Session 08

z/OS V1R9
System SSL Updates

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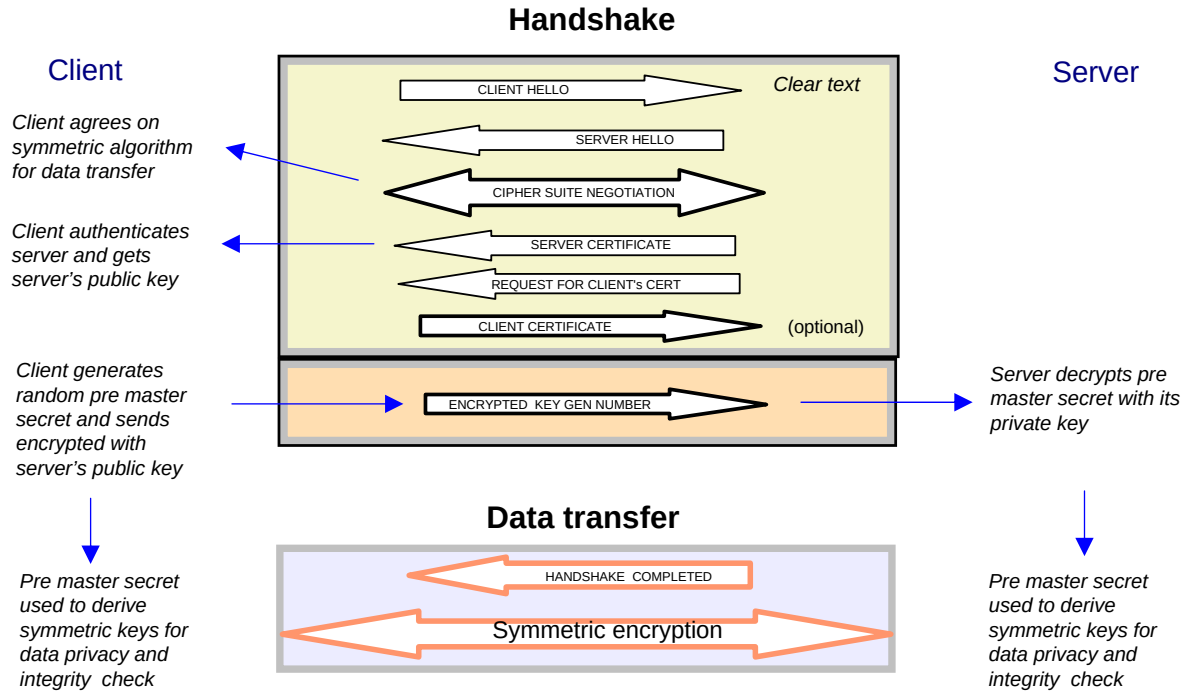
Agenda

- Certificate Revocation List Granularity
- Hostname Validation Granularity
- Hardware To Software Cryptography Notification
- Callback Re-handshake Notification

z/OS V1R9 System SSL Enhancements

The SSL/TLS Protocol



System SSL At z/OS V1R9

* SSL= Secure Socket layer
TLS= Transport Layer Security

- A set of C/C++ functions for establishing and using SSL/TLS * socket connections as an SSL/TLS server or client
- A set of C/C++ functions for applications to
  - manipulate keys and certificates databases, build and process PKCS#7 messages
- A key and certificates management facility (GSKKYMAN)

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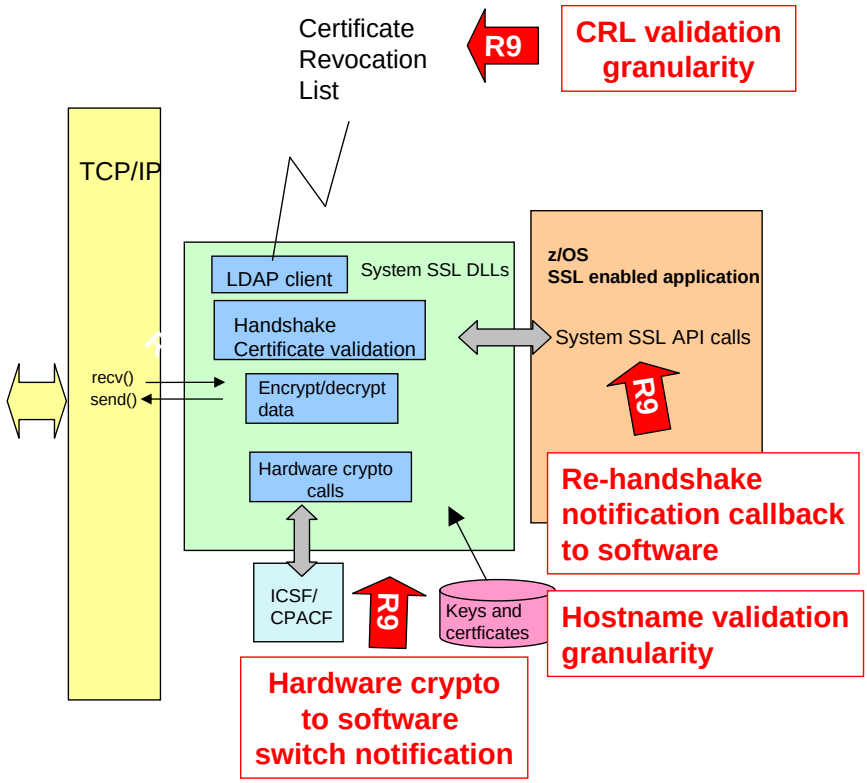
Support of z/OS PKCS11 tokens

Already seen in session 06



Certificate Revocation List Granularity

A new environment variable:

GSK_CRL_SECURITY_LEVEL_LOW - Certificate validation will not fail if the LDAP server cannot be contacted .

GSK_CRL_SECURITY_LEVEL_MEDIUM - Certificate validation requires the LDAP server to be contactable, but does not require a CRL to be defined (default setting)

GSK_CRL_SECURITY_LEVEL_HIGH - Certificate validation requires the LDAP server to be contactable, and a CRL to be defined

Hostname Validation Granularity

An option to verify the partner's host name as it should appear in its certificate :

GSKCMS_VALIDATE_HOSTNAME_CN validate the host name against 1) - the common name (CN), 2)- the subject alternate name extension (DNS format) in the certificate

GSKCMS_VALIDATE_HOSTNAME_CN_ONLY validate the host name against the common name (CN) of the certificate only.

GSKCMS_VALIDATE_HOSTNAME_DNS validate the host name against 1)- the subject alternate name extension, 2)- the common name.

GSKCMS_VALIDATE_HOSTNAME_DNS_ONLY validate the host name against the subject alternate name extension only.

z/OS System SSL At z/OS V1R9

Hardware to software cryptography switch notification

Transparent to applications

•New messages - Require the SSL started task (GSKSRVR) to be configured and up and running prior to the SSL applications

Console message

GSK01051E jobname/ASID - Hardware encryption error. ICSF hardware encryption processing is unavailable

GSKSRVR system log message

GSK01052W jobname/ASID - Hardware encryption error. algorithm encryption processing switched to software

Callback Rehandshake Notification

Application provides callback routines names:

•One routine to be called back when the rehandshake starts
•One routine to be called back when the rehandshake completes

Support of z/OS PKCS#11 tokens by gskkyman

The System SSL gskkyman utility has been updated to handle PKCS#11 tokens as well as digital certificates and keys

See session 06

Thank You

Any Questions ?

Appendix

- System SSL Programming Guide SC24-5901-06
- RFC 2818 – HTTP over TLS - www.ietf.org/rfc/rfc2818.txt
- RFC 2246 – The TLS Protocol Version 1.0 – www.ieft.org/rfc/rfc2246.txt
- RFC 2459 – Internet X.509 PKI Certificate and CRL profile – www.ieft.org/rfc/rfc2459.txt