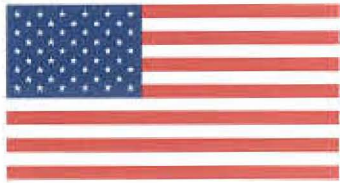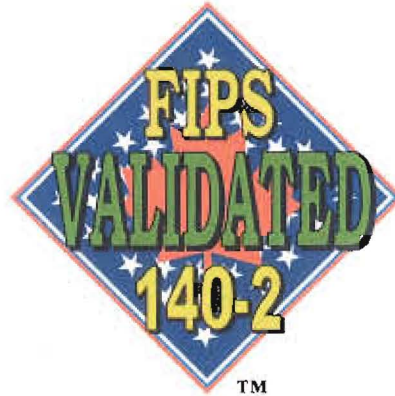# FIPS 140-2 Validation Certificate

The National Institute of Standards and Technology of the United States of America

TM

The Communications Security Establishment of the Government of Canada

Certificate No. 1007

The National Institute of Standards and Technology, as the United States FIPS 140-2 Cryptographic Module Validation Authority; and the Communications Security Establishment, as the Canadian FIPS 140-2 Cryptographic Module Validation Authority; hereby validate the FIPS 140-2 testing results of the Cryptographic Module identified as:

Microsoft Windows Server 2008 Kernel Mode Security Support Provider Interface (ksecdd.sys) *by* Microsoft Corporation

(When operated in FIPS mode with Windows Server 2008 OS Loader (winload.exe) validated to FIPS 140-2 under Cert. #1005 operating in FIPS mode)

in accordance with the Derived Test Requirements for FIPS 140-2, Security Requirements for Cryptographic Modules. FIPS 140-2 specifies the security requirements that are to be satisfied by a cryptographic module utilized within a security system protecting *Sensitive Information* (United States) or *Protected Information* (Canada) within computer and telecommunications systems (including voice systems).

Products which use the above identified cryptographic module may be labeled as complying with the requirements of FIPS 140-2 so long as the product, throughout its life cycle, continues to use the validated version of the cryptographic module as specified in this certificate. The validation report contains additional details concerning test results. No reliability test has been performed and no warranty of the products by both agencies is either expressed or implied.

This certificate includes details on the scope of conformance and validation authority signatures on the reverse.

TM: A Certification Mark of NIST, which does not imply product endorsement by NIST, the U.S., or Canadian Governments.

FIPS 140-2 provides four increasing, qualitative levels of security: Level 1, Level 2, Level 3, and Level 4. These levels are intended to cover the wide range and potential applications and environments in which cryptographic modules may be employed. The security requirements cover eleven areas related to the secure design and implementation of a cryptographic module. The scope of conformance achieved by the cryptographic modules as tested in the product identified as:

Microsoft Windows Server 2008 Kernel Mode Security Support Provider Interface (ksecdd.sys) by Microsoft Corporation
(Software Version: 6.0.6001.22202; Software)

and tested by the Cryptographic Module Testing accredited laboratory:
is as follows:

Atlan Laboratories, NVLAP Lab Code 200492-0
CRYPTIK Version 7.0

Cryptographic Module Specification:	Level 1		*Cryptographic Module Ports and Interfaces:*	Level 1
Roles, Services, and Authentication:	Level 1		*Finite State Model:*	Level 1
Physical Security: (Multi-Chip Standalone)	Level N/A		*Cryptographic Key Management:*	Level 1
EMI/EMC:	Level 1		*Self-Tests:*	Level 1
Design Assurance:	Level 1		*Mitigation of Other Attacks:*	Level N/A
Operational Environment:	Level 1			

tested in the following configuration(s): Microsoft Windows Server 2008 (x86 Version); Microsoft Windows Server 2008 (x64 version); Microsoft Windows Server 2008 (IA64 version) (single-user mode)

The following FIPS approved Cryptographic Algorithms are used: **AES (Certs. #739 and #757); ECDSA (Cert. #83); HMAC (Cert. #413); RNG (Cert. #435 and SP800-90 AES-CTR, vendor affirmed); RSA (Certs. #353 and #358); SHS (Cert. #753); Triple-DES (Cert. #656)**

The cryptographic module also contains the following non-FIPS approved algorithms: **AES (GCM and GMAC; non-compliant); DES; Diffie-Hellman (key agreement; key establishment methodology provides between 80 and 150 bits of encryption strength; non-compliant less than 80 bits of encryption strength); EC Diffie-Hellman (key agreement; key establishment methodology provides between 128 and 256 bits of encryption strength); MD2; MD4; MD5; HMAC MD5; RC2; RC4; RNG (SP 800-90 Dual-EC; non-compliant); RSA (key wrapping: key establishment methodology provides between 80 and 150 bits of encryption strength; non-compliant less than 80 bits of encryption strength)**

Overall Level Achieved: 1

Signed on behalf of the Government of the United States

Signature: _William C Barker_

Dated: _August 15, 2008_

Chief, Computer Security Division
National Institute of Standards and Technology

Signed on behalf of the Government of Canada

Signature: _____

Dated: _August 12, 2008_

Director, Industry Program Group
Communications Security Establishment Canada