

Internet Engineering Task Force  
Internet-Draft  
Updates: [4253](#) (if approved)  
Intended status: Best Current Practice  
Expires: April 23, 2020

L. Camara  
L. Velvindron  
cyberstorm.mu  
October 21, 2019

Deprecating RC4 in Secure Shell (SSH)  
draft-ietf-curdle-rc4-die-die-die-17

## Abstract

This document deprecates RC4 in Secure Shell (SSH). Therefore, this document formally moves [RFC4345](#) to historic status.

## 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 23, 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.



+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+

This current document updates the status of the "arcfour" ciphers in the list of [\[RFC4253\] Section 6.3](#) by moving it from OPTIONAL to MUST NOT.

	arcfour		MUST NOT		the ARCFOUR stream cipher with a 128-bit	
					key	

[RFC4253] defines the "arcfour" ciphers with the text mentioned below:

The "arcfour" cipher is the Arcfour stream cipher with 128-bit keys. The Arcfour cipher is compatible with the RC4 cipher [\[SCHNEIER\]](#). Arcfour (and RC4) has problems with weak keys, and should be used with caution.

This current document updates [\[RFC4253\] Section 6.3](#) by replacing the text above with the following text:

The "arcfour" cipher is the Arcfour stream cipher with 128-bit keys. The Arcfour cipher is compatible with the RC4 cipher [\[SCHNEIER\]](#). Arcfour (and RC4) has known weaknesses [\[RFC7465\]](#) [\[RFC8429\]](#), and MUST NOT be used.

### 3. IANA Considerations

The IANA is requested to update the Encryption Algorithm Name Registry of the Secure Shell (SSH) Protocol Parameters [\[IANA\]](#). The Registration procedure is IETF Review which is achieved by this document. The registry should be updated as follows:

Encryption	Algorithm	Name	Reference	Note
arcfour			[RFC-TBD]	
arcfour128			[RFC-TBD]	
arcfour256			[RFC-TBD]	

Where TBD is the RFC number assigned to the document.

#### 4. Acknowledgements

The authors would like to thank Eric Rescorla, Daniel Migault and Rich Salz.

#### 5. Security Considerations

This document only prohibits the use of RC4 in SSH, and introduces no new security considerations.

#### 6. References

##### 6.1. Normative References

[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>>.

[RFC8174] Leiba, B., "Ambiguity of Uppercase vs Lowercase in [RFC 2119](#) Key Words", [BCP 14](#), [RFC 8174](#), DOI 10.17487/RFC8174, May 2017, <<https://www.rfc-editor.org/info/rfc8174>>.

##### 6.2. Informative References

[IANA] "Secure Shell (SSH) Protocol Parameters: Encryption Algorithm Names", <<https://www.iana.org/assignments/ssh-parameters/ssh-parameters.xhtml#ssh-parameters-17>>.

[RFC4253] Ylonen, T. and C. Lonvick, Ed., "The Secure Shell (SSH) Transport Layer Protocol", [RFC 4253](#), DOI 10.17487/RFC4253, January 2006, <<https://www.rfc-editor.org/info/rfc4253>>.

[RFC4345] Harris, B., "Improved Arcfour Modes for the Secure Shell (SSH) Transport Layer Protocol", [RFC 4345](#), DOI 10.17487/RFC4345, January 2006, <<https://www.rfc-editor.org/info/rfc4345>>.

[RFC7465] Popov, A., "Prohibiting RC4 Cipher Suites", [RFC 7465](#),

DOI 10.17487/RFC7465, February 2015,  
<<https://www.rfc-editor.org/info/rfc7465>>.

[RFC8429] Kaduk, B. and M. Short, "Deprecate Triple-DES (3DES) and RC4 in Kerberos", [BCP 218](#), [RFC 8429](#), DOI 10.17487/RFC8429, October 2018, <<https://www.rfc-editor.org/info/rfc8429>>.

[SCHNEIER]

Schneier, B., "Applied Cryptography Second Edition: protocols algorithms and source in code in C", , 1996, <SCHNEIER>.

#### Authors' Addresses

Luis Camara

Email: [luis.camara@live.com.pt](mailto:luis.camara@live.com.pt)

Camara & Velvindron

Expires April 23, 2020

[Page 4]

---

Internet-Draft

[draft-ietf-curdle-rc4-die-die-die](#)

October 2019

Loganaden Velvindron  
cyberstorm.mu  
Mauritius

Email: [logan@cyberstorm.mu](mailto:logan@cyberstorm.mu)

