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Deprecating RC4 in Secure Shell (SSH)
draft-ietf-curdle-rc4-die-die-die-18

Abstract

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

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[1.](#) Introduction

The usage of RC4 suites (also designated as arcfour) for SSH are specified in [[RFC4253](#)] and [[RFC4345](#)]. [[RFC4253](#)] specifies the allocation of the "arcfour" cipher for SSH. [[RFC4345](#)] specifies and allocates the "arcfour128" and "arcfour256" ciphers for SSH. RC4 encryption has known weaknesses [[RFC7465](#)] [[RFC8429](#)], and the deprecation process should be begun for their use in Secure Shell (SSH) [[RFC4253](#)]. Accordingly, [[RFC4253](#)] is updated to note the deprecation of the RC4 ciphers and [[RFC4345](#)] is moved to Historic as all ciphers it specifies MUST NOT be used.

[1.1.](#) Requirements Language

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 [RFC 2119](#) [[RFC2119](#)][RFC 8174](#) [[RFC8174](#)] when, and only when, they appear in all capitals, as shown here.

[2.](#) Updates to [RFC 4253](#)

[[RFC4253](#)] is updated to prohibit arcfour's use in SSH. [[RFC4253](#)] allocates the "arcfour" cipher in [Section 6.3](#) by defining a list of defined ciphers where the "arcfour" cipher appears as optional as mentioned below:

+-----+-----+-----+-----+						
	arcfour		OPTIONAL		the ARCFOUR stream cipher with	
					a 128-bit key	

```

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

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5. Security Considerations

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

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6. References

6.1. Normative References

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6.2. Informative References

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