Advanced Operating Systems
Paper Summary
Due: 3/06/2007

H. Wang, J. Platt, Y. Chen, R. Zhang and Y-M. Wang, Automatic Misconfiguration
Troubleshooting with PeerPressure, In Proc. of ACM/USENIX Symposium on Operating
Systems Design and Implementation, Dec. 2004.

PeerPressure is a misconfiguration diagnostic tool, used to determine
miconfigurations in faulty systems, based on statistics collected from other
similar systems.

PeerPressure primarily introduces a ranking metric, based on Bayesian estimation to
determine the correctness of registry values on a faulty PC. The key ideas the
authors attempt to introduce are the autonomous nature of PeerPressure, and its
capability to determine misconfigurations using a small database of existing
registry entries, using methods, earlier mentioned.

While the concept of PeerPressure and other similar tools are very useful, there
are several concerns that are raised by this paper. Firstly, there's no case made
against malicious programs running on the system. In many cases where a system
might be infected with some form of malware, that constantly evolves to elude such
diagnostic tools, running PeerPressure would only amount to wasting time.

Also, the paper provides several measurements which do not have any significance to
understanding the effectiveness of PeerPressure as compared with other similar
tools. In fact, in my opinion, PeerPressure is just a re-implementation of Strider,
using another form of statistical analysis. It would have been helpful to see some
data enumerating the benefits of PeerPressure over Strider and other similar
implementations, mentioned in the related work. Utimately, the paper fails to show
the degree to which it contributes to the subject matter. While it claims it is an
automatic tool, the authors contradict this key feature by having the user manually
involved in the recovery steps and having to manually build a GeneBank.

Tools like this, with real automatic capabilities, can put companies like GeekSquad
on the road towards bankruptcy, while saving the consumer huge amounts of time and
money. Future work, in extending PeerPressure to a peer-to-peer distributed
network, could have tremendous advantages. Perhaps, this could have been the focus
of the authors.