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TFTP Option Negotiation Analysis

Status of this Memo

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

Abstract

The TFTP option negotiation mechanism, proposed in [1], is a backward-compatible extension to the TFTP protocol, defined in [2]. It allows file transfer options to be negotiated prior to the transfer using a mechanism which is consistent with TFTP's Request Packet format. The mechanism is kept simple by enforcing a request-respond-acknowledge sequence, similar to the lock-step approach taken by TFTP itself.

This document was written to allay concerns that the presence of options in a TFTP Request packet might cause pathological behavior on servers which do not support TFTP option negotiation.

Test Results

A TFTP client, modified to send TFTP options, was tested against five unmodified servers:

DEC	DEC 3000/400 alpha	OSF1 V3.0
SGI	IP17 mips	IRIX 5.2
SUN	sun4c sparc	SunOS 5.1
IBM	RS/6000 Model 320	AIX 3.4
SUN	sun4m	SunOS 4.1.3

In each case, the servers ignored the option information in the Request packet and the transfer proceeded as though no option negotiation had been attempted. In addition, the standard BSD4.3 source for TFTPD, the starting point for many implementations, was examined. The code clearly ignores any extraneous information in Request packets.

From these results and examinations, it is clear that the TFTP option

negotiation mechanism is fully backward-compatible with unmodified TFTP servers.

Security Considerations

Security issues are not discussed in this memo.

References

[1] Malkin, G., and A. Harkin, "TFTP Option Extension", RFC 1782, Xylogics, Inc., Hewlett Packard Co., March 1995.

[2] Sollins, K., "The TFTP Protocol (Revision 2)", STD 33, RFC 1350, MIT, July 1992.

Related Documents

Malkin, G., and A. Harkin, "TFTP Blocksize Option", RFC 1783, Xylogics, Inc., Hewlett Packard Co., March 1995.

Malkin, G., and A. Harkin, "TFTP Timeout Interval and Transfer Size Options", RFC 1784, Xylogics, Inc., Hewlett Packard Co., March 1995.

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