

Modelling Application Performance – A Series of Articles

Why this series?

Performance modelling is a very interesting technique that is supplementary to other performance skills and approaches such as load and stress testing. Applying models can enrich your capabilities to control application performance because it allows a better understanding of all the processes involved. This series is being directed towards professionals who have no experience with models, but who are wondering if this might be something that would enhance their abilities. The focus will be on the application of models rather than their construction because models are complicated machinery; just like cars one needn't be bothered by what is under the hood, rather the important thing is how to put the key in the ignition and drive it away. This series of articles will be a how-to manual on applying models without any needless discussion of internals or mathematics (with the exception of the necessary but simple Little's formula which will be included in the 2nd instalment of this series). The articles will be short and readable as a means to easily popularise performance modelling techniques and convince professionals to start using them to enhance their careers.

While I've been working on this series of articles, a book with similar objectives was released by Dr. Leonid Grinshpan entitled Solving Enterprise Application Performance Puzzles. I recommend this book to anyone seeking to know more depth about the process of applying models.

The Modelling Application Performance Series will include the following articles:

1. Applications have performance-DNA do they?
2. Workload
3. Hardware resources
4. Software resources basics
5. Software resources performance stability
6. Performance testing with limited users
7. Measuring performance-DNA
8. Measuring CPU by process

The first 4 articles explain the basic concepts of application performance modelling, and the middle set of articles will shed light on some very interesting analyses that can be done with models. These analyses provide insight that is very difficult to gain without models, and can give the reader ideas pertaining to customizing their application into other environments. The final set of articles will be directed toward overcoming the impediments resulting from the current state of information technology.

About the author and a disclaimer:

I am CTO and inventor of mBrace, a model centric method for application performance engineering, marketed by a company with the same name that provides services in this field in The Netherlands. So though you might consider this vendor material, I'd like to share experience about the application of modelling and show some basic modelling concepts. I will use the output of the mBrace model to illustrate model output in the examples of the articles.

Feedback is very welcome. If you have any comments, questions, please don't hesitate to respond to michael.kok@mbrace.it. The number of articles and their contents may be changed according to feedback from the readers.