

A. Artifact Appendix

A.1 Abstract

This artifact is intended to present the output files generated during the simulation and the scripts necessary to reproduce the figures in the paper.

A.2 Artifact check-list (meta-information)

- Algorithm: Not applied.
- Program: R and shell scripts.
- Compilation: R environment.
- Binary: Not applied.
- Data set: The input is shipped with the artifact.
- Run-time environment: Any Linux distribution with R environment. It requires additional packages installed.
- Hardware: A regular computer.
- Metrics: Throughput and response time.
- Output: Graphs presented in the paper.
- Experiments: The artifact provides the output of several simulations for memory overestimation using a disaggregated infrastructure.
- How much disk space required?: Less than ~ 1 GB
- How much time is needed to prepare workflow?: Less than ~ 30 min
- How much time is needed to complete experiments?: The artifact can finish in less than ~ 30 min
- Publicly available?: Yes
- DOI:

A.3 Description

A.3.1 A.3.1 How delivered

The artifact package can be download through this link. It includes all scripts to generate the graphs presented in the paper.

A.3.2 A.3.2 Hardware dependencies

It does not require special hardware. A modern server with standard memory capacity can be used to execute the artifact.

A.3.3 A.3.3 Software dependencies

The R scripts requires *ggplot2*, *dplyr*, *tidyr*, *tidyrverse*, *patchwork*, and *stringr* packages. As reference, the artifact was tested with R version 3.5.

A.3.4 A.3.4 Data sets

The inputs are included in the *sim_paper_res/* folder.

A.4 Installation

Extract the artifact package file and enter in the created *generate_graphs/* folder. The script *run_r_scripts.sh* executes the entire workflow, which includes decompressing, formatting the results and generating the figures.

A.5 Experiment workflow

The *run_r_scripts.sh* executes the *generate_simulation_output.sh* which will execute the following steps:

- Create the *sim_paper_out* output folder if necessary. The generated graphs will be saved in this folder.
- Extract the input data in the *sim_paper_res* folder.
- Run the *memov_simulation* and *memov_random_simulation* which will read, format and generate some graphs using the results generated by our simulations.

A.6 Evaluation and expected result

The R scripts will generate 6 graphs that will be saved in *sim_paper_out* folder.

A.7 Experiment customization

The R scripts can be customized to allow other analysis using the simulation output data.