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Before the
Federal Communications Commission
Washington D.C. 20554

In the Matter of

Amendment of Part 97 of the
Commission's Rules Concerning
Message Forwarding Systems in
the Amateur Service.

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PR Docket No. 93-85

MAY 18 1994

PETITION FOR RECONSIDERATION

Although the Commission's ruling is a welcome improvement over the previous state of affairs in which every station in a network of automatic message forwarders was held accountable for message content, it is nonetheless flawed and should be amended.

In particular, the requirement that the "first forwarding station" either authenticate the identity of the originating station or take responsibility for message content is unworkable. The Commission has implicitly assumed a specific architecture for the message forwarding system that is rapidly being overtaken by new systems that render the concept of "first forwarding station" largely meaningless.

The present message forwarding network consists predominantly of "packet bulletin board systems" accessed interactively by end users with relatively simple stations. Many of these user stations are either wholly non-computerized (e.g., a "dumb terminal" connected directly to a Terminal Node Controller, or TNC) or use personal computers merely to emulate such a function.

Although this may indeed be the prevalent practice today, the increasing availability of substantial computer power to end users is causing the amateur packet radio network to evolve rapidly toward more capability at the user stations, with less in the network itself. This closely mirrors similar trends in non-amateur computer networks, particularly the Internet.

The Commission apparently did not consider these issues in its decision, hence the need for this petition for reconsideration.

Two examples make this clear: the rise of "personal BBSes" and the amateur TCP/IP network (TCP and IP are the core protocols of the Internet).

The personal BBS is just like a multi-user BBS, except that it is operated by and on behalf of only a single local user. In other words, the user and sysop are one and the same. Among the many advantages of the personal BBS is the immediate accessibility to the local user of messages previously received automatically by the BBS, as opposed to having to read them in real time across a slow and often

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congested packet channel.

Such a personal BBS, however, looks like any other BBS to the rest of the network; the other nodes in the network will relay its traffic just as if it were a "regular" BBS. Yet the Commission's ruling and its definition of "first forwarding station" appears to require every forwarding BBS in the network to treat such personal BBSes with special scrutiny that isn't required for other BBSes that simply forward traffic from other users. Indeed, the new rule seems to require that messages from the sysop on even a multi-user BBS be treated differently from messages from other users on that system.

Furthermore, consider the case where a personal BBS (or an end user with a "dumb terminal", for that matter) connects to another BBS via a digipeater, a low-level device that simply relays physical packets. This digipeater would apparently become the "first forwarding system" and would therefore have to take responsibility for the content of the traffic it relays, even though it would not have to do so for traffic already relayed by another digipeater or BBS.

This is clearly unworkable.

The TCP/IP network shows even more clearly the trend toward removing higher-level functions from the network itself and pushing them toward the "edges" of the network. In a TCP/IP network, every user system provides functions analogous to the BBS, only much more sophisticated. Besides conventional BBS functions, these systems often provide file repositories and remote access to computing facilities such as UNIX systems. Many more sophisticated applications, borrowed from the Internet as a whole, are also appearing: graphical user interfaces, powerful resource search and query tools, and so on.

However, the lower level functions in the TCP/IP protocol suite performed at intermediate systems are deliberately very simple; indeed, an IP router (packet switch) is conceptually similar to (and almost as simple as) the digipeater. It is important to understand that in a TCP/IP network, all of the nodes between two end user stations (e.g., a user and a server node) are these low-level IP packet routers, and the end-to-end communications they support are real-time in nature. Furthermore, the protocols allow consecutive packets between the same end points to travel through different links and routers; the only reliable place to monitor the traffic between any pair of end points is at the end points themselves. Real-time auditing and approval of each packet is simply not practical.

However, the wording of this present Order implies that the control operator of the first IP router forwarding traffic from an end user must either authenticate that user or take responsibility for the end user's traffic, even though the same router could confidently carry traffic that had already been forwarded by another router. This discrimination is wholly impractical and unacceptable; it may even be impossible.

Ideally, the Commission ought to abandon all references to the "first forwarding station" and place all responsibility for message content on the originating station, which can be clearly defined as the station that first transmits the message on amateur channels. Any amateur station that relays or forwards traffic already transmitted and received on amateur frequencies, be it a repeater, digipeater, BBS, IP packet router or anything else, would not be held accountable

for the content of the communication.

As a possible alternative, I would be satisfied with a Commission interpretation of its ruling holding that the distinction between the "originating station" and "first forwarding station" applies only in the special case of a high level intermediate system such as a public BBS that speaks to "dumb terminals" on the user side and speaks BBS network protocols to the rest of the network.

In the case of an end user system that speaks the network protocols directly (be they the BBS message forwarding protocols, TCP/IP or anything else) the originating station and the first forwarding station should be considered the same entity. Which in fact they are, since the originating station uses the same forwarding protocols as the rest of the network.

I am gratified that the Commission has seen fit to grant partial relief to the rules that have so severely burdened the development of packet radio. However, I am concerned that the changes do not go nearly far enough, and I urge the Commission to reconsider its decision.

I understand that the Commission strongly prefers to establish principles of broad applicability that do not have to be constantly revisited as amateur technology and practice evolve. However, this ruling has clearly violated that principle by assuming a specific architecture for the amateur packet radio network that does not accommodate even near term future trends. I urge the Commission to rectify its oversight so that it does not have to revisit this issue again in the near future.

Respectfully submitted,

Phil Karn, KA9Q