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ESMTP and LMTP Transmission Types Registration

Status of this Memo

This document specifies an Internet standards track protocol for the Internet community, and requests discussion and suggestions for improvements. Please refer to the current edition of the "Internet Official Protocol Standards" (STD 1) for the standardization state and status of this protocol. Distribution of this memo is unlimited.

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Abstract

This registers seven new mail transmission types (ESMTPA, ESMTPS, ESMTPSA, LMTP, LMTPA, LMTPS, LMTPSA) for use in the "with" clause of a Received header in an Internet message.

1. IANA Considerations

As directed by SMTP [2], IANA maintains a registry [7] of "WITH protocol types" for use in the "with" clause of the Received header in an Internet message. This registry presently includes SMTP [6], and ESMTP [2]. This specification updates the registry as follows:

- The new keyword "ESMTPA" indicates the use of ESMTP when the SMTP AUTH [3] extension is also used and authentication is successfully achieved.

- The new keyword "ESMTPS" indicates the use of ESMTP when STARTTLS [1] is also successfully negotiated to provide a strong transport encryption layer.

- The new keyword "ESMTPSA" indicates the use of ESMTP when both STARTTLS and SMTP AUTH are successfully negotiated (the combination of ESMTPS and ESMTPA).

- The new keyword "LMTP" indicates the use of LMTP [4].

- The new keyword "LMTPA" indicates the use of LMTP when the SMTP AUTH extension is also used and authentication is successfully achieved.

- The new keyword "LMTPS" indicates the use of LMTP when STARTTLS is also successfully negotiated to provide a strong transport encryption layer.

- The new keyword "LMTPSA" indicates the use of LMTP when both STARTTLS and SMTP AUTH are successfully negotiated (the combination of LSMTPS and LSMTPA).

- The references for the ESMTP and SMTP entries in the registry should be updated to the latest specification [2] since both RFC 821 and RFC 1869 [5] are obsoleted by RFC 2821.

2. Implementation Experience

The ESMTPA, ESMTPS and ESMTPSA keywords have been implemented in deployed email server software for several years and no problems have been reported with their use.

3. Security Considerations

Use of these additional keywords provides trace information to indicate when various high-level security framing protocols are used for hop-to-hop transport of email without exposing details of the specifics of the security mechanism. This trace information provides an informal way to track the deployment of these mechanisms on the Internet and can assist after-the-fact diagnosis of email abuse.

These keywords are not normally protected in transport which means they can be modified by an active attacker. They also do not indicate the specifics of the mechanism used, and therefore do not provide any real-world security assurance. They should not be used for mail filtering or relaying decisions except in very controlled environments. As they are both cryptic and hidden in trace headers used primarily to diagnose email problems, it is not expected they will mislead end users with a false sense of security. Information with a higher degree of reliability can be obtained by correlating the Received headers with the logs of the various Mail Transfer Agents through which the message passed.

The trace information provided by these keywords and other parts of the Received header provide a significant benefit when doing after-the-fact diagnosis of email abuse or problems. Unfortunately, some people in a misguided attempt to hide information about their internal servers will strip Received headers of useful information

and reduce their ability to correct security abuses after they happen. The result of such misguided efforts is usually a reduction of the overall security of the systems.

4. References

4.1. Normative References

[1] Hoffman, P., "SMTP Service Extension for Secure SMTP over Transport Layer Security", RFC 3207, February 2002.

[2] Klensin, J., Ed., "Simple Mail Transfer Protocol", RFC 2821, April 2001.

[3] Myers, J., "SMTP Service Extension for Authentication", RFC 2554, March 1999.

[4] Myers, J., "Local Mail Transfer Protocol", RFC 2033, October 1996.

4.2. Informative References

[5] Klensin, J., Freed, N., Rose, M., Stefferud, E., and D. Crocker, "SMTP Service Extensions", STD 10, RFC 1869, November 1995.

[6] Postel, J., "Simple Mail Transfer Protocol", STD 10, RFC 821, August 1982.

4.3. URIs

[7] <http://www.iana.org/assignments/mail-parameters>

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