

# Carbide.c++ FAQ

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## 1 Carbide.c++ FAQ Introduction

In late 2005, Nokia launched a new set of development tools called Carbide, a family of mobile software and content development tools supporting several mobile technologies. This document will discuss common questions that developers may have about Carbide tools, including the relationship of Carbide.c++ to the overall Symbian developer community.

The Carbide development tools are grouped into three major categories.

- Symbian C++ Development Tools – Carbide.c++ is developed in partnership between Nokia and Symbian and built for the Symbian community. Carbide.c++ supports UIQ and the S60 platform built on Symbian OS. Another C++ tool is Carbide.vs, a plug-in for Microsoft Visual Studio.
- Java™ Development Tools – Carbide.j supports the S60 platform and Series 40 platform from Nokia.
- Customization Tools – Tools for the S60 platform and Series 40 platform from Nokia.

This document will focus on C++ tools for the Symbian developer community.

## 2 Symbian Community Questions

These questions will help the developer understand the relationship of the Carbide tools within the Symbian developer community.

### 2.1 What is the nature of the relationship among Symbian, UIQ, and Nokia in terms of C++ development tool strategy?

All three companies are committed to cooperating on a C++ tools strategy to ensure that users can develop and debug Symbian OS applications on one C++ integrated development environment (IDE) product.

Carbide.c++ is a tool chain provided by Nokia and built on the Eclipse open framework. The basic tool uses the C/C++ Development Tools (CDT) Project on Eclipse 3.1. Symbian provides plug-ins supporting Symbian OS builds. Nokia adds its IDE development experience and integrates its compiler and debug tools into the Carbide.c++ product. Nokia and UIQ work together to ensure that the latest UIQ SDK is supported by Carbide. Released in February 2006, Carbide.c++ Express is available on Symbian, UIQ, and Forum Nokia developer sites.

Nokia has also developed additional plug-ins focusing on productivity and performance tools, which are available on the Carbide.c++ commercial products.

### 2.2 Is Symbian using Carbide.c++ tools for developing Symbian OS?

Carbide.c++ is intended to be the successor to CodeWarrior. The tools and technology found in Carbide.c++ are the same found in CodeWarrior. CodeWarrior is used by Symbian to create the operating system and by the licensees that create phone devices. Nokia is working with Symbian to make Carbide.c++ compatible with the most current versions of Symbian OS. Nokia and Symbian recognize that developers, including developers at Symbian and Nokia, are unable to change their developer environment quickly. Nokia and Symbian expect that the development community will eventually migrate to one of the Carbide.c++ products over time.



**2.3 Will Java development for all Symbian user interfaces (UIQ, the S60 platform) be supported by Carbide?**

Java is supported on UIQ and S60 smartphones and is obviously a very important programming language for developers. Sony Ericsson's developer site contains information on its Java tools and SDK support. Nokia supports Java development with the Carbide.j tools that support the S60 platform and the Series 40 platform from Nokia.

**2.4 I am a UIQ developer. What are the issues of using a Nokia C++ development tool for UIQ applications?**

Carbide.c++ is a tool for Symbian C++ development and supports both UIQ and the S60 platform. Many developers create applications for both user interfaces, so it makes sense to provide a development tool that is common to both. A strong application market benefits everyone.

The Carbide.c++ team aims to provide the most up-to-date support for Symbian OS variants as well as for the latest releases of the S60 platform and UIQ. There will be times when a Carbide.c++ product is released but support for certain features, phone models, or OS releases are not ready. Carbide.c++ users can check the Update Manager utility in their Carbide.c++ product for the latest support updates and are encouraged to check the development Web sites for the S60 platform, UIQ, and Sony Ericsson for updates as well. Nokia also works with Symbian to ensure forward compatibility of Carbide for some of the yet-to-come OS releases.

Note: Carbide.c++ also supports development for Mobile Oriented Applications Platform (MOAP).

**2.5 Is Carbide.c++ available from Symbian, Nokia, and UIQ?**

Carbide.c++ Express, the community product, is available from the developer Web sites of Symbian, UIQ, and Forum Nokia.

Commercial versions of Carbide.c++ are available for purchase from Forum Nokia.

All other Carbide products (Java, customization, and other non-C++ tools) are available from Forum Nokia.

**2.6 If I have a question on Carbide.c++ development tools, should I contact Nokia, Symbian, or UIQ?**

Nokia owns all of the Carbide.c++ tools and provides support. Questions on Carbide.c++ Express should be directed to the Carbide.c++ tools discussion group at Forum Nokia. Customers who have purchased Carbide.c++ products and have valid support can enter support requests using their e-store account at <https://pro.forum.nokia.com>.

The discussion group is found at <http://discussions.forum.nokia.com/forum/forumdisplay.php?f=95>.

**2.7 Can you tell me about MOAP? Does Carbide.c++ support MOAP?**

NTT DoCoMo uses a different user interface, called Mobile Oriented Applications Program (MOAP), that runs on top of Symbian OS. Developers can use Carbide.c++ to develop code for MOAP. Contact Nokia Sales ([sales.carbide@nokia.com](mailto:sales.carbide@nokia.com)) for details.



## 3 FAQ: General Carbide.c++ Questions

### 3.1 What is Carbide?

Carbide is the name of Nokia's mobile development tools and is designed to integrate Nokia's wide range of development tools into a common framework. There are three families of tools within Carbide: Carbide.c++ tools for Symbian OS development, Carbide.j for Java development, and Carbide.ui for customization.

The name "Carbide" was selected because it represents a basic atomic structure that creates strong materials used to build very sturdy products. This is analogous to the Eclipse framework used to create sturdy tools.

### 3.2 Who makes Carbide?

Carbide mobile development tools are built by Nokia primarily on the Eclipse framework. Carbide is the name of Nokia's tools and comprises three types of tools: C++, Java, and customization. Nokia may work with a tools partner for the development of certain plug-ins, such as in the case of Symbian on the Carbide.c++ products.

### 3.3 What is Eclipse?

From the Eclipse Foundation Web site ([www.eclipse.org](http://www.eclipse.org)):

Eclipse is an open-source community whose projects are focused on providing a vendor-neutral, open-development platform and application frameworks for building software. The Eclipse Foundation is a not-for-profit corporation formed to advance the creation, evolution, promotion, and support of the Eclipse platform and to cultivate both an open-source community and an ecosystem of complementary products, capabilities, and services.

Carbide.c++ is built on top of the C/C++ Development Tools (CDT) Project with Eclipse. This project is responsible for creating an IDE for C and C++ software development.

### 3.4 Will these Carbide products be available in an open source format?

Carbide.c++ is built on top of the open-source Eclipse CDT project framework. The plug-ins that enable developing and debugging applications for Symbian OS are provided in binary form and not in an open-source format. From time to time, Nokia will contribute code back into the Eclipse Foundation.

The Eclipse framework, therefore, is open source. The Carbide.c++ plug-ins are not.

### 3.5 Where do I download Carbide.c++ Express?

Carbide.c++ Express is available for download from the following sites:

- <http://www.forum.nokia.com/carbide>
- <http://developer.symbian.com>
- <http://www.uiq.com/developer>



### 3.6 Where do I purchase Carbide.c++ Developer and Professional Editions?

Carbide.c++ commercial products, including the Developer and Professional Editions, are available at [www.forum.nokia.com/carbide](http://www.forum.nokia.com/carbide) . A direct link to our e-store is found at <https://pro.forum.nokia.com/productList.do>.

### 3.7 What are the different variants of Carbide.c++ development tools?

Item	Express v1.0	Developer v1.1	Professional v1.1	OEM v1.2
Eclipse plug-in flexibility	•	•	•	•
New project wizard and templates	•	•	•	•
Public SDK support (the S60 platform, UIQ)	•	•	•	•
Online tutorials	•	•	•	•
Integrated project builder (WINSW, GCC UREL)	•	•	•	•
Emulator debugging	•	•	•	•
Advanced project import/export (MMP and bld.inf)	•	•	•	•
Graphical UI designer		•	•	•
Enhanced build target support (e.g., ARMv5, ARMv5_ABIv2)		•	•	•
On-device debugging		•	•	•
Support for R&D SDKs (CustKits)		•	•	•
Support for R&D devices*			•	•
Performance investigator			•	•
System-level on-device debugging**			•	•
Crash Debugger console			•	•
JTAG debugger, device creation tools,				TBA

\*Function visibility requires access to target device symbol file

\*\* Must be enabled by device manufacturer



<b>Edition</b>	<b>Typical Customer</b>	<b>Features</b>
Carbide.c++ Express	Entry-level users Academia Hobbyists	<ul style="list-style-type: none"><li>• Built on Eclipse 3.1/CDT framework</li><li>• For building and debugging code on the PC using the S60 platform and UIQ SDKs</li></ul>
Carbide.c++ Developer Edition	Developers targeting development on production phones	<ul style="list-style-type: none"><li>• Focus on productivity tools</li><li>• On-device debug for S60 3rd Edition and UIQ</li><li>• Graphical UI designer</li></ul>
Carbide.c++ Professional Edition	Professional Symbian OS developers with access to proto devices	<ul style="list-style-type: none"><li>• Advanced on-device debug for system-level development</li><li>• Performance investigator tool to gather performance data on the phone</li></ul>
Carbide.c++ OEM Edition	Symbian, the S60 platform, UIQ licensees Device creation	<ul style="list-style-type: none"><li>• Embedded-type development</li><li>• Stop-mode debug, ROM builds, JTAG debugger (e.g., Lauterbach) integration</li></ul>

### 3.8 Where can I find pricing and availability information on Carbide.c++ products?

<b>Edition</b>	<b>Availability</b>	<b>Price</b>
Carbide.c++ Express	Now	Free
Carbide.c++ Developer Edition	Now	299 euros (about \$382 USD)
Carbide.c++ Professional Edition	Now	1,299 euros (about \$1,661 USD)
Carbide.c++ OEM Edition	TBA	TBA



## 4 FAQ: Migration from CodeWarrior to Carbide.c++ Questions

Carbide.c++ tools are slowly replacing equivalent CodeWarrior tools. Both tools are developed and supported by Nokia, which is responsible for the products and assisting developers as they migrate to Carbide.

### 4.1 What is CodeWarrior and what is its relationship with Carbide?

CodeWarrior is a family of development tools created by Metrowerks, now owned by Freescale Semiconductor. CodeWarrior for Symbian OS, a member of the CodeWarrior family, was acquired by Nokia in October 2004.

Nokia migrated the tool chain and created several new plug-ins. The new name for the product family is Carbide.c++. Many of the plug-ins found in the CodeWarrior product are now in the Carbide.c++ product.

### 4.2 Can I upgrade my CodeWarrior products to Carbide?

Carbide.c++ tools are treated as a version upgrade from CodeWarrior, so developers do not need to make a large investment to migrate to Carbide. Contact [sales.carbide@nokia.com](mailto:sales.carbide@nokia.com) for details.

CodeWarrior Product	Upgrading to Carbide.c++ Product	Upgrade Price
CodeWarrior Personal	→ Carbide.c++ Developer Edition	150 euros (about \$191 USD)
CodeWarrior Professional	→ Carbide.c++ Professional Edition	650 euros (about \$831 USD)
CodeWarrior OEM	→ Carbide.c++ OEM Edition	TBA

Note – customers who purchased CodeWarrior products between March and September 2006 are entitled to a 50% discount on their upgrade. See [sales.carbide@nokia.com](mailto:sales.carbide@nokia.com) for details.

### 4.3 What is the status of CodeWarrior? Should I purchase CodeWarrior or Carbide?

CodeWarrior is in maintenance mode. There are no new features planned or new Symbian OS versions supported for CodeWarrior products.

Technical support will continue and include bug fixes until at least December 2007. Please contact [sales.codewarrior@nokia.com](mailto:sales.codewarrior@nokia.com) if you have any questions.

If you are considering making a purchase and are unsure whether to purchase a CodeWarrior or Carbide.c++ product, please consider the following.

- CodeWarrior and Carbide.c++ products are available for sale through the end of 2006. Nokia recommends Carbide.c++ for all new projects.
- You will be able to upgrade your CodeWarrior product to Carbide.c++ when the commercial products are available. The upgrade will protect most of your tool investment.

### 4.4 Can I use CodeWarrior for developing Symbian OS 9.2 based applications?

Yes. CodeWarrior v3.1 will support Symbian OS v9.1, v9.2, and v9.3. Future versions of Symbian OS will be supported in Carbide.c++ only.



#### 4.5 How do I migrate from CodeWarrior to Carbide.c++?

Carbide.c++ products will include documentation on migrating your development environment from CodeWarrior to Carbide. Many of the Carbide.c++ plug-ins, such as compiler, editor, and debugger, for example, are similar to CodeWarrior.

Users will need to understand some basic Eclipse concepts such as workbenches and perspectives. The documentation also discusses options for importing projects from CodeWarrior to Carbide. CodeWarrior .mcp files, for example, are not supported in Carbide.c++.

We recommend that you download Carbide.c++ Express to become familiar with Eclipse. The product is free and installs/uninstalls very easily. Try building sample code from one of the SDKs or try building your code using the Carbide.c++ IDE.

#### 4.6 What are the notable differences between CodeWarrior and Carbide.c++ products?

The fundamental difference between the two products is that Carbide.c++ is built on Eclipse. The Eclipse tool framework is already a popular C++ development tool. Early customer feedback on Carbide.c++ Express, as well as beta test customers for Carbide.c++ Developer and Professional Edition, are very happy with the decision to move to Eclipse.

Eclipse also provides a more stable tool and a better-organized IDE that allows the developer to quickly find information without having a crowded and complex interface. Documentation support built in Eclipse enables Nokia to better integrate tool and SDK documentation into Carbide.c++.

Users will find Carbide.c++ to be easier to set up and configure when compared to CodeWarrior. More project options, improved project wizards, and an SDK manager are found in Carbide.c++ Express. The v1.0 Express product does not fully support all CodeWarrior features, such as MMP imports, editor syntax coloring, debug watch points, for example, but Developer and Profession Edition products will address these concerns.

#### 4.7 What is the support policy for CodeWarrior and Carbide?

Customers receive one year of support when they purchase a new CodeWarrior (or Carbide.c++ Dev/Pro/OEM Editions only) license. Support enables customers to submit technical questions related to the tool, gives them access to updates, and allows them to upgrade their CodeWarrior products.

Note: Carbide.c++ Express does not include support except that provided by the Carbide.c++ tools discussion group at Forum Nokia.

Upgrades affect the license only and do not renew support. Support renewals extend support for one year and are available as a separate purchase in the e-store.

#### 4.8 How long will the CodeWarrior product line will be supported and maintained?

Customers receive one year of support when they purchase a new CodeWarrior license. Support enables customers to submit technical questions related to the tool, gives them access to updates, and allows them to upgrade their CodeWarrior products.

Technical support for CodeWarrior will continue and include bug fixes until at least December 2007. Remaining CodeWarrior support is transferred to a Carbide.c++ license when upgrading to Carbide.