PACKET AND INTERNET

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ABSTRACT

Debate is one of the interesting aspects of the packet bbs system. One of the recent debate issues is really quite important to all of us. It concerns the question of bbs mail forwarding by methods other than the ham RF network. Whichever side proves to be "right". (and it is possible that both may be right), the answers to this debate will have an impact on all packet users. KEY WORDS: BBS, NETWORK, FORWARDING, INTERNET

INTRODUCTION

A major debate has raged in the packet bulletin board system over the last year or so. This debate concerns the use of alternate forwarding methods for moving packet messages. In particular, the use of (commercial) intemet has been a major issue.

The issues in this debate warrant presenting here because they do represent ideas which are having, and will continue to have, major impact on the future of packet radio.

THE ISSUES, SIMPLIFIED

One viewpoint in this debate argues that the use of alternate forwarding methods (telephone, internet, etc) will result in a deteriorating RF network. The logic is that when alternative methods are used, there is no longer pressure to upgrade existing networks, fix broken ones, or maintain the ones we have. The argument continues with the idea that a network which is allowed to deteriorate will not be there when emergencies arise. And, when emergencies arise, it is also likely that portions of the internet infrastructure will fail. The result will be failure of the ham packet system to perform in emergencies.

The other viewpoint argues that the ultimate responsibility of bulletin board operators is to move "mail". **If** the ham RF infrastructure is not capable of moving that mail, this argument continues, then they have the responsibility to find some method which will allow the mail to be moved. If that method happens to involve the telephone system or intemet (ie, "wire line"), then so be it.

Network Quality

There are a number of factors which combine to represent the quality of a packet network. Of course, not all users have the same idea of quality. None the less, there are a number of general things:

a. links need to be reliable
b. unexpected disconnects should not occur
c. reasonable throughput must be available most of the time
d.hardware is physically reliable

When any of these factors gets worse, usually we perceive the quality of the network to be "worse". A network can remain physically the same, but be perceived as deteriorating because it is not able to handle an increasing message load, for example.

Thus, for a network to remain as a high quality one, just keeping the hardware working is not enough. If the network cannot support increased demands placed on it, then it is not doing its job. Unfortunately, many users consider bbs forwarding to be the culprit, rather than the "miner's canary" which warns us of impending difficulty. To such users, its probably just fine that their local bbs forwards over intemet because it makes things seem to work better.

It is also an unfortunate human attribute that often, the quiet wheel does not get improved. If bbs sysops use other methods for forwarding messages, then a visible pressure for network improvement goes away.

Mail Movement

For many bbs sysops, mail movement is their entire reason for participating in ham radio. And, for some, at least, ham radio is just another access method for their bbs. When you have bbs sysops of this sort, what technical methods are they going to choose for linking? Certainly, the most familiar ones. If they are more comfortable with wire-line, that is what they will choose.

While "Clover", for example, may do an excellent job of handling messages via HF, it is probable that more bbs sysops are familiar with wire-line modem technology than they are with Clover. So, is it any wonder that non-ham message passing technology is frequently the method of choice?

It is also likely that arguments that "it is not ham radio" will be quite ineffective. It is probable that many of the bbs sysops in this category do not have a big stake in ham radio and that this argument results in a big "so what?"

On June 30, 1996, WORLI wrote the author: "Yes, there is still a small amount of traffic handled via satellite, HF digital modes, and long haul vhf/uhf links. In fact, all PRESENTED traffic is easily handled. However, very little traffic is presented to the radio network; it is instead moved via commercial networks. When I first started speaking out on this issue, 18 months ago, about 50% of the long haul traffic was still being carried by radio. That percentage has now reached 0."

The practice of wire-line forwarding is actually having a far bigger impact than it might seem. When strategically located bbs, in widely separated locations, forward almost instantaneously to each other, bulletins arrive in the other area more rapidly and get distributed to those stations which do use RF forwarding. Since the messages are already there when attempted by traditional means, they are rejected. This "capture" phenomenon results in an artifically forced reduction of RF forwarding.

CONCLUSIONS

It seems probable that both sides are "correct". The sad part is that the cases of network deterioration seem to be growing more numerous with the use of forwarding over wire-line. It is also likely, however, that the cause-and-effect is not so clear. Bbs forwarding is moving off the RF network because it is deteriorating in many places and the deterioration is accelerating because there is less reason to keep it up. In other words, it is likely that these two effects go hand-in-hand and neither is the cause of the other.

What does seem fairly clear is that bbs sysops who move their forwarding off the RF network are not doing hams much of a favor. This is, in fact, one area where users can apply pressure, encouragement, and support to sysops. Hams with solid HF experience can help a sysop to set up a reliable forwarding system using Clover, Pactor, Amtor, or packet. Hams with good VHF/UHF network experience can help to make the bbs VHF/UHF packet equipment as good as it can be.

Likewise, bbs sysops AND users can apply pressure and offer assistance to their local ham clubs and packet organizations, and to node operators. Make sure that network capability improvement is planned, that groups involved in packet networking get together and figure out what is needed on a regional basis, and make sure that there is a solid commitment to carrying through on those plans.

Failing all else, bbs sysops in some areas of the country are rerouting messages to avoid forwarding them to bulletin boards which use wire-line forwarding. This is certainly a drastic measure but it is one of the few ways available to avoid the capture effect previously described. As unpleasant as this measure may be, the health of our network(s) may depend on it!

BIOGRAPHY

James Wagner is an electrical engineer & programmer employed by Kalatel Engineering in Corvallis, OR. His work is in the area of embedded controllers and design of system components for the closed-circuit video security industry. He has a BA in Physics from Oregon State Univ, an MS in Electrical Engineering, also from O.S.U, and a PhD in Electrical Engineering from Colorado State University. He has been employed by Tektronix and by the College of Oceanography of Oregon State University. His interest in ham radio began in the 1950's but did not actually get a license until 1979. He has been the advisor to the Oregon State University ARC and the node-op of their packet node. He is the author of "The Amateur Packet Radio Handbook".