FIPS 140-2 Validation Certificate

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

The Communications Security Establishment of the Government of Canada

Certificate No. **678**

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:

LX-8020S *and* LX-8040S Series Console Servers *by* MRV Communications

(When operated 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.

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:

LX-8020S *and* LX-8040S Series Console Servers *by* MRV Communications.

***(Hardware Versions: B/L 350-6003 Rev: D, P/N 500-8722 Rev: A and B/L 350-6003 Rev: D, P/N 500-8724 Rev: A and B/L 350-6005 Rev: G, P/N 500-8732 Rev: A and B/L 350-6004 Rev: C, P/N 500-8730 Rev: A and B/L 350-6003 Rev: D, P/N 500-8723 Rev: B and B/L 350-6003 Rev: D, P/N 500-8725 Rev: B and B/L 350-6005 Rev: G, P/N 500-8733 Rev: A and B/L 350-6004 Rev: C, P/N 500-8731 Rev: A and B/L 350-6003 Rev: D, P/N 500-8726 Rev: A and B/L 350-6003 Rev: D, P/N 500-8728 Rev: A and B/L 350-6005 Rev: G, P/N 500-8736 Rev: A and B/L 350-6004 Rev: C, P/N 500-8734 Rev: A and B/L 350-6003 Rev: D, P/N 500-8727 Rev: B and B/L 350-6003 Rev: D, P/N 500-8729 Rev: B and B/L 350-6005 Rev: G, P/N 500-8737 Rev: A and B/L 350-6004 Rev: C, P/N 500-8735 Rev: A; Firmware Version: linuxito Version: 3.7.2 and ppciboot Version: 3.7.2;* Hardware)**

and tested by the Cryptographic Module Testing accredited laboratory: ***Atlan Laboratories, NVLAP Lab Code 200492-0***
CRYPTIK Version 6.0

is as follows:

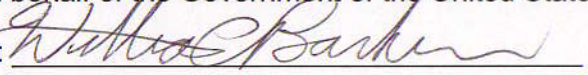
Cryptographic Module Specification:	Level 2	*Cryptographic Module Ports and Interfaces:*	Level 2
Roles, Services, and Authentication:	Level 2	*Finite State Model:*	Level 2
Physical Security: *(Multi-Chip Standalone)*	Level 2	*Cryptographic Key Management:*	Level 2
EMI/EMC:	Level 2	*Self-Tests:*	Level 2
Design Assurance:	Level 2	*Mitigation of Other Attacks:*	Level N/A
Operational Environment:	Level N/A	*tested in the following configuration(s):*	N/A

The following FIPS approved Cryptographic Algorithms are used: **AES (Cert. #348); DSA (Cert. #156); RNG (Cert. #166); RSA (Cert. #117); SHS (Cert. #423); Triple-DES (Cert. #408); HMAC (Cert. #151)**

The cryptographic module also contains the following non-FIPS approved algorithms: **DES (non-compliant); MD5; Diffie-Hellman (key agreement; key establishment methodology provides between 80 and 194 bits of encryption strength); RSA (key wrapping; key establishment methodology provides betwee 80 and 194 bits of encryption strength)**

Overall Level Achieved: 2

Signed on behalf of the Government of the United States

Signature: 

Dated: 20 June 2006

Chief, Computer Security Division
National Institute of Standards and Technology

Signed on behalf of the Government of Canada

Signature: 

Dated: 12 June 2006

Director, Industry Program Group
Communications Security Establishment