Intel® C++ Compiler 2.0.4
For Windows CE, Professional*

Intel® Debugging Extensions
*For Microsoft eMbedded Visual C++**
Intel® Debugging Extensions For JTAG
For Platform Builder for Microsoft Windows CE*

Release Notes

Document Number: 278916-029US

Contents

Overview

The product *Intel® C++ Compiler 2.0.4 For Windows* CE, Professional* is a set of compiler tools and debugging extensions that integrate into various Microsoft* build environments. It's intended to develop applications optimized for Intel XScale® microarchitecture written in C/C++ and assembly source code.

The product also contains the *Intel® C++ Compiler Build Support for Adaptation Kits* to integrate the Intel® C++ Compiler into Microsoft* Adaptation Kits for Windows Mobile* 2003 Software (PocketPC, Smartphone) and Windows Mobile* 5.0.

Besides the highly optimizing Intel® C++ Compiler the package also contains extensions to Microsoft* environments that extend debugging capabilities for the Intel XScale® microarchitecture. This document describes release notes for the debugging extensions only. For release notes for code generating components see separate document.

The product Intel® C++ Compiler For Windows* CE, Professional consists of two installation packages:

- Intel® C++ Compiler For Platform Builder for Microsoft Windows* CE
  (installs compiler and debugging extensions components for Platform Builder)
- Intel® C++ Compiler For Microsoft eMbedded Visual C++*
  (installs compiler and debugging extensions components for eVC++ and Visual Studio 2005)*

Please refer also to the Product Cross Reference to learn details on the distribution/installation packages.

This document describes release notes for the debugging extensions only. For the code generating components see separate release notes.

To receive technical support and updates, you need to register your Intel Software Product. See the Technical Support section.

Product Contents

This product release contains the components as follows:

Component	Description	Version
Intel® Debugging Extensions	Intel® XDB Browser	2.10.4
Intel® Debugging Extensions For JTAG	Intel® XDB Browser For JTAG	2.10.4
	Intel® eXDI JTAG Driver	2.11.1
Product Documentation	A product documentation index file is provided for easy access of all the documents. It's located at (default): `C:\Program Files\Intel\Intel(R) C++ Compiler 2.0.4 for Platform Builder\doc\doc_index_PB.htm`. (see also Documentation)	NA
Intel® Compiler Tools	*described in separate Release Notes*	

Product Support

This product release provides support for target OS, platform, development environment, target CPU, JTAG interfaces and Flash types as follows:

Support	Description	Version
Target OS/Platform	Microsoft Windows* CE .NET 4.2	NA
	Microsoft Windows* CE 5.0	NA
	Microsoft* Windows Mobile* 2003 Software (PocketPC, Smartphone)	NA
	Microsoft* Windows Mobile* 5.0	NA
Development Environment	Microsoft* Platform Builder for Windows* CE .NET 4.2	NA
	Microsoft* Platform Builder for Windows* CE 5.0	NA
	Microsoft* Platform Builder for Windows Mobile* 5.0	NA
	Microsoft eMbedded Visual C++* 4.0 (with Service Pack 1, 2 or 4)	NA
	Microsoft* Visual Studio* 2005	NA
Target CPU	Intel® PXA25x Processor Family	all versions
	Intel® PXA26x Processor Family	all versions
	Intel® PXA27x Processor Family	all versions
Target Interfaces	Intel® JTAG Cable	rev. 1 and 2
	Macraigor OCDemon* Raven ARM* 20 JTAG interface	NA
Flash Types	Intel StrataFlash® Wireless Memory System LV18/LV30	all versions
	Intel StrataFlash® Wireless Memory L18/L30	all versions
	Intel® Wireless Flash Memory W18/W30	all versions
	Intel StrataFlash® Flash Memory J3	all versions
	Intel StrataFlash® Flash Memory K3/K18 *(discontinued products)*	all versions
	Intel StrataFlash® Embedded Memory P30	all versions
	Intel® Advanced+ Boot Block Flash Memory B3/C3	all versions

Product Cross Reference

This product reference is an overview of related distribution packages with their respective installation packages:

Product	Installation Packages	Components
Intel® C++ Compiler 2.0.4 For Windows* CE, Professional	Intel® C++ Compiler For Microsoft eMbedded Visual C++*	Intel® C++ Compiler For Microsoft eMbedded Visual C++* *(described in separate Release Notes)*
		Intel® Debugging Extensions For Microsoft eMbedded Visual C++*
	Intel® C++ Compiler For Platform Builder for Microsoft Windows* CE	Intel® C++ Compiler For Platform Builder for Microsoft Windows* CE *(described in separate Release Notes)*
		Intel® C++ Compiler Build Support for Adaptation Kits *(described in separate Release Notes)*
		Intel® Debugging Extensions For JTAG For Platform Builder for Microsoft Windows* CE

Please refer also to the Product Contents.

Compatibility

The Intel® Debugging Extensions v2.10 and Intel® Debugging Extensions For JTAG v2.10 replace all previous versions of Intel® Debugging Extensions. It is highly recommended to uninstall any previous versions prior to v2.10 installation of the debugging extensions. (see Installation).

System Requirements

Host System

Same hardware and software requirements as for the installed Development Environments.

Host Software

- Any of the Development Environments properly installed
- Adobe* Acrobat Reader* version 4.0 or later is required to view some of the product documentation
- A Web browser is required to view some of the HTML-based product documentation

Important Note on Using Visual Studio* 2005:

The Intel® XDB Browser needs the Platform Manager to work (see Known Limitations). If you have Visual Studio* 2005 ONLY installed on your host which doesn't contain the Platform Manager any more, you additionally need to install eMbedded Visual C++* with Service Pack 4 or the Platform Builder to get Platform Manager support for the Intel® XDB Browser from one of these environments.

Target Interface using Intel® XDB Browser For JTAG

One of the following JTAG interfaces (see Product Support) with CMOS BIOS settings properly installed as follows:

Interface	Parallel Port Mode	Parallel Port Channels

Intel® JTAG Cable	ECP	I/O 0x378 / IRQ7 / DMA0 (recommended settings, but any other channels may work)
Macraigor OCDemon* Raven ARM* 20 JTAG interface	EPP (recommended) or ECP	I/O 0x378 / IRQ7 / DMA0 (recommended settings, but any other channels may work)

Note: Some PCs need an extra reboot after changing the parallel port setup in the CMOS BIOS.

Target Connection with Intel® XDB Browser

USB port on the host computer with an ActiveSync* connection to the target.

Target Hardware

Your target needs to be enabled for the Intel® Debugging Extensions.

What's New

No new features were introduced with this release.

What Was New in Previous 2.0 Releases

Support for Microsoft* Visual Studio* 2005 *(Intel® Debugging Extensions only)*

The Intel® Debugging Extensions 2.10.4 are now validated against the released version of Microsoft* Visual Studio* 2005.

Support for Microsoft* Platform Builder for Windows Mobile* 5.0

The Intel® Adaptation Kit Installation Utility integrates the Intel® C++ Compiler into the Adaptation Kit for Windows Mobile* 5.0 environment and enables users to create code for Windows Mobile* based devices using the Intel® C++ Compiler For Windows* CE.

Flash Support for `.bin` Binary Images

The Intel® Debugging Extensions For JTAG now support flashing of Windows* CE binary image files (`*.bin`).

FLEXlm* License Protection

The Intel® Debugging Extensions and Intel® Debugging Extensions For JTAG now use Macrovision* Corporation's FLEXlm* electronic licensing technology.

Defects Fixed

There were no defects found since the last release.

Defects Fixed in Previous 2.0 Releases

Wrong Contents Displayed in Assembly Window

The Intel® XDB Browser for JTAG displayed wrong contents in the disassembly window if a start address was selected that is at the boundary of an invalid area.

The memory is now shown correctly even if the start address is shortly before a valid memory range. Only the data of the invalid part is still shown as 0xB6. This is the intended behavior to indicate that this is invalid memory.

Installation

Before Installation

- Different from the compiler installation, the debugging extensions are always being installed into a separate directory from where they are linked to the Microsoft* environments.
- The compiler and debugging extensions are being installed within one setup. In the custom setup dialog you can deselect components you don't want to have installed. If not disabled explicitly, the debugging extensions are being installed with the compiler installation.
- For the Intel® C++ Compiler for eMbedded Visual C++* 4.0 installation it is not possible to perform an "All User" installation (see Known Issues).
- You must have administrator privileges to install the Intel® C++ Compiler For Windows* CE.
- You must have a valid license file in order to install and use the product.
- It's highly recommended to uninstall any previous version of the debugging extensions (see Uninstall previous Debugging Extensions).

License File

The Intel® C++ Compiler For Windows* CE v2.0.4 uses Macrovision Corporation's FLEXlm* electronic licensing technology. Before installing any component, the installer checks for a valid license. If there's none, you will be prompted to browse for a valid license file. The license file must be in place in order to use the compiler and debugger components.

The license file must have an extension "`.lic`".

The license directory is the location the environment variable `INTEL_LICENSE_FILE` points to (default `C:\Program Files\Common Files\Intel\Licenses\`). If it does not exist, the installation program will create it.

Electronic Download

If you have received the product by electronic download, the license will be sent to you via email. Please follow the instructions in the email to install the license file.

Product CD

If you have received the product on CD-ROM, a valid license is included on the CD and the installation program can locate it automatically. But, in order to obtain access to

technical support and to be able to download and execute product updates, you must do the following:

1. **Register your product:** First, locate the serial number found on the inside flap of the product box. Then, visit the web site https://registrationcenter.intel.com and follow the instructions. After the registration you will receive an email within 24 hours containing a new license.
2. **Install the new license:** The new license in the email typically entitles you to one year of support services that allow you to download and execute product updates and obtain full technical support. The email also contains the instructions on how to install the license. Please follow the instructions to finish the new license installation.

Uninstall Previous Versions

It is highly recommended to uninstall any previous version prior to the Intel® Debugging Extensions / Intel® Debugging Extensions For JTAG v2.10 installation.

Choose `Add / Remove Programs` from the Windows* `Start / Control Panel` and click on the `Remove` button on any of the following or similar entries you may have installed on your system:

```
Intel® C++ Compiler 2.0.3 for eMbedded* Visual C++
Intel® C++ Compiler 2.0.3 for Platform Builder
Intel® C++ Compiler 2.0 for eMbedded* Visual C++
Intel® C++ Compiler 2.0 for Platform Builder
Intel® Debugging Extensions For eMbedded Visual C++* for Microsoft Windows* CE .NET
Intel® Debugging Extensions For Platform Builder for Microsoft Windows* CE .NET
```

Install Debugging Extensions

By default, compiler installation includes also installation of the corresponding debugging extensions, if not explicitly disabled in the Custom Setup.

1. Start the `autorun.exe` from the product CD or - if you downloaded the installation fileset from the web - run the self-extracting `w_xwoem_*.exe` installation file.
2. To install the **Compiler and/or Debugging Extensions for Platform Builder for Windows* CE**:
   Click on the `Intel® C++ Compiler For Platform Builder for Microsoft Windows* CE` link on the left hand navigation bar of the Installation Home Page.
   To install the **Compiler and/or Debugging Extensions for eMbedded Visual C++*/Visual Studio* 2005**:
   Click on the `Intel® C++ Compiler For Microsoft eMbedded Visual C++*` link on the left hand navigation bar of the Installation Home Page.
3. Click on the `Install Now` button following all instructions.
4. Optionally de-select sub-components in the `Custom Setup` dialog you DO NOT want to have installed (all available sub-components are selected by default).

Please refer also to the Default Installation Directories to learn where the components are being installed.

New Menu Entries in Microsoft* Environments

The installer adds new menu items in the Tools menus as follows:

Component	Development Environment	New Entry in Tools Menu
Intel® Debugging Extensions	eMbedded Visual C++* 4.0 / Visual Studio* 2005	`Intel(R) Debugging Extensions`
Intel® Debugging Extensions For JTAG	Platform Builder for Windows* CE / for Windows Mobile* 5.0	`Intel(R) Debugging Extensions for JTAG`
		`Intel(R) eXDI JTAG Driver Configuration`

Default Installation Directories

The Intel® Debugging Extensions / Intel® Debugging Extensions For JTAG v2.10 install default to:

Component	Development Environment	Default Installation Directory
Intel® Debugging Extensions	eMbedded Visual C++* 4.0 / Visual Studio* 2005	`C:\Program Files\Intel\Intel(R) C++ Compiler 2.0.4 for eMbedded Visual C++\`
Intel® Debugging Extensions For JTAG	Platform Builder for Windows* CE / for Windows Mobile* 5.0	`C:\Program Files\Intel\Intel(R) C++ Compiler 2.0.4 for Platform Builder\`

where the name of the path, `C:\Program Files\,` may be different on your Windows* operating system.

Uninstall Debugging Extensions

Uninstall the complete product

To completely uninstall the Intel® C++ Compiler with corresponding Intel® Debugging Extensions from your computer go to `Add or Remove Programs` from the Windows* `Start / Control Panel.` Highlight the following you want to completely remove:

```
Intel(R) C++ Compiler 2.0.4 for eMbedded Visual C++
Intel(R) C++ Compiler 2.0.4 for Platform Builder
```

Click on the `Remove` button following all instructions.

Uninstall individual components

To uninstall components of the Intel® C++ Compiler and/or Intel® Debugging Extensions go to `Add or Remove Programs` from the Windows* `Start / Control Panel.` Highlight the following packages you want to uninstall components from:

```
Intel(R) C++ Compiler 2.0.4 for eMbedded Visual C++
Intel(R) C++ Compiler 2.0.4 for Platform Builder
```

Click on the `Change` button.
Click on the `Next` button.
Check the `Modify` checkbox from the `Program Maintenance` dialog.
Deselect the Compiler/Debugging Extensions you want to uninstall from the `Custom Setup` dialog.

This will re-install the components you selected to install and remove components you deselected.

Known Limitations

Intel® XDB Browser under Visual Studio* 2005

The Intel® XDB Browser is based on the Microsoft* Platform Manager for target communication, but this component is no longer available with Microsoft* Visual Studio* 2005.

Workaround:
Install Microsoft* eMbedded Visual C++* 4.0 **with Service Pack 4** or any version of the Microsoft* Platform Builder on the same host to get Platform Manager support until a replacement for the Platform Manager is available with Visual Studio* 2005.

General Limitations

- If the Intel® XDB Browser or Intel® XDB Browser for JTAG is updating the display of the Register, Assembler, or Trace window, the cursor does not change to an hourglass to indicate the browser is busy. However, the browser does not respond to commands while updating.
- Do not close any window while the browser is busy! This can case a crash.
- To detect if the browser is busy, look into the right field of the status bar. Wait until this field is empty before issuing new commands.
- Saving an open windows configuration does not always save window position correctly.

Limitations for the Intel® XDB Browser for JTAG

- The Intel® Browser for JTAG is not able to show the disassembly for application code in it's disassembly and execution trace window when using Microsoft* Platform Builder 5.0 This affects code from virtual addresses below 0x80000000.
- The number of available hardware breakpoints may be limited to 1 when using Microsoft* Platform Builder 5.0. One of the 2 hardware breakpoint may be already used by Platform Builder internally in order to trap kernel exceptions.
- It may happen that the driver for the Intel® JTAG Cable is not installed correctly.
  If the Intel® JTAG Cable is not working, try to start the driver parbinst.exe manually as follows:
  Please check if the driver `parbstone.sys` in the Windows driver directory (default: `C:\Winnt\system32\drivers`) is up-to-date, that is if it is the same as in `C:\Program Files\Intel\Intel(R) C++ Compiler 2.0.4 for Platform Builder\iexdi\`. If not, copy the `parbinst.sys` from the `\iexdi` to `C:\Winnt\system32\drivers` and start the `parbinst.exe` from `\iexdi`.
- The Microsoft* Platform Builder should not be attached to the device while programming flash with the Intel® XDB Flashwriter. The synchronization and window updates between Platform Builder and Intel® XDB Browser for JTAG can interfere with the flash programming algorithm and cause intermitting flash program failures.
- B-Type flashes don't support CFI lock and unlock.

Documentation

The product documentation is available as On-line Help from the `Help/Documentation` menu of the Intel® XDB Browser and Intel® XDB Browser for JTAG environments.

These documentation help files `*.chm` as well as Getting Started Guides are located in the directories as follows:

Environment	Documentation	Default Installation Directory
eMbedded Visual C++* 4.0 (any Service Pack) / Visual Studio* 2005	`xdbplatman.chm` On-line Help File	`C:\Program Files\Intel\Intel(R) C++ Compiler 2.0.4 for eMbedded Visual C++\doc\Debuggers \xdbplatman`

	Getting_Started_EVC.pdf	C:\Program Files\Intel\Intel(R) C++ Compiler 2.0.4 for eMbedded Visual C++\doc\
Platform Builder	xdbexdi.chm On-line Help File	C:\Program Files\Intel\Intel(R) C++ Compiler 2.0.4 for Platform Builder\doc\Debuggers\xdbexdi
	Getting_Started_PB.pdf	C:\Program Files\Intel\Intel(R) C++ Compiler 2.0.4 for Platform Builder\doc\

where the name of the path, `C:\Program Files\,` may be different on your Windows* operating system.

ActiveX Bug Workaround

When opening help topics that contain Related Topics button links, you may see an Internet Explorer* warning message that reads: "An ActiveX control on this page might be unsafe to interact with other parts of the page. Do you want to allow this interaction?". You can safely click "Yes" to continue.
This problem occurs due to registry errors caused by installing a Windows* Service pack.
To avoid seeing the warning, you need to register and then reregister the HTML Help ActiveX control. To do this, open a command prompt and type:

```
regsvr32 /u %windir%\system32\hhctrl.ocx
regsvr32 %windir%\system32\hhctrl.ocx
```

Technical Support

Registration

To receive technical support for this product and product updates, you need to be registered for an Intel® Premier Support account on our secure web site, https://premier.intel.com/. If not yet done, please register your product at http://www.intel.com/software/products/registrationcenter/.

Note: If your distributor provides technical support for this product, please contact them for support rather than Intel.

Startup Support

For initial startup support such as installation, licensing issues, please visit https://registrationcenter.intel.com/support/contact.aspx.

Product Support

If you need help or if have problems with the product, submit your issues via the Intel® Premier Support at https://premier.intel.com.

Steps to submit an issue:

1. Go to https://premier.intel.com/.
2. Type in your Login and Password. Both are case-sensitive.

3. Click the "Submit" button.
4. Read the Confidentiality Statement and click the "I Accept" button.
5. Click on the "Go" button next to the "Product" drop-down list.
6. Click on the "Submit Issue" link in the left navigation bar.
7. Choose "Development Environment (tools,SDV,EAP)" from the "Product Type" drop-down list.
8. If this is a software or license-related issue, choose "Intel C++ Compiler, Windows* CE, Pro" from the "Product Name" drop-down list.
9. Enter your question and complete the fields in the windows that follow to successfully submit the issue.

Guidelines for problem report or product suggestion:

1. Describe your difficulty or suggestion.
   For problem reports please be as specific as possible, so that we may reproduce the problem. For compiler problem reports, please include the compiler options and a small test case if possible.
2. Describe your system configuration information.
   Run the compiler (ccxscce) from the command window and provide the compiler version.
3. Copy the "Package ID" (e.g. w_xwoem_pc_2.0.xxx) into the corresponding Premier Support field. Please include any other specific information that may be relevant to helping us to reproduce and address your concern.
4. If you were not able to install the compiler or cannot get the Package ID, enter the filename you downloaded as the package ID.

General Support Information

For information about the Intel C++ Compiler's Users Forums, FAQ's, tips and tricks, and other support information, please visit: http://support.intel.com/support/performancetools/c/windows/.

For general support information please visit http://www.intel.com/software/products/support/.

Additional Information

Related Products and Services

Information on Intel® Software Development Products is available at http://www.intel.com/software/products.

Some of the related products include:

- The Intel® Compilers for Embedded Application Development are an important part of making software run at top speeds with full support for the latest Intel XScale® application processors.
- The Intel® C++ and Fortran Compilers are an important part of making software run at top speeds with full support for the latest Intel IA-32 and Itanium® processors.
- The VTune™ Performance Analyzer enables you to evaluate how your application is utilizing the CPU and helps you determine if there are modifications you can make to improve your application's performance.
- The Intel® Performance Library Suite provides a set of routines optimized for various Intel processors. The Intel® Math Kernel Library, which provides developers of scientific and engineering software with a set of linear algebra, fast Fourier transforms and vector math functions optimized for the latest Intel Pentium® and Intel Itanium processors. The Intel® Integrated Performance Primitives consists of cross-platform tools to build high performance software for several Intel architectures and

several operating systems.
- The Intel® Software College provides training for developers on leading-edge software development technologies. Training consists of online and instructor-led courses covering all Intel architectures, platforms, tools, and technologies.

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