Public Review for
Troubleshooting Wireless Mesh Networks
Lili Qiu, Paramvir Bahl, Ananth Rao, and Lidong Zhou

This is a paper that is a nearly perfect fit for CCR and its public review will be short. But don’t be mistaken, the shortness of this review is in no way a reflection of the paper’s quality and interest. Instead, it is merely because conveying in a public review why you should read this paper is something that can be done relatively succinctly.

The paper proposes a new approach for trouble-shooting wireless mesh networks -- an important and timely topic in itself - that is based on combining trace-driven simulations with “known” fault models to enable real-time fault diagnosis. Specifically, the system collects traces from an actual network, processes them to remove inconsistencies, and then uses them in a simulator to identify the set of network events they correspond to. This information together with fault information is then used for root-cause analysis by searching for the fault(s) that produce a set of events similar to the one being observed in the network. The paper claims that the approach is promising when it comes to trouble-shooting complex faults in real-time, and demonstrates that ability over a 25 node network.

All three reviewers had pretty much the same assessment of the paper, namely, an interesting and novel idea, but one whose true value will call for a more comprehensive investigation and a broader evaluation before it can be confirmed. To be honest, this is to a large extent how the authors themselves position the work, but is something to keep in mind when reading the paper. In short, this is a paper with a promising and potentially very useful idea, as well as some reasonable initial evidences in its support, but those initial evidences are, however, just that. So do not expect a complete and polished work with all the “i’s” dotted and “t’s” crossed, but this is nevertheless a paper worth reading because of the potential value of the approach it proposes.

Public review written by
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