

# Intel® Software Guard Extensions Platform Software for Linux\* OS Release Notes

---

11 October 2016

Revision: 1.6 Open Source (Intel® SGX PSW version: 1.6.100.34922)

## Contents:

[Introduction](#)

[What's New](#)

[System Requirements](#)

[Installation Notes](#)

[Known Issues and Limitations](#)

[Disclaimer and Legal Information](#)

## 1 Introduction

This document provides system requirements, installation instructions, limitations and legal information for Intel® Software Guard Extensions (Intel® SGX) Platform Software (PSW).

### Product Contents

The Intel® Software Guard Extensions PSW package includes:

- Intel® SGX enclaves
- Intel® SGX Runtime System Library
- Intel® SGX Application Enclave Service Manager (AESM)

## 2 What's New

Changes to Intel® Software Guard Extensions PSW include:

- Support for flexible provisioning
- Support for retrieving enclave launch whitelist file from remote server

## 3 System Requirements

### Hardware Requirements

- 6th Generation Intel® Core™ Processor (Intel® microarchitecture code name Skylake). If the system is using an Intel reference BIOS, you need a 6th Generation Intel® Core™ Processor BIOS RC 0.7 or newer.
- 7th Generation Intel® Core™ Processor (Intel® microarchitecture code name Kaby Lake)

### Software Requirements

- Supported Linux\* OS distributions:
  - Ubuntu\* 14.04.4 LTS 64-bit version (for desktop version only)

#### Note:

Please use the listed Linux\* OS distribution. Other distributions are not supported.

## 4 Installation Notes

Before installing Intel® SGX PSW, Intel® SGX must be enabled in BIOS. If the system is using an Intel reference BIOS, you may configure the BIOS options by following these steps:

Go to **Intel Advanced Menu -> CPU Configuration -> SW Guard Extensions (SGX)**. Set **SW Guard Extensions (SGX)** to **Enabled**.

- You may need to configure **Intel Advanced Menu -> CPU Configuration -> PRMRR**. You can set it to 32MB, 64MB or 128MB. The default option is 128MB.

#### Note:

This step may only be applicable to Intel reference BIOS and may be not applicable to OEM BIOS.

To install the Intel® SGX driver and PSW, use the following steps:

1. To install the Intel® SGX driver in the default directory, enter the following command:

```
sudo ./sgx_linux_x64_driver.bin
```

2. To install the Intel® SGX PSW in the default directory, enter the following command. The platform software is installed at `/opt/intel/sgxpsw`

```
sudo ./sgx_linux_x64_psw_1.6.100.34922.bin
```

3. To uninstall the product, enter the following command:

```
sudo /opt/intel/sgxpsw/uninstall.sh
```

## 5 Known Issues and Limitations

- Intel® SGX platform service is unavailable
- Intel® SGX for Linux\* OS does not support power management.

## 6 Disclaimer and Legal Information

No license (express or implied, by estoppel or otherwise) to any intellectual property rights is granted by this document.

Intel disclaims all express and implied warranties, including without limitation, the implied warranties of merchantability, fitness for a particular purpose, and non-infringement, as well as any warranty arising from course of performance, course of dealing, or usage in trade.

This document contains information on products, services and/or processes in development. All information provided here is subject to change without notice. Contact your Intel representative to obtain the latest forecast, schedule, specifications and roadmaps.

The products and services described may contain defects or errors known as errata which may cause deviations from published specifications. Current characterized errata are available on request.

Intel technologies features and benefits depend on system configuration and may require enabled hardware, software or service activation. Learn more at [Intel.com](http://Intel.com), or from the OEM or retailer.

Copies of documents which have an order number and are referenced in this document may be obtained by calling 1-800-548-4725 or by visiting [www.intel.com/design/literature.htm](http://www.intel.com/design/literature.htm).

Intel, the Intel logo, Xeon, and Xeon Phi are trademarks of Intel Corporation in the U.S. and/or other countries.

## Optimization Notice

Intel's compilers may or may not optimize to the same degree for non-Intel microprocessors for optimizations that are not unique to Intel microprocessors. These optimizations include SSE2, SSE3, and SSSE3 instruction sets and other optimizations. Intel does not guarantee the availability, functionality, or effectiveness of any optimization on microprocessors not manufactured by Intel. Microprocessor-dependent optimizations in this product are intended for use with Intel microprocessors. Certain optimizations not specific to Intel microarchitecture are reserved for Intel microprocessors. Please refer to the applicable product User and Reference Guides for more information regarding the specific instruction sets covered by this notice.

Notice revision #20110804

\* Other names and brands may be claimed as the property of others.

© 2016 Intel Corporation.