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Additional Hash Algorithms for HTTP Instance Digests

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Abstract

The IANA registry named "Hypertext Transfer Protocol (HTTP) Digest Algorithm Values" defines values for digest algorithms used by Instance Digests in HTTP. Instance Digests in HTTP provide a digest, also known as a checksum or hash, of an entire representation of the current state of a resource. This document adds new values to the registry and updates previous values.

Status of This Memo

This document is not an Internet Standards Track specification; it is published for informational purposes.

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1. Introduction

The IANA registry named "Hypertext Transfer Protocol (HTTP) Digest Algorithm Values" defines values for digest algorithms used by Instance Digests in HTTP.

Note: This is unrelated to HTTP Digest Authentication. Instance Digests in HTTP provide a digest, also known as a checksum or hash, of an entire representation of the current state of a resource.

The registry was created by [RFC3230] in 2002. This document adds new values to the registry and updates previous values that had redundant or outdated references.

1.1. Example

Example of Instance Digest for SHA-256:

Digest: SHA-256=MWVkMWQxYTRiMzk5MDQ0MzI3NGU5NDEyZTk5OWY1ZGFmNzgyZTJlO
DYzYjRjYzFhOTlmNTQwYzI2M2QwM2U2MQ==

2. IANA Considerations

This document makes use of the IANA registry named "Hypertext Transfer Protocol (HTTP) Digest Algorithm Values" specified in [RFC3230].

2.1. Previous Registrations Updated

Accordingly, IANA has updated the following registrations:

Digest Algorithm: MD5

Description: The MD5 algorithm, as specified in [RFC1321]. The output of this algorithm is encoded using the base64 encoding [RFC4648].

Reference: [RFC1321], [RFC4648], this document.

Digest Algorithm: SHA

Description: The SHA-1 algorithm [FIPS-180-3]. The output of this

algorithm is encoded using the base64 encoding [RFC4648].

Reference: [FIPS-180-3], [RFC4648], this document.

2.2. New Registrations

Accordingly, IANA has made the following registrations:

Digest Algorithm: SHA-256

Description: The SHA-256 algorithm [FIPS-180-3]. The output of this algorithm is encoded using the base64 encoding [RFC4648].

Reference: [FIPS-180-3], [RFC4648], this document.

Digest Algorithm: SHA-512

Description: The SHA-512 algorithm [FIPS-180-3]. The output of this algorithm is encoded using the base64 encoding [RFC4648].

Reference: [FIPS-180-3], [RFC4648], this document.

3. Security Considerations

Same as [RFC3230].

4. Changes Compared to RFC 3230

The reference for base 64 encoding has been updated for both MD5 and SHA.

The reference for SHA has been updated.

The SHA-256 and SHA-512 algorithms have been added to the registry.

All other previous values to the registry are still valid.

5. Normative References

- [FIPS-180-3] National Institute of Standards and Technology (NIST), "Secure Hash Standard (SHS)", FIPS PUB 180-3, October 2008.
- [RFC1321] Rivest, R., "The MD5 Message-Digest Algorithm", RFC 1321, April 1992.
- [RFC3230] Mogul, J. and A. Van Hoff, "Instance Digests in HTTP", RFC 3230, January 2002.
- [RFC4648] Josefsson, S., "The Base16, Base32, and Base64 Data Encodings", RFC 4648, October 2006.

Appendix A. Acknowledgements and Contributors

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