



TLS policy and no-redirections for .POST domains

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.

Introduction

Transport Layer Security (TLS) is an open standard for encryption which enables people and applications to communicate in private over the Internet.

TLS is the successor to Secure Sockets Layer (SSL) technology, and it provides three essential services to help ensure security on the Internet: i) message confidentiality; ii) authentication; and iii) message integrity.

Message confidentiality: TLS provides a mechanism for encrypting the messages between application clients and servers with the aim of ensuring that, even if someone captures the messages as they are in transit between the sender and destination, the messages cannot be read.

Authentication: TLS provides a mechanism to validate the identity of the end points of the communications.

Message integrity: TLS provides a mechanism to ensure that messages are not changed as they move between client and server.

TLS policy

TLS policy defines security requirements for all communication under .POST domains.

| <i>Req. #</i> | <i>Description</i> | <i>Requirement Type</i> | <i>Explanatory Notes</i> |
|---------------|---|-------------------------|-------------------------------|
| TLS.R01 | All content for the website without exception SHALL always be served over https protocol | REQUIRED | See RFC 7525 for more details |
| TLS.R02 | Version 1.2 (or above) of TLS protocol SHALL be used for transferring data over https. TLS v1.2 is the only version that offers modern authenticated encryption (i.e. AEAD) | REQUIRED | See [RFC 5288] and [RFC 5246] |
| TLS.R03 | Secure cypher suites like the AES-GCM family SHALL be used for transferring data over https | REQUIRED | |
| TLS.R04 | 2,048-bit RSA private keys SHALL be used to sign Digital Certificates | REQUIRED | |
| TLS.R05 | Digital Certificates SHALL use SHA256 Signature Algorithm | REQUIRED | |

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|---------------|--|-------------------------|---|
| TLS.R06 | Digital Certificates SHOULD be obtained from a reliable Certificate Authority (CA) | RECOMMENDED | Suggested criteria to select a reliable CA are: i) CAs undergo regular audits; ii) CA has a business focus; iii) CA should provide support for both CRL and OCSP revocation methods; iv) certificate management options are available; and v) CA should provide support |
| TLS.R07 | Digital certificates SHOULD cover all the DNS names used for a site | REQUIRED | |
| TLS.R08 | Private keys used to sign digital certificates SHOULD be protected | RECOMMENDED | |
| TLS.R09 | Implement HTTP Strict Transport Security (HSTS) which define userAgent-side and server-side security policy in order to avoid man-in-the-middle attacks. This mitigates the risk of SSL Stripping ¹ | REQUIRED | See RFC 6797, section 2.4 for the detailed core requirements |

.POST will be monitoring implementation of these requirements on a regular basis. If any domain is NOT compliant with the Policy it will be informed within 2 to 3 business days. After that, the incident management policy will be applied, and the owner of the domain will need to comply with it and resolve the issue to prevent the domain name from being decommissioned.

The validity and accuracy of your TLS certificate can be verified online using dedicated tools. Examples of available tools are <https://www.ssllabs.com/ssltest/> and <https://www.htbridge.com/ssl/>

No-redirects policy

No redirection of .POST domains should be allowed (to avoid misuse and hijacking). An alternative to redirection is to give the domain the status of parked domains and remove unnecessary A records on the DNS for the redirection of the domain.

Note: – Open redirects are pages that take a target URL as a parameter, i.e., via a GET request, and then perform a redirect of some kind to that URL. Open redirects aid phishing attacks and abuse user trust of a hostname. For example, an attacker could craft a link to an open redirect that sends users to an attacker-controlled fake login page. Some users, upon initially seeing a legitimate hostname in the URL, will enter their password in the malicious page and provide it to the attacker unintentionally.

¹ "SSL Stripping" attacks attempt to remove the use of Secure Socket Layer/Transport Layer Security (SSL/TLS) altogether by modifying unencrypted protocols that request the use of TLS.

References

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