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[WinMee/WiTMeMo] Your paper #1569019191

dovrolis@cc.gatech.edu <dovrolis@cc.gatech.edu> **Sun, Feb 4, 2007 at 10:30 AM**
To: Stefan Karpinski <sgk@cs.ucsb.edu>
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Dear Stefan Karpinski:

Congratulations - your paper #1569019191 ('Towards Realistic Models of Wireless Workload') for WinMee/WiTMeMo has been accepted.

WinMee/WiTMeMo received 21 submissions this year. Each paper was reviewed by 3 or 4 TPC members (except a couple of papers that were clearly not within the scope of the workshop). We eventually decided to accept the 9 papers that have an average score of 3 or more.

The camera-ready version of your paper is due on MARCH 1, 2007.
We will post additional instructions at the workshop web page.
Please keep in mind that the final paper can be up to 6 pages, in the same two-column format with the submitted papers. We request that you email us the (perhaps almost) final version of your paper, together with a plain-text message that describes how you responded to the reviewer comments, by Monday, FEBRUARY 26.

We look forward seeing you at the workshop in Cyprus.

The reviews are below or can be found at
http://edas.info/showPaper.php?m=1569019191, using your EDAS user name .

===== TPC Review =====

*** Technical quality: Rate the technical quality of the work.
Good (4)

*** Intrigue Level: Rate how likely this paper will spark interesting discussion among workshop participants.
Interesting new approach (4)

*** Readability: Rate the readability of the paper.
Easy to read and understand (4)

*** Overall Recommendation: What is your overall recommendation
Probable accept (4)

*** Public comments: Summarize the strengths and weaknesses of the paper and provide a rationale for your rating. These comments are sent to the author(s).
This work deals with the problem of generating realistic wireless traffic workloads for use in simulations or experimental deployments. A methodology is proposed, according to which synthetic models are derived from real-world traces by deviating from them in various ways. Then, the performance metrics of the synthetic model are compared to those of the original traces to test how realistic the synthetic model is.

The methodology introduced in this work is of general interest for testing how realistic traffic models are. Also, the results presented in this paper are very interesting. For example, the CBR traffic model commonly used in

simulations and experimentation proves to be fairly unrealistic (but we "knew" that). Another strength of this paper is its very good presentation.

One possible drawback of the paper is the fact that the traces used do not correspond to the network setup that is simulated (multihop network using AODV for routing). Also, it is not quite clear how the results on AODV control overhead have been produced; according to the proposed methodology, "the error ratio for a scenario is the metric value observed using the alternate traffic model divided by the value observed using trace traffic". However, the infrastructured 802.11g wireless network that the traces come from is unrelated to AODV.

Overall, this is interesting and well-presented work.

===== TPC Review =====

*** Technical quality: Rate the technical quality of the work.
Average (3)

*** Intrigue Level: Rate how likely this paper will spark interesting discussion among workshop participants.
OK, but nothing particularly new (2)

*** Readability: Rate the readability of the paper.
Easy to read and understand (4)

*** Overall Recommendation: What is your overall recommendation
Probable accept (4)

*** Public comments: Summarize the strengths and weaknesses of the paper and provide a rationale for your rating. These comments are sent to the author(s).
This paper investigates the extent to which different approaches to summarizing trace data as a collection of statistical properties affects the performance results obtained by using synthetic traces driven by the statistics. This question has probably been asked in every domain that involves modeling. The answers here, like in previous works, is that the simplifications in the synthetically generated input can affect the outputs. (The authors go a step further than this description, in attempting to identify which simplifications have pronounced effects, and which have modest ones, from among a set of natural candidates.)

The major strength of the paper is that this is a reasonably fundamental question, and the results here might be interesting to a quite wide audience. I'd list two weaknesses, though. The first is that the work is quite preliminary, as the authors point out, so the reader is not left with terribly concrete lessons to apply to his or her own situation. Second, I think in a way the question posed is slightly off the mark. We can probably concede (without this work) that the assumptions of the synthetic trace model will affect performance predictions. We make predictions, though, to study the impacts of some proposed changes to the system. I think I'd be more interested in the extent to which the various simplifications affec the magnitude of the predicted effects of those changes than what is shown here. That is, rather than comparing the performance measures of the various traces to a single reference, compare two systems, each driven by each of the trace generation approaches, and evaluate how consistent they are in predicting the relative performance of the two systems.

Minor note: It wasn't clear to me how any of the models can mispredict throughput. Don't all of them match at least the mean offered load (and isn't offered load preserved in all cases)?

===== TPC Review =====

*** Technical quality: Rate the technical quality of the work.
Excellent (5)

*** Intrigue Level: Rate how likely this paper will spark interesting discussion among workshop participants.
Interesting new approach (4)

*** Readability: Rate the readability of the paper.
Easy to read and understand (4)

*** Overall Recommendation: What is your overall recommendation
Definite accept (5)

*** Public comments: Summarize the strengths and weaknesses of the paper and provide a rationale for your rating. These comments are sent to the author(s).
The work is well written.

A good first step (the "towards" in the title) that is certainly appropriate for a workshop.

I like the approach a lot - to do a systematic comparison of different ways of modeling wireless workload.

The authors suggest that use of CBR flows for simulation/emulation is pervasive, but I think that is overstating the case. Clearly, many other researchers use non CBR traffic in evaluation. Toning down the claim on use of CBR flows doesn't hurt the authors, however, as their work provides a nice comparison of CBR vs. other, more sophisticated techniques.

On a related note, some discussion of the complexity of doing the different approaches would be helpful. CBR with a random topology is really easy (the easiest), which is why it is often used. Doing trace driven models is more difficult. Can the authors comment on the relative difficulty of the compared approaches and perhaps even rank them?

Another downside of the paper is that it is not at all clear what the authors approach is all the way through II.B. This is a big downside in a 4 page paper. For example, in II.A., the authors say they use Qualnet but at that point, it is not clear what even for. What is going to be run and why?

===== TPC Review =====

*** Technical quality: Rate the technical quality of the work.
Average (3)

*** Intrigue Level: Rate how likely this paper will spark interesting discussion among workshop participants.
New twist on an existing approach (3)

*** Readability: Rate the readability of the paper.
Easy to read and understand (4)

*** Overall Recommendation: What is your overall recommendation
Probable accept (4)

*** Public comments: Summarize the strengths and weaknesses of the paper and provide a rationale for your rating. These comments are sent to the author(s).

The paper seeks to come up with realistic workloads of users. Given that they are IETF participants, the workload is clearly for users who are basically doing email and web surfing predominantly.

I am left to wonder how much of this is really "wireless" except for the fact that the packet traces were taken from users that were using the wireless network. If you were able to lend insights based on say Fig. 3(c) and 3(d), maybe it would be a bit more of the wireless flavor. Right now it is about packet traffic based on user communication over a shared channel (they could have been on one big Ethernet for most of the paper).

Nonetheless, the observations about the fact that RandomUniformCBR, UniformCBR don't work well is useful, and the observation that you get reasonable packet delay (average) characterization without having the time series of packet arrivals is also useful. My concern is that it is primarily trace driven (in that you sample packet inter-arrival and size information from the trace), and how you will arrive at a general model is not yet described. What strategy will you follow? When you do that, it has to be done with care that you make it clear that the workload is primarily for a "large meeting environment".

You should try to emphasize some of the wireless aspect more for the presentation, if the paper is accepted.

===== TPC Review =====

*** Technical quality: Rate the technical quality of the work.
Excellent (5)

*** Intrigue Level: Rate how likely this paper will spark interesting discussion among workshop participants.
Interesting new approach (4)

*** Readability: Rate the readability of the paper.
Very well written (5)

*** Overall Recommendation: What is your overall recommendation
Definite accept (5)

*** Public comments: Summarize the strengths and weaknesses of the paper and provide a rationale for your rating. These comments are sent to the author(s).

Regards,
Maria G. Papadopouli and Constantine Dovrolis, Workshop Chairs