

A decorative graphic on the left side of the page, consisting of several overlapping, curved white shapes that resemble stylized waves or a hand reaching out, set against a solid blue background.

# **Klocwork** 2018.3

## System Requirements

## System Requirements

The following system configurations are required to run the Klocwork tools. To ensure the best experience, use the recommended settings listed below.

### Supported platforms

The Klocwork Server package is supported on the following operating systems (except where noted). This means that Klocwork has performed the full test suite on these operating systems with certain hardware and will provide technical support as specified in the Klocwork support policies.

**Note:** It is not possible to use Klocwork tools with SELinux (Security-Enhanced Linux) enabled.

| Processor                              | Operating system  |
|--|---|
| Sun SPARC                              | <ul style="list-style-type: none"><li>• Sun Solaris 10 1/13 ("U11")</li><li>• Sun Solaris 11.3</li></ul>  |
| Intel and AMD <b>32 bit and 64 bit</b> | <ul style="list-style-type: none"><li>• CentOS 6.9 and 7.4 (1708). As of Klocwork 2018.2, also includes 7.5 (1804). As of Klocwork 2018.3, also includes 6.10.</li><li>• Debian 7.11, 8.9, and 9.2. As of Klocwork 2018.1, also includes 8.10 and 9.4. As of Klocwork 2018.3, also includes 9.5.</li><li>• Fedora 25, 26, 27. As of Klocwork 2018.2, also includes 28.</li><li>• OpenSUSE 12.1 (Ent), 12.2 (Ent), 42.2, and 42.3. As of Klocwork 2018.1, also includes 12.3 (Ent). As of Klocwork 2018.3, also includes OpenSUSE Leap 15 and SUSE Enterprise Linux 15.</li><li>• Red Hat Enterprise Linux 7.2., 7.3, and 7.4. As of Klocwork 2018.2, also includes 7.5. As of Klocwork 2018.3, also includes 6.10.</li><li>• Ubuntu 14.04, 16.04. As of Klocwork 2018.1, also includes 14.04.05 and 16.04.03. As of Klocwork 2018.2, also includes 16.04.4 and 18.04.</li></ul> <p>Klocwork 2018 supports Linux glibc 2.15 to 2.25, inclusive. As of Klocwork 2018.1, also includes 2.26. As of Klocwork 2018.2, also includes 2.27. As of Klocwork 2018.3, also includes 2.28.</p> <p>Klocwork also supports Debian running glibc 2.15 or greater (use <code>getconf GNU_LIBC_VERSION</code> to find out your version).</p> <ul style="list-style-type: none"><li>• Windows 7. As of 2018.1, includes Windows 7 Service Pack 1.</li><li>• Windows 8.1</li><li>• Windows 10, version 1607. As of 2018.1, includes version 1709. Also of 2018.2, includes version 1803.</li><li>• Windows Server 2008 R2</li><li>• Windows Server 2012 R2</li><li>• Windows Server 2016</li></ul> <ul style="list-style-type: none"><li>• Mac OS X El Capitan (10.11.6).</li><li>• macOS Sierra (10.12.6)</li><li>• macOS High Sierra (10.13.5). As of Klocwork 2018.3, also includes 10.13.6.</li></ul> |
| IBM Power5 <b>64 bit</b>               | <ul style="list-style-type: none"><li>• IBM AIX 7.1 TL 4 (Server package only)</li><li>• As of Klocwork 2018.1, also includes IBM AIX 7.1 TL 5 (Server package only)</li></ul>  |

| Processor | Operating system   |
|-----------|--|
|           | <ul style="list-style-type: none"> <li>• IBM AIX 7.2 TL 0 (Server package only).</li> <li>• IBM AIX 7.2 TL 1 (Server package only).</li> <li>• As of Klocwork 2018.1, also includes IBM AIX 7.2 TL 2 (Server package only).</li> </ul> |

## Linux operating system patches and packages

The following patches or packages are required for running Klocwork products on Linux. They are in addition to the regular maintenance patches for your operating system.

### If you are installing on Linux x86, 64-bit

The 32-bit compatibility libraries must be installed. Klocwork works on 64-bit platforms in 32-bit emulation mode, so in order for Klocwork to work on Linux 64-bit platforms, you must ensure that the 32-bit libraries are installed. The way you check and install 32-bit libraries depends on your Linux distribution.

For licensing and analysis tools to work, Klocwork requires the Linux Standard Base core package in addition to GNU and GCC standard libraries listed below. Install the 32-bit version of the Linux Standard Base core package; if there is no 32-bit version available for your Linux distribution, install the 64-bit version of the package.

For Ubuntu, run the following commands:

```
sudo dpkg --add-architecture i386
sudo apt-get update
sudo apt-get install lsb-core
sudo apt-get install libc6:i386 libgcc1:i386
sudo apt-get install lib32tinfo5
sudo apt-get install libncursesw5:i386
sudo apt-get install libnuma1
```

For earlier versions of Ubuntu, consult the Ubuntu documentation.

For Fedora and Redhat Enterprise Linux, run these commands:

```
sudo yum install lsb-core
sudo yum install glibc.i686
sudo yum install libgcc.i686
sudo yum install numactl-libs
```

For CentOS, run these commands:

```
sudo yum install redhat-libs-core.i686
sudo yum install glibc.i686
sudo yum install libgcc.i686
sudo yum install numactl
```

Depending on the Linux version, Klocwork servers require one of the following 3rd-party packages to run:

```
libaio1
libaio
libaio.x86_64
```

libnuma1

## If you are installing on a Linux distribution that does not install the X11 version of X Window by default

You need to install `xorg-XFree86-deprecated-libs`.

## Solaris operating system patches and packages

If you are installing on Solaris 10, you need the `zlib` package. This package is not required if you are installing only the Klocwork developer tools.

To check that the `zlib` package is installed, either run `$ pkginfo |grep zlib` or look for a file called `libz.so` under `/usr/lib` or `/usr/local/lib`.

If the `zlib` package is installed, you will see the package `SUNWzlib`, or `SMCzlib`, or both packages.

## Disk space requirements

### Disk space requirements for installation

A server installation requires 1 GB to 1.4 GB for installation. Plugins require an additional 700 MB. Additional disk space is required temporarily during installation.

### Disk space requirements for data storage

Klocwork Static Code Analysis data includes the source files, configuration files, object files, tables, and the database. The total disk space needed for a single integration-build analysis will be the total of all this data. If you use Klocwork [incremental analysis](#), the object file size and table size is needed only once per project.

### Some sample projects to show how size can vary

| Project    | Language | Lines of code | Object file size (MB) | Table size (MB) | Database size (MB) | Total size (MB) |
|------------|----------|---------------|-----------------------|-----------------|--------------------|-----------------|
| Boost      | C/C++    | 140,000       | 393                   | 17              | 84                 | 1,638           |
| Firefox    | C/C++    | 1,600,000     | 2,800                 | 606             | 702                | 3,174           |
| Common C++ | C/C++    | 20,000        | 168                   | 23              | 45                 | 236             |
| Python     | C        | 214,000       | 114                   | 52              | 84                 | 143             |
| MySQL      | C/C++    | 350,000       | 781                   | 133             | 167                | 463             |

## Processor and RAM requirements

### Minimum requirements for server and complete installations

- Processor speed: 2 GHz or better
- RAM: Minimum 2 GB for a single core machine and a minimum of 1 GB of memory per processor or core on multicore machines. More than 2 GB may be required for very large analyses. Note that the size of a build and its RAM requirements depend not only on the lines of code, but also on the number of relationships and complexity of relationships in the code.

### Minimum requirements for desktop installations

| Klocwork client    | Processor speed | RAM  |
|--------------------|-----------------|------|
| Klocwork for C/C++ | 1 GHz or better | 2 GB |
| Klocwork for Java  | 1 GHz or better | 2 GB |

| Klocwork client  | Processor speed | RAM  |
|--|-----------------|------|
| Klocwork Static Code Analysis and Klocwork Code Review | 1 GHz or better | 2 GB |

## Java Virtual Machine requirements

### Windows

On Windows, the Klocwork Server, Distributed Analysis, and Command-Line packages bundle the 32-bit or 64-bit Java Virtual Machine, Java 8 Update 92. As of Klocwork 2018.2, the version is Java 8 Update 181. Your system must meet the [requirements](#) for this version of Java. Java will be installed in `<klocwork_install_path>\_jvm\bin\`. The installation package automatically detects whether you have a 32-bit or 64-bit operating system.

### Linux

On Linux, there is a separate installation package for both 32-bit and 64-bit Java. Select the one that matches your operating system.

The Klocwork Server, Distributed Analysis, and Command-Line packages bundle the 32-bit or 64-bit Java Virtual Machine, Java 8 Update 92. As of Klocwork 2018.2, the version is Java 8 Update 181. Your system must meet the [requirements](#) for the appropriate version of Java.

### Solaris

On Solaris, the Klocwork Server, Distributed Analysis, and Command-Line packages bundle the 32-bit Java Virtual Machine, Java 7 Update 25. Your system must meet the [requirements](#) for the appropriate version of Java.

### Mac

On Mac OS, Klocwork uses the Java Virtual Machine provided by your system. Klocwork requires Java 7 or Java 8. If you have an earlier version of Java installed and you try to install Klocwork, you will see the error message, "Java is not installed or version of Java is unsupported". Your system must meet the [requirements](#) for the appropriate version of Java.

The Klocwork Desktop application does not support Java 8 update 152 or later on Mac OS; you must run Java 8 Update 151 or earlier as a workaround.

### AIX

The Klocwork Server and Distributed Analysis packages bundle the 32-bit Java Virtual Machine, Java 8 Update 101. As of Klocwork 2018.2, the version is Java 8 Update 171. Your system must meet the requirements for the appropriate version of Java. At the time of publication, the link to supported system configurations for IBM Java is: <http://www.ibm.com/developerworks/java/jdk/aix/service.html>.

Only 32-bit Java is supported for AIX. AIX is not compatible with other platforms so you cannot copy or migrate your projects\_root directory to or from other platforms.

### IDE plug-ins

Klocwork Desktop Java Plug-ins for Eclipse and IntelliJ IDEA require Java 7 or later. You must ensure that your IDE is running the appropriate version of Oracle (Sun) Java.

### kwant

[kwant](#) requires Java 7 or later, and you must use a javac from the Java Development Kit (JDK).

## Ports used by the Klocwork servers

The following table shows the default port numbers for a new installation of the Klocwork servers:

| Server name     | Port             |
|-----------------|------------------|
| Database Server | 3306             |
| License Server  | 27000 plus 33133 |
| Klocwork Server | 8080 plus 8081   |

The default port for each server is the typical port for that type of server. For example, port 3306 is the typical port for a MySQL server. So, if you will be using the default ports, ensure that you are not already running other servers on these ports. Similarly, you can choose to use alternative ports to the defaults, but first ensure that the ports you choose are not already in use.

When the Klocwork servers are running behind a firewall, you must configure the firewall to allow client communication to the servers. However, not all ports need to be exposed:

- The Klocwork Server uses two consecutive ports: the one you choose, plus the next one. The second Klocwork Server port, which is port 8081 by default, is the port on which the server listens for requests to stop the server. In many cases, this port does not need to be accessible through a firewall. For more information about the Tomcat shutdown port, see the [Apache Tomcat 7 documentation](#).
- The database port does not need to be exposed unless you are importing data from this server to a server that is outside of the firewall.

**Important:**

- If you migrated from a previous version of Klocwork, your servers will be running on the ports stored in the old projects\_root.
- Each Klocwork server must run on a dedicated port. Do not set any other application to use the same port numbers.
- If port 33133 is not available for use by the License Server, see [Changing the vendor daemon port in your license file](#).

For more information about setting your ports, see [Setting the ports used by the Klocwork servers](#).

## Supported IDEs

**Note:** Klocwork also has successful integrations with other Eclipse-based IDEs.

### Supported C/C++ IDEs

| IDE                     | Version  |
|-------------------------|--|
| Eclipse                 | 3.4, 3.5, 3.6, 3.7, 4.2, 4.3, 4.4, 4.5, 4.6.1, 4.6.2, 4.7. As of Klocwork 2018.1, also includes 4.7.3. As of Klocwork 2018.3, also includes 4.8.   |
| Wind River Workbench    | 3.1, 3.2, 3.3, 3.31, 4.0.<br><br>The Klocwork plug-in is only supported for Workbench 3.1, 3.2, 3.3 and 3.31 if you use 32-bit Java 7. You must launch the product by specifying this version of Java.                       |
| QNX Momentics           | 6.3.2. As of Klocwork 2018.1, also includes QNX Software Dev Platform 7.0.   |
| Microsoft Visual Studio | 2010 SP1 (Visual Studio Add-in only), 2012 Update 4, 2013 Update 5, 2015 Update 3, and 2017 Update 6 (Visual Studio Extension only). As of Klocwork 2018.3, also includes 2017 Update 15.8.4 (Visual Studio Extension only). |

| IDE | Version  |
|-----|--|
|     | The Express edition of Visual Studio is not supported. |

### Supported C# IDEs

| IDE                     | Version   |
|-------------------------|---|
| Microsoft Visual Studio | 2010 SP1 (Visual Studio Add-in only), 2012 Update 4, 2013 Update 5, 2015 Update 3, and 2017 Update 6 (Visual Studio Extension only). As of Klocwork 2018.3, also includes 2017 Update 15.8.4 (Visual Studio Extension only).<br><br>The Express edition of Visual Studio is not supported.<br>The Smart Device project type is not supported. |

### Supported Java IDEs

| IDE  | Version   |
|--|---|
| Android Studio                                   | 1.0, 1.4, 1.5.1, 2.0, 2.2.2, 2.3.3, 3.0. As of Klocwork 2018.1, also includes 3.0.1. As of Klocwork 2018.2, also includes 3.1 (3.1.2). As of Klocwork 2018.3, also includes 3.1 (3.1.3)   |
| Eclipse  | 3.4, 3.5, 3.6, 3.7, 4.2, 4.3, 4.4, 4.5, 4.6.1, 4.6.2, 4.7. As of Klocwork 2018.1, also includes 4.7.3. As of Klocwork 2018.3, also includes 4.8.  |
| IBM Rational Application Developer for WebSphere | 7.5.x at the level of "Ready for IBM Rational Software" for Eclipse-based solutions   |
| JetBrains IntelliJ IDEA                          | 10.0, 10.5, 11.x, 12.x, 13, 14, 14.1.5, 15.0.5, 2016.1, 2016.2, 2016.3, 2017.1.2, 2017.2.2, 2017.2.6.<br><br>As of Klocwork 2018.1, also includes 2017.3.4.<br><br>As of Klocwork 2018.2, also includes 2018.1.3.<br><br>As of Klocwork 2018.3, also includes 2016.3.8, 2017.1.6, 2017.2.7, 2017.3.5, 2018.1.6, 2018.2. |

## Supported continuous integration servers

Klocwork supports the following continuous integration servers:

- Jenkins 1.580, 1.596, 1.640, 1.656, 2.6, and 2.7. As of Klocwork 2018.1, also includes 2.89.4 and 2.110. As of Klocwork 2018.2, also includes 2.122. As of Klocwork 2018.3, also includes 2.135.
- TeamCity 9.1.3, 9.1.4, and 2017.1. As of Klocwork 2018.1, also includes 2017.2.2. As of Klocwork 2018.2, also includes 2017.2.4. As of Klocwork 2018.3, also includes 2018.1.1.

## Supported browsers

A browser is required for Klocwork Static Code Analysis and Klocwork Code Review .

- Google Chrome 62.0.3202. As of Klocwork 2018.1, also includes 65.0.3325. As of Klocwork 2018.2, also includes 66.0.3359. As of Klocwork 2018.3, also includes 68.0.3440.

- Mozilla Firefox 57, except for the AIX platform, which is at 32.0.2. As of Klocwork 2018.1, also includes 52.7.2 and 59.0.1. As of Klocwork 2018.2, also includes 52.8.0esr and 60.0.1esr. As of Klocwork 2018.3, also includes 52.9.0esr, 60.1.0esr, 61.0.1.
- Apple Safari versions 7.x and later, including 11.0.1. As of Klocwork 2018.1, also includes 11.0.3. As of Klocwork 2018.2, also includes 11.1. As of Klocwork 2018.3, also includes 11.1.2.
- Microsoft Edge 25.10586, 38.14393, and 41.16299.15. As of Klocwork 2018.1, also includes 20.1024 and 40.15063. As of Klocwork 2018.2, also includes 42.17134.
- Microsoft Internet Explorer 11.0.47. As of Klocwork 2018.1, also includes 11.0.52. As of Klocwork 2018.2, also includes 11.0.60. As of Klocwork 2018.3, also includes 11.0.75.

**Note:** Klocwork Static Code Analysis and Klocwork Code Review also require that you enable cookies in your browser.

## Supported source code management systems for Klocwork Code Review

Code Review has been tested with the following, for both pre-checkin and post-checkin code reviews:

| SCM                                     | Supported plug-ins                    |
|---|---------------------------------------|
| Base ClearCase 7.x*                     | Eclipse, IntelliJ IDEA, Visual Studio |
| CVS 1.12.x                              | Eclipse, IntelliJ IDEA                |
| Git 1.7.x                               | Eclipse, IntelliJ IDEA, Visual Studio |
| TFS 2010                                | Visual Studio                         |
| Perforce server 2005.2 or higher        | Eclipse, Visual Studio                |
| Subversion 1.4.x**, 1.6.x, 1.7.x, 1.8.x | Eclipse, IntelliJ IDEA, Visual Studio |

\*Snapshot views are not supported for Base ClearCase

\*\*Subversion 1.4.x is not supported by the Visual Studio plug-ins

**Note:** All of the SCM's are supported by using the commands `kwcodereview` (pre-checkin) or `kwscm` (post-checkin) on the command-line.

For other SCMs, please contact Customer Support by sending an email to [support@roguewave.com](mailto:support@roguewave.com).

## Supported Java build tools

Several Klocwork commands can integrate with your Java build, capturing all of the information it needs to provide a centralized view of the entire code stream. You must use Java 7 or later, and you must use a javac from the Java Development Kit (JDK). The supported Java build tools and versions are as follows:

| Klocwork Command       | Java Build Tool | Supported Version  |
|------------------------|-----------------|--|
| <code>kwant</code>     | ant             | 1.7 or later   |
| <code>kwmaven</code>   | mvn             | 3.0 or later   |
| <code>kwgradle</code>  | gradle          | Up to 3.4.1. As of Klocwork 2018.1, also includes 4.6. As of Klocwork 2018.2, also includes 4.7. As of Klocwork 2018.3, also includes 4.9. |
| <code>kwgradlew</code> | gradlew         | Up to 3.4.1 (gradle version). As of Klocwork 2018.1, also includes 4.6. As of Klocwork 2018.2, also includes                               |



| Klocwork Command | Java Build Tool | Supported Version                              |
|------------------|-----------------|--|
|                  |                 | 4.7. As of Klocwork 2018.3, also includes 4.9. |

## C/C++ compilers supported for build integration

As part of creating a build specification, Klocwork automatically searches for the following compiler types by default. If your compiler is not on this list, contact Customer Support by sending an email to [support@roguewave.com](mailto:support@roguewave.com) so that we can support your compiler. For details on compilers and on creating build specifications generally, see [Creating a C/C++ build specification](#).

| Compiler type   | Klocwork compiler code   | Names of common compiler variants         | Introduced | Improved   |
|---|--------------------------|---|------------|--|
| Analog Devices Blackfin and TigerSHARC                            | dsp                      | ccblkfn, ccts                             | 9.5        |  |
| Archelon C  | archelon                 | mcc                                       | 10.0       |  |
| Archelon CSR Kalimba C  | kalimba_cc kalimba_link  | kalcc, kalcc32, kld                       | 11.3       |  |
| ARM   | armcc armlink ar         | armcc, armcpp, tcc, tcpp<br>armlink armar | Pre-9.5    | 11.0,<br>11.2  |
| ARM Optimizing C/C++ compiler (formerly TI tms470 C/C++ compiler) | cl470 lnk2000 ar         | cl470, armcl lnk470 ar470                 | 9.6        | 10.1   |
| CADUL C cross compiler for Intel 80X86                            | cadul_compile cadul_link | ccu38o lnku38a                            | 9.6        |  |
| CEVA compiler (NVIDIA)  | ceva                     | c16cc                                     | 10.0       |  |
| Clang   | clang                    | clang clang++                             | 9.6 SR3    | 10.2,<br>11.3,<br>2017,<br>2018,<br>2018.1,<br>2018.2,<br>2018.3 |
| CodeWarrior Freescale S12   | chc12                    | chc12                                     | 9.5        | 10.4   |
| Compiler caching tools  | ccache                   | ccache, distcc                            | 9.5        |  |
| Cosmic  | cosmiccompile cosmiclink | cx512x, cx6812, cx6816, cxstm8<br>clnk    | 9.5        | 10.2   |
| Embarcadero compiler/linker                                       | bcc blink                | bcc32 ilink32                             | 9.5        |  |
| Fujitsu FR Family   | fcc                      | fcc911s, fcc907s, fcc896s                 | 9.5        | 2018.2   |

| Compiler type   | Klocwork compiler code  | Names of common compiler variants  | Introduced | Improved                                   |
|---|---|--|------------|--|
| GNU   | gnu gnu_ld  | gcc, g++, cc, c++ ld   | Pre-9.5    | 11.3, 2017, 2017.1, 2018.1, 2018.2, 2018.3 |
| GNU ar  | ar  | ar   | Pre-9.5    |  |
| Green Hills   | ghs ghscom ghslink ghsar  | gcc, gcx, ccarm, cxarm, cccfe, ccmips, cxmips, ccintppc, cxintppc, ccv850, ccppc, ccsh, ccintarm, cxintarm ecomarm, ecompcc ecom800, ecomsh, elxr ax | Pre-9.5    | 10.2, 11.2, 11.3                           |
| Hexagon Tools   | qdsp  | qdsp-gcc, qdsp-g++   | 9.5        | 10.1, 2018.3                               |
| HI-CROSS+ Motorola HC16   | chc16   | chc16  | 2017       |  |
| HI-TECH C compiler/linker   | picc piclink  | picc hlink   | 9.6        |  |
| Hitachi ch38  | ch38  | ch38.exe   | Pre-9.5    |  |
| HiveCC  | hive  | hivecc   | 10.3       |  |
| IAR 78k   | iar_78_compile  | icc78k0r   | 10.0       | 10.1                                       |
| IAR compiler/linker for AVR32   | iar_avr32_compile   | ccavr32  | 10.1       |  |
| IAR compiler/linker for MAXQ  | iar_maxq_compile  | iccmxq   | 10.1       | 2018.2                                     |
| IAR compiler/linker for RL78  | iar_rl78_compile  | iccr178  | 10.1       |  |
| IAR H8  | iar_h8_compile  | icch8  | 10.0       | 10.1                                       |
| IAR M32C  | iar_m32c_compile  | iccm32c  | 10.0       |  |
| IAR RH850   | iar_rh850_compile   | iccrh850   | 10.4       |  |
| IAR SH compiler/linker  | iar_sh_compile  | iccsh  | 10.0       | 10.1                                       |
| IAR compiler/linker for STM8 Microcontroller family   | iccstm8 ilinkstm8   | iccstm8 ilinkstm8  | 2018.1     |  |
| IAR Systems C compiler/linker for: <ul style="list-style-type: none"> <li>8051</li> <li>NEC V850</li> <li>MSP430</li> <li>M16C</li> </ul> | icc8051* iccv850 icc430 xlink iccm16c iar_rx_compile iar_rx_link iccrr16c iccarm ilinkarm iar_avr_compile_filter iar_r32c_compile<br>*Klocwork does not process the compiler option for | icc8051* iccv850 icc430 xlink iccm16c iccrx ilinkrx iccrr16c iccarm ilinkarm iccavr iccr32c  | Pre-9.5    | 10.1                                       |

| Compiler type  | Klocwork compiler code  | Names of common compiler variants  | Introduced | Improved                       |
|--|---|--|------------|--------------------------------|
| <ul style="list-style-type: none"> <li>• Renesas RX210</li> <li>• CR16C</li> <li>• ARM</li> <li>• Atmel AVR</li> <li>• Renesas R32C</li> </ul> | icc8051 to open standard input as source instead of reading source from a file. If your build uses this option, you can save the source code to a file and run icc8051 with the source file as input, or you can choose to ignore these compilations. The code that is piped through standard input will not be analyzed in the Klocwork build (this is what <a href="#">kwinject</a> does by default). |  |            |                                |
| IBM XL C/C++   | xlc   | cc, xlc, xLC and related commands (see <code>kwfilter.conf</code> in the <code>&lt;kw_install&gt;/config</code> directory for the full list) | 9.5        |                                |
| ImageCraft AVR   | iccavr  | iccavr   | 9.5        |                                |
| ImageCraft M8C compiler/linker   | iccm8c ilinkm8c   | ilinkm8c ilinkm8c  | 10.3       |                                |
| Intel C++  | icc icl   | icc, icpc icl  | Pre-9.5    | 10.1, 11.1, 11.3, 2017, 2018.3 |
| Intel iC-386   | c386  | c386a  | 9.6        |                                |
| Keil CA51  | c51 lx51  | c51, cx51, c166, c251 lx51, l166, l251   | 9.5        | 10.1, 2017.3                   |
| Marvell C compiler/linker  | marvell_compile   | ccmsa  | 10.0       |                                |
| MetaWare High C/C++  | ararc ldarc mcc   | arac, mcc, h386, hcarc, hcac, ldarc, ldac  | Pre-9.5    | 10.1                           |
| Metrowerks CodeWarrior   | mwc   | mwcc, mwccmcf  | Pre-9.5    | 10.1                           |
| Microchip MPLAB pic24  | pic30   | pic30-gcc  | 9.5        | 10.1, 2018.3                   |
| Microchip MPLAB pic32  | pic32   | pic32-gcc, pic32-g++, xc32-gcc, xc32-g++   | 10.0       | 2018.3                         |
| Microchip MPLAB XC8 C  | xc8   | sc8  | 2017.1     |                                |
| Microsoft Visual C++   | mscompile mslink  | cl, clarm link, lib  | Pre-9.5    | 10.2, 2017.1, 2018, 2018.3     |

| Compiler type                                    | Klocwork compiler code  | Names of common compiler variants               | Introduced | Improved     |
|--|---|---|------------|--------------|
| Microtec   | mcx mlk   | mcx mlk   | 9.5        |              |
| Microware Ultra C for OS-9                       | ultra   | xcc   | 10.0       |              |
| Motorola DSP563                                  | moto563compile moto563link  | g563c dsplnk                                    | 9.6        |              |
| MPLAB C18  | mcc18 mplink  | mcc18 mplink                                    | 9.5        | 10.1         |
| MPLAB XC16 C                                     | xc16-gcc  | xc16-gcc  | 2017       |              |
| Nintendo Cafe Platform                           | cafe_compile cafe_link  | cl, link  | 10.1       |              |
| Nvidia CUDA                                      | nvcc  | nvcc  | 9.6        |              |
| NXP StarCore Freescale                           | scc sc100-ld  | scc sc100-ld                                    | Pre-9.5    | 10.1, 2017.3 |
| Panasonic C                                      | cc103S ld103S   | cc103S ld103S                                   | 9.5        |              |
| Panasonic MN101E/MN101L                          | cc101 ld101   | cc101 ld101                                     | 11.2       |              |
| Paradigm C/C++                                   | pcc plink   | pcc plink                                       | 9.6        |              |
| Plan 9 C   | plan9 ar  | 0c, 1c, 2c, 5c, 6c, 7c, 8c, 9c, kc, qc, vc ar.l | 9.5        |              |
| QNX  | qnx   | qcc   | Pre-9.5    | 2018.2       |
| Renesas 78K0R                                    | ren_cc78 cc78k0r  | ren_lk78 lk78k0r                                | 9.6        |              |
| Renesas CC-RL RL78 Family                        | ccrl  | ccrl  | 2017.2     |              |
| Renesas CX                                       | ren_cx  | cx  | 10.0       |              |
| Renesas M32R family compiler/linker              | <ul style="list-style-type: none"> <li>ren_m32_compile</li> <li>ren_m32_link</li> </ul> | cc32r (compiler) lnk32r (linker)                | 10.0       |              |
| Renesas R8C and M16C families                    | nc30 ren_ln308  | nc30 nc308 ln308                                | 9.5        | 10.1, 11.3   |
| Renesas R32C family                              | nc100   | nc100   | 10.1       | 11.3         |
| Renesas RH850 family                             | ccrh  | ccrh  | 11.2       |              |
| Renesas SuperH and RX family                     | rxcompile rxlink  | rxc, shc optlnk                                 | 9.5        | 10.1         |
| Renesas V850                                     | ca850 ld850   | ca850 ld850                                     | 9.5        |              |
| Rowley Crossworks for MSP430                     | rowley_compile  | hcl   | 10.0       |              |
| Sony SN Systems compiler for PS2, PS3 and PSVita | snc   | psp2snc, ps3ppusncllv                           | 10.0       | 10.1         |
| Sony Orbis Clang compiler for PS4                | clang   | orbis-clang                                     | 10.0       | 10.1         |

| Compiler type  | Klocwork compiler code  | Names of common compiler variants                             | Introduced | Improved                            |
|--|---|---|------------|-------------------------------------|
| Sun Studio C/C++                                       | sun   | CC, cc  | Pre-9.5    | 10.2                                |
| Synopsys ARC<br>MetaWare compiler                      | ccac  | ccac  | 11.0       | 11.3,<br>2017,<br>2017.1,<br>2018.3 |
| Target Chess   | chess   | chesscc   | 10.0       | 11.1,<br>11.3                       |
| Tasking 68K Toolset<br>compiler/linker                 | tasking_68_compile<br>tasking_68_link   | c68360, cp68360, c68332,<br>cp68332 (compiler) llink (linker) | 10.0       |                                     |
| Tasking ARM Toolset<br>compiler/linker                 | tasking_arm_compile,<br>tasking_arm_link  | ccarm (compiler) lkarm (linker)                               | 10.0       |                                     |
| Tasking Classic<br>Toolset for C166<br>compiler/linker | tasking_classic_166_compile,<br>tasking_classic_166_link  | cc166 l166  | 9.5        | 10.2                                |
| Tasking DSP56X<br>Toolset<br>compiler/linker           | tasking_dsp56_compile,<br>tasking_166_link  | c563, cp563 lk563   | 10.1       |                                     |
| Tasking IFX SLE88                                      | cj2   | cj2   | 9.5        |                                     |
| Tasking SLE88<br>compiler/linker                       | tasking_sle88_compile,<br>tasking_166_link  | c88 lk88  | 10.1       |                                     |
| Tasking Tricore  | tricore_compile tricore_link<br><br>The filter file for this compiler<br>defines both the <code>__CTC__</code> and<br><code>__CPTC__</code> macros with single<br>leading and trailing<br>underscores instead of<br>double underscores, which<br>can lead to false positives in<br>shared code. | cctc, ctc, cptc (compiler)<br><br>ltc (linker)                | 9.5        | 10.1                                |
| Tasking VX Toolset<br>for C166<br>compiler/linker      | tasking_166_compile<br>tasking_166_link   | cc166 lk166   | 9.6        | 10.1                                |
| Tensilica Xtensa<br>C/C++                              | xtensa  | xt-xc xt-xc++   | 9.6        | 10.1,<br>2018.3                     |
| TI ARP32 C/C++   | cl_arp32  | cl-arp32  | 9.5        |                                     |
| TI msp430 C/C++  | cl430   | cl430   | 9.5        | 10.1                                |
| TI tms320c6x and<br>tms320c55x                         | cl6x link6x ar6x  | cl6x, cl55 link6x ar6x  | Pre-9.5    | 10.1                                |
| TI tms320C3x/4x C                                      | cl30/lnk30  | cl30 (compiler) lnk30 (linker)                                | 10.0       |                                     |
| TI tms320c28x  | cl2000 lnk2000 ar   | cl2000 lnk2000 ar2000   | 9.5        | 10.1,<br>2017.2                     |
| TriMedia tmcc  | tmcc  | tmcc, tmCC  | Pre-9.5    |                                     |

| Compiler type          | Klocwork compiler code     | Names of common compiler variants                                    | Introduced | Improved         |
|------------------------|----------------------------|--|------------|------------------|
| Watcom compiler/linker | watcom_compile watcom_link | wcc, wpp, wcc386, wpp386 (for compiler) wlink (for linker)           | 10.0       |                  |
| WinAVR                 | gnu ar                     | avr-gcc, avr-g++ avr-ar  | 9.6        | 10.2             |
| Wind River Diab        | diab dld ar                | dcc, dplus dld dar   | Pre-9.5    | 10.1, 2018.2     |
| Wind River GCC         | gnu                        | ccppc, ccmips, ccpentium, ccarm, c++ppc, c++mips, c++pentium, c++arm | 9.5        | 11.3, 2017, 2018 |
| ZiLOG eZ80             | ez80cc ez80link            | ez80cc ez80link  | 9.5        |                  |

## Supported C++ language specifications

Klocwork supports the following C++ language specifications.

| Operating system | C++11                                | C++14                                | C++17                            |
|------------------|--------------------------------------|--------------------------------------|----------------------------------|
| AIX              | Partial                              | Partial                              | n/a                              |
| Linux            | Full (Clang, GCC)<br>Partial (other) | Full (Clang, GCC)<br>Partial (other) | Full (Clang, GCC)<br>n/a (other) |
| Mac              | Partial                              | Partial                              | n/a                              |
| Solaris          | Partial                              | Partial                              | n/a                              |
| Windows          | Full (Clang, GCC)<br>Partial (other) | Full (Clang, GCC)<br>Partial (other) | Full (Clang, GCC)<br>n/a (other) |

| Desktop analysis tools   | C++11   | C++14   | C++17   |
|--|---|---|---|
| <ul style="list-style-type: none"> <li>Eclipse</li> <li>Klocwork Desktop</li> <li>kwciagent</li> <li>kwcheck</li> <li>QNX Momentics</li> <li>Wind River Workbench</li> </ul> | Full (Clang, GCC) on Linux<br>Full (Clang, GCC) on Windows<br>Partial (other) | Full (Clang, GCC) on Linux<br>Full (Clang, GCC) on Windows<br>Partial (other) | Full (Clang, GCC) on Linux<br>Full (Clang, GCC) on Windows<br>n/a (other) |
| Visual Studio  | Partial   | Partial   | n/a   |

## Supported C# language specifications

Klocwork Static Code Analysis supports versions 1.0, 2.0, 3.0, 4.0, 5.0, and 6.0 of the C# language specification.

## Application servers supported by Klocwork JSP scanning

Klocwork's JSP scanning supports the following application servers:

| Application server | Version       |
|--------------------|---------------|
| Apache Tomcat      | 5.5, 6.0, 7.0 |
| BEA WebLogic       | 10            |

## Supported versions of Flex Net Publisher

| Platform | Supported Version of FlexNet Publisher   |
|----------|--|
| AIX      | 11.10.1.0  |
| Linux    | 2016 R2 SP2 (11.14.1.2)  |
| Mac      | 2016 R2 SP2 (11.14.1.2)<br>On Mac, clients running version 11.14.0.2 cannot connect to a Klocwork 2017.3 server running 11.14.1.2. For a workaround, see <a href="#">kwlef error states license is not valid</a> . |
| Solaris  | 11.10.1.0  |
| Windows  | 2016 R2 SP2 (11.14.1.2)  |

## Operating systems that support FlexNet ID Dongles

A FlexNet ID Dongle is a hardware key, also referred to as a dongle, used to lock software access to the machine on which it is physically installed.

You can use FlexNet ID Dongles in situations where you:

- cannot release any system information such as MAC addresses or IP addresses
- cannot share a license server between multiple sites

For more information about FlexNet ID dongles, see the *FlexNet Publisher Driver Installation Guide for FlexNet ID Dongles* published by Flexera Software.

To use Flexera Software FlexNet ID dongles, use one of the following operating systems with the appropriate FlexNet FLEXID9 driver. You can obtain the appropriate driver for your operating system from Klocwork Customer Support.

| Operating system                             | FlexNet dongle driver installer   |
|--|---|
| Red Hat Enterprise Linux 5.11, 6.8, 7.2, 7.3 | The following drivers apply to FlexNet version 11.14.0.2: <ul style="list-style-type: none"> <li>• 32-bit: aksusbdredhatsuse- 2.5.1.tar.gz</li> <li>• 64-bit: aksusbdredhatsuse- 2.5.1.tar.gz</li> </ul> The following drivers apply to FlexNet version 11.14.1.2, for both 32-bit and 64-bit: <ul style="list-style-type: none"> <li>• aksusbd-redhatsuse-7.54.tar.gz</li> </ul> |
| Windows 8.1, Windows 10                      | The following drivers apply to FlexNet version 11.14.0.2: <ul style="list-style-type: none"> <li>• 32-bit: FLEXID9_Windows_v7_41_i686.zip</li> <li>• 64-bit: FLEXID9_Windows_v7_41_x64.zip</li> </ul>   |

| Operating system | FlexNet dongle driver installer   |
|------------------|---|
|                  | The following drivers apply to FlexNet version 11.14.1.2: <ul style="list-style-type: none"> <li>• 32-bit: FLEXID9_Windows_v7_54_i686.zip</li> <li>• 64-bit: FLEXID9_Windows_v7_54_x64.zip</li> </ul> |

**Notes:**

- You must install Flexera FlexNet ID Dongles at the root/Administrator privilege. For Unix, use su/sudo. For Windows, use an Administrator group.
- After installing Flexera FlexNet ID Dongles on Windows, restart the Klocwork Servers.
- The Linux Red Hat Package Manager (RPM) installer emits an error message about checkpc. Ignore the error message.

## Supported versions of MySQL

The Database Server for Windows, Linux, Solaris, and Mac is a MySQL 5.6.38 database server. As of Klocwork 2018.2, the Database Server for Windows, Linux, Solaris, and Mac is a MySQL 5.6.40 database server. The Database Server for AIX is a MySQL 5.1.68 database server.

## Supported LDAP servers

- Windows Server 2003: Microsoft Active Directory
- Windows Server 2008: Microsoft Active Directory
- Linux: OpenLDAP
- Sun Java System Directory
- Novell eDirectory





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