

The SimGrid Framework for Research on Large-Scale Distributed Systems

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This workshop will provide attendees with clear perspectives on the challenges for experimental research in the area of parallel and large-scale distributed computing, and on current technology for conducting experiments with real-world testbeds, emulated testbeds, or simulated testbeds.

The first part of the workshop will present and contrast current experimental methodologies, giving attendees in-depth understanding of the scientific and technological issues at hand. The second part of the workshop will focus on simulation, giving a state of the art of current simulation technology and discussing challenges for the development of solid simulation models.

The workshop will use the SimGrid [1], [2] simulation framework as an exemplar since it implements sophisticated and validated simulation models [3], [4]. The third part of the workshop will focus on an in-depth presentation of the different simulation approaches enabled by SimGrid, each with its specific range of applications and goals.

The last part will give attendees a practical experience with the SimGrid framework. Using a simple scheduling algorithm we intend to give some insight of how useful SimGrid can be in the development life-cycle of distributed applications.

SimGrid has been used to obtain results published in over 50 research articles (to cite a few [5], [6]) and has thus emerged as one of the key tools for simulation in the area of parallel and large-scale distributed computing. Workshop attendees will have the opportunity to gain some hands-on experience with SimGrid, by witnessing step-by-step development of small simulation projects. By the end of this workshop attendees should have a clear understanding of current technology and best practice for experimental parallel large-scale distributed computing research, and in particular on the use of simulation.

REFERENCES

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