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OSI connectionless transport services on top of UDP Applicability Statement for Historic Status

Status of this Memo

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Abstract

RFC 1240, "OSI connectionless transport services on top of UDP", was published as a Proposed Standard in June 1991 but at this time there do not seem to be any implementations which follow RFC 1240. In addition there is a growing concern over using UDP-based transport protocols in environments where congestion is a possibility.

1. Use of RFC 1240 Technology

A message was sent to the IETF list in October 1998 seeking any information on the actual use of the technology described in RFC 1240. A number of responses were received, including from the International Organization for Standardization (ISO), the keeper of the OSI protocols. None of these messages pointed to any current use for this technology. Most of the messages which made any recommendation did recommend that RFC 1240 be moved to historic.

2. Responsiveness to Congestion

Since 1991 there has been a great deal of experience with the complexities of dealing with congestion in the Internet. Congestion control algorithms have been improved but there is still work underway to further understand the issues. In this environment any UDP-based protocol is somewhat worrisome since quite frequently people who use UDP-based protocols invent their own reliability and congestion control functions which may not include the results of the current state of the art. This leads to a dange r of congestion collapse with potentially quite serious consequences for the network in which it is run. See RFC 896 for a discussion of congestion

collapse.

In the case of RFC 1240, the authors seemed to assume that if some level of reliability was needed in an RFC 1240 environment that the reliability algorithms and the congestion control algorithms which would then be required would reside in the OSI protocols running over the UDP transport. It is far from clear that any perceived advantages of running over UDP would not be eclipsed by the difficulties experienced in trying to create a reasonable congestion control algorithm. Implementers would likely find that running over TCP as RFC 2126 describes is the better choice.

3. Conclusion

Due to the lack of use of the technology described in RFC 1240 and the issues surrounding congestion control in the Internet, RFC 1240 should be reclassified as Historic and its implementation actively discouraged.

4. Security Considerations

This type of non-protocol document does not directly effect the security of the Internet.

5. References

RFC 896 Nagle, J., "Congestion control in IP/TCP internetworks", RFC 896, January 1984.

RFC 1240 Shue, C., Haggerty, W. and K. Dobbins, "OSI connectionless transport services on top of UDP: Version 1.", RFC 1240 June 1991.

RFC 2126 Pouffary, Y. and A. Young, "ISO Transport Service on top of TCP (ITOT)", RFC 2126, March 1997.

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7. Full Copyright Statement