

Keynote talk: Performance Management of Enterprise Applications: Are We There Yet?

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Abstract

Today's IT and Services departments are faced with a difficult and challenging task of ensuring that enterprise business-critical applications are always available and provide adequate performance. As the complexity of IT systems increases, performance analysis becomes time-consuming and labor-intensive for support teams. Automated tools for understanding application behavior, the dynamics and changes during the application life-cycle are essential for many performance analysis and debugging tasks. Application performance issues have an immediate impact on customer experience and satisfaction. Yet, such tools are not readily available to application designers and service providers. The traditional *reactive* approach is to set thresholds for observed performance metrics and raise alarms when these thresholds are violated. This approach is not always adequate and useful for understanding the application performance issues. Instead, a *pro-active* approach that is based on *continuous* application performance evaluation may assist enterprises in reducing loss of productivity by time-consuming diagnosis of essential performance changes in application performance.

We discuss the evolution of enterprise applications management that is in part driven by the evolution of data centers. In the first part of the talk, we consider performance challenges in management of the enterprise applications based on the multi-tier architecture, which became industry standard for building enterprise client-server applications. Then we highlight new performance issues related to virtualized applications in the Next Generation Data Centers. Finally, we discuss management challenges in support of timely and cost-effective analytics over "Big Data" that represent a new emerging class of enterprise applications for information management.

Bio:

Dr. Ludmila Cherkasova is a principal scientist at HP Labs, Palo Alto. Her current research interests are in developing quantitative methods for the analysis, design, and management of concurrent and distributed systems (such as internet and media applications, virtualized environments and next generation data centers). Dr. Cherkasova has initiated, managed and led to success multiple R&D projects. She is the ACM Distinguished Scientist. She has authored over 80 referred publications and more than 65 patent applications, served as a PC member of multiple conferences, and mentored 12 PhD students during their internships at HP Labs. She earned 5 Best Paper awards and recognized by the Certificate of Appreciation from the IEEE Computer Society. Her most recent works were on the design of new technologies for efficient management, capacity planning, and anomaly detection in internet and enterprise systems with emphasis on performance and scalability issues.