Installation Guide

QNX

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Preface
About This Guide

Thank you for choosing the QNX Software Development Platform version 6.6. This guide tells you how to install it from DVD.

Please read this preface for information that applies to all host OSs, and then refer to the chapter for your specific OS (Microsoft Windows, or Linux).

Typographical conventions

Throughout this manual, we use certain typographical conventions to distinguish technical terms. In general, the conventions we use conform to those found in IEEE POSIX publications. The following table summarizes our conventions:

Reference	Example
Commands	`make`
Environment variables	***PATH***
File and pathnames	`/dev/null`
Keyboard keys	**Enter**
Variable names	*stdin*
User-interface components	**Cancel**

We use an arrow in directions for accessing menu items, like this:

You'll find the **Other...** menu item under **Perspective → Show View** .

We use notes and cautions to highlight important messages:

Notes point out something important or useful.

Cautions tell you about commands or procedures that may have unwanted or undesirable side effects.

Before you start

Before you install this software, please note the following:

- The DVD includes QNX SDP for all host OSs for creating software for all supported targets.

- QNX SDP includes the QNX Momentics Tool Suite, which you can use to develop applications to run on the QNX Neutrino RTOS on a separate target system.

- We post CRC and MD5 checksums with the packages in the Download area on our website. If you download a DVD image or an installer from our website, make sure that its checksum matches that given on the website. On Unix-style OSs (e.g. QNX Neutrino, Linux), you can use the `cksum` utility to calculate the CRC checksum. Microsoft doesn't support such utilities on Windows, but they're available from third parties.

- There are several QNX Development License streams that govern how QNX SDP can be used in different situations. The key on your license certificate will cause the appropriate license agreement to be displayed when you install QNX SDP; that development license governs your use of the product.

  Once you've installed QNX SDP, you'll find a copy of all the license agreements in *base_dir*/`install/qnx-sdp/6.6`, where *base_dir* is where you installed the software.

  For more information about licensing, visit the **Licensing** area of *http://www.qnx.com*, where you'll find details on our licensing model, types of licenses, etc., or email *licensing@qnx.com*.

- QNX SDP 6.6 can coexist with QNX CAR 2.0, QNX Software Development Platform 6.5.0, 6.4.0, and 6.4.1, and QNX Momentics 6.3, but if you want QNX SDP 6.6 to replace an older version, you must uninstall the older versions and any updates to them before installing 6.6.

- For information about new features and known issues in QNX SDP, see the release notes. For the most up-to-date version, go to our website (*http://www.qnx.com*), log into your myQNX account, and then go to the Download area.

- For information about using BSPs with QNX SDP 6.6, see the *BSPs and Drivers project* on Foundry27.

Getting started with the documentation

After you've installed QNX SDP, you'll find an extensive set of HTML documentation. You can read it in the Integrated Development Environment's help system. To start the IDE on Linux, use this command:

```
base_directory/run-qde.sh
```

On Windows, use the desktop icon or run:

```
base_directory\run-qde.vbs
```

where *base_directory* is where you installed the software.

The *QNX Software Development Platform* "roadmap" page contains links to the various HTML booksets that accompany the OS. See the *Quickstart Guide* for a short tutorial that will help you get started, and then refer to the other documents (*System Architecture*, *Programmer's Guide*, *C Library Reference*, *Utilities Reference*, and so on).

You can install and work with multiple versions of the QNX Neutrino RTOS. Whether you're using the command line or the IDE, you can choose which version of the OS to build programs for. For more information, see the IDE *User's Guide* or the QNX Neutrino *Programmer's Guide*.

Technical support

To obtain technical support for any QNX product, visit the **Support** area on our website (*www.qnx.com*). You'll find a wide range of support options, including community forums.

Chapter 1
Microsoft Windows Hosts

> If you've already installed an evaluation version of QNX SDP, and you've
> purchased and received a commercial QNX license or you've received an
> evaluation extension license, please go to "*Commercializing your evaluation*
> *software* (p. 18) ," below.

Before you start

- In order to install QNX SDP, the QNX license file must be writable by everyone. If the installer stops and warns you that this file isn't writable, you can make it so by right-clicking on `C:\Program Files\QNX Software Systems\license\licenses` or `C:\Program Files (x86)\QNX Software Systems\license\licenses` and choosing Properties. Make sure that the "Read-only" attribute isn't checked, click **Apply**, and then click **OK**. (Ref# 62419)
- We provide the Korn shell (`ksh.exe`), which you'll find under `${QNX_HOST}/usr/bin` (e.g. `C:\qnx660\host\win32\x86\usr\bin`). You may want to create desktop shortcuts for the executables you'll use often.
- On Windows, the QNX-provided `echo.exe` interprets the Windows `\` separator as an escape character. As a result, environment variable settings won't work if you use `\` as a path separator; use `/` instead. (Ref# 19924, J142704)
- If your `PATH` contains quotation marks, `ln-w` doesn't work properly. (Ref# 20046)

System requirements

Host OS:

- Windows 8 Professional 64-bit
- Windows 7 Professional 64-bit
- Windows XP Professional SP3

	Minimum	Recommended
Processor	Pentium III, 700 MHz	Pentium 4, 2 GHz or more
RAM	256 MB	512 MB
Disk space	2.5 GB	3.4 GB
Monitor	1024×768	1280×1024

The System Profiler in the IDE requires a minimum color depth of 16 bits.

Installing QNX SDP

To install QNX SDP, do the following:

1. If you're using Windows 7, you might have to disable User Account Control (UAC), depending on where you want to install the software. (Ref# 77791, J237891)

2. Insert QNX SDP 6.6 Installation DVD in the DVD drive. The installation should start automatically; if it doesn't, double-click `qnx-sdp-6.6`*nnnnnnnnnnnn*`.exe` (where *nnnnnnnnnnnn* is a build number), which you'll find in the root directory of the disk.

3. Follow the instructions on your screen. We recommend you use the default location for the software, `C:\qnx660`.

   • If you install QNX SDP on a host with an existing installation of QNX SDP 6.5.0, the installer asks if you want to use the same ***QNX_CONFIGURATION*** directory. If you choose "Yes", QNX SDP licenses are written to the same license file as your QNX SDP licenses, and you'll be able to use the Configuration tool or the IDE to choose which version of QNX Neutrino you want to develop applications for. Choosing "No" causes the installer to use QNX SDP configuration settings. (Ref# 260840, J393849)

   • If QNX Software Systems has a contract with you to support server-based licenses (Automated License Management), you have a special license key that tells the software to enforce these licenses. In this case, the installer presents a panel where you can specify the hostname or IP address of the server, and the port on which the server is listening for connections. If you're using the default port, you can leave the port blank.

Unattended installation

After you've installed QNX SDP once, you can run the installer unattended on other machines:

1. Run the installer in graphical mode to generate a response file:

```
installer-name -r path/installer-responses.txt
```

2. Use the response file to do further installations in unattended mode:

```
installer-name -f path/installer-responses.txt -i silent
```

Setting up your environment

To set up the environment in a command shell, run:

```
base_directory\qnx660-env.bat
```

where *base_directory* is where you installed QNX SDP (see "*Determining your base directory* (p. 20)," below). If you can't remember where you installed this product, search for `qnx660-env.bat`. This file is in the base directory.

Activating the tools

The QNX Momentics Tool Suite and certain related products require activation. If you don't activate the product within the specified timeframe, the product will cease to function until you activate it. No personal data is transferred during the activation process. If your license key indicates that you have a "named user" license, the activation requires that you provide an email address.

Activating automatically

If your development host is connected to the Internet, you can activate QNX SDP automatically.

Activating manually

If your machine isn't connected to the Internet, you must activate your software manually from a machine that is, by doing the following:

1. In the QNX SDP Activation dialog, click Activate Manually.

   The Manual Activation dialog appears with an activate-prompt key. This dialog has a button that you can use to save the activate-prompt key in a file, *drive*:\Program Files\QNX Software Systems\license\activate_prompt_key.txt, where *drive* is the name of the drive where you installed QNX SDP. Using this file eliminates the need to retype the key, which can be error-prone.

2. Transfer the activate-prompt key to the machine that's connected to the Internet.

3. Go to our website, *http://www.qnx.com/*, log into your myQNX account, and choose **Manual Product Activation**.

4. Enter the activate-prompt key into the form that appears, and then click Generate Response Key. This will return an activate-response key.

5. Copy the activate-response key and paste it in a file.

6. Transfer the file into *drive*:\Program Files\QNX Software Systems\license\activate_response_key.txt on your QNX SDP development host.

7. If you closed the QNX SDP Activation dialog, open it again by entering the following at the command prompt:

   ```
   base_directory\qnx660-env.bat
   "$QNX_CONFIGURATION$\bin\qnxactivate.exe" -d
   "$QNX_CONFIGURATION$"
   ```

8. Choose Activate Manually, and use the Load Response from File button to load the activate-response key, and then click Activate.

If you choose not to activate at the time of installation, you can activate later by entering the following at the command prompt:

```
base_directory\qnx660-env.bat
"$QNX_CONFIGURATION$\bin\qnxactivate.exe" -d "$QNX_CONFIGURATION$"
```

Commercializing your evaluation software

If you installed an evaluation copy of QNX SDP, and you've now received a commercial QNX license, do the following to add your commercial license:

1. Set up your environment and run `addLicence.exe` by entering the following at the command prompt:

```
base_directory\qnx660-env.bat
base_directory\install\qnx-sdp\6.6\addLicense.exe
```

where *base_directory* is where you installed QNX SDP (see "*Determining your base directory* (p. 20)," below).

2. In the QNX SDP License Key Entry dialog, fill in the field with the license-key information.
3. When you've finished entering the information, click **Add** to save the license-key information and configure your QNX SDP tools to use this file.
4. After entering the license key, you'll be presented with the appropriate license agreement. You'll need to accept it in order to successfully add a license.

Uninstalling QNX SDP

You should uninstall QNX products in the reverse order in which you installed them. To determine this order, open a command window, set up your environment, start `bash`, and then use a command like this:

```
ls -lt `$QNX_HOST/usr/bin/find base_directory -name "*uninstall*.exe"`
```

where *base_directory* is where you installed QNX SDP.

To uninstall QNX SDP, do the following:

1. If you're using Windows 7, disable User Account Control (UAC). (Ref# 77791, J237891)

2. Do one of the following:

- Choose **Programs** → **QNX Software Development Platform 6.6** → **Uninstaller** from the Start menu.

  or:

- On Windows 7 or 8, choose **Programs and Features**, select "QNX Software Development Platform 6.6", and then click **Uninstall/Change**.

  or:

- Choose **Add or Remove Programs** from the Control Panel, select "QNX Software Development Platform 6.6", and then click the **Remove** button.

  or:

- Go to the directory that contains the *base_directory* folder and run *base_directory*`\install\qnx-sdp\6.6\uninstaller.exe`.

If the uninstaller doesn't fully remove all the components, do the following:

1. Delete the folder where you installed QNX SDP.

2. Delete the "QNX Momentics" desktop shortcut and the link in the Start menu.

3. Find and delete all occurrences of `.com.zerog.registry.xml`. This is a hidden file, so you must enable the **Show hidden files and folders** option.

4. Delete the QNX SDP entries from the Add/Remove Program list by choosing **Control Panel** → **Programs and Features** from the Start menu, right-clicking on each QNX SDP entry, and then choosing **Delete from the list**.

Determining your base directory

If you have a command shell with the environment set up for QNX SDP, you can determine the base directory by using the `qconfig` command. For example:

```
C:\qnx660>qconfig
QNX Installations

  Installation Name: QNX Software Development Platform 6.6
            Version: 6.6.0
     Base Directory: C:\qnx660
          QNX_HOST: C:\qnx660\host\win32\x86
        QNX_TARGET: C:\qnx660\target\qnx6
```

The base directory in this example is `C:\qnx660\`, but it could be different on your machine, depending on where you installed QNX SDP.

If you can't remember where you installed this product, search for `qnx660-env.bat`, which you use to set up the environment. This file is in the base directory.

Chapter 2
Linux Hosts

> If you've already installed an evaluation version of QNX SDP, and you've purchased and received a commercial QNX license or you've received an evaluation extension license, please go to "*Commercializing your evaluation software* (p. 31)," below.

Before you start

- If you're running `selinux` (secure Linux), disable it before installing QNX SDP. Otherwise, after you've entered the license key and clicked Next, the installation will fail with this error:

```
java.lang.UnsatisfiedLinkError: no qnxlic in java.library.path
```

- In order to run the installer and the IDE on Ubuntu 64-bit, you need to install the 32-bit libraries:

```
sudo apt-get install libgtk2.0-0:i386 libXtst6:i386
libcanberra-gtk-module:i386 \
gtk2-engines-murrine:i386 libdbus-glib-1-2:i386
```

Answer yes to all the questions. (Ref# 70567, J237671)

- In order to run the installer on Red Hat 6.4 64-bit, you need to install the 32-bit libraries:

```
yum install redhat-lsb.i686
```

(Ref# 393526)

- In order to run the installer on Ubuntu 13.10, you need to install the following:

  - `libXtst-dev`
  - `libXtst-dev:i386`
  - `libdbus-glib-1-2:i386`
  - `libcanberra-gtk-module:i386`
  - `gtk2-engines-murrine:i386`

(Ref# J570559)

- In order to install QNX SDP, the QNX license file must be writable by everyone. If the installer stops and warns you that this file isn't writable, you can make it so by typing:

```
chmod a+rw base_directory/.qnx/license/licenses
```

where *base_directory* is where you installed QNX SDP, or if you installed QNX SDP 6.6 to coexist with an earlier version:

```
chmod a+rw /etc/qnx/license/licenses
```

(Ref# 62419)

System requirements

Host OS:

- Linux Red Hat Enterprise Linux 6 64-bit
- Ubuntu Workstation LTS 12.04 32- and 64-bit

	Minimum	Recommended
Processor	Pentium III, 700 MHz	Pentium 4, 2 GHz or more
RAM	256 MB	512 MB
Disk space	2.2 GB	3.1 GB
Monitor	1024×768	1280×1024

The System Profiler in the IDE requires a minimum color depth of 16 bits.

Installing QNX SDP

To install QNX SDP, do the following:

1. Insert QNX SDP 6.6 Installation DVD in the DVD drive.

2. If the system offers to run `autorun`, choose Yes; otherwise run `qnx-sdp-6.6-`*nnnnnnnnnnnn*`.bin` (where *nnnnnnnnnnnn* is a build number), which you'll find in the root directory of the DVD.

   - On Ubuntu, you need `cd` to the directory where the installer is located and run it there, or specify the absolute path to the installer. (Ref# J393516)

   - If your system won't let you execute from a DVD, unmount the DVD and remount it by hand.

   - If you see an error like this:

     ```
     An internal LaunchAnywhere application error has occured and
      this application cannot proceed.
     ```

     followed by a stack trace, then InstallAnywhere may be having problems with the value of your ***PS1*** environment variable. See
     http://kb.flexerasoftware.com/selfservice/viewContent.do?externalID=Q112941.

     Workaround: Set ***PS1*** to $ when you run the installer. For example:

     ```
     PS1='$' path_to_installer/qnx-sdp-6.6-nnnnnnnnnnnn.bin
     ```

3. Follow the instructions on your screen. We recommend you use the default location for the software, `~/qnx660`.

   - If you install QNX SDP on a host with an existing installation of QNX SDP, the installer asks if you want to use the same ***QNX_CONFIGURATION*** directory:

     - If you choose "Yes", QNX SDP licenses are written to the license file in the location identified by ***QNX_CONFIGURATION***, and you'll be able to use the Configuration tool or the IDE to choose which version of QNX Neutrino you want to develop applications for.

       If you use the same ***QNX_CONFIGURATION*** directory, don't uninstall the earlier version of QNX SDP because its uninstaller might delete this directory, and you'll lose the license file, configuration files, and binaries that are stored there. (Ref# 264895, J393519)

     - Choosing "No" causes the installer to use QNX SDP configuration settings. (Ref# 260840, J393849)

- If QNX Software Systems has a contract with you to support server-based licenses (Automated License Management), you have a special license key that tells the software to enforce these licenses. In this case, the installer presents a panel where you can specify the hostname or IP address of the server, and the port on which the server is listening for connections. If you're using the default port, you can leave the port blank.

Unattended installation

After you've installed QNX SDP once, you can run the installer unattended on other machines:

1. Run the installer in graphical mode to generate a response file:

   ```
   ./installer-name -r path/installer-responses.txt
   ```

2. Use the response file to do further installations in unattended mode:

   ```
   ./installer-name -f path/installer-responses.txt -i silent
   ```

Setting up your environment

To set up the environment in a command shell, run:

```
source base_directory/qnx660-env.sh
```

where *base_directory* is where you installed QNX SDP (see "*Determining your base directory* (p. 33)," below). If you can't remember where you installed this product, search for `qnx660-env.sh`. This file is in the base directory.

Activating the tools

The QNX Momentics Tool Suite and certain related products require activation. If you don't activate the product within the specified timeframe, the product will cease to function until you activate it. No personal data is transferred during the activation process. If your license key indicates that you have a "named user" license, the activation requires that you provide an email address.

On some distributions, the activation dialog doesn't appear automatically. (Ref# 68599, J237603)

Workaround: Set up the environment for command-line tools (see *Setting up your environment* (p. 28)), and then run the following command:

```
${QNX_CONFIGURATION}/bin/qnxactivate -d ${QNX_CONFIGURATION}
```

Activating automatically

If your development host is connected to the Internet, you can activate QNX SDP automatically.

Activating manually

If your machine isn't connected to the Internet, you must activate your software manually from a machine that is, by doing the following:

1. In the QNX SDP Activation dialog, click Activate Manually.

   The Manual Activation dialog appears with an activate-prompt key. This dialog has a button that you can use to save the activate-prompt key in a file, *base_directory*/.qnx/license/activate_prompt_key.txt. Using this file eliminates the need to retype the key, which can be error-prone.

2. Transfer the activate-prompt key to the machine that's connected to the Internet.

3. Go to our website, *http://www.qnx.com/*, log into your myQNX account, and choose **Manual Product Activation**.

4. Enter the activate-prompt key into the form that appears, and then click Generate Response Key. This will return an activate-response key.

5. Copy the activate-response key and paste it in a file.

6. Transfer the file into *base_directory*/.qnx/license/activate_response_key.txt on your QNX SDP development host.

7. If you closed the QNX SDP Activation dialog, open it again by entering the following at a terminal prompt:

```
source base_directory/qnx660-env.sh
$QNX_CONFIGURATION/bin/qnxactivate -d $QNX_CONFIGURATION
```

8. Choose Activate Manually, and use the Load Response from File button to load the activate-response key, and then click Activate.

If you choose not to activate at the time of installation, you can activate later by entering the following at a terminal prompt:

```
source base_directory/qnx660-env.sh
$QNX_CONFIGURATION/bin/qnxactivate -d $QNX_CONFIGURATION
```

Commercializing your evaluation software

If you installed an evaluation copy of QNX SDP, and you've now received a commercial QNX license, do the following to add your commercial license:

1. Type the following at a terminal prompt:

   ```
   base_directory/install/qnx-sdp/6.6/addLicense.bin
   ```

   where *base_directory* is where you installed QNX SDP (see "*Determining your base directory* (p. 33)," below).

2. In the QNX SDP License Key Entry dialog, fill in the field with the license-key information.

3. When you've finished entering the information, click **Add** to save the license-key information and configure your QNX SDP tools to use this file.

4. After entering the license key, you'll be presented with the appropriate license agreement. You'll need to accept it in order to successfully add a license.

Uninstalling QNX SDP

You should uninstall QNX products in the reverse order in which you installed them. To determine this order, set up your environment, and then use a command like this:

```
ls -lt `find base_directory -name "*uninstall*"`
```

where *base_directory* is where you installed QNX SDP.

To uninstall QNX SDP, do the following:

1. Go to a directory outside the *base_dir* directory (see "*Determining your base directory* (p. 33)," below) and run the uninstaller:

```
base_dir/install/qnx-sdp/6.6/uninstaller
```

If the uninstaller doesn't fully remove all the components, do the following:

1. Delete the directory that you installed QNX SDP in.
2. Delete any shortcuts to `run-qde.sh`. These could have been created in any directories that you selected during installation.
3. Find and delete any occurrences of `.com.zerog.registry.xml`.

Determining your base directory

To determine the base directory for QNX SDP, open a command shell, set up your environment, and then use the `qconfig` command. For example:

```
$ qconfig
QNX Installations

  Installation Name: QNX Software Development Platform 6.6
            Version: 6.6.0
     Base Directory: /home/my_userid/qnx660
           QNX_HOST: /home/my_userid/qnx660/host/linux/x86
         QNX_TARGET: /home/my_userid/qnx660/target/qnx6
```

The base directory in this example is `/home/my_userid/qnx660/`, but it could be different on your machine, depending on where you installed QNX SDP.

If you can't remember where you installed this product, search for `qnx660-env.sh`, which you use to set up the environment. This file is in the base directory.