

IESG Advice from Experience with Path MTU Discovery

Status of this Memo

This memo provides information for the Internet community. It does not specify an Internet standard. Distribution of this memo is unlimited.

Abstract

In the course of reviewing the MTU Discovery protocol for possible elevation to Draft Standard, a specific operational problem was uncovered. The problem results from the optional suppression of ICMP messages implemented in some routers. This memo outlines a modification to this practice to allow the correct functioning of MTU Discovery.

Advice on the Deployment of Path MTU Discovery Protocol

While reviewing the Path MTU Discovery Protocol for Draft Standard [RFC1191], the Internet Engineering Steering Group (IESG) became aware from the reports of various implementors that some vendors have added to their routers the ability to disable ICMP messages generated by the router. This is to protect older BSD hosts, which would drop all connections to a host it found an ICMP message on any of the connections, even if it was a non-fatal ICMP message. While this protects older BSD hosts, it causes MTU discovery to fail in a silent, hard to diagnose way.

From the descriptions the IESG has obtained, adjusting the routers to continue to send ICMP message Type 3 code 4 (destination unreachable, don't fragment (DF) bit set and fragmentation required) even when they have their "don't send ICMP messages" switch turned on would allow path MTU discovery to work but not effect older BSD hosts, since they never set the DF bit in their packets.

Author's Note

This document was the result of an IESG meeting discussing MTU Discovery. This author was chosen to write the document as the Internet Engineering Task Force (IETF) Internet Area Director.

References

[RFC1191] Mogul, J., and S. Deering, S., "Path MTU Discovery",
RFC 1191, DECWRL, Stanford University, November 1990.

Security Considerations

Security issues are not discussed in this memo.

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