CSC2231 – Internet Systems and Services

Paper Review – Understanding Availability
Name: **Alex Wun**
Date: **Nov. 13th, 05**

The authors obtain traces of P2P activity in the Overnet file sharing system in order to perform experiments on P2P availability. Their contributions indicate that measuring availability in P2P networks is more complex than assigning fractions based on the number of available hosts or even the uptimes of each host. This is primarily a result of the high level of interactions between hosts in a P2P network.

The authors show that the effects of IP aliasing due to heavy DHCP use will skew (underestimate) any IP-based measurement schemes. They also show that the time of day greatly affects the total number of hosts available in the network. Finally, they show that there is very little correlation in the uptimes of any two hosts and that the number of new arrivals roughly equals the number of permanent departures in the short-term. Although (as the authors mention) there are many limitations in their traces, this was still a very useful study.

The only anomaly in the paper is the steady decrease in host availability (Figure. 4) that is never explained or justified. Clearly, this cannot be an overall trend or the network will become devoid of peers in less than three weeks. This indicates that there is either some artificial inaccuracy in their methodology, the trace itself, or the length of time covered by the trace is too short and does not reveal some higher-level behaviour. As such, it's not appropriate to make any claims based on this "steady decay" without more data (perhaps a longer study).