

Camellia Cipher Suites for TLS

<draft-kato-tls-rfc4132bis-02.txt>

IETF 72nd July 2008

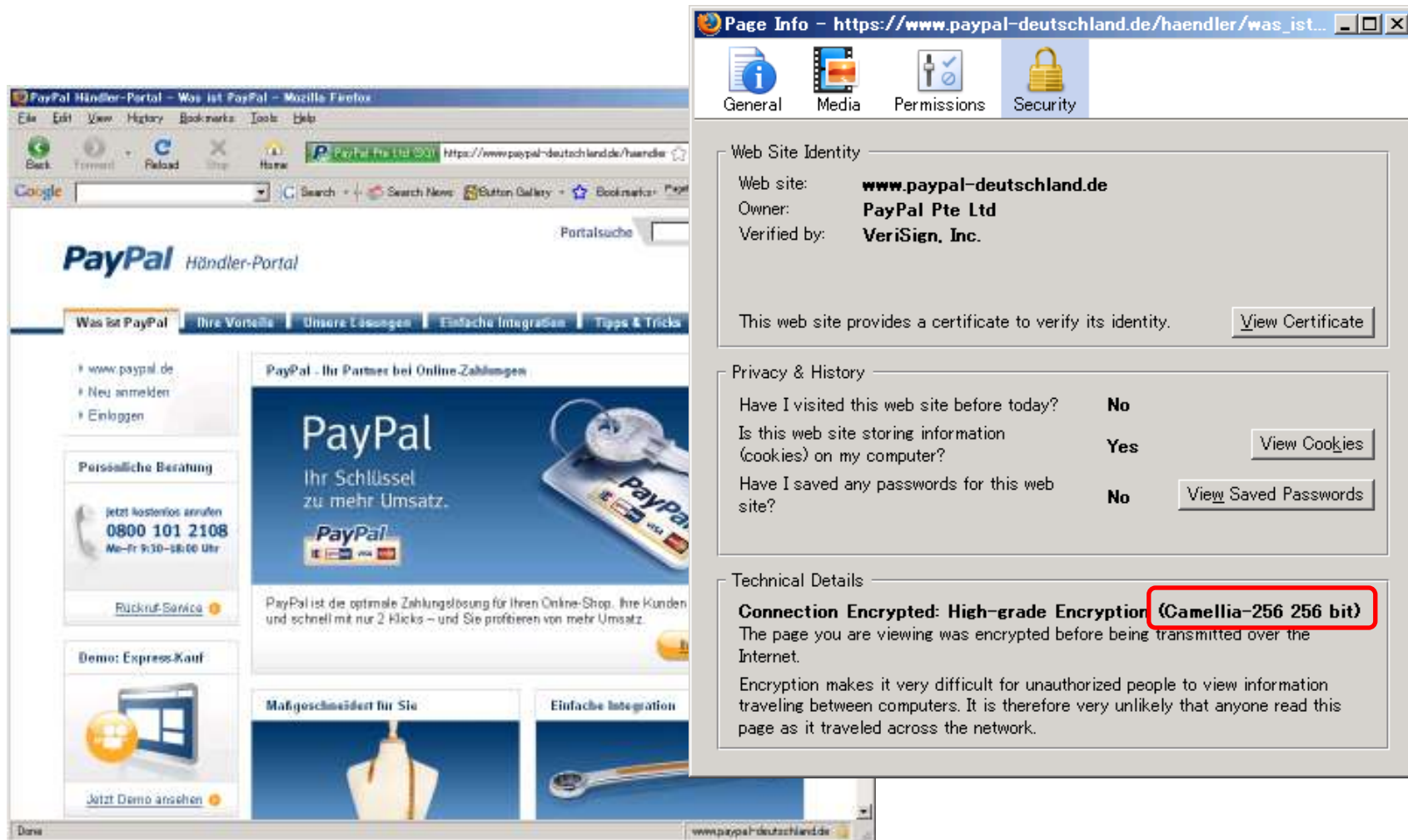
TLS Working Group

Satoru Kanno

Back Ground

- RFC4132 Published July 2005
- Adapted several OSS
 - OpenSSL 0.9.8c or later
 - GnuTLS
 - Firefox 3.0
 - Linux
 - FreeBSD
 - Bouncy Castle

Connect to SSL Server by



The image shows a screenshot of a Mozilla Firefox browser window displaying the PayPal merchant portal. The browser's address bar shows the URL https://www.paypal-deutschland.de/haendler/was_ist.... The page content includes the PayPal logo, navigation tabs, and a main banner with the text "PayPal - Ihr Partner bei Online-Zahlungen" and "Ihr Schlüssel zu mehr Umsatz." Below the banner, there are sections for "Persönliche Beratung" (with a phone number 0800 101 2108) and "Demo: Express-Kauf".

Overlaid on the right side of the browser window is the "Page Info" dialog box. The "Security" tab is selected, showing the following information:

- Web Site Identity**
 - Web site: **www.paypal-deutschland.de**
 - Owner: **PayPal Pte Ltd**
 - Verified by: **VeriSign, Inc.**
- This web site provides a certificate to verify its identity. [View Certificate](#)
- Privacy & History**
 - Have I visited this web site before today? **No**
 - Is this web site storing information (cookies) on my computer? **Yes** [View Cookies](#)
 - Have I saved any passwords for this web site? **No** [View Saved Passwords](#)
- Technical Details**
 - Connection Encrypted: High-grade Encryption (Camellia-256 256 bit)**
 - The page you are viewing was encrypted before being transmitted over the Internet.
 - Encryption makes it very difficult for unauthorized people to view information traveling between computers. It is therefore very unlikely that anyone read this page as it traveled across the network.

Reference: Pay Pal(https://www.paypal-deutschland.de/haendler/was_ist_paypal.html)

Goal

- Our policy is to follow up AES's Cipher Suites.

The Camellia cipher

This cipher is recommended by the European Union NESSIE project, the Japanese CRYPTREC project, and was added to the SSL/TLS cipher list by RFC 4132. The Camellia algorithm will be in FireFox 3. It is not enabled by default in OpenSSL.

The Camellia home site mentions that there are export (from Japan) restrictions which may make Japanese OpenSSL distributors cautious, but these are general restrictions on all strong (64+ bit) cryptography. There is nothing camellia-specific about these Japanese export restrictions, so adding Camellia does not change the Japanese export situation.

If you build OpenSSL for distribution to Japan or Europe, adding camellia is recommended:

Code:

```
PERL Configure VC-WIN32 enable-camellia
```

```
...
```

Reference: Apache Lounge (<http://www.apachelounge.com/forum/viewtopic.php?t=1992>)

Bundled OpenSSL with enable-camellia
openSUSE 10.3, Fedora core 9 ...

- As an action of this policy, we propose these Camellia Cipher Suites.

Proposal New Cipher Suites

TLS_RSA_WITH_CAMELLIA_128_CBC_SHA256
TLS_RSA_WITH_CAMELLIA_256_CBC_SHA256
TLS_DH_DSS_WITH_CAMELLIA_128_CBC_SHA256
TLS_DH_RSA_WITH_CAMELLIA_128_CBC_SHA256
TLS_DHE_DSS_WITH_CAMELLIA_128_CBC_SHA256
TLS_DHE_RSA_WITH_CAMELLIA_128_CBC_SHA256
TLS_DH_anon_WITH_CAMELLIA_128_CBC_SHA256
TLS_DH_DSS_WITH_CAMELLIA_256_CBC_SHA256
TLS_DH_RSA_WITH_CAMELLIA_256_CBC_SHA256
TLS_DHE_DSS_WITH_CAMELLIA_256_CBC_SHA256
TLS_DHE_RSA_WITH_CAMELLIA_256_CBC_SHA256
TLS_DH_anon_WITH_CAMELLIA_256_CBC_SHA256

Proposal Camellia Cipher Suites

TLS_RSA_WITH_AES_128_CBC_SHA256
TLS_RSA_WITH_AES_256_CBC_SHA256
TLS_DH_DSS_WITH_AES_128_CBC_SHA256
TLS_DH_RSA_WITH_AES_128_CBC_SHA256
TLS_DHE_DSS_WITH_AES_128_CBC_SHA256
TLS_DHE_RSA_WITH_AES_128_CBC_SHA256
TLS_DH_anon_WITH_AES_128_CBC_SHA256
TLS_DH_DSS_WITH_AES_256_CBC_SHA256
TLS_DH_RSA_WITH_AES_256_CBC_SHA256
TLS_DHE_DSS_WITH_AES_256_CBC_SHA256
TLS_DHE_RSA_WITH_AES_256_CBC_SHA256
TLS_DH_anon_WITH_AES_256_CBC_SHA256

RFC4346-bis (AES)

The varieties are same!

What's Next?

- We would like to be adopted this draft as a ***WG item***.

Questions and comments?