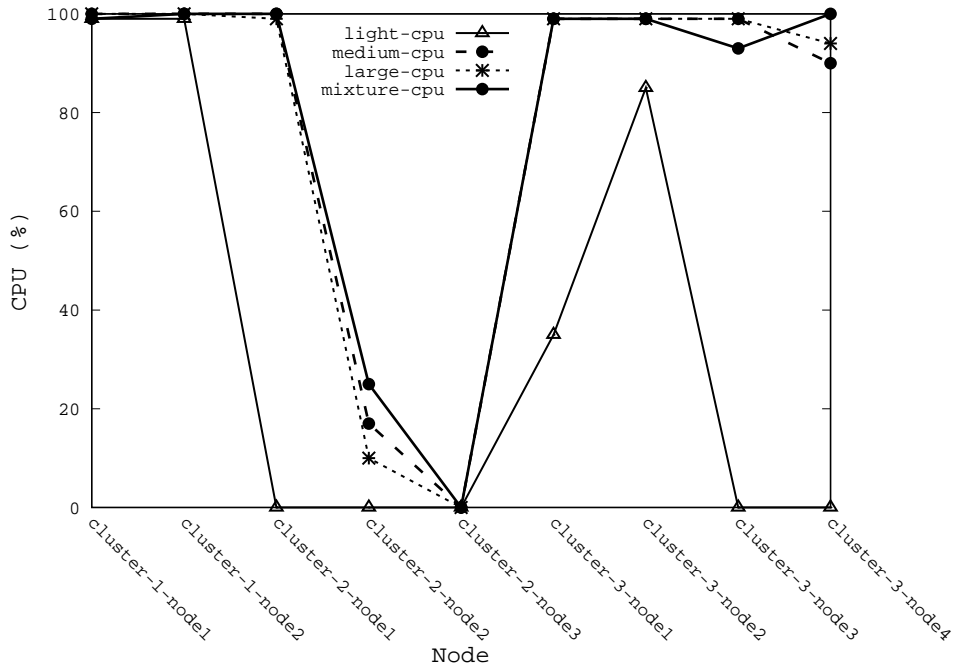


Fig. 5.

## 1.6

### Node Memory Utilization (%)

| 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-cpu   | 12,00           | 12,00           | 0,00            | 0,00            | 0,00            | 4,00            | 10,00           | 0,00            | 0,00            |
| medium-cpu  | 1,00            | 1,00            | 1,00            | 0,00            | 0,00            | 1,00            | 1,00            | 1,00            | 1,00            |
| large-cpu   | 0,00            | 0,00            | 0,00            | 0,00            | 0,00            | 0,00            | 0,00            | 0,00            | 0,00            |
| mixture-cpu | 6,00            | 12,00           | 0,00            | 0,00            | 0,00            | 0,00            | 1,00            | 3,00            | 0,00            |

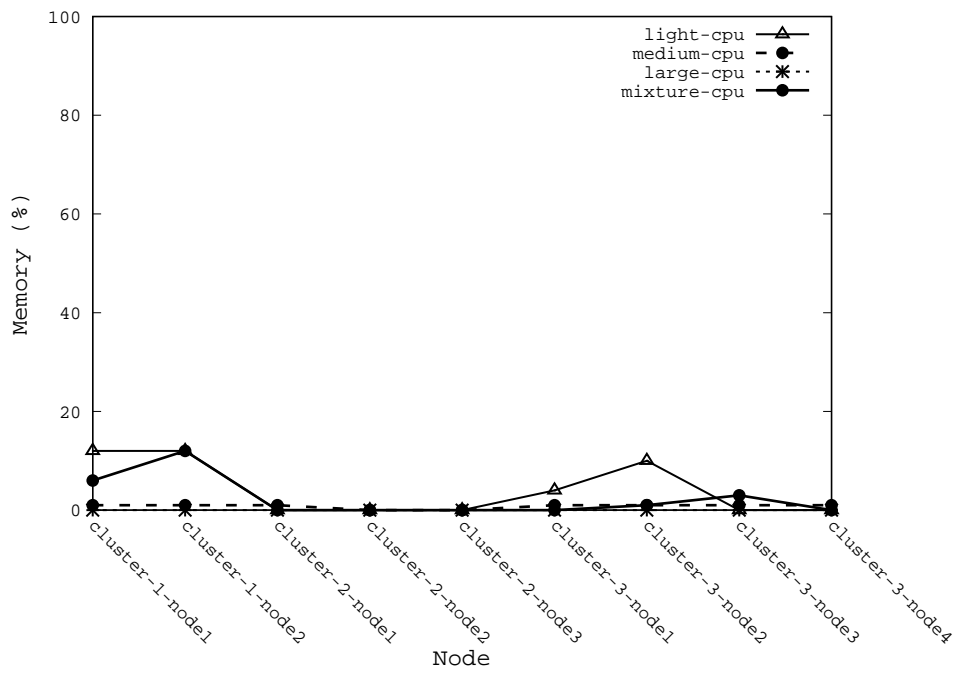


Fig. 6.