

Network Working Group  
Internet-Draft  
Updates: [8314](#) (if approved)  
Intended status: Standards Track  
Expires: April 24, 2020

L. Velvindron  
cyberstorm.mu  
S. Farrell  
Trinity College Dublin  
October 22, 2019

Use of TLS for Email Submission and Access  
draft-ietf-uta-tls-for-email-03

## Abstract

This specification updates current recommendation for the use of Transport Layer Security (TLS) protocol to provide confidentiality of email between a Mail User Agent (MUA) and a Mail Submission Server or Mail Access Server. This document updates [RFC8314](#).

## Status of This Memo

This Internet-Draft is submitted in full conformance with the provisions of [BCP 78](#) and [BCP 79](#).

Internet-Drafts are working documents of the Internet Engineering Task Force (IETF). Note that other groups may also distribute working documents as Internet-Drafts. The list of current Internet-Drafts is at <https://datatracker.ietf.org/drafts/current/>.

Internet-Drafts are draft documents valid for a maximum of six months and may be updated, replaced, or obsoleted by other documents at any time. It is inappropriate to use Internet-Drafts as reference material or to cite them other than as "work in progress."

This Internet-Draft will expire on April 24, 2020.

## Copyright Notice

Copyright (c) 2019 IETF Trust and the persons identified as the document authors. All rights reserved.

This document is subject to [BCP 78](#) and the IETF Trust's Legal Provisions Relating to IETF Documents (<https://trustee.ietf.org/license-info>) in effect on the date of publication of this document. Please review these documents carefully, as they describe your rights and restrictions with respect to this document. Code Components extracted from this document must include Simplified BSD License text as described in Section 4.e of the Trust Legal Provisions and are provided without warranty as described in the Simplified BSD License.

Internet-Draft

TLS For Email

October 2019

## Table of Contents

<a href="#">1.</a>	Introduction . . . . .	<a href="#">2</a>
<a href="#">2.</a>	Conventions Used in This Document . . . . .	<a href="#">2</a>
<a href="#">3.</a>	Updates to <a href="#">RFC8314</a> . . . . .	<a href="#">2</a>
<a href="#">4.</a>	IANA Considerations . . . . .	<a href="#">4</a>
<a href="#">5.</a>	Security Considerations . . . . .	<a href="#">4</a>
<a href="#">6.</a>	Acknowledgement . . . . .	<a href="#">4</a>
<a href="#">7.</a>	References . . . . .	<a href="#">4</a>
<a href="#">7.1.</a>	Informative References . . . . .	<a href="#">4</a>
<a href="#">7.2.</a>	Normative References . . . . .	<a href="#">5</a>
	Authors' Addresses . . . . .	<a href="#">5</a>

[1.](#) Introduction

[RFC8314] defines the minimum recommended version for TLS as version 1.1. Due to the deprecation of TLS 1.1 in [[I-D.ietf-tls-oldversions-deprecate](#)], this recommendation is no longer valid. Therefore this document updates [[RFC8314](#)] so that the minimum version for TLS is TLS 1.2.

[2.](#) Conventions Used in This Document

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in [[RFC2119](#)] when they appear in ALL CAPS. These words may also appear in this document in lower case as plain English words, absent their normative meanings.

[3.](#) Updates to [RFC8314](#)

OLD:

"4.1. Deprecation of Services Using Cleartext and TLS Versions Less Than 1.1"

NEW:

"4.1. Deprecation of Services Using Cleartext and TLS Versions Less Than 1.2"

OLD

"As soon as practicable, MSPs currently supporting Secure Sockets Layer (SSL) 2.x, SSL 3.0, or TLS 1.0 SHOULD transition their users to TLS 1.1 or later and discontinue support for those earlier versions of SSL and TLS."

Internet-Draft

TLS For Email

October 2019

NEW:

"As soon as practicable, MSPs currently supporting Secure Sockets Layer (SSL) 2.x, SSL 3.0, TLS 1.0 or TLS 1.1 SHOULD transition their users to TLS 1.2 or later and discontinue support for those earlier versions of SSL and TLS."

OLD:

In [Section 4.1](#), the text should be revised from: "It is RECOMMENDED that new users be required to use TLS version 1.1 or greater from the start. However, an MSP may find it necessary to make exceptions to accommodate some legacy systems that support only earlier versions of TLS or only cleartext."

NEW:

"It is RECOMMENDED that new users be required to use TLS version 1.2 or greater from the start. However, an MSP may find it necessary to make exceptions to accommodate some legacy systems that support only earlier versions of TLS or only cleartext."

OLD:

" If, however, an MUA provides such an indication, it MUST NOT indicate confidentiality for any connection that does not at least use TLS 1.1 with certificate verification and also meet the minimum confidentiality requirements associated with that account. "

NEW:

" If, however, an MUA provides such an indication, it MUST NOT indicate confidentiality for any connection that does not at least use TLS 1.2 with certificate verification and also meet the minimum confidentiality requirements associated with that account. "

OLD

" MUAs MUST implement TLS 1.2 [[RFC5246](#)] or later. Earlier TLS and SSL versions MAY also be supported, so long as the MUA requires at least TLS 1.1 [[RFC4346](#)] when accessing accounts that are configured to impose minimum confidentiality requirements. "

NEW:

" MUAs MUST implement TLS 1.2 [[RFC5246](#)] or later e.g TLS 1.3 [[RFC8446](#)]. Earlier TLS and SSL versions MAY also be supported, so long as the MUA requires at least TLS 1.2 [[RFC5246](#)] when accessing

accounts that are configured to impose minimum confidentiality requirements. "

OLD:

" The default minimum expected level of confidentiality for all new accounts MUST require successful validation of the server's certificate and SHOULD require negotiation of TLS version 1.1 or greater. (Future revisions to this specification may raise these requirements or impose additional requirements to address newly discovered weaknesses in protocols or cryptographic algorithms. "

NEW:

" The default minimum expected level of confidentiality for all new accounts MUST require successful validation of the server's certificate and SHOULD require negotiation of TLS version 1.2 or greater. (Future revisions to this specification may raise these requirements or impose additional requirements to address newly discovered weaknesses in protocols or cryptographic algorithms. "

#### [4.](#) IANA Considerations

None of the proposed measures have an impact on IANA.

#### [5.](#) Security Considerations

The purpose of this document is to document updated recommendations for using TLS with Email services. Those recommendations are based

on [[I-D.ietf-tls-oldversions-deprecate](#)].

## [6.](#) Acknowledgement

The authors would like to thank Vittorio Bertola and Viktor Dukhovni for their feedback.

## [7.](#) References

### [7.1.](#) Informative References

- [RFC4346] Dierks, T. and E. Rescorla, "The Transport Layer Security (TLS) Protocol Version 1.1", [RFC 4346](#), DOI 10.17487/RFC4346, April 2006, <<https://www.rfc-editor.org/info/rfc4346>>.

### [7.2.](#) Normative References

- [I-D.ietf-tls-oldversions-deprecate] Moriarty, K. and S. Farrell, "Deprecating TLSv1.0 and TLSv1.1", [draft-ietf-tls-oldversions-deprecate-05](#) (work in progress), June 2019.
- [RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", [BCP 14](#), [RFC 2119](#), DOI 10.17487/RFC2119, March 1997, <<https://www.rfc-editor.org/info/rfc2119>>.
- [RFC5246] Dierks, T. and E. Rescorla, "The Transport Layer Security (TLS) Protocol Version 1.2", [RFC 5246](#), DOI 10.17487/RFC5246, August 2008, <<https://www.rfc-editor.org/info/rfc5246>>.
- [RFC8314] Moore, K. and C. Newman, "Cleartext Considered Obsolete: Use of Transport Layer Security (TLS) for Email Submission and Access", [RFC 8314](#), DOI 10.17487/RFC8314, January 2018, <<https://www.rfc-editor.org/info/rfc8314>>.

[RFC8446] Rescorla, E., "The Transport Layer Security (TLS) Protocol Version 1.3", [RFC 8446](#), DOI 10.17487/RFC8446, August 2018, <<https://www.rfc-editor.org/info/rfc8446>>.

#### Authors' Addresses

Loganaden Velvindron  
cyberstorm.mu  
88 Avenue De Plevitz Roches Brunas  
Rose Hill 71259  
Mauritius

Phone: +230 59762817  
Email: logan@cyberstorm.mu

Stephen Farrell  
Trinity College Dublin  
Dublin 2  
Ireland

Phone: +353-1-896-2354  
Email: stephen.farrell@cs.tcd.ie