SUN CRYPTO ACCELERATOR
6000 PCI EXPRESS ADAPTER

Security is mandatory in today's business environment. Oracle's Sun Crypto Accelerator 6000 PCI Express (PCIe) Adapter improves both network security and bottom lines without adding undue complexity and without draining system performance, resources, or budget.

Sun Crypto Accelerator 6000 PCI Express Adapter Overview

The Sun Crypto Accelerator 6000 PCIe Adapter is FIPS 140-2 Level 3 certified, which means the hardware is tamper resistant and tamper evident, and that security parameters never leave the card unencrypted. The Sun Crypto Accelerator 6000 PCIe Adapter provides a hardware key store that enables users to safeguard the security parameters on the card. The crypto board also supports financial services-related PIN and credit card verification functionality.

Designed to offer maximum value, the Sun Crypto Accelerator 6000 PCIe Adapter enables the efficient delivery of cost-effective network security to Oracle platforms running Oracle Solaris operating system. It is also ideally suited to Oracle’s Sun Java Enterprise Web Server, and other Java enterprise software from Oracle that can leverage the Oracle Solaris Cryptographic Framework feature or Apache software through OpenSSL dynamic linking support.

Applications using the SSL protocol can increase transaction protection and performance from the Sun Crypto Accelerator 6000 card. Capable of establishing SSL sessions at up to 13,000 RSA operations per second with 1,024-bit keys and more than 1 Gb/sec bulk encryption, the Sun Crypto Accelerator 6000 PCIe Adapter efficiently offloads SSL functions and bulk encryption for any application—including IPSec from host processors. This helps eliminate dropped connections that can result from compute-intensive cryptographic calculations. By handling both authentication and encryption, this specialized board frees servers to complete primary tasks, enabling users to maximize resource use and reduce cost of ownership for network security.
Sun Crypto Accelerator 6000 PCI Express Adapter Specifications

Operating Systems
Refer to OS supported by the host server

Web Server Environments
• Sun Java Enterprise Web Server and other Java enterprise software from Oracle that can leverage the Oracle Solaris Cryptographic Framework and PKCS #11
• Apache Web server through OpenSSL dynamic linking support

Cryptographic Functions
Hash functions: SHA2 and MD5
Block ciphers: DES and 3DES, AES

Administration
Secure direct administrative interface allows users to administer the card without traversing the host operating system

Modular Exponentiation
• RSA/DH public key, with lengths of 512–2,048 bits
• Up to 13,000 RSA operations per second with 1,024-bit keys

Part Numbers
• Sun X6000A-N: Sun Crypto Accelerator 6000 PCI Express Adapter

Regulatory Standards Certifications
• Safety
  UL 60950-1, 2nd Edition
  CSA C22.2 No. 60950-1-07

• ElectroMagnetic Compatibility (EMC)
  EN55022:2010 Class A
  EN55024:2010
  EN61000-3-3:2008
  47CFR15 Subpart B (FCC) Class A
  ICES-003 Class A
  CISPR22:2008 Class A

Dimensions
Short form factor, standard and low-profile brackets supported

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Length</strong></td>
<td>167.64 mm (6.6 inches)</td>
</tr>
<tr>
<td><strong>Width</strong></td>
<td>64.41 mm (2.536 inches)</td>
</tr>
<tr>
<td><strong>Height, side</strong></td>
<td>13.97 mm (0.550 inches)</td>
</tr>
<tr>
<td><strong>Height, back</strong></td>
<td>2.33 mm (0.092 inches)</td>
</tr>
</tbody>
</table>

Connectors
• RJ-11 connector
• USB 2.0
• PCIe x8

Support for key store backup and restore operations to/from a directly attached USB mass storage device

Coating Material
Black two-component epoxy 6007A/6252B

**Regulatory Standards Certification**

**EMI Compatibility**
When installed in Oracle equipment, complies with Class A limits for radiated emissions and Class B limits for conducted emissions of FCC Part 15, VCCI Class I, and DOC Class A

**9.1.4 ESD Susceptibility**
Complies with ESD and RF immunity requirements of EN55082-1 and Sun Specification 990-1151. Per Sun Specification 990-1151, limits for ESD testing are 8 kV (direct) and 15 kV (air). RF immunity is 10 V/m in all applicable frequencies.

**Environment**
Fully compliant with Oracle’s EMI and safety requirements

<table>
<thead>
<tr>
<th>Operating</th>
<th>0° C to 60° C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nonoperating</td>
<td>− 40° C to 85° C</td>
</tr>
<tr>
<td>Humidity</td>
<td>0 to 95 percent relative humidity, noncondensing</td>
</tr>
<tr>
<td>Power</td>
<td>13 w</td>
</tr>
<tr>
<td>Universal signaling</td>
<td>3.3 v PCI signaling</td>
</tr>
</tbody>
</table>

**Platforms Supported**
Oracle’s SPARC and Netra servers
Refer to the I/O options document of the target host server for the updated information on the networking cards and operating systems supported by that server.

---

**Warranty**
Visit [oracle.com/sun/warranty](http://oracle.com/sun/warranty) for Oracle’s global warranty support information on Sun products.

**Services**
Visit [oracle.com/sun/services](http://oracle.com/sun/services) for information on Oracle’s service program offerings for Sun products.

**Contact Us**
For more information about Oracle’s Sun Crypto Accelerator 6000 PCI Express Adapter, please visit [oracle.com/sun](http://oracle.com/sun) or call +1.800 ORACLE1 to speak to an Oracle representative.

---

Copyright © 2013, Oracle and/or its affiliates. All rights reserved.

This document is provided for information purposes only, and the contents hereof are subject to change without notice. This document is not warranted to be error-free, nor subject to any other warranties or conditions, whether expressed orally or implied in law, including implied warranties and conditions of merchantability or fitness for a particular purpose. We specifically disclaim any liability with respect to this document, and no contractual obligations are formed either directly or indirectly by this document. This document may not be reproduced or transmitted in any form or by any means, electronic or mechanical, for any purpose, without our prior written permission.

Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

Intel and Intel Xeon are trademarks or registered trademarks of Intel Corporation. All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. AMD, Opteron, the AMD logo, and the AMD Opteron logo are trademarks or registered trademarks of Advanced Micro Devices. UNIX is a registered trademark of The Open Group. 0113

**Hardware and Software, Engineered to Work Together**