

Performance Models for Computer and Telecommunications Systems: Maximizing the Benefits

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Telecommunications systems were among the first to use modeling and analysis to improve designs. Since those early days, researchers have made many advances in the technology and tools. Performance models have been successfully applied to a variety of other computer systems design problems. When we consider the current state of the art and state of the practice, are we satisfied with the results? What areas need improvement?

We will explore these questions by first considering some of the important research issues of the past. Which have been resolved and which need further work? Have advances in technology mitigated some of the issues while exacerbating others?

Next we will consider the proactive application of performance models during system design to resolve problems before they occur. How extensive is this practice? How successful is it? What are the barriers to more widespread use and what can we do about it?

Technology transfer is the process of applying new technology to solve problems. Can we use principles of

technology transfer to enhance the transfer of performance modeling technology? If so, how? What are the important research and development issues to improve the situation?

Education is vital to maximizing the benefits of performance modeling. Most of the universities that offer performance modeling studies are represented at MASCOTS. What are the barriers to performance-related education? What is needed to broaden the exposure of students and professionals to performance modeling and its benefits?

Other MASCOTS presentations will present state of the art technical results. This one looks at the broader context and suggests other issues that must also be addressed to improve the state of the practice and maximize the benefits of the technical results. A summary of the talk will be posted to <http://www.perfeng.com/> after the conference.