

10GbE Switches

Security Guide



Part No.: E39117-01
July 2013

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

This software and related documentation are provided under a license agreement containing restrictions on use and disclosure and are protected by intellectual property laws. Except as expressly permitted in your license agreement or allowed by law, you may not use, copy, reproduce, translate, broadcast, modify, license, transmit, distribute, exhibit, perform, publish, or display any part, in any form, or by any means. Reverse engineering, disassembly, or decompilation of this software, unless required by law for interoperability, is prohibited.

The information contained herein is subject to change without notice and is not warranted to be error-free. If you find any errors, please report them to us in writing.

If this is software or related software documentation that is delivered to the U.S. Government or anyone licensing it on behalf of the U.S. Government, the following notice is applicable:

U.S. GOVERNMENT RIGHTS Programs, software, databases, and related documentation and technical data delivered to U.S. Government customers are "commercial computer software" or "commercial technical data" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, the use, duplication, disclosure, modification, and adaptation shall be subject to the restrictions and license terms set forth in the applicable Government contract, and, to the extent applicable by the terms of the Government contract, the additional rights set forth in FAR 52.227-19, Commercial Computer Software License (December 2007). Oracle America, Inc., 500 Oracle Parkway, Redwood City, CA 94065.

This software or hardware is developed for general use in a variety of information management applications. It is not developed or intended for use in any inherently dangerous applications, including applications which may create a risk of personal injury. If you use this software or hardware in dangerous applications, then you shall be responsible to take all appropriate fail-safe, backup, redundancy, and other measures to ensure its safe use. Oracle Corporation and its affiliates disclaim any liability for any damages caused by use of this software or hardware in dangerous applications.

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.

This software or hardware and documentation may provide access to or information on content, products, and services from third parties. Oracle Corporation and its affiliates are not responsible for and expressly disclaim all warranties of any kind with respect to third-party content, products, and services. Oracle Corporation and its affiliates will not be responsible for any loss, costs, or damages incurred due to your access to or use of third-party content, products, or services.

Copyright © 2013, Oracle et/ou ses affiliés. Tous droits réservés.

Ce logiciel et la documentation qui l'accompagne sont protégés par les lois sur la propriété intellectuelle. Ils sont concédés sous licence et soumis à des restrictions d'utilisation et de divulgation. Sauf disposition de votre contrat de licence ou de la loi, vous ne pouvez pas copier, reproduire, traduire, diffuser, modifier, breveter, transmettre, distribuer, exposer, exécuter, publier ou afficher le logiciel, même partiellement, sous quelque forme et par quelque procédé que ce soit. Par ailleurs, il est interdit de procéder à toute ingénierie inverse du logiciel, de le désassembler ou de le décompiler, excepté à des fins d'interopérabilité avec des logiciels tiers ou tel que prescrit par la loi.

Les informations fournies dans ce document sont susceptibles de modification sans préavis. Par ailleurs, Oracle Corporation ne garantit pas qu'elles soient exemptes d'erreurs et vous invite, le cas échéant, à lui en faire part par écrit.

Si ce logiciel, ou la documentation qui l'accompagne, est concédé sous licence au Gouvernement des Etats-Unis, ou à toute entité qui délivre la licence de ce logiciel ou l'utilise pour le compte du Gouvernement des Etats-Unis, la notice suivante s'applique :

U.S. GOVERNMENT RIGHTS. Programs, software, databases, and related documentation and technical data delivered to U.S. Government customers are "commercial computer software" or "commercial technical data" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, the use, duplication, disclosure, modification, and adaptation shall be subject to the restrictions and license terms set forth in the applicable Government contract, and, to the extent applicable by the terms of the Government contract, the additional rights set forth in FAR 52.227-19, Commercial Computer Software License (December 2007). Oracle America, Inc., 500 Oracle Parkway, Redwood City, CA 94065.

Ce logiciel ou matériel a été développé pour un usage général dans le cadre d'applications de gestion des informations. Ce logiciel ou matériel n'est pas conçu ni n'est destiné à être utilisé dans des applications à risque, notamment dans des applications pouvant causer des dommages corporels. Si vous utilisez ce logiciel ou matériel dans le cadre d'applications dangereuses, il est de votre responsabilité de prendre toutes les mesures de secours, de sauvegarde, de redondance et autres mesures nécessaires à son utilisation dans des conditions optimales de sécurité. Oracle Corporation et ses affiliés déclinent toute responsabilité quant aux dommages causés par l'utilisation de ce logiciel ou matériel pour ce type d'applications.

Oracle et Java sont des marques déposées d'Oracle Corporation et/ou de ses affiliés. Tout autre nom mentionné peut correspondre à des marques appartenant à d'autres propriétaires qu'Oracle.

Intel et Intel Xeon sont des marques ou des marques déposées d'Intel Corporation. Toutes les marques SPARC sont utilisées sous licence et sont des marques ou des marques déposées de SPARC International, Inc. AMD, Opteron, le logo AMD et le logo AMD Opteron sont des marques ou des marques déposées d'Advanced Micro Devices. UNIX est une marque déposée d'The Open Group.

Ce logiciel ou matériel et la documentation qui l'accompagne peuvent fournir des informations ou des liens donnant accès à des contenus, des produits et des services émanant de tiers. Oracle Corporation et ses affiliés déclinent toute responsabilité ou garantie expresse quant aux contenus, produits ou services émanant de tiers. En aucun cas, Oracle Corporation et ses affiliés ne sauraient être tenus pour responsables des pertes subies, des coûts occasionnés ou des dommages causés par l'accès à des contenus, produits ou services tiers, ou à leur utilisation.



Adobe PostScript

Contents

10GbE Switches	1
Product Overview	1
Security Principles	2
Keep Software Up To Date	2
Monitor System Activity	2
Keep Up To Date on Latest Security Information	2
Secure Installation and Configuration	2
Installation Overview	3
Installing Firmware	3
Security Features	4
AAA	4
Logging Information	4
10GbE Switches Configuration	4
Firmware/EEPROM Upgrades	5
Security Considerations for Developers	5

10GbE Switches

This guide provides security guidelines for the 10GbE Switches from Oracle.

- [“Product Overview”](#) on page 1
- [“Security Principles”](#) on page 2
- [“Secure Installation and Configuration”](#) on page 2
- [“Security Features”](#) on page 4
- [“Security Considerations for Developers”](#) on page 5

Product Overview

The security guidelines in this guide apply to the following 10GbE Switches:

Switch	Ports	Form Factor	Transfer Rate	Network Interconnect
Oracle Switch ES1-24	24	Top of Rack	10Gbps	QSFP, SFP+ Ethernet
Sun Network 10GbE Switch 72p	72	Top of Rack	10Gbps	QSFP, SFP+ Ethernet
Sun Blade 6000 Ethernet Switched NEM 24p 10GbE	24	ExpressModule	10Gbps	QSFP, SFP+ Ethernet

The 10GbE switches product line provides multipurpose connectivity for Oracle blades, Netra blades, and rack-mount platforms. These switches provide connectivity through SFP+ and QSFP connectors.

It is important to understand that having network access to the platforms and blades does not compromise the security of the switches in general. Platforms and blades do not have direct access to the switch firmware.

All policies that need to be set up in the 10GbE switches are accessible only through Oracle ILOM (Oracle Integrated Lights Out Manager).

All software written for these switches is embedded in firmware with access provided only by authenticated users through Oracle ILOM.

Security Principles

The following principles are fundamental to using the 10GbE switches securely.

Keep Software Up To Date

One of the principles of good security practice is to keep all software and firmware versions and patches up to date. 10GbE switches have embedded firmware that needs to be kept up to date. Firmware is accessible only to system administrators that have access to Oracle ILOM after logging in.

Monitor System Activity

Oracle ILOM has message log to log system activity. 10GbE switch firmware upgrade activity is included in the system log.

After three consecutive crashes of the configuration, the system will save the failing configuration file and revert to factory-default configuration to ensure availability. An Oracle ILOM alert is logged when this happens.

Keep Up To Date on Latest Security Information

Oracle continually improves its software and documentation. Check product release notes often for updates.

Secure Installation and Configuration

This section provides an overview of the software installation and configuration.

Installation Overview

The 10GbE switches are shipped with all firmware installed. Customers are not required to do any installation. All software update components such as patches and new firmware releases must be downloaded from Oracle web download site after logging in using service contract information and credentials.

Note – 10GbE switches firmware images are upgradeable only through Oracle ILOM.

To install new firmware, refer to:

- *Oracle Switch ES1-24 Product Notes*
- *Sun Network 10GbE Switch 72p Product Notes*
- *Sun Netra 6000 Switched NEM 24p 10GbE Product Notes*
- *Sun Blade 6000 Modular System Product Notes*

Installing Firmware

For detailed instructions, refer to:

- *Oracle Switch ES1-24 Installation Guide*
- *Sun Network 10GbE Switch 72p User's Guide*
- *Sun Blade 6000 and Sun Netra 6000 Switched NEM 24p 10GbE User's Guide*

Security Features

Users cannot access any of the 10GbE switches firmware directly. All requests are handled by proxy through Oracle ILOM.

AAA

The critical security features provided by Oracle ILOM are as follows:

- **Authentication:** Ensuring that only authorized individuals get access to the system and data.
- **Authorization:** Access control to system privileges and data. This builds on authentication to ensure that individuals get appropriate access only.
- **Audit:** Allows administrators to detect attempted breaches of the authentication mechanisms and attempted or successful breaches of access control.

Oracle ILOM information is located in the Oracle Integrated Lights Out Manager 3.0 documentation collection at: <http://docs.oracle.com/cd/E19860-01/>

10GbE switches security features are accessible only through Oracle ILOM.

Logging Information

All logging information is available only through Oracle ILOM.

10GbE Switches Configuration

Custom configurations can be saved, and settings can be reset to factory defaults.

Firmware/EEPROM Upgrades

Upgrades are allowed only through Oracle ILOM.

For more information refer to product documents:

- Oracle Switch ES1-24 Documentation
- Sun Network 10GbE Switch 72p Documentation
- Sun Blade 6000 and Sun Netra 6000 Switched NEM 24p 10GbE Documentation

Security Considerations for Developers

All software and firmware running on 10GbE switches are provided by Oracle. Customers cannot develop their own software to run on the switches.

