

Security Extensions For HTML

Status of this Memo

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Abstract

This memo describes a syntax for embedding S-HTTP negotiation parameters in HTML documents. S-HTTP, as described by [RFC 2660](#), contains the concept of negotiation headers which reflect the potential receiver of a message's preferences as to which cryptographic enhancements should be applied to the message. This document describes a syntax for binding these negotiation parameters to HTML anchors.

1. Introduction
2. Anchor Attributes

We define the following new anchor (and form submission) attributes:

DN -- The distinguished name of the principal for whom the request should be encrypted when dereferencing the anchor's url. This need not be specified, but failure to do so runs the risk that the client will be unable to determine the DN and therefore will be unable to encrypt. This should be specified in the form of [RFC1485](#), using SGML quoting conventions as needed.

NONCE -- A free-format string (appropriately SGML quoted) which is to be included in a SHTTP-Nonce: header (after SGML quoting is removed) when the anchor is dereferenced.

CRYPTOPTS -- Cryptographic option information as described in

[SHTTP]. Specifically, the <cryptopt-list> production.

2.1. CERTS Element

A new CERTS HTML element is defined, which carries a (not necessarily related) group of certificates provided as advisory data. The element contents are not intended to be displayed to the user. Certificate groups may be provided appropriate for either PEM or PKCS-7 implementations. Such certificates are supplied in the HTML document for the convenience of the recipient, who might otherwise be unable to retrieve the certificate (chain) corresponding to a DN specified in an anchor.

The format should be the same as that of the 'Certificate-Info' header line, of [SHTTP] except that the <Cert-Fmt> specifier should be provided as the FMT attribute in the tag.

Multiple CERTS elements are permitted; it is suggested that CERTS elements themselves be included in the HTML document's HEAD element (in the hope that the data will not be displayed by S-HTTP oblivious but HTML compliant browsers.)

2.2. CRYPTOPTS Element

Cryptopts may also be broken out into an element and referred to in anchors by name. The NAME attribute specifies the name by which this element may be referred to in a CRYPTOPTS attribute in an anchor. Names must have a # as the leading character.

2.3. HTML Example

An example of cryptographic data embedded in an anchor, proceeded by a certificate group is provided below. Note the SGML quoting syntax used to supply embedded quotation marks.

<CERTS FMT=PKCS-7>
MIAGCSqGSIB3DQEHAqCAMIACAQExADCABgkqhkiG9w0BBwEAAKCAM
IIBrTCCAukCagC2MA0GCSqGSIB3DQEBagUAME0xCzAJBgNVBAYTAlVTMSAwH
gYDVQKQExdSU0EgRGF0YSBTZWN1cm10eSwgSW5jLjJlJmBoGAlUECMTUGVyc
29uYSBDZXJ0aWZpY2F0ZTAeFw05NDA0MDkwMDUwMzdaFw05NDA4MDIxODM4N
TdaMGcxCzAJBgNVBAYTAlVTMSAwHgYDVQKQExdSU0EgRGF0YSBTZWN1cm10e
SwgSW5jLjJlJmBoGAlUECMTUGVyc29uYSBDZXJ0aWZpY2F0ZTEYMBYGA1UEA
xMPU2V0ZWMgQXN0cm9ub215MFwwDQYJKoZIhvcNAQEBBQADSwAwSAJBAMy8Q
cW7RMrb4sTdQ8Nmb2DFmJmkWn+el+NdeamIDe1X/qw9mIQu4xNj1FfepfJNx
zPvA0OtMKhy6+bkrlyMEU8CAwEAATANBgkqhkiG9w0BAQIFAAANPAAyn7jDgi
rhiIL4wnP8nGzUisGSpsFsF4/7z2P2wqne6Qk8Cg/Dstu3Ryan78vAMGP8d8
2H5+Ndfhi2mRp4YHiGHZ0HlK6VbPfnvS2wdjCCAccwggFRAGUCQAAAFDANB
qkqhkiG9w0BAQIFADBFMOswCOYDVOOGEwJVUzEgMB4GAlUEChMXU1NBIERhd

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GEgU2VjdXJpdHksIEluYy4xLjAsBgNVBAsTJUxvdyBBc3N1cmFuY2UgQ2Vyd
GhmaWNhdGlvbiBBdXRob3JpdHkwHhcNOTQwMTA3MDAwMDAwWhcNOTYwMTA3M
jMlOTU5WjBNMQswCQYDVQQGEwJVUzEgMB4GA1UEChMXU1NBIERhdGEgU2Vjd
XJpdHksIEluYy4xHDAaBgNVBAsTElBlcnNvbmEgQ2VydGhmaWNhdGUwaTANB
gkqhkiG9w0BAQEFAANYADBAk4GqghQDa9Xi/2zAdYEqJVicYhlLN1FpI9tX
Qlm6zz39PYXK8Uhoj0Es7kWRv8hC04vqkOKwndWbzVtvoHQOmP8nOkkuBi+A
QvgFoRcgOUCAwEAATANBgkqhkiG9w0BAQIFAANhAD/5Uo7xDdp49oZm9GoNc
PhZcWle+nojlVHXWAW/CBkwfcr+FSf4hQ5eFulAjYv6Wqf430Xe9Et5+jgnM
Tiq4LnwgTdA8xQX4elJz9QzQobkE3XVOjVAtCFcmiin80RB8AAAMYAAAAAA
AAAAA==
</CERTS>
<A name=foobar
DN="CN=Setec Astronomy, OU=Persona Certificate,
O="&quot;RSA Data Security, Inc.&quot;; C=US"
CRYPTOPTS="SHTTP-Privacy-Enhancements: recv-refused=encrypt;
SHTTP-Signature-Algorithms: recv-required=NIST-DSS"
HREF="shttp://research.nsa.gov/skipjack-holes.html">
Don't read this. </A>

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3. Security Considerations

This entire document is about security.

4. Authors' Addresses

Eric Rescorla
RTFM, Inc.
30 Newell Road, #16
East Palo Alto, CA 94303

Phone: (650) 328-8631
EMail: ekr@rtfm.com

Allan M. Schiffman
SPYRUS/Terisa
5303 Betsy Ross Drive
Santa Clara, CA 95054

Phone: (408) 327-1901
EMail: ams@terisa.com

5. References

[SHTTP] Rescorla, E. and A. Schiffman, "The Secure HyperText Transfer Protocol", [RFC 2660](#), August 1999.

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