



# **Intel® Internet Exchange Architecture Software Development Kit**

**Software Framework Installation Guide**

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*March 2004*



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## Revision History

Date	Revision	Description
March 2004	002	Intel® IXA SDK 3.51 Software Framework release
November 2003	001	Intel® IXA SDK 3.5 Software Framework release

This chapter provides details about this document and other documentation that is included with the Intel® Internet Exchange Architecture (Intel® IXA) Software Development Kit Software Framework CD.

## 1.1 About This Document

This *Intel® Internet Exchange Architecture Software Development Kit Software Framework Installation Guide* provides prerequisites and procedural information for the following tasks:

- Installing the Intel® IXA SDK Software Framework on a Windows 2000\* or Windows XP\* development host
- Installing the Intel® IXA SDK Software Framework on a Linux Red Hat\* 7.3 development host

## 1.2 How to Use This Document

The information in this publication is organized as follows

- [Chapter 2, “Taking Stock”](#) provides information you need to consider before installing the Intel® IXA SDK Software Framework CD.
- [Chapter 3, “Software Framework CD on Windows 2000 or Windows XP Hosts”](#) contains procedural information for installing the Intel® IXA SDK Software Framework CD on a Windows 2000\* development host or a Windows XP\* development host.
- [Chapter 4, “Software Framework CD on Linux Hosts”](#) contains procedural information for installing the Intel® IXA SDK Software Framework CD on a Linux Red Hat\* 7.3 development host.

## 1.3 Related Documentation

This manual is part of the Intel® IXA SDK Software Framework documentation set. In addition to the Control Plane Platform Development Kit (CP-PDK) documentation, the Intel® IXA SDK Software Framework CD includes the following documents:

**Note:** Refer to the *index.html* files located on the CD for a complete overview of all Software Framework documents (one *index.html* file is for the Intel® IXA SDK Software Framework documents listed below, a second *index.html* is for CP-PDK documents).

- *Intel® Internet Exchange Architecture Software Framework Getting Started Guide*  
This guide introduces you to the Software Framework CD and provides a variety of information to help you configure, run and produce debug output from sample applications. The *Getting Started Guide* contains the following:
  - information about configuring the system to run Linux applications

- procedures for running the IPv4 on Ethernet sample application on the Developer Workbench simulator
- procedures for running an IPv4 on Ethernet sample application on the hardware
- procedures for running an IPv6 on Ethernet sample application on the hardware
- using the Developer Workbench to debug applications
- a high-level explanation of the Software Framework directory structure
- information on adding microblocks and creating new core components for your applications
- procedures for converting a VxWorks core component to a Linux core component
- procedures for running an example application on the Intel® IXP2401 Advanced Development Platform
- *Intel® Internet Exchange Architecture Portability Framework Developer's Manual*  
This manual explains application development for the Intel® IXP2400 Network Processor and Intel® IXP2800 Network Processor within a portability framework that provides many ways of reducing time-to-market for your application. The Intel® Internet Exchange Portability Framework is a network application framework and infrastructure for writing code that is modular and portable. This is a companion guide to the Intel® Internet Exchange Architecture Portability Framework Reference Manual.
- *Intel® Internet Exchange Architecture Portability Framework Reference Manual*  
This manual provides details on functions, data structures, and parameters contained in the Portability Framework libraries. This is a companion guide to the *Intel® Internet Exchange Architecture Portability Framework Developer's Manual*.
- *Intel® Internet Exchange Architecture Software Building Blocks Developer's Manual*  
The Intel® IXA SDK includes two types of software components, called building blocks, which are:
  - microblocks running on the MEv2 microengines
  - core components running on the Intel XScale® coreThis manual provides details on the design of the microblocks and core components implemented for the Intel® IXP2400 Network Processor and the Intel® IXP2800 Network Processor. It includes information about data flow, external interfaces, and performance analysis. This is a companion guide to the *Intel® Internet Exchange Architecture Software Building Blocks Reference Manual*.
- *Intel® Internet Exchange Architecture Software Building Blocks Reference Manual*  
This manual provides details on the data structures, core component infrastructure APIs, library APIs, and messaging APIs supported by each of the core components. This is a companion guide to the *Intel® Internet Exchange Architecture Software Building Blocks Developer's Manual*.
- *Intel® Internet Exchange Architecture Software Building Blocks Applications Design Guide*  
This manual includes example code that demonstrates network processor features and data flow. These pipeline applications can be used to jump-start customer application development. This manual provides a high-level design overview of the hardware and software components for each pipeline application. It focuses on the microengine components of the design, listing the building blocks used, describing the data flow of the pipeline application, and providing performance characterization data.
- *Intel® Internet Exchange Architecture Software Framework Product Release Notes*

This section provides details about preparing to install the Intel<sup>®</sup> IXA SDK Software Framework CD, including requirements and decisions to consider beforehand.

## 2.1 Reviewing Your Development Host

Review your development PC before installing the package. The following sub-sections are a checklist of features to take into consideration.

### 2.1.1 Minimum System Requirements

The minimum system requirements for installing the Intel<sup>®</sup> IXA SDK Software Framework CD are as follows:

- 700 MHz Pentium<sup>®</sup> III processor
- 512 MB RAM
- CD-ROM drive

### 2.1.2 Operating System Software

The following operating system software supports the Intel<sup>®</sup> IXA SDK Software Framework CD:

- Windows 2000\* with Service Pack 4 or greater
- Windows XP\* with Service Pack 1 or greater
- Red Hat\* Linux 7.3

**Note:** If you are installing the Intel<sup>®</sup> IXA SDK Software Framework CD on a Linux\* system, ensure that the system has the DHCP server package and the TFTP server package installed.

### 2.1.3 PC Basics

The Intel<sup>®</sup> IXA SDK Software Framework CD is compatible the Intel<sup>®</sup> IXA SDK 3.51 Tools. If you are running applications on either the Intel<sup>®</sup> IXDP 2400, Intel<sup>®</sup> IXDP2401 or Intel<sup>®</sup> IXDP2800, you must install the Intel<sup>®</sup> IXDP Firmware and Drivers CD.

For Windows 2000\* development hosts and Windows XP\* development hosts, if you are using WindRiver\* Tornado\* software, you must install it before installing the Intel<sup>®</sup> IXA SDK Software Framework CD.

Refer to the *Intel<sup>®</sup> Internet Exchange Architecture Software Development Kit Tools Installation Guide* for information about installing the Intel<sup>®</sup> IXA SDK Tools CD, the Intel<sup>®</sup> IXDP Firmware and Drivers CD and the WindRiver\* Tornado\* software. The *Intel<sup>®</sup> Internet Exchange Architecture Software Development Kit Tools Installation Guide* also contains steps for configuring

the software to work with the Intel® IXDP2400 Advanced Development Platform or the Intel® IXDP2800 Advanced Development Platform (including information about connecting the hardware and loading application code from the development host to the development platform).

## **2.2      After Taking Stock**

To proceed with the installation of the Intel® IXA SDK Software Framework CD, refer to [Chapter 3, “Software Framework CD on Windows 2000 or Windows XP Hosts”](#) or [Chapter 4, “Software Framework CD on Linux Hosts”](#).



# Software Framework CD on Windows 2000 or Windows XP Hosts 3

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This chapter details the steps for installing the Intel® Internet Exchange Architecture Software Development Kit Software Framework CD on a Windows 2000\* development host or a Windows XP\* development host.

## 3.1 Contents Summary

This chapter includes the following sections:

- [Section 3.2, “Objectives,” on page 9](#)
- [Section 3.3, “Before You Begin,” on page 9](#)
- [Section 3.4, “Procedure: Installing the Software Framework,” on page 9](#)
- [Section 3.5, “Uninstalling the Software Framework,” on page 12](#)

## 3.2 Objectives

When you have finished installing the Intel® IXA SDK Software Framework CD, you will have the complete Control Plane Platform Development Kit (documentation, libraries etc.) for developing applications that operate on the control plane. You will also have examples applications and documentation for developing applications with either the building blocks or the Intel® Internet Exchange Architecture Software Development Kit Portability Framework.

## 3.3 Before You Begin

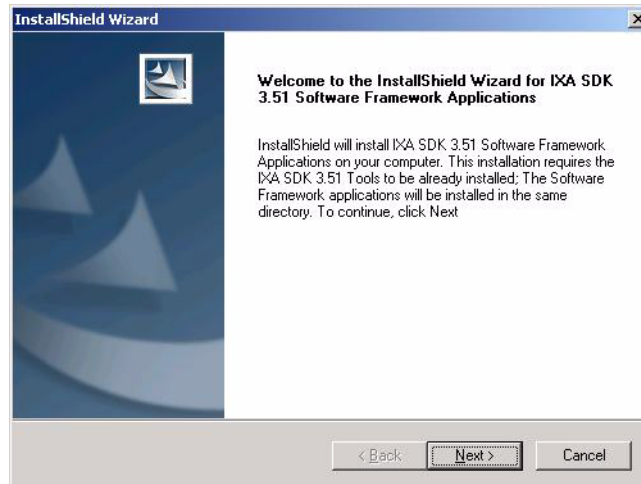
Perform a check of your system according to the information in [Chapter 2, “Taking Stock”](#).

## 3.4 Procedure: Installing the Software Framework

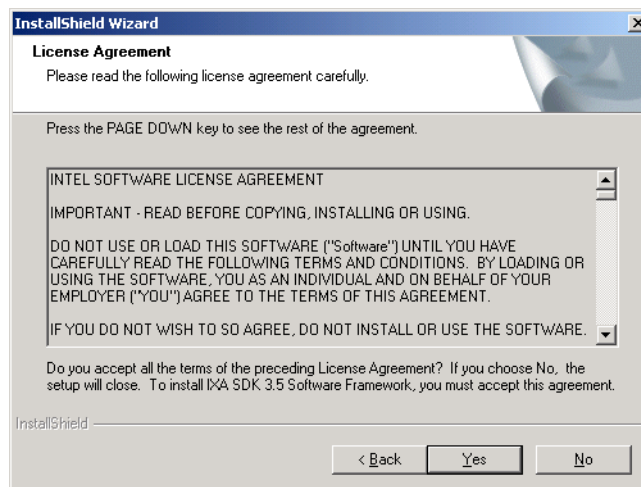
To install the Intel® IXA SDK Software Framework CD on a Windows 2000\* or Windows XP\* development host, take the following steps:

1. Close all open applications on the desktop, taskbar, and system tray.
2. Insert the CD into the CD-ROM drive. If the CD does not automatically begin the installation sequence, perform the following steps:
  - a. Choose **Run** from the Start menu.
  - b. Click **Browse**.

- c. Use **Look in** to Browse your computer's CD drive.
  - d. **Open** the file *setup.exe*.
  - e. Click **OK**.
3. The InstallShield\* program prepares and starts an Install Wizard. The initial screen of the Install Wizard appears. Click **Next>** to proceed with the installation:

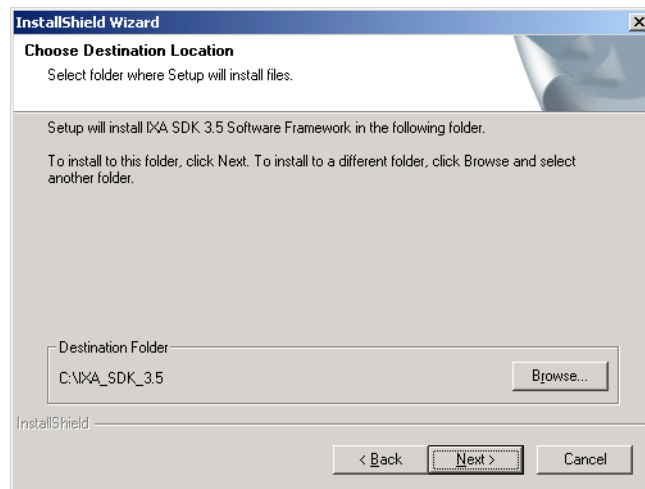


4. Read the licensing agreement that appears on the screen. If you accept the terms of the agreement, click **Yes** to continue:

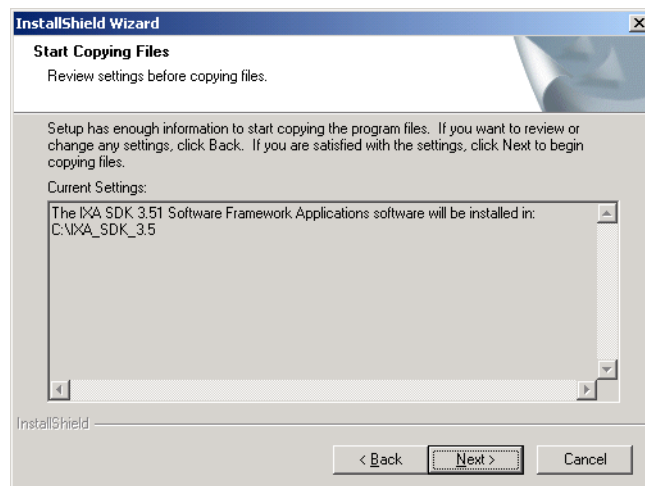


5. Since the Intel® IXA SDK Software Framework software must be installed in the same directory as the Intel® IXA SDK Tools software, the Software Framework installation procedure reads an environment variable that is defined as part of the Tools installation

procedure. The associated directory is displayed on the screen and should not be changed. Click **Next>** to accept the directory and continue:



6. The Install Wizard displays a summary of the installation directory you've selected. Click **Next>** to begin copying files from the CD to your hard drive:



7. When all files have been successfully copied, click **Finish** to exit the Install Wizard. Remove the Intel® IXA SDK Software Framework CD from the CD-ROM drive.

### 3.4.1 Changes That Installation Makes

This section describes the changes that installation makes to your system.



Intel® IXA SDK Software Framework files are installed by default in the same directory as the Intel® IXA SDK Tools files. <install drive>: *IXA\_SDK\_3.5* by default. The <install drive>: is normally C.

### 3.4.2 Checking the Installation

The default item on the Start menu is **Programs > IXA SDK 3.5**. After the Intel® IXA SDK 3.51 Software Framework files are installed, an **Uninstall IXA SDK 3.51 Software Framework** option is available. The **Documentation** shortcut section of the menu should contain a **Software\_Framework** submenu.

The Intel® IXA SDK 3.51 Software Framework installation routine adds the following registry entry:

```
HKEY_LOCAL_MACHINE/SOFTWARE/INTEL/IXA SDK 3.5/Software_Framework_Release
```

## 3.5 Uninstalling the Software Framework

To uninstall the software framework files, select **Uninstall IXA SDK 3.51 Software Framework** from the Windows\* Start menu (**Programs>IXA SDK 3.5**).

# Software Framework CD on Linux Hosts

# 4

This chapter details the steps for installing the Intel® Internet Exchange Architecture Software Development Kit Software Framework CD on a Linux Red Hat\* 7.3 development host.

## 4.1 Contents Summary

This chapter includes the following sections:

- [Section 4.2, “Objectives,” on page 13](#)
- [Section 4.3, “Before You Begin,” on page 13](#)
- [Section 4.4, “Procedure: Installing the Software Framework,” on page 13](#)
- [Section 4.5, “Uninstalling the Software Framework,” on page 14](#)

## 4.2 Objectives

When you have finished installing the Intel® IXA SDK Software Framework CD, you will have the complete Control Plane Platform Development Kit (documentation, libraries etc.) for developing applications that operate on the control plane. You will also have examples applications and documentation for developing applications with either the building blocks or the Intel® Internet Exchange Architecture Portability Framework.

## 4.3 Before You Begin

Perform a check of your system according to the information in [Chapter 2, “Taking Stock”](#).

## 4.4 Procedure: Installing the Software Framework

To install the Intel® IXA SDK Software Framework CD on a Red Hat\* Linux 7.3 development host, take the following steps:

1. Log in to the Linux system as root and invoke a shell prompt.
2. Insert the Intel® IXA SDK Software Framework CD in the CD-ROM drive. Then, if your system is not set up to automount the CD-ROM drive when a CD is inserted, enter the following command to mount the CD:

```
mount /dev/cdrom
```

For further information about mounting a device in Red Hat\* Linux, see the Red Hat documentation.

3. Change directory to */mnt/cdrom* as follows:

```
cd /mnt/cdrom
```

4. Enter the following command to start the installation process:

```
rpm -i ixa_sdk-3.51_Software_Framework.rpm
```

The Intel® IXA SDK 3.51 Software Framework files are installed in the same directory as the Intel® IXA SDK Tools (*/opt/ixa\_sdk\_3.5*).

## 4.5 Uninstalling the Software Framework

Use the following procedure to uninstall the Intel® IXA SDK Software Framework files:

1. From the Linux shell prompt, navigate to the Intel® IXA SDK 3.5 installation directory.
2. Enter the following command to start the uninstall process:

```
rpm -e ixa_sdk-3.51_Software_Framework
```