



# Intel® Manycore Platform Software Stack (Intel® MPSS)

README (Windows\*)

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## Revision History

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328510-001	3.3	Corrected OS support statement Section 2.1	April 2014
328510-001	3.3	Added instructions for downgrade	June 2014



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# 1 About this Document

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This README is for the Intel® Manycore Platform Software Stack (Intel® MPSS) build revision 3.4. This Intel MPSS 3.4 release encompasses the Microsoft Windows\* driver and supporting tools.

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## 1.1 Intended Audience

This document pertains to systems containing Intel® Xeon Phi™ coprocessor. It is intended for system administrators and other IT professionals who are responsible for installing and configuring computer hardware and software.

## 1.2 Conventions and Symbols

In this document, lines preceded by `user_prompt>` are used to represent a Windows\* command prompt; text following this string on the same line represents commands to be executed in a Windows\* command window. Table 1 lists other conventions used in this document.

**Table 1 Conventions and Symbols used in this Document**

<code>This type style</code>	Indicates an element of syntax, reserved word, keyword, filename, computer output, command, or part of a program example. The text appears in lowercase unless uppercase is significant.
<b>This type style</b>	Used to highlight the elements of a graphical user interface such as buttons and menu names.
<i>This type style</i>	Indicates a placeholder for an identifier, an expression, a string, a symbol, or a value. Substitute one of these items for the placeholder. Also used to indicate new terms, URLs, email addresses, filenames, and file extensions.
[ <i>items</i> ]	Indicates that the items enclosed in brackets are optional.
{ <i>item</i>   <i>item</i> }	Indicates to select only one of the items listed between braces. A vertical bar (   ) separates the items.
... (ellipses)	Indicates that you can repeat the preceding item.
\ (backslash)	Indicates continuation of a command onto the next line in the document.



## 2 Installation Instructions

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This section outlines the system requirements and steps to install the Intel MPSS 3.4 Windows\* package.

Detailed **configuration** information and procedures appear in the Intel MPSS User's Guide (Windows\*) (Windows\_MPSS\_Users\_Guide.pdf).

### 2.1 Requirements

Before installing the Intel MPSS driver, the following requirements must be met:

- Administrator privileges are required to install the Intel MPSS 3.x release.
- Supported operating system. Currently supported operating systems include:
  - Microsoft Windows\* 7 Enterprise SP1 (64-bit)
  - Microsoft Windows\* 8/8.1 Enterprise (64-bit)
  - Microsoft Windows\* Server 2008 R2 SP1 (64-bit)
  - Microsoft Windows\* Server 2012 (64-bit)
  - Microsoft Windows\* Server 2012 R2 (64-bit)
- Microsoft .NET Framework 4.0 or higher
- Supported hardware platform with at least one Intel® Xeon Phi™ coprocessor installed - The system requirements can be found here:  
<http://software.intel.com/en-us/articles/which-systems-support-the-intel-xeon-phi-coprocessor>
- The host platform BIOS must support large Base Address Registers (or large BAR). Contact your BIOS vendor to ensure this is the case.
- Administrator privileges are required when executing Intel MPSS commands.

### 2.2 Installation

This section describes the steps required to install the Intel MPSS 3.4 release on the Intel® Xeon Phi™ coprocessor.

#### 2.2.1 Preliminary Steps

Verify the BIOS setting “Memory Mapped I/O above 4GB” (or similar) is enabled. This setting should be in the advanced PCI configuration menu in the BIOS settings.

#### 2.2.2 Install the Driver

**NOTE:** If a previous pre-release version of the Intel® Xeon Phi™ software is installed, use Windows\* Control Panel to uninstall it prior to installing the current version.



**NOTE:** To avoid conflict between pre-release versions of binary utilities for the Intel® Xeon Phi™ coprocessor native compiler, delete the C:\Program Files\Intel\MPSS directory after uninstalling pre-release versions of Intel MPSS software via control panel.

- 1) Unzip the Intel® Xeon Phi™ software package.
- 2) Double-click the file *Intel® Xeon Phi™ coprocessor.exe*. Follow all prompts to install Intel MPSS software on the system.
- 3) Select the language for the installation (Chinese, English, Japanese) and click **OK**. Click **Next**.
- 4) Read the License Agreement. If agree, select '*I accept the terms of this license agreement*' and click **Next**.
- 5) Now you can change the **Destination** folder or keep it as the default (*C:\Program Files\Intel\MPSS\*) and click **Next**.
- 6) Choose the setup type or keep it as the default (default: *Complete*, other: *Custom*) and click **Next**.
- 7) Click **Install** and wait for the installation to complete.

**NOTE:** If the Windows Security pop-up appears, select the **Always trust software from Intel®** check box during installation.

**NOTE:** If a pre-release version of the Intel® Xeon Phi™ software was previously installed, it is necessary to stop and then restart the Intel® Xeon Phi™ coprocessors.

### 2.2.2.1 Unattended Intel® Xeon Phi™ Software Installation

- 1) In a command window, navigate to the directory that contains the Intel® Xeon Phi™ software (e.g. C:\Users\*username*\Downloads\mpss-3.4-windows)

```
user_prompt> cd C:\Users\username\Downloads\mpss-3.4-windows
```

- 2) Enter the following command:

```
user_prompt> "Intel(R) Xeon Phi(TM) coprocessor.exe" /s /v"/quiet /norestart"
```

### 2.2.3 Update the Flash

It is necessary to update the SMC Bootloader for this release, as well as to install the latest flash for the Intel® Xeon Phi™ coprocessor. Execute the steps below to update.

**NOTE:** Firmware and flash images are located in the C:\Program Files\Intel\MPSS directory.

- 1) Check the status of the coprocessor(s):

```
user_prompt> micctrl -s
```

If the status for all of the coprocessors shows 'ready', skip to step 2. Otherwise, set the coprocessor(s) to a 'ready' state:

```
user_prompt> micctrl -r
```



```
user_prompt> micctrl -w  
mic0: ready
```

- 2) Run from the command prompt:

```
user_prompt> micflash -update -device all
```

- 3) If step 2 was successful, jump to step 9.

- 4) If the update fails with the following error message, continue to step 5:

```
ERROR: micflash: mic0: SMC update failed: SMC buffer size  
exceeded (0x1)
```

- 5) Reboot the host system.

**NOTE:** Steps 6-10 are unnecessary for cards that are B1 or newer, or that already have SMC bootloader version 1.8 or newer.

- 6) Ensure that the status for the coprocessor(s) is 'ready' (same as step 1 above).

- 7) Run the following from the command prompt:

```
user_prompt> cd C:\Program Files\Intel\MPSS\bin  
user_prompt> micflash -update ..\<Bootloader FLASH FILE> \  
-device all
```

**NOTE:** <Bootloader FLASH FILE> represents an SMC firmware file usually named *EXT\_HP2\_SMC\_Bootloader\_1\_8\_4326.css\_ab*.

- 8) Re-run this command to update the flash:

```
user_prompt> micflash -update -device all
```

- 9) Reboot the physical host system for all flash and SMC changes to take effect.

- 10) After the physical host reboot is complete, it is necessary to fully restart the coprocessor(s):

```
user_prompt> micctrl -r  
user_prompt> micctrl -b
```

For additional micflash options, refer to:

```
user_prompt> micflash -help
```

## 2.2.4 Boot the Coprocessors

- 1) At the command line, run the command:

```
user_prompt> micctrl --start
```

**NOTE:** After each power cycle of the host machine, the coprocessors are booted automatically, using the last booted configuration settings. Additionally, if a pre-release version of the Intel® Xeon Phi™ software was previously installed, it is necessary to stop and then restart the Intel® Xeon Phi™ coprocessors.

- 2) Confirm that the coprocessor is booted by pinging the card:





```
user_prompt> ping 192.168.1.100
```

**NOTE:** Examples in this README, as well as the MPSS User’s Guide (Windows\*), use the default IP address: 192.168.1.100

## 2.2.5 Installing Windows Cross-SDK

**NOTE:** To avoid conflicts between pre-release versions of binary utilities for the Intel® Xeon Phi™ coprocessor native compiler, delete the **C:\Program Files\Intel\MPSS** directory after uninstalling pre-release versions of Intel MPSS software via control panel.

**NOTE:** The Windows SDK does not contain header files necessary for cross-compiling Linux kernel netfliter modules.

The SDK for the Intel® Xeon Phi™ coprocessor native compiler is included in the Intel® Xeon Phi™ installation zip file package. The SDK is required in order to compile and run applications for the Intel® Xeon Phi™ coprocessor. To install the binary utilities:

- 1) Unzip the Intel® Xeon Phi™ installation zip file package.
- 2) Install Intel(R) Xeon Phi(TM) coprocessor.exe (if not previously installed), as in Sec. [2.2.2](#).
- 3) Install Intel(R) Xeon Phi(TM) coprocessor essentials.exe (this installs the SDK).

**NOTE:** Installing the SDK is mandatory when using offload or cross compiler.