Intel® Manycore Platform Software Stack (Intel® MPSS)

README (Windows*)

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Revision History

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328510-001	3.5	Added section on Upgrading an installation	March 2015
328510-001	3.5	Upgraded docs to Intel Standard	February 2015
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328510-001	3.3	Corrected OS support statement Section 2.1	April 2014
328510-001	3.2	Revised Section 2.1.	January 2014

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1   *About this Document*

This README is for the Intel® Manycore Platform Software Stack (Intel® MPSS) build revision 3.5. This Intel MPSS 3.5 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

`This type style`	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.
This type style	Used to highlight the elements of a graphical user interface such as buttons and menu names.
This type style	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.
`User>`	Denotes a command entered on the host with user privileges.
`Admin>`	Denotes a command entered on the host with administrative (root) privileges.
[*items*]	Indicates that the items enclosed in brackets are optional.
{ *item* | *item* }	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

This section outlines the system requirements and steps to install the Intel MPSS 3.5 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:

    o   Microsoft Windows* 7 Enterprise SP1 (64-bit)

    o   Microsoft Windows* 8/8.1 Enterprise (64-bit)

    o   Microsoft Windows* Server 2008 R2 SP1 (64-bit)

    o   Microsoft Windows* Server 2012 (64-bit)

    o   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 3.5 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.

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2.2.2   Intel® Xeon Phi™ Software Installation

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

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. 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 (For example: C:\Users*<username>*\Downloads\mpss-3.5-windows)

```
User> cd C:\Users\<username>\Downloads\mpss-3.5-windows
```

2) Enter the following command:

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

Note: When using the unattended installation process, after entering the command it may take a few moments to complete the installation.

2.2.2.3　Upgrade Instructions

Upgrading to the Intel MPSS 3.5 software from a previous version can be performed in two ways:

1. Uninstall the previous version.

2. Install the Intel MPSS 3.5 software following the installation instructions found in Section 2.2.2 .

    Or

1. Install Intel MPSS 3.5 following the installation instructions found in Section 2.2.2 .

2. Allow the installer to uninstall the previous version and install the new version automatically.

Even though you can uninstall the old version before installing the new one this is not necessary. The Intel MPSS 3.5 software installer will automatically search for a previously installed version and remove it prior to installing version 3.5.

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):

```
Admin> 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:

```
Admin> micctrl -r

Admin> micctrl -w

mic0: ready
```

2) Run from the command prompt:
```
Admin> 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> cd C:\Program Files\Intel\MPSS\bin
Admin> 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:

```
Admin> 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):

```
Admin> micctrl -r
Admin> micctrl -b
```

For additional micflash options, refer to:

```
Admin> micflash -help
```

2.2.4 Boot the Coprocessors

1) At the command line, run the command:

```
Admin> micctrl --start
```

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> ping 192.168.1.100
```

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

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.

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® Xeon Phi™ Coprocessor.exe (if not previously installed), as in Sec 2.2.2 .

3) Install Intel® Xeon Phi™ Coprocessor essentials.exe (this installs the SDK).

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