CrossOver Games Users Guide

Copyright © 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011 CodeWeavers, Inc.

CrossOver Games is a trademark of CodeWeavers, Inc. Windows is a registered trademark of Microsoft Corporation. All other trademarks and registered trademarks are owned by their respective companies.

COLLABORATORS			
	TITLE : CrossOver Games Users Guide		
ACTION	*NAME*	*DATE*	*SIGNATURE*
WRITTEN BY		January 25, 2011	

REVISION HISTORY			
NUMBER	DATE	DESCRIPTION	NAME

Contents

1 Introduction **1**

2 Quick Start Guide **2**

3 Installing CrossOver Games **8**

4 Unlocking the Demo version of CrossOver **9**

5 Installing Windows Software **11**

5.1 Installing Software using the CrossOver Software Installer . . . 11

5.1.1 Choosing what to install . . . 11

5.1.2 Selecting an installation source . . . 13

5.1.3 Downloading an installer . . . 14

5.1.4 Selecting a bottle for installation . . . 15

5.1.5 Completing the installation . . . 15

5.2 Removing Games . . . 16

6 Using CrossOver Games **18**

6.1 Running Windows games . . . 18

6.1.1 Running from the Finder . . . 18

6.1.2 Running a Windows command . . . 19

6.2 Stopping misbehaving programs . . . 21

7 Using the Bottle Manager **23**

7.1 Managing Bottles . . . 23

7.1.1 Bottle Windows versions . . . 25

7.2 The Applications tab . . . 26

7.3 The Control Panel tab . . . 27

7.4 The Advanced tab . . . 29

8 Preference Settings **30**

8.1 System Integration Preferences . . . 31

8.2 Installer Assistant Preferences . . . 32

8.3 Keyboard and Mouse Preferences . . . 33

8.4 Reporting Preferences . . . 34

9 Using CrossTie files and the CodeWeavers CrossOver Compatibility Center **35**

9.1 Installing Community Support Software via the Compatibility Center 36

9.2 Using CrossTies with multiple CodeWeavers products 37

10 Advanced Manual Configuration Options **38**

10.1 Adding a new drive or customizing the drive label / serial number 38

10.2 Customizing bottles using bottle hooks 38

11 Troubleshooting **41**

A Glossary **43**

A.1 Supported Games 43

A.2 Bottles 43

Chapter 1

Introduction

CrossOver Games allows you to run your favorite Windows games on an Intel Macintosh. Unlike similar products which run the Windows operating system on a virtual machine, CrossOver bridges directly between Windows software and OS X, allowing applications to run at full speed on your Macintosh desktop.

CrossOver Games is tested for performance with many games such as Guild Wars, Eve Online, and Steam games like Half-Life 2 and Portal. It also works well with a wide variety of other 3D and 2D games.

CrossOver Games is easy to install, and requires a small footprint on the system. Its minimum requirements are as follows:

- An Intel Macintosh (CrossOver does not work on PowerPC systems)
- Mac OS X 10.4.4 or higher
- 512M of RAM
- 100MB of available disk space

Tip
You will also need disk space for whatever Windows games you plan to install.

Chapter 2

Quick Start Guide

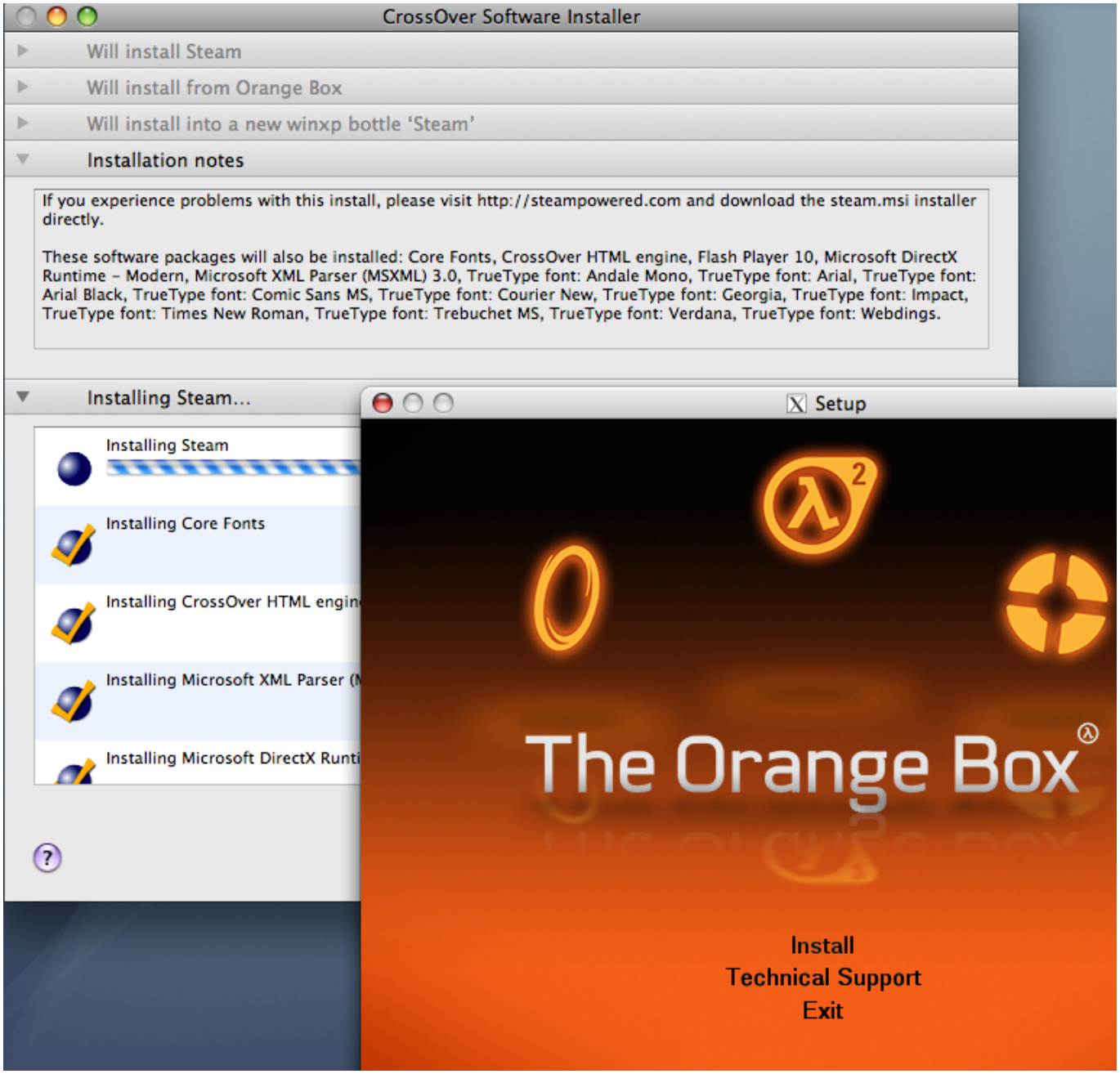
If you are familiar with other versions of CrossOver or you are comfortable making mistakes, this chapter should get you started running Windows software in a few minutes. For greater detail about the concepts and features in CrossOver Games consult the later chapters in this guide.

Installing and running The usual place to install CrossOver is in the Applications folder. Drag the CrossOver icon into the folder alias displayed in the installation media and enter the Administrator password for your system.

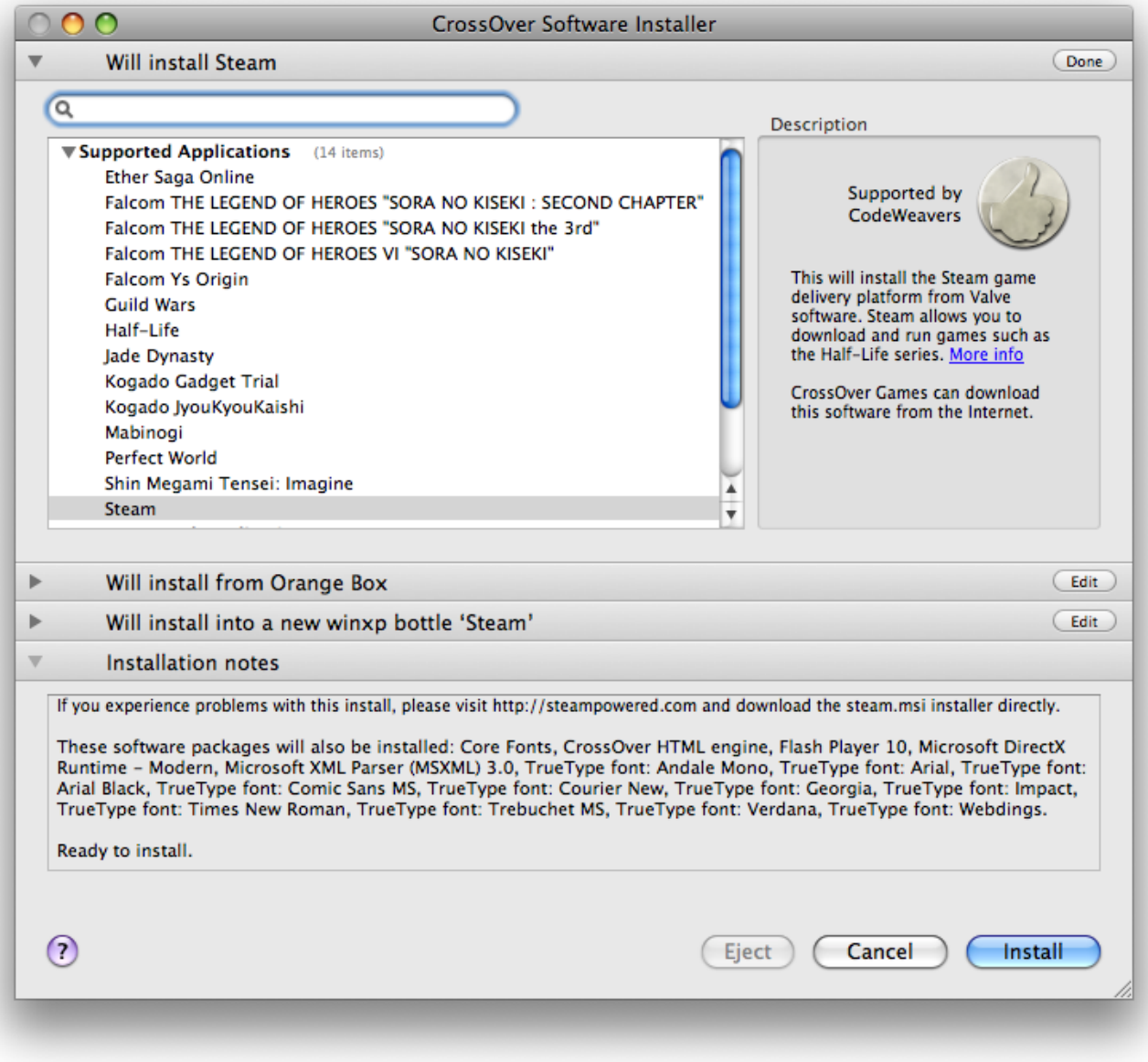
To run, browse to the Applications folder and double-click the CrossOver icon.

Installing a Windows program If you are installing software off a CD or DVD, simply insert the disk now. CrossOver will detect the disk and offer to install. Follow the steps provided by the CrossOver Software Installer.

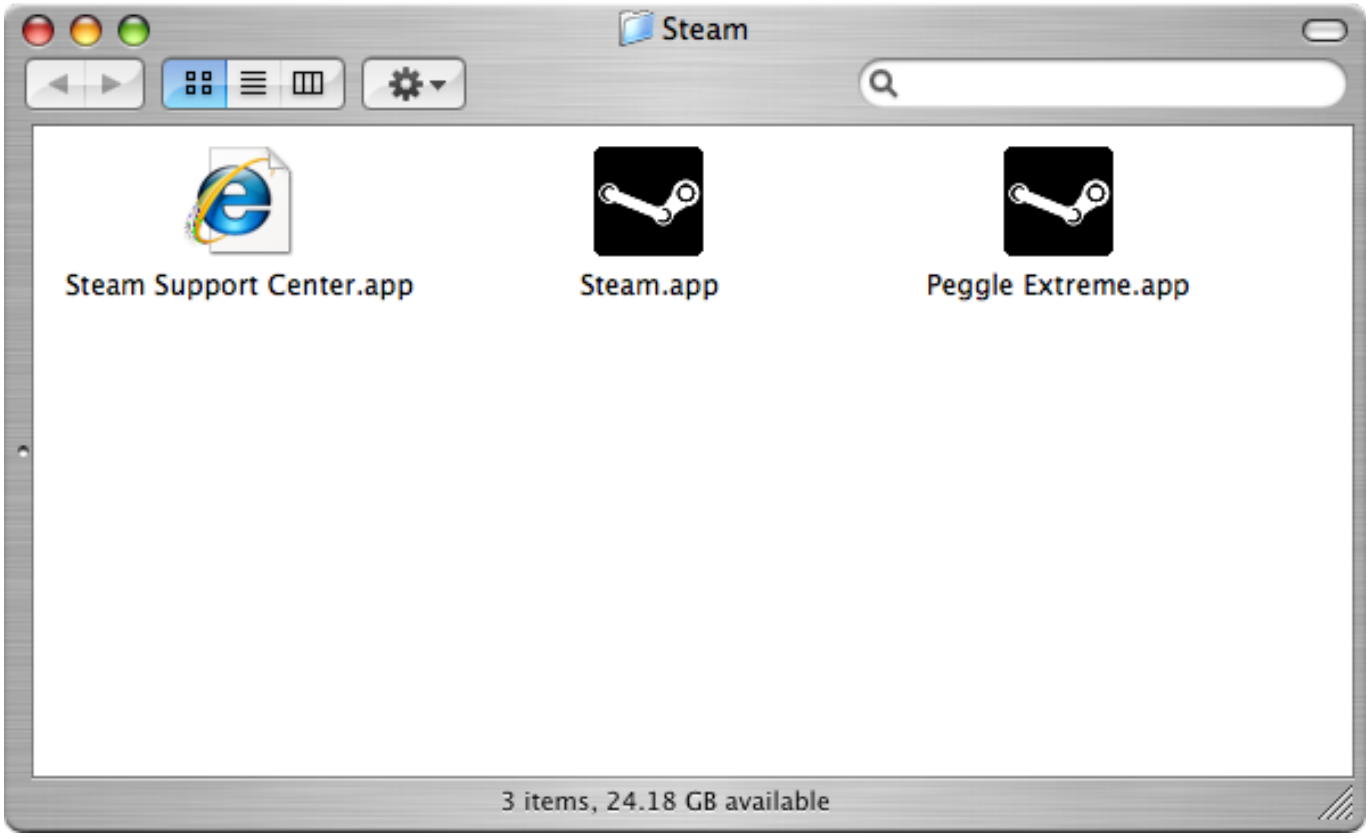
CrossOver Autorun
CrossOver has detected that this disk contains an installer for the package:
The Orange Box or other Steam-based games
DVD
Orange Box
Open with:
CrossOver Games
Remember this choice for all future Windows volumes
Ignore
Install Now



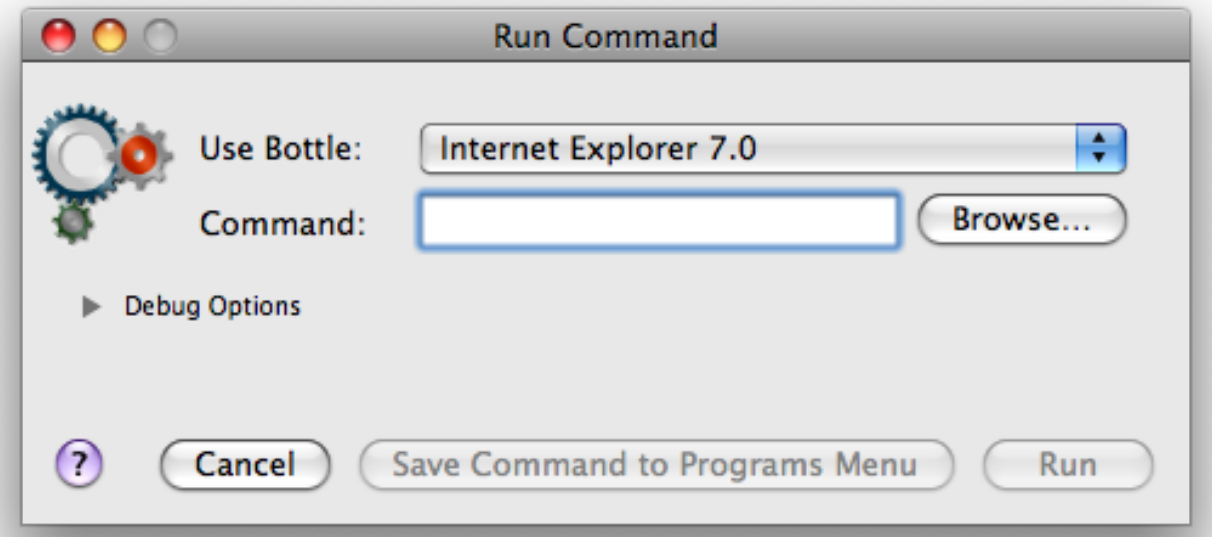
If you want to install from a single installer file or install one of CrossOver's automatic packages, select Install Software... from the Configure menu. Then select the name of the package from the list provided. If the program you want to install is not specifically named, select Other Application Then follow the steps provided by the CrossOver Software Installer.



Running a Windows program If all went well, a launcher icon appeared for the application you just installed. This icon is in your home directory for later use.



If your program did not create any icons, you can still launch it by selecting Run Command... from the Programs menu.



Have fun!

Chapter 3

Installing CrossOver Games

CrossOver Games can be installed anywhere on your system (via dragging and dropping), or it can be run directly off the install media.

The usual place to install CrossOver is in the Applications folder -- this will make it available to all the users on your system. To install into Applications, Drag the CrossOver icon into the folder alias displayed in the installation media and enter the Administrator password for your system.

Chapter 4

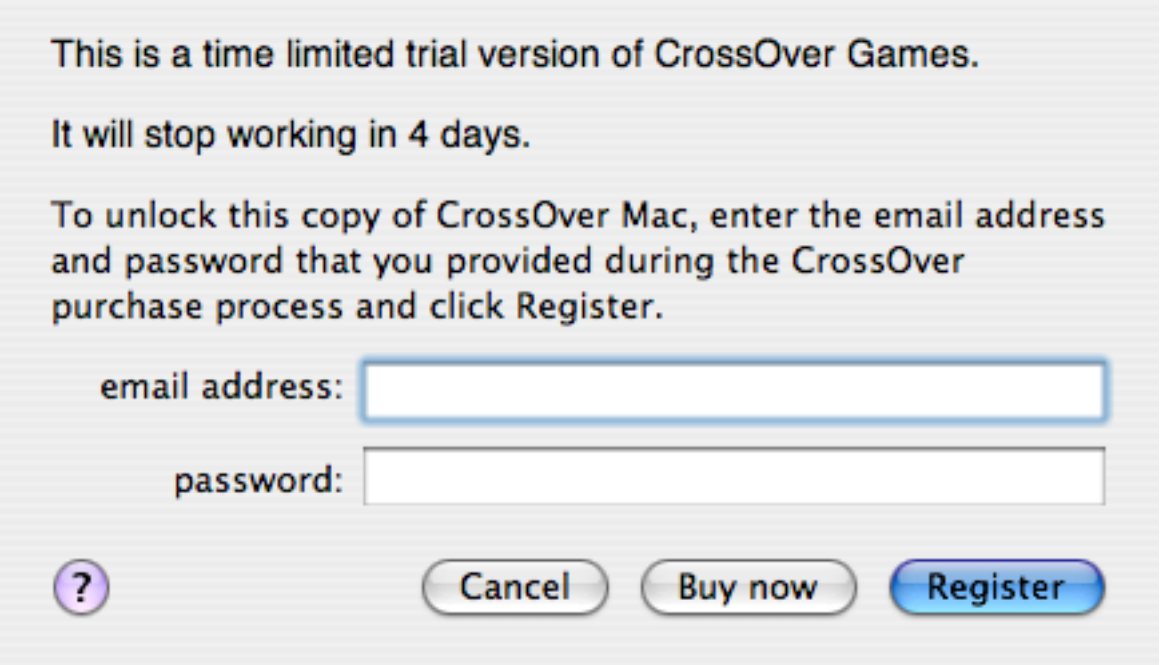
Unlocking the Demo version of CrossOver

The demo version of CrossOver has all the functions and features of the full version. Any windows software that works on a full version will also run in the demo version, and vice versa. The important limitation of the demo version is that bottles can only be used for 8 days. This means that any Windows packages that you install using the demo version will cease to work no more than 8 days after their installation.

CrossOver will warn you periodically of the approaching expiration.

When a demo installation is unlocked, all existing bottles and applications are unlocked as well. To unlock a demo, you must have a support account with CodeWeavers. You can purchase CrossOver licenses and support contracts from the vendor that provided you with your demo or directly from the CodeWeavers store. During purchase you will be asked to provide an email address and password. This address and password will be used to unlock your demo install.

Tip
Some versions of CrossOver Games do not have a Register button. To unlock these versions of you must download an unlocked version of CrossOver and install it, replacing the existing demo version. Your bottles and applications will not be altered during this reinstallation.



After unlocking, all your bottles and Windows applications will be re-enabled. The Register and unlock this demo option will be removed from your menu.

Chapter 5

Installing Windows Software

5.1 Installing Software using the CrossOver Software Installer

The CrossOver Software Installer guides you through the process of installing Windows software. It can be launched from the Configure menu via the Install Software... option or it can be launched from the Bottle Manager.

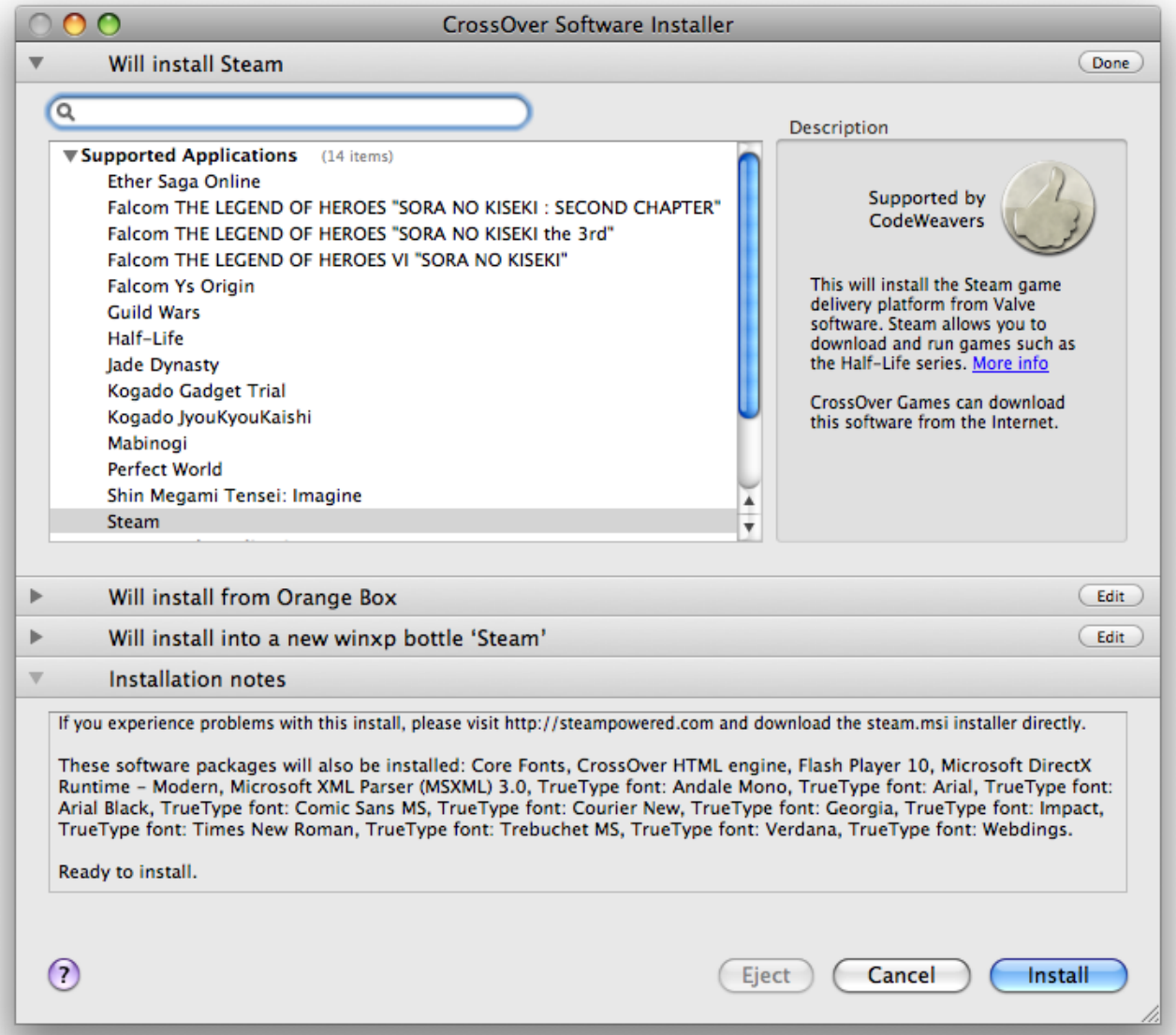
Tip
The CrossOver Software Installer contains extensive knowledge about the specific conditions and parameters that make applications install and run. When software is installed without using the Installer (for instance by running Wine directly) or when the Installer is misinformed about what's being installed (for example if one application is installed when a different one has been selected from the selection panel) the installer behavior may be imperfect, and subsequent application behavior may be less reliable.

5.1.1 Choosing what to install

The first panel displays a list of applications that CrossOver knows how to install. To install a program, select its name from the list and proceed to the next panel.

In many cases (especially for downloadable software) the Installer will immediately display the Install button. This means that it was able to compute good default values for the other panels in the Installer and is ready to begin. You may browse settings in the other panels by clicking on the title bars of each section, or proceed with a default install by clicking Install.

If the Installer requires more information before installing, it will display a Proceed button. Clicking Proceed will result in a prompt for the next bit of necessary information. At any point you may adjust your selections by selecting any section of the Installer.



Supported Applications CrossOver has been tested and tuned to optimize the behavior of this select list of applications. CrossOver tech support will also provide assistance when difficulties arise with these programs.

Community Supported Applications The users of the CodeWeavers CrossOver Compatibility Center have contributed installation strategies for a small but growing list of applications. These programs are not officially supported by CodeWeavers, but help may be available in the Compatibility Center forums.

Other Application If you wish to install software that is not otherwise listed, you may do that by selecting the Other Application option. Keep in mind, though, that unsupported software may work poorly or not at all. In addition, installing unsupported software may prevent already installed supported Windows applications from working. It is generally recommended that unsupported applications be installed in a new bottle for testing purposes.

Before installing an unlisted application, you may benefit from looking it up in the CodeWeavers CrossOver Compatibility Center for tips and tricks.

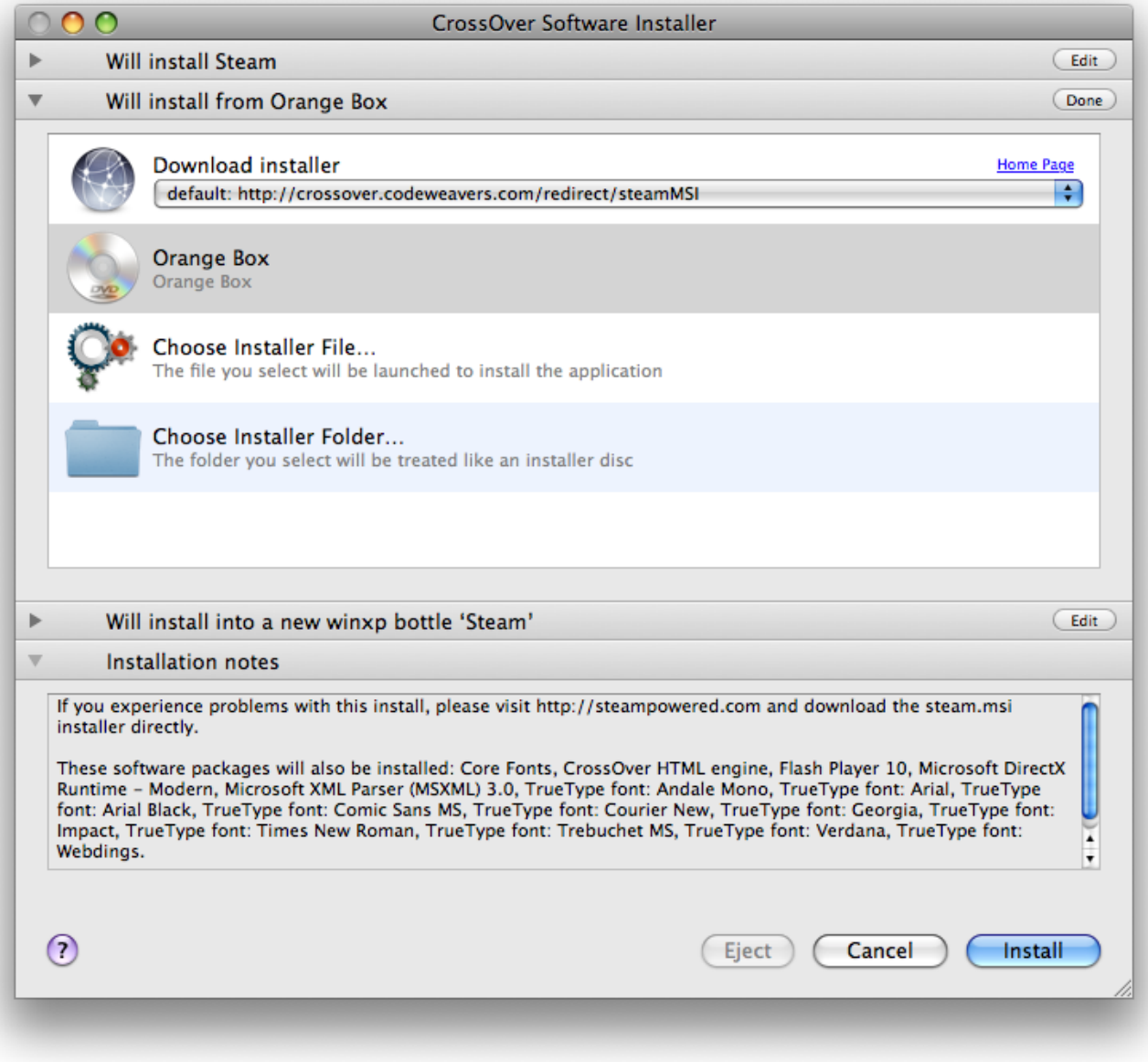
Service Packs and Upgrades Many applications require downloadable service packs to be applied for best performance. The advisability of each package is indicated by the medal rating.

Runtime Support Components In most cases you will not want to install the software in this section manually. Many of these packages are requirements for the successful install of supported applications, and will be automatically installed as part of the predetermined install process.

Important
If a specific bottle has not been previously selected, the CrossOver Software Installer will install new software into a new bottle whenever possible. If CrossOver detects conflicts between the selected package and the default bottle, the bottle panel will guide your installation into a more appropriate bottle.

5.1.2 Selecting an installation source

When installing software from a CD or DVD, the CrossOver Software Installer will allow you to pick a volume, file or directory to use as the installer.



Volume Selection At this point, any available CDs, DVDs, or mounted ISOs or disk images should be available to select. When a volume is specified, CrossOver will search that drive for an installer or autorun file. This option is the default, and will work for most cases where the application comes on a disk.

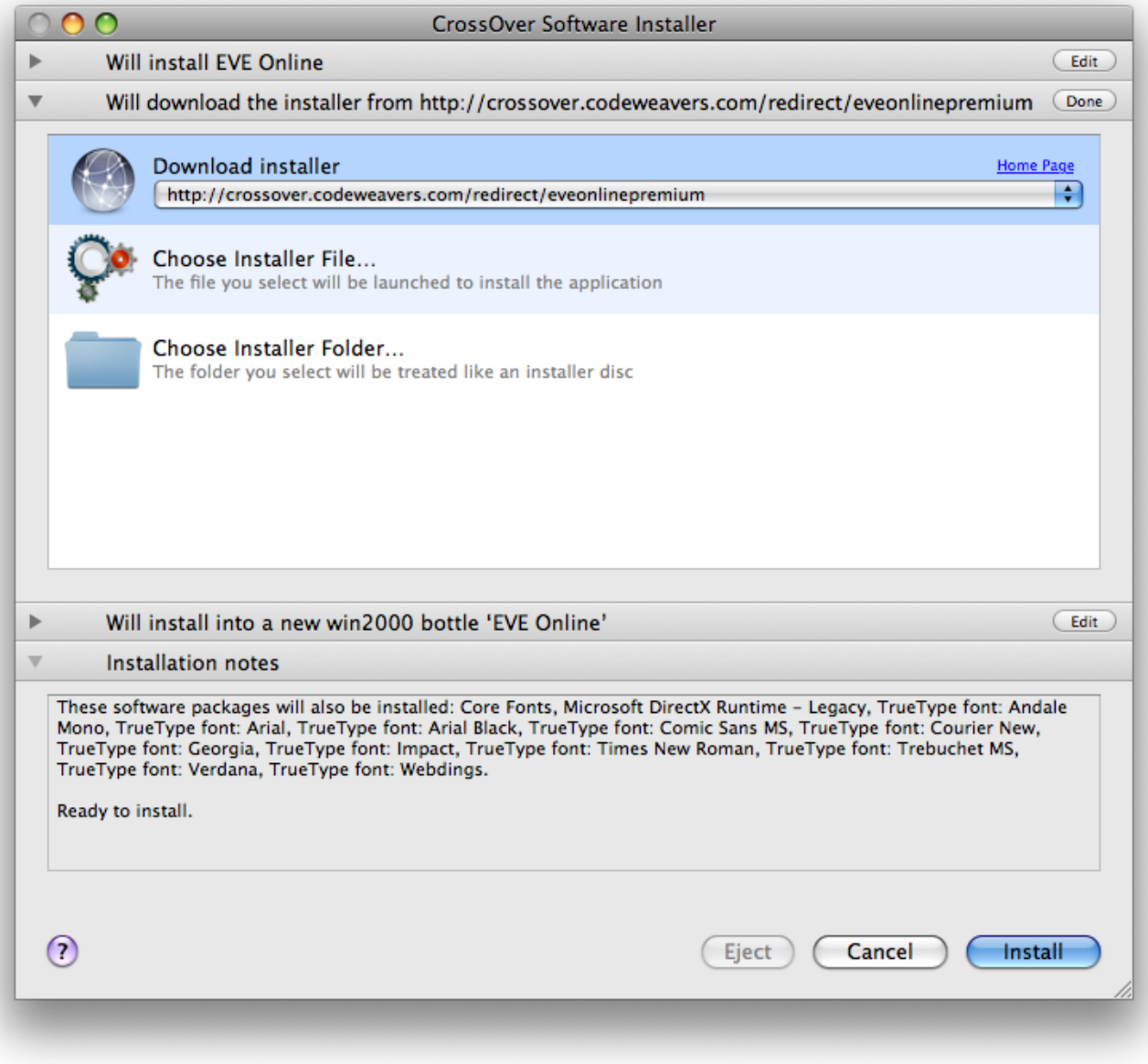
Choose Installer File If you want to install software off your hard drive, or off a CD that contains several installers, select this option and specify the desired installer. In some cases, CrossOver will be unable to locate a default installer file when you select one of the CD-ROM options. In those cases, you will need to locate the installer file on the disk yourself, using this option.

Choose Installer Folder This option is useful if the content of a CD has been copied into a folder on your local hard drive. It may also be necessary if you are installing from a disk that contains multiple installers in subdirectories.

The Choose Installer Folder... option will treat a selected folder as though it is in installer disk. That means that if the selected folder doesn't contain an obvious installation entry point (for example an AUTORUN.INF or setup.exe) the installation may fail.

5.1.3 Downloading an installer

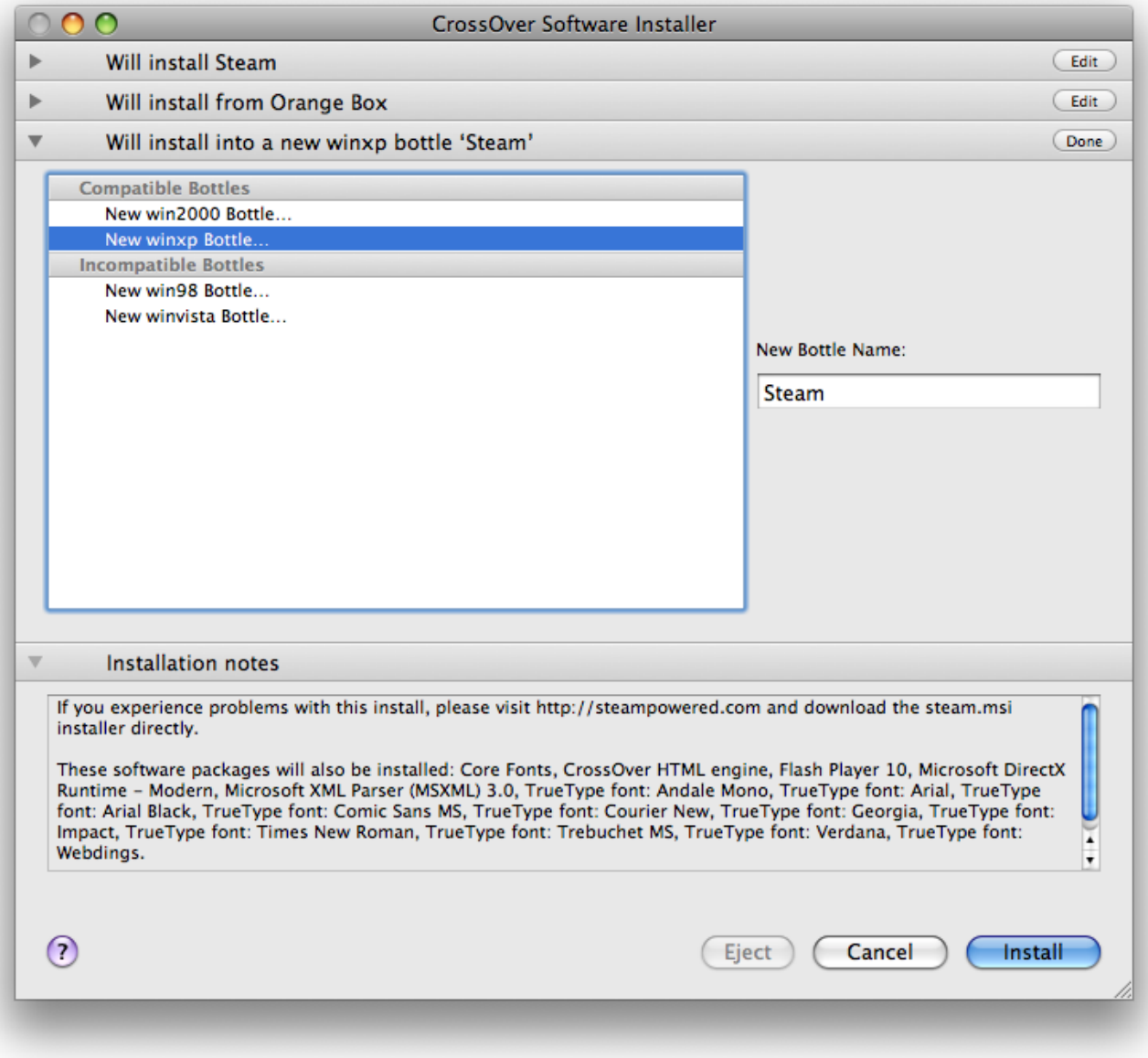
Many supported applications can be downloaded from the Internet. For most of those, CrossOver can automatically download the installers for you. Make sure that you have an active connection to the Internet if using this facility.



CrossOver will store downloaded installers, so if you install the same component frequently it should only require a single download. And if you have an installer file already located on your hard drive you can always select it via the Choose Installer File... option.

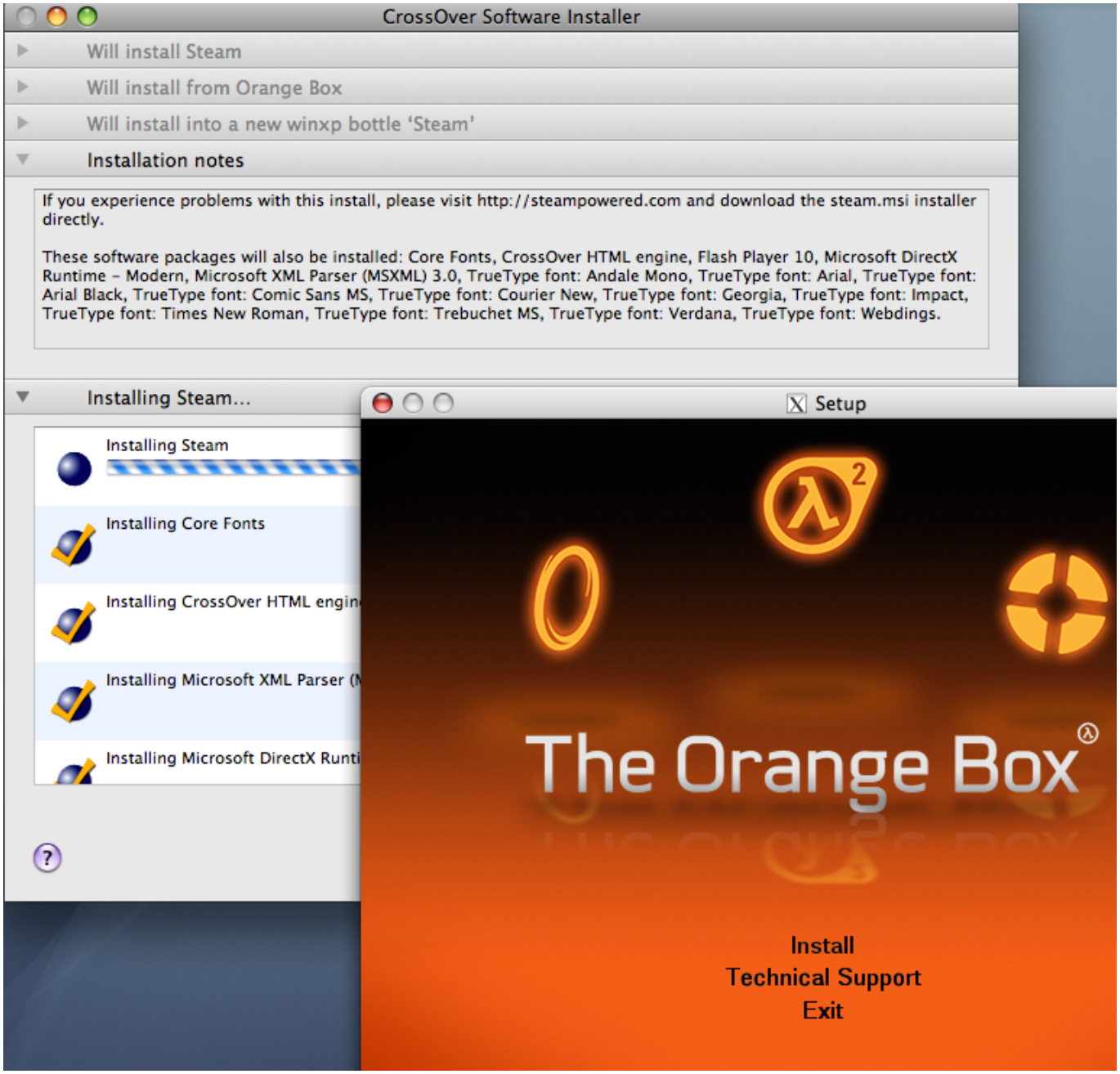
5.1.4 Selecting a bottle for installation

Important
In most cases, CrossOver will install new software into a a new bottle and you will have no need to visit this panel. The exception to this rule is when installing a service pack or upgrade, in which case you may need to manually direct the Installer to apply the package to the bottle that contains the software in need of upgrade.



5.1.5 Completing the installation

Once you click Install, your interaction with the CrossOver Software Installer is mostly finished. Various Windows installers may prompt you for interaction, while the Installer keeps a running tab of the completed steps.



The Cancel buttons should be used sparingly. Canceling a step may result in an unrecoverable problem that will require you to discard the target bottle.

5.2 Removing Games

Applications can be uninstalled via the Bottle Applications tab. To remove a package, select it in the installed software list and click on Repair / Remove. This will start the repair / uninstallation facility.

If the application you want to remove is not in the list, or if the Repair / Remove button is disabled, then it means it did not register an uninstallation procedure. It may propose an uninstallation option if you insert its CD-ROM and start the installation procedure again. Refer to your software documentation for other possible uninstallation options.

Tip
When removing an application, be sure to completely uninstall it, including any system extensions that were associated with it. Otherwise, the Bottle Manager may not recognize that it has been uninstalled and you will have trouble reinstalling it.

Chapter 6

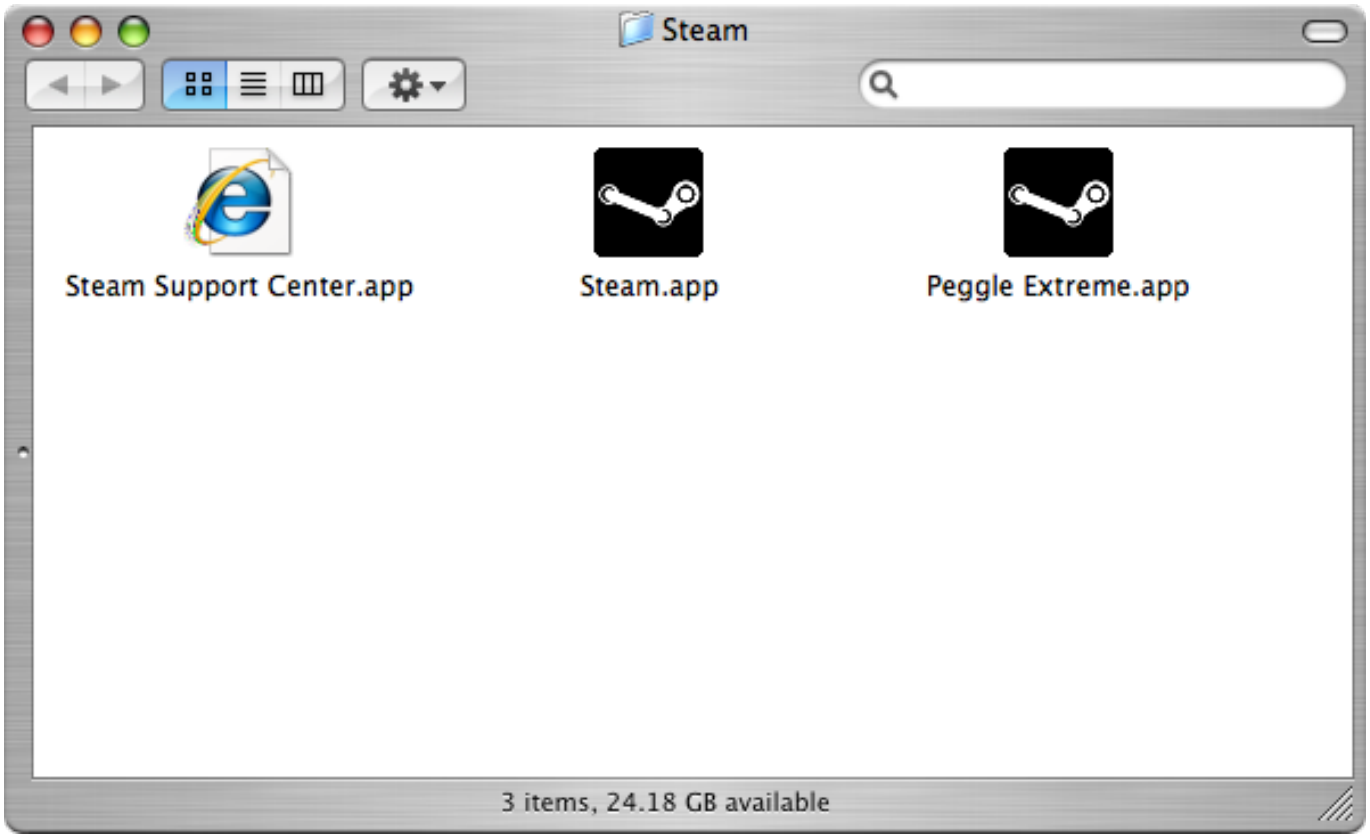
Using CrossOver Games

6.1 Running Windows games

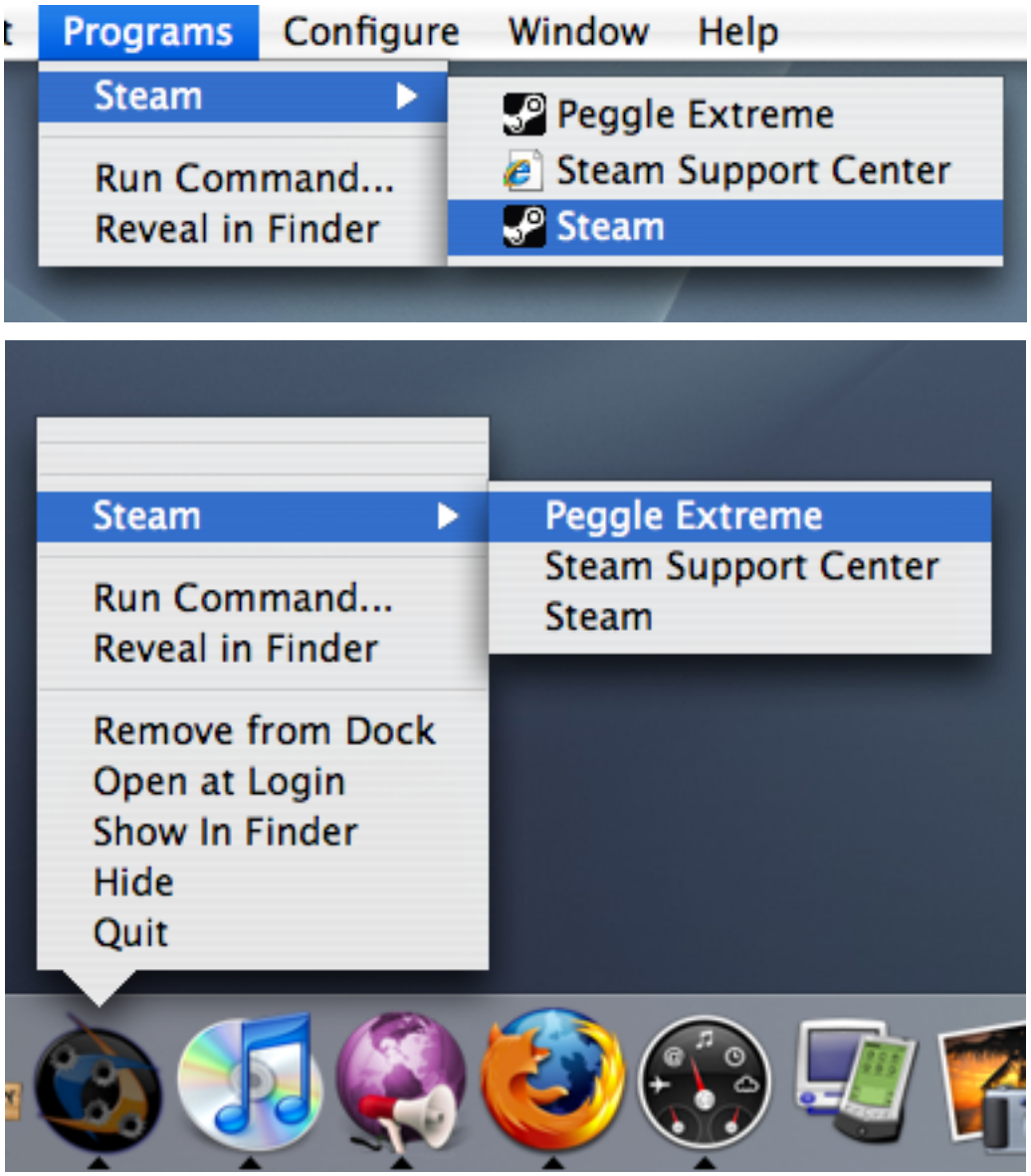
6.1.1 Running from the Finder

When you install Windows software, CrossOver will create 'Helper Applications' that correspond to the Windows Start Menu. Each helper application will launch CrossOver and start the associated Windows program.

The default location for the helper applications is in the Applications/CrossOver folder in your home account. You can customize the location via the Preferences Dialog.



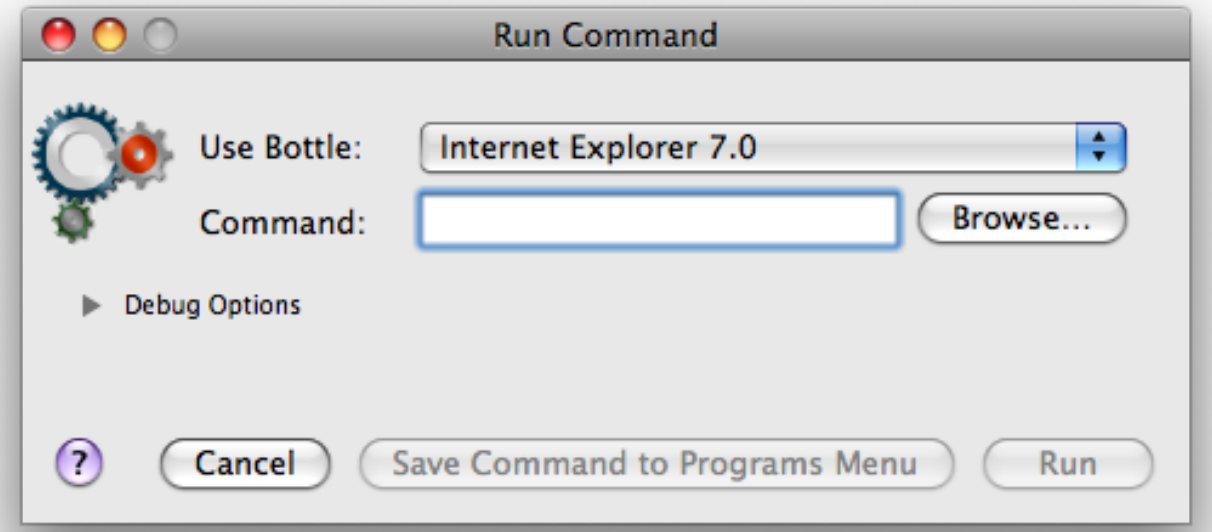
This same set of menus is available in the CrossOver Programs Menu and the CrossOver Dock Menu.



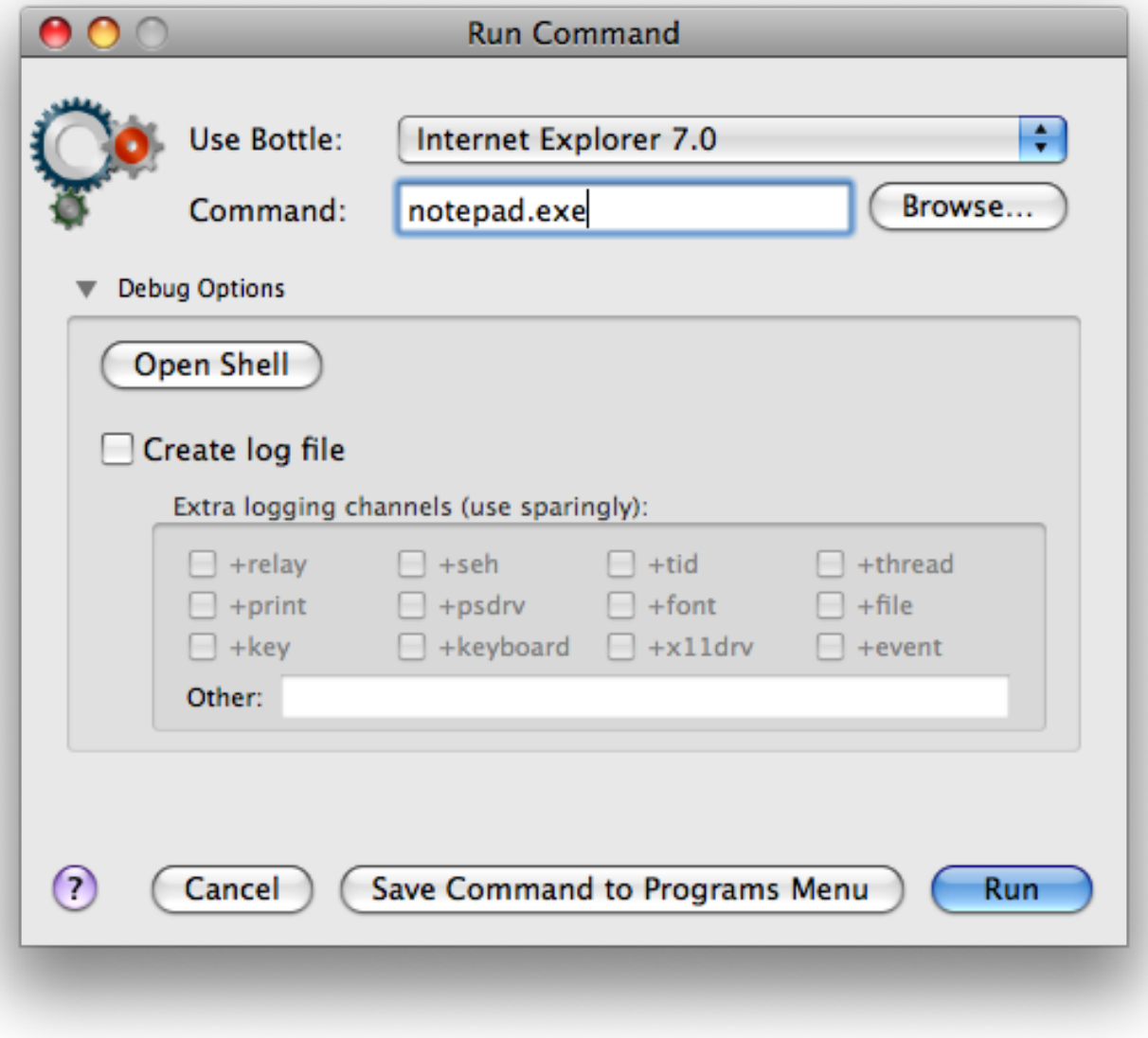
Changes that you make to Applications/CrossOver folder will be reflected in these two places as well. You can restore all of these menus to their original state with the Configure->Clear and Rebuild Programs Menu menu.

6.1.2 Running a Windows command

The Run Command... menu provides a simple way to run a Windows command-line in CrossOver. This can be a useful way to run standard Wine tools such as regedit or notepad, and can also be used to run applications which fail to create icons or shortcuts.



This dialog provides several logging and debugging functions as well. These options may be useful if you talk to CodeWeavers tech support or if you are trying to make an unsupported application behave. To display these options, click on the Debug Options reveal control.



Open Shell This option will launch an interactive shell, preconfigured for use with the selected bottle. This may be useful for running text-only programs.

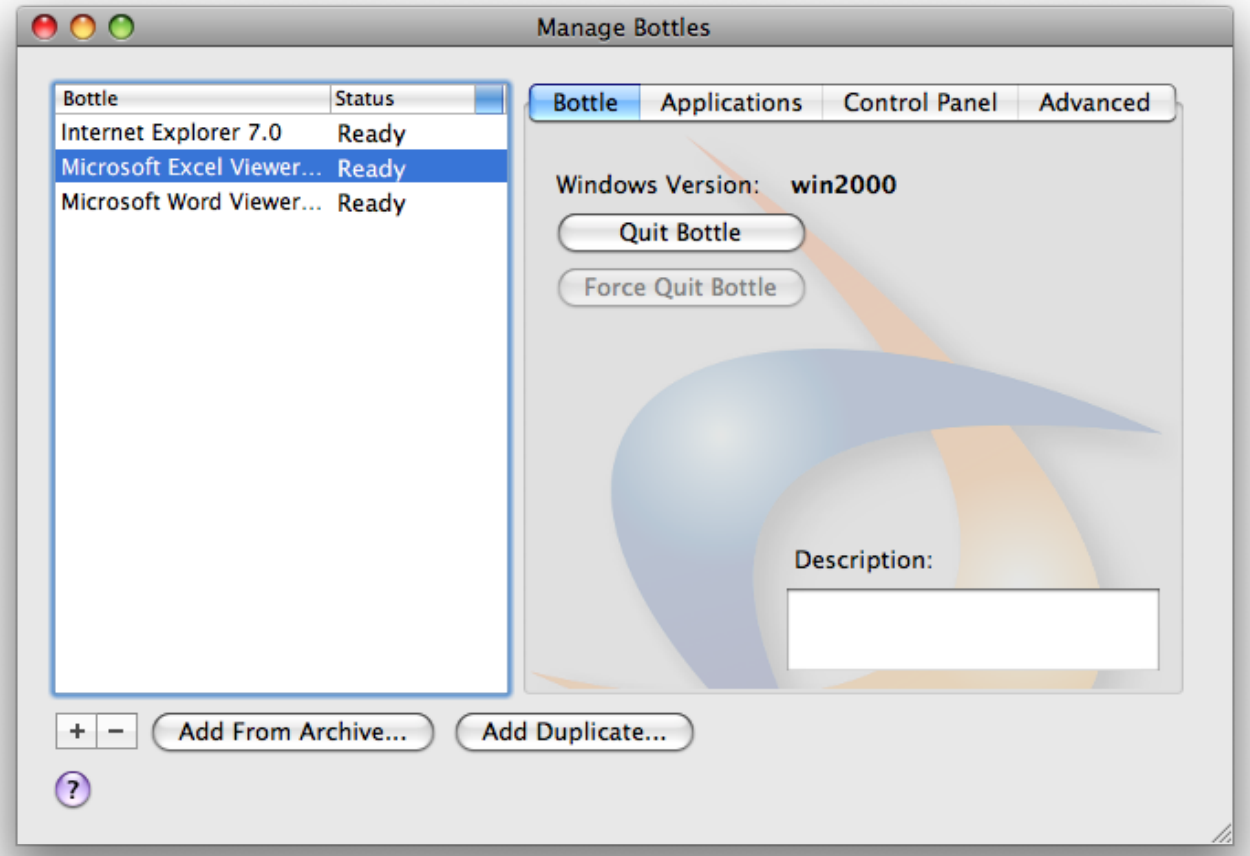
Enable CrashReporter for this run This option allows the Crash Reporter to be enabled for the specified command. You may wish to enable this option when working with an unsupported application. Also, CodeWeavers tech support may instruct you to turn it on in order to gather diagnostic information.

Create log file If this option is turned on, CrossOver will prompt you for the name and location of a log file before the command is run. This log file will contain a variety of debugging information about the run.

Turning on specific logging channels will determine what specific information is written to the log file. Many of these channels include a large volume of information, so generally they should be used singly or in pairs.

6.2 Stopping misbehaving programs

There may be occasions when CrossOver applications become unstable or stop responding. You can terminate all of the applications running in a given bottle via the Bottle Manager.



Tip
Forcing a bottle to quit will cause all CrossOver Windows applications in that bottle to exit. Any unsaved changes to documents will be lost.

Chapter 7

Using the Bottle Manager

The Bottle Manager is the main tool for configuring CrossOver. It can be run from the CrossOver menu by selecting Manage Bottles from the Configure menu.

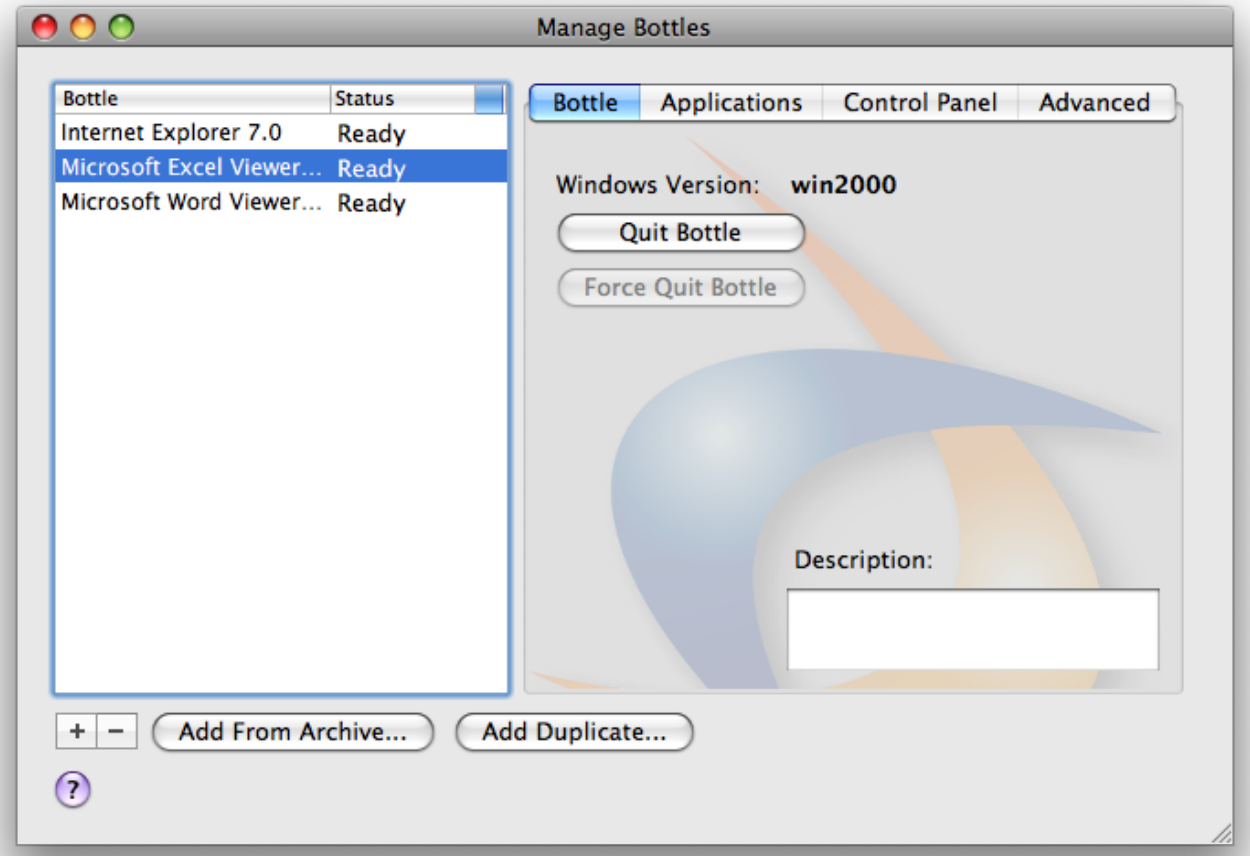
7.1 Managing Bottles

A bottle is a virtual windows environment. Each bottle contains a unique C drive and all its standard sub directories: Windows, Program Files, etc. A bottle also contains a complete Windows registry, a full set of most CrossOver settings, and one or more Windows applications.

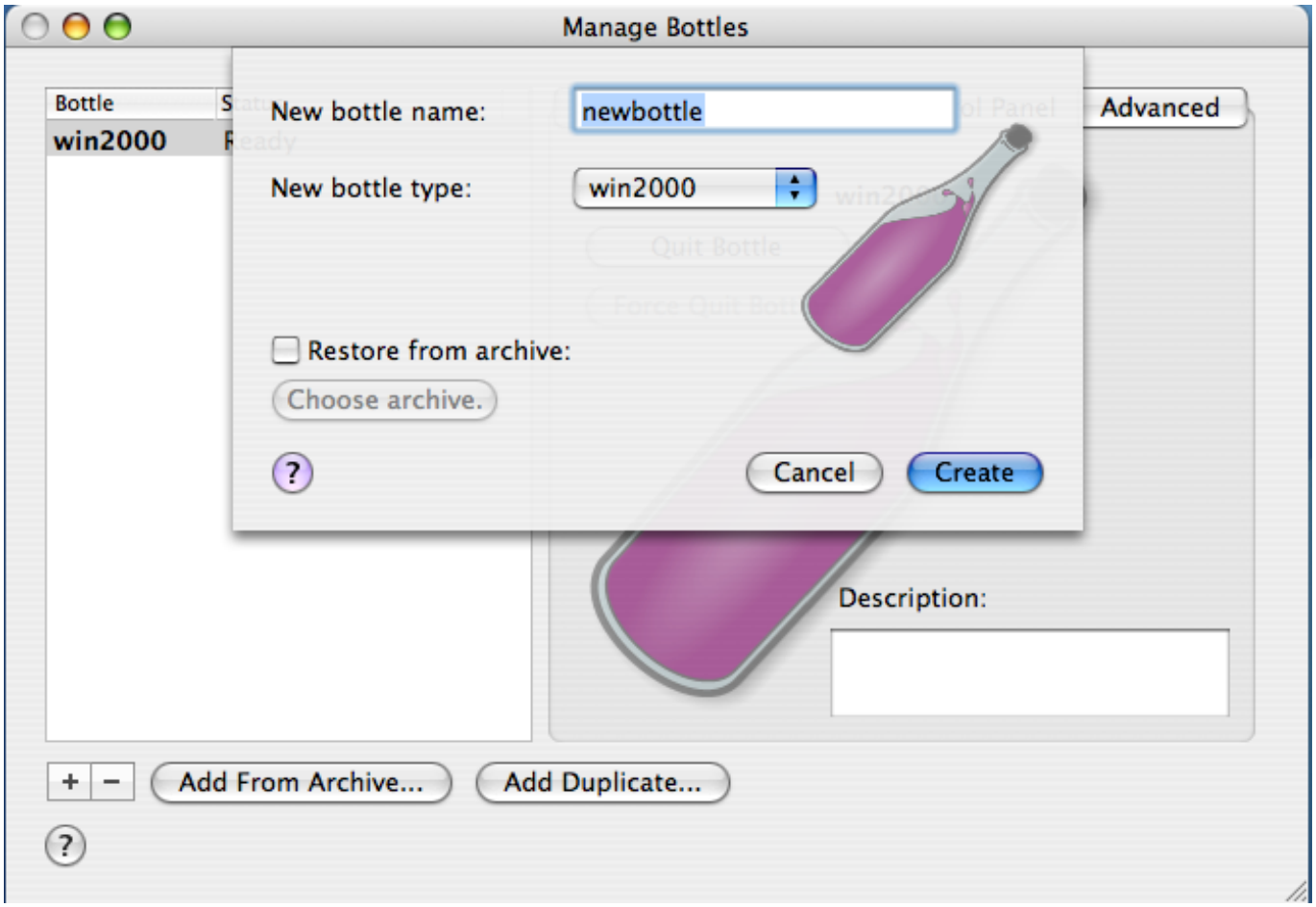
CrossOver Games allows you to maintain multiple bottles in one CrossOver installation. This is like having several different Windows machines operating together on your single Linux computer. This is useful anytime you want to install multiple applications yet prevent them from interacting or damaging one another. For example: Typically the Internet Explorer 6.0 installer upgrades any existing Internet Explorer 5.0 installation. Using bottles it is possible to install Internet Explorer 6.0 into a new, empty bottle, while leaving an existing install of Internet Explorer 5.0 intact and untouched.

Multiple bottles are also useful anytime a particular application requires special system settings that are otherwise undesirable. It is also possible to maintain bottles that emulate different Windows versions. For example, Microsoft Office 2003 only works on Windows versions 2000 or later, whereas Microsoft Office 97 runs best in a bottle that emulates Windows 98.

The Bottle Manager allows you to create, delete, and modify the bottles in your CrossOver install. For the most part, the CrossOver Software Installer will take care of creating appropriate bottles, but this dialog provides more direct control.



+ This button creates a new bottle. You will have an opportunity to choose which Windows mode the bottle will emulate.



- This button will delete the selected bottle. This will remove all applications, settings, and documents that are inside this bottle's directory.

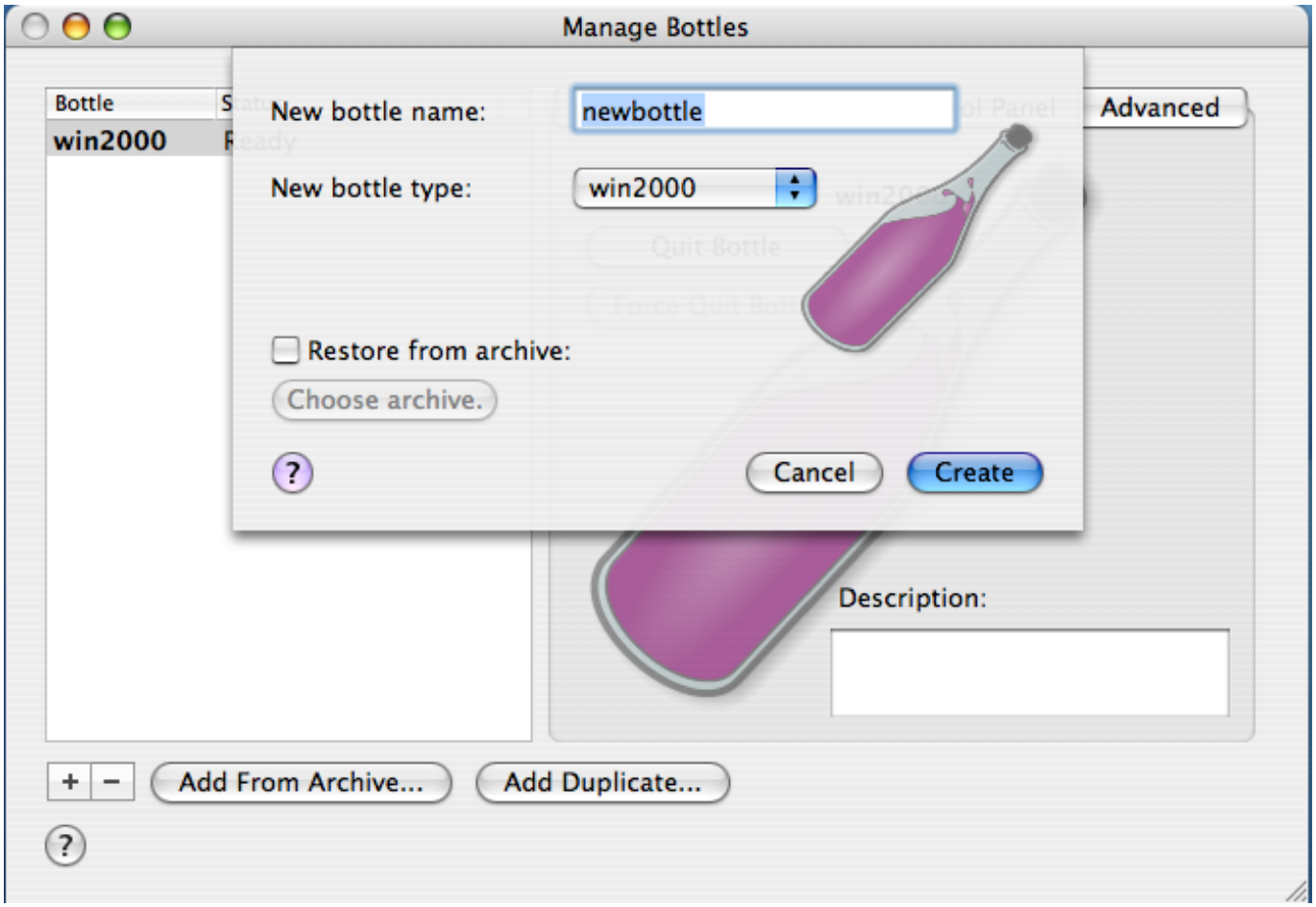
Add Duplicate.. This button allows you to create a duplicate of an existing bottle. The duplicate will contain the same applications and settings as the original.

Add From Archive.. This button will allow you to choose and restore a bottle archive created with the Archive button. The restored bottle will be replaced in your bottle list, and the files copied into your bottle directory.

7.1.1 Bottle Windows versions

Most bottle settings can be adjusted once a bottle is created. The Windows version of a bottle, however, must be chosen when the bottle is created.

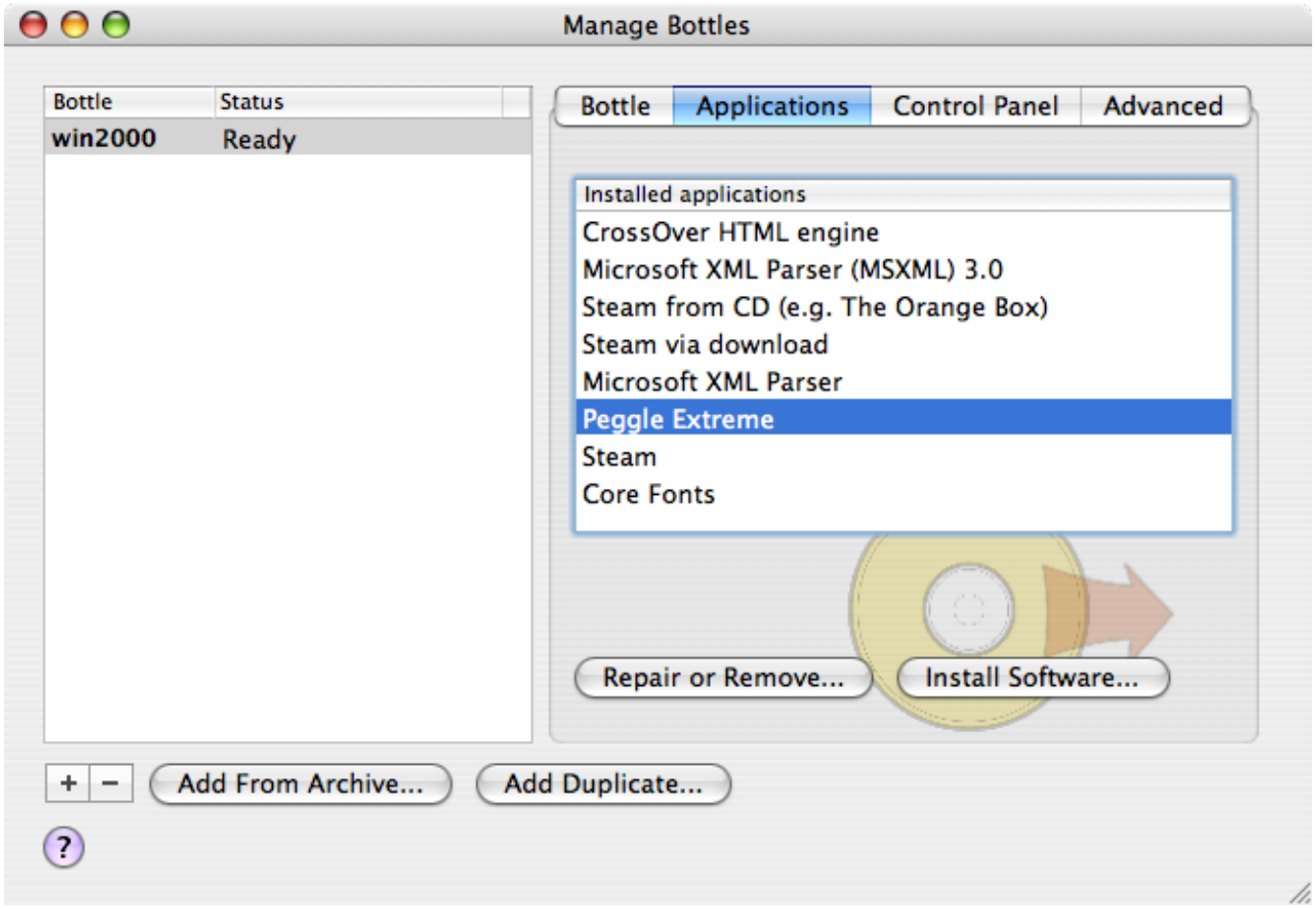
The CrossOver Software Installer will set the Windows version appropriately when creating a new bottle. If you are creating a bottle by hand you must specify a Windows version.



Most supported applications run best in a bottle of type 'win98'. A few applications (Office 2003 and iTunes in particular) require a newer operating system to run, and must be installed into a 'win2000' or 'winxp' bottle. When installing unsupported applications, it may be worthwhile to test them in both a win98 and a win2000 bottle to determine which works the best. For purposes of compatibility, winxp and win2000 are generally equivalent.

7.2 The Applications tab

The Applications tab shows the list of installed Windows applications and lets you install and uninstall them.



Installed Software This lists all of the software that CrossOver has installed. Because many software packages contain or depend on other items, you will often see items in this list that you did not explicitly install.

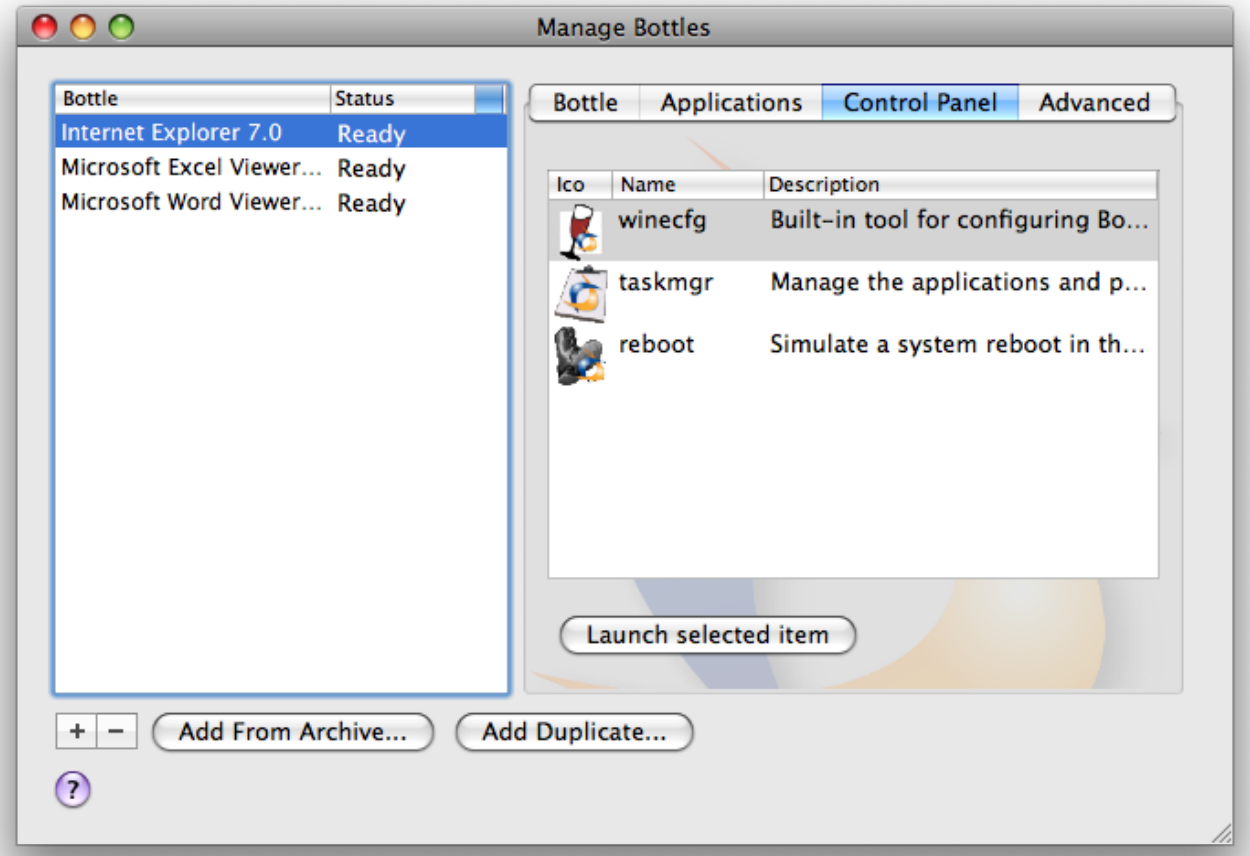
Install Software... To install new Windows applications on your system, click the Install Software button. This will launch the CrossOver Software Installer which will guide you through the rest of the process.

Repair or Remove... Some applications (e.g. Microsoft Word) include facilities for uninstalling themselves; other packages contains automatic repair or modification tools. In order to run these tools, select an item from the list and click Repair or Remove....

If the Repair or Remove... button is disabled for an application, that means that no uninstall tool is provided by that package.

7.3 The Control Panel tab

The Control Panel tab lets you launch control panel items that are installed by Windows programs, as well as some standard bottle-configuration tools.



To launch, select the entry for the control panel that you wish to use and click Launch Selected Item.

Tip
The vast majority of settings on your system should be changed using the configuration tools that come packaged with your OS and distribution. Most Windows control panels are unsupported applications, and their behavior may be unreliable, erratic, or destructive.

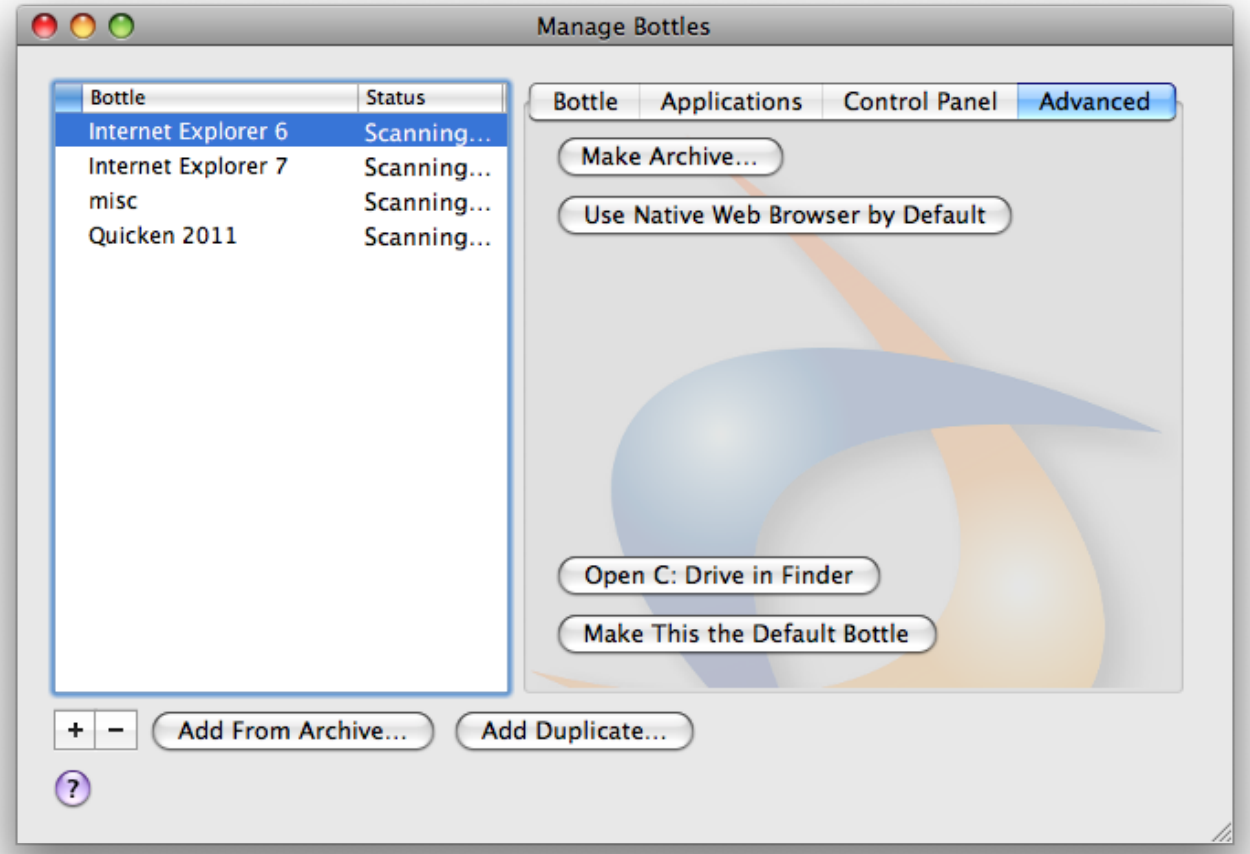
In addition to the tools that are installed by software installers, CrossOver provides several built-in control panel tools.

Simulate Reboot Some Windows applications require a system reboot to complete certain tasks. Also, occasionally, Windows programs get stuck in indeterminate states where their behavior is erratic or unreliable. Both of these problems can be addressed without rebooting your system -- just launch the reboot tool and simulate a reboot within a specific bottle.

Task Manager The task manager will display a list of processes running within a bottle. This tool may be useful to selectively halt programs which have stopped responding.

Wine Configuration Wine config provides access to a wide range of bottle configuration settings. This tool is occasionally useful for solving issues with system integration -- if you contact tech support, you may be instructed to make changes via winecfg.

7.4 The Advanced tab



The Advanced tab provides infrequently used bottle options. Most of the settings available here will be automatically set to reasonable defaults.

Make Archive... This button creates a compressed archive of the selected bottle. It is often prudent to make a backup archive of a bottle before installing new software or modifying bottle settings. Archives can be restored using the Add From Archive... button.

Use Native Web Browser by Default Often when a web browser is installed in a bottle, URLs are automatically opened by the browser in the bottle. Click this button to redirect those URLs to your standard system browser instead.

Open C: Drive in Finder This button will open a new Finder window displaying the contents of the current bottle's C: drive.

Make this the default bottle The default bottle is displayed in boldface in the bottle list. The default bottle is used by CrossOver to handle files and documents that are passed to CrossOver directly without any indication about which bottle should be used.

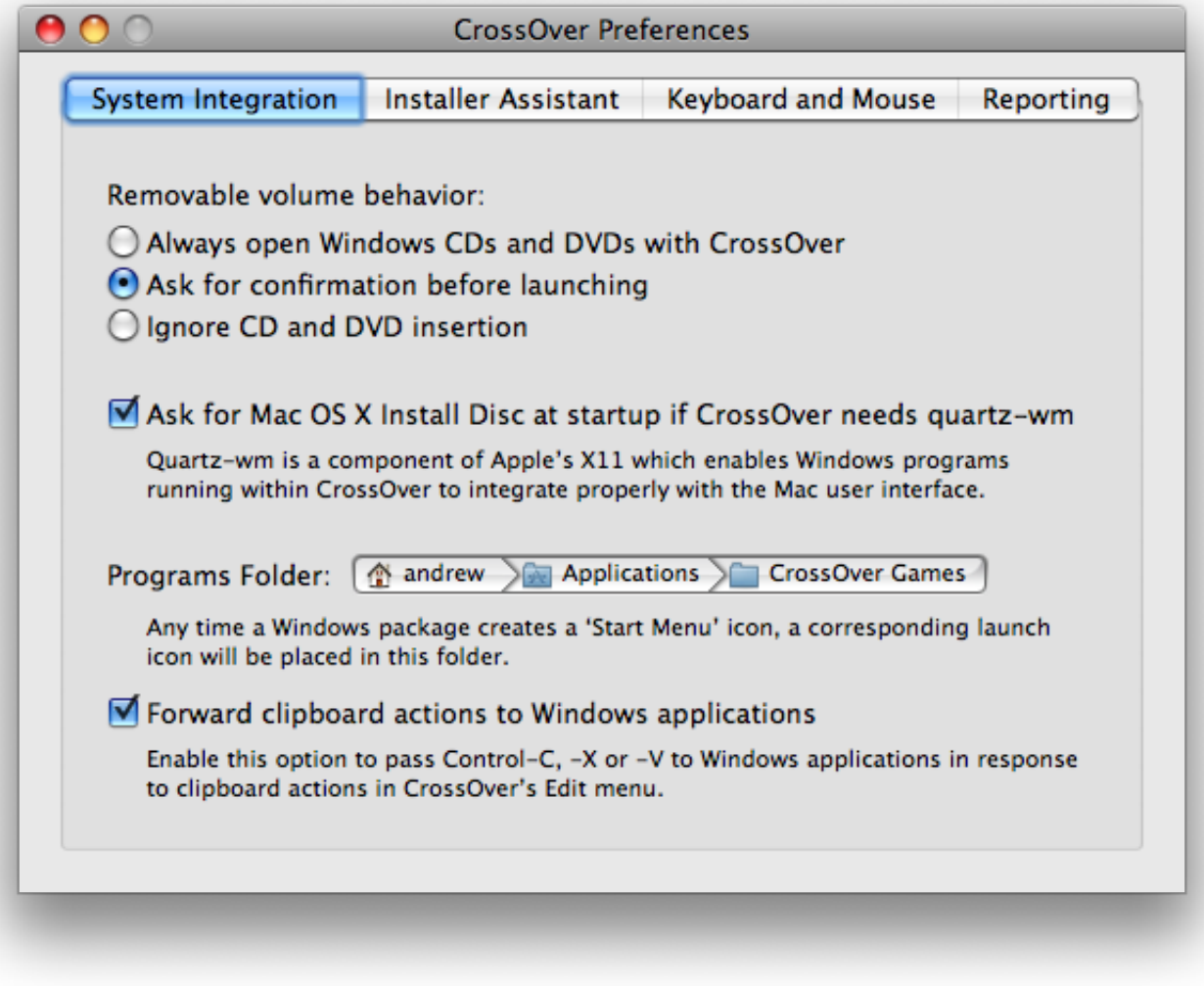
Chapter 8

Preference Settings

CrossOver preferences are available from the CrossOver Menu. Preference settings modify the behavior of CrossOver as a whole, affecting all bottles uniformly.

Preferences are stored separately for each user of a system, so changing your preferences will not change behavior for anyone else on your Mac.

8.1 System Integration Preferences



These settings modify the way that CrossOver interacts with OS X and the Finder.

Removable volume behavior Anytime you insert a disk or attach a USB volume to your Mac, CrossOver can scan that volume, detect Windows installers, and offer to install them. By default, CrossOver will perform this scan automatically and ask for confirmation before installing anything. You can change this setting to override this confirmation, or to instruct CrossOver to ignore disk insertion altogether.

Default value: Ask for confirmation before launching

Ask for Mac OS X Install Disc and startup if CrossOver needs quartz-wm Quartz-wm is a system component that greatly improves CrossOver's integration with the OS X desktop. It is only available on the original OS X installation disks. CrossOver will install Quartz-WM automatically at startup if the OS X disk is inserted.

By default, CrossOver will nag you to insert your OS X installation disk each time it starts until Quartz-WM is installed. This setting may be used to turn the nag message on or off.

Default value: on

Programs Folder Whenever an entry is added to the CrossOver Programs Menu, an icon is added to a Finder folder for easy launching of that program in the future. This setting lets you specify where these icons are created.

A "~" character in this field represents your home folder.

Default value: ~/Applications/CrossOver

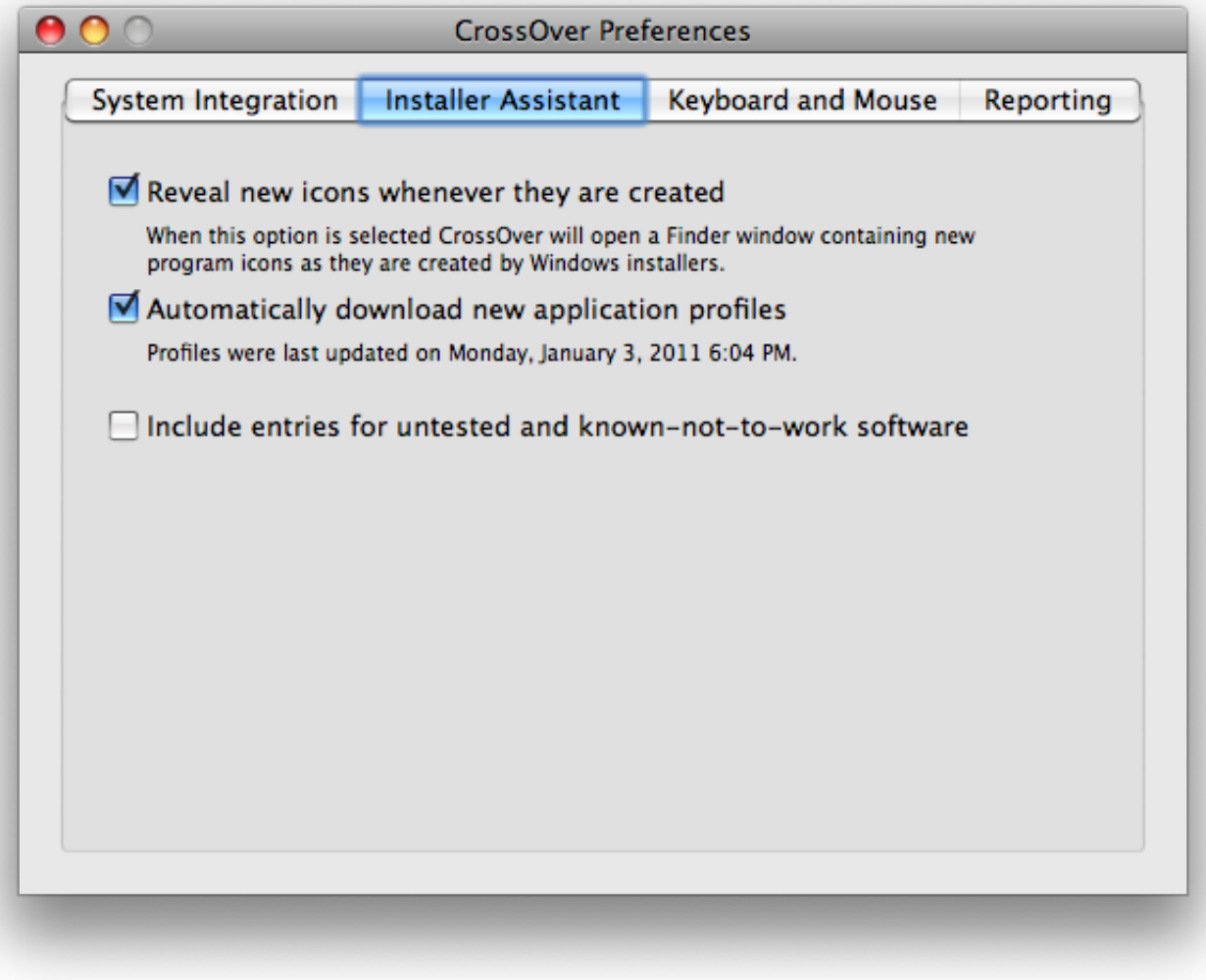
Forward clipboard actions to Windows applications Clipboard actions (cut, copy and paste) are performed on a Macintosh using the Command key: Command-X, Command-C and Command-V. On Windows the same actions are performed via Ctrl-x, Ctrl-c and Ctrl-v.

The control-key combinations are always available in Windows programs running with CrossOver. When interacting with Windows and native OS X applications at the same time it may become awkward to remember which keypresses to use, so CrossOver attempts to support the use of Command-X, Command-C and Command-V in Windows applications as well.

For example, when this option is turned on CrossOver will pass a Ctrl-v keypress to the active Windows application anytime a user presses Command-V or selects Paste from the Edit menu. In most cases this will result in a paste action in the Windows program. If the application uses command-v for a different purpose, or does not support cutting and pasting, the resulting behavior may be unpredictable.

Default value: on

8.2 Installer Assistant Preferences



These settings govern the behavior of the CrossOver Software Installer.

Reveal new icons whenever they are created Whenever CrossOver adds a new entry to the Programs Folder it opens up the folder in the Finder so that you can see the new entries. Turn this setting off to disable the auto-opening of the Programs Folder.

Default value: on

Automatically download new application profiles CodeWeavers staff and volunteers are constantly updating, refining, and adding to the list of community supported applications via the CodeWeavers CrossOver Compatibility Center. If this option is enabled, CrossOver will periodically synchronize itself with the full list of applications on the website.

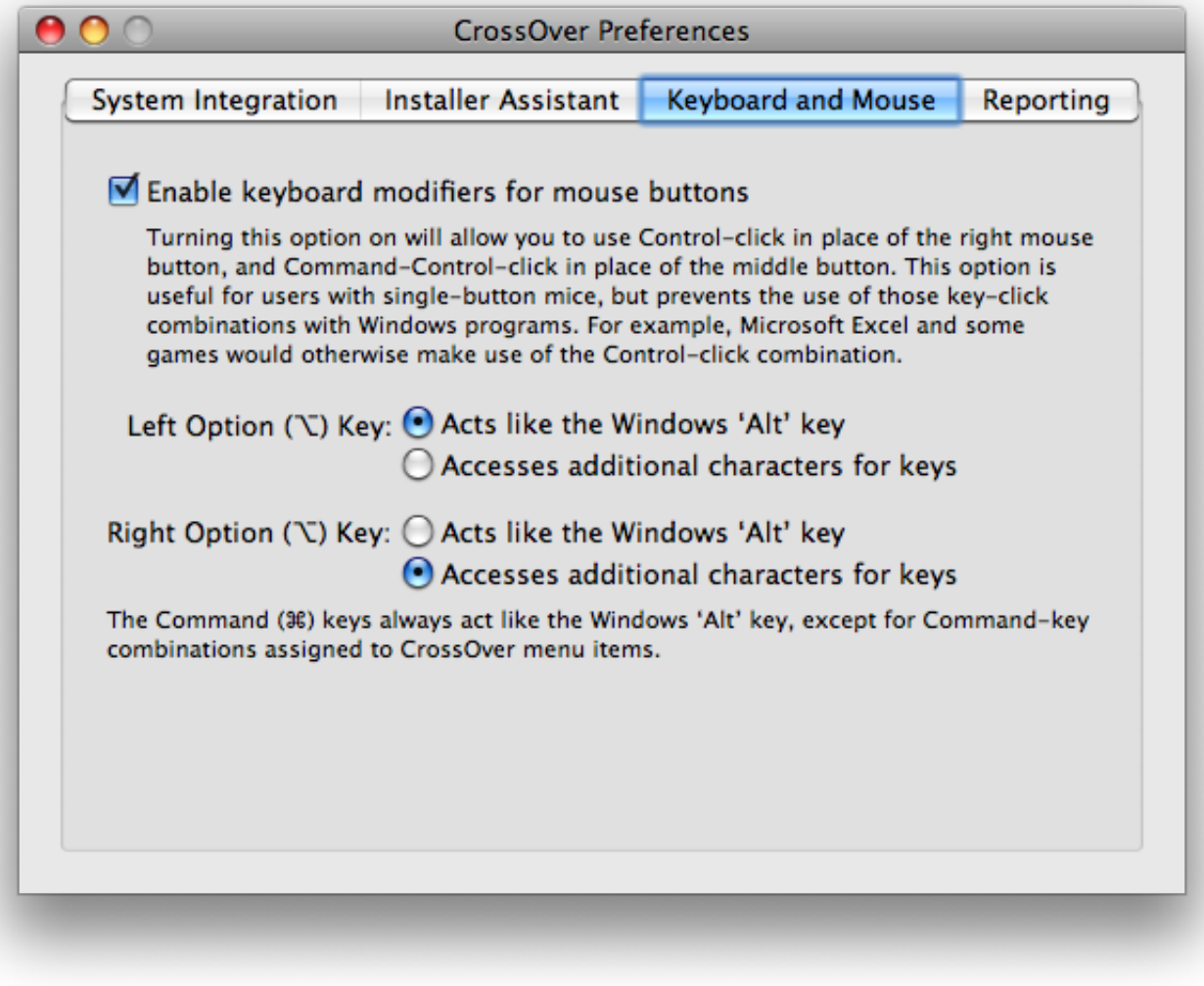
Even if this option is turned off you can still install particular applications from the website via the 'Install' button on many pages.

Default value: on

Include entries for untested and known-not-to-work software Our product and website keep track of many applications that do not yet work with CrossOver. If you are experimenting with or developing for one of those applications, it may be useful to turn on this setting in order to see such entries in the Installer Assistant .

Default value: off

8.3 Keyboard and Mouse Preferences



Because Windows PCs and Macs typically have different keyboard layouts and different mice, CrossOver provides several mechanisms for adapting your Mac input devices for use with Windows software.

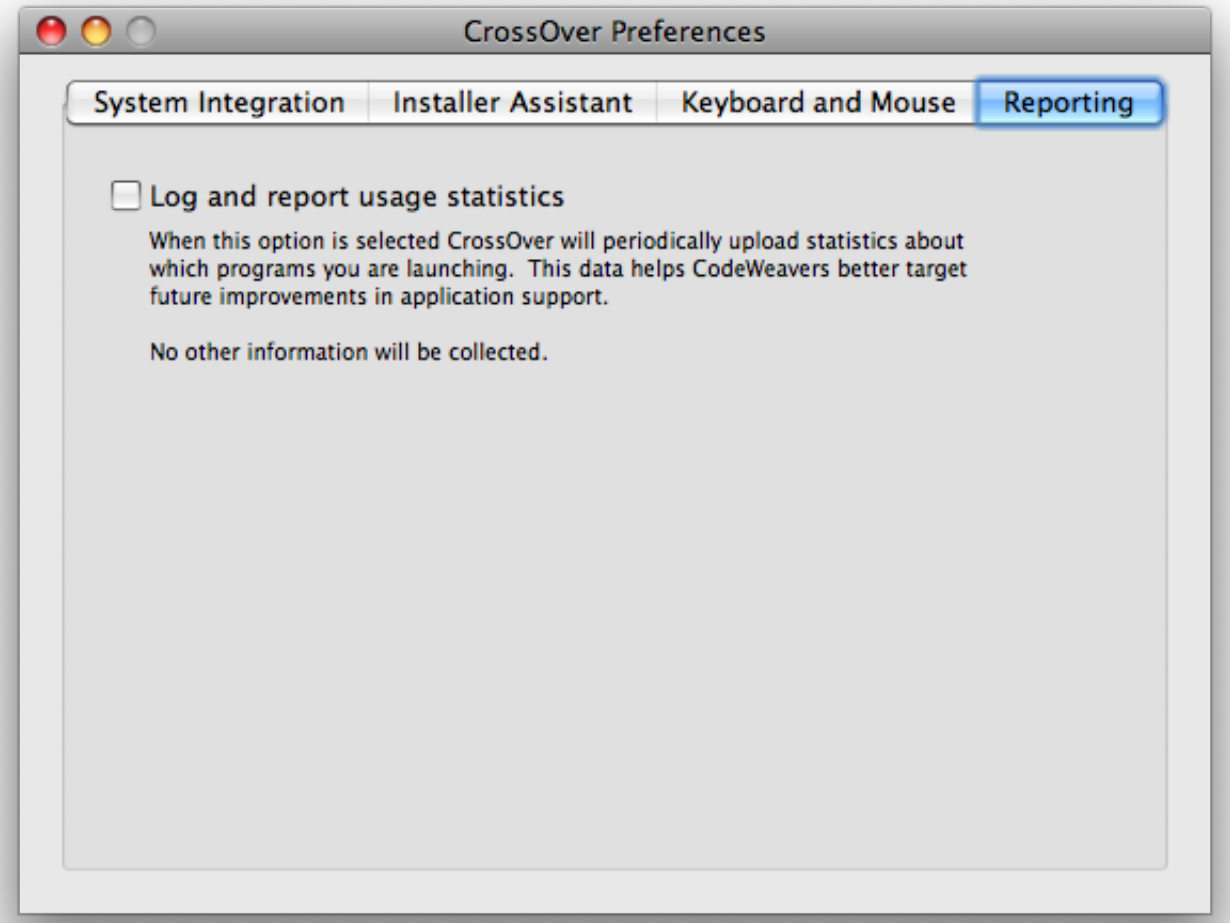
Enable keyboard modifiers for mouse buttons If you have a one-button mouse you may wish to enable this setting in order to right-click in Windows applications. Turning this on may interfere with some game controls.

Default value: off

Option Key assignment Typically the Option key is assigned to act as an 'Alt' key in Windows. If your keyboard requires use of the Option key for character input (for instance, the use of accents or punctuation) then you may wish to set one of your Option keys to 'Accesses additional characters for keys' instead.

Default value: varies with keyboard setup.

8.4 Reporting Preferences



Log and report usage statistics CrossOver has the ability to record a list of which applications you run and periodically upload this list to CodeWeavers. Developers use this data in order to better target improvements to future versions of CrossOver.

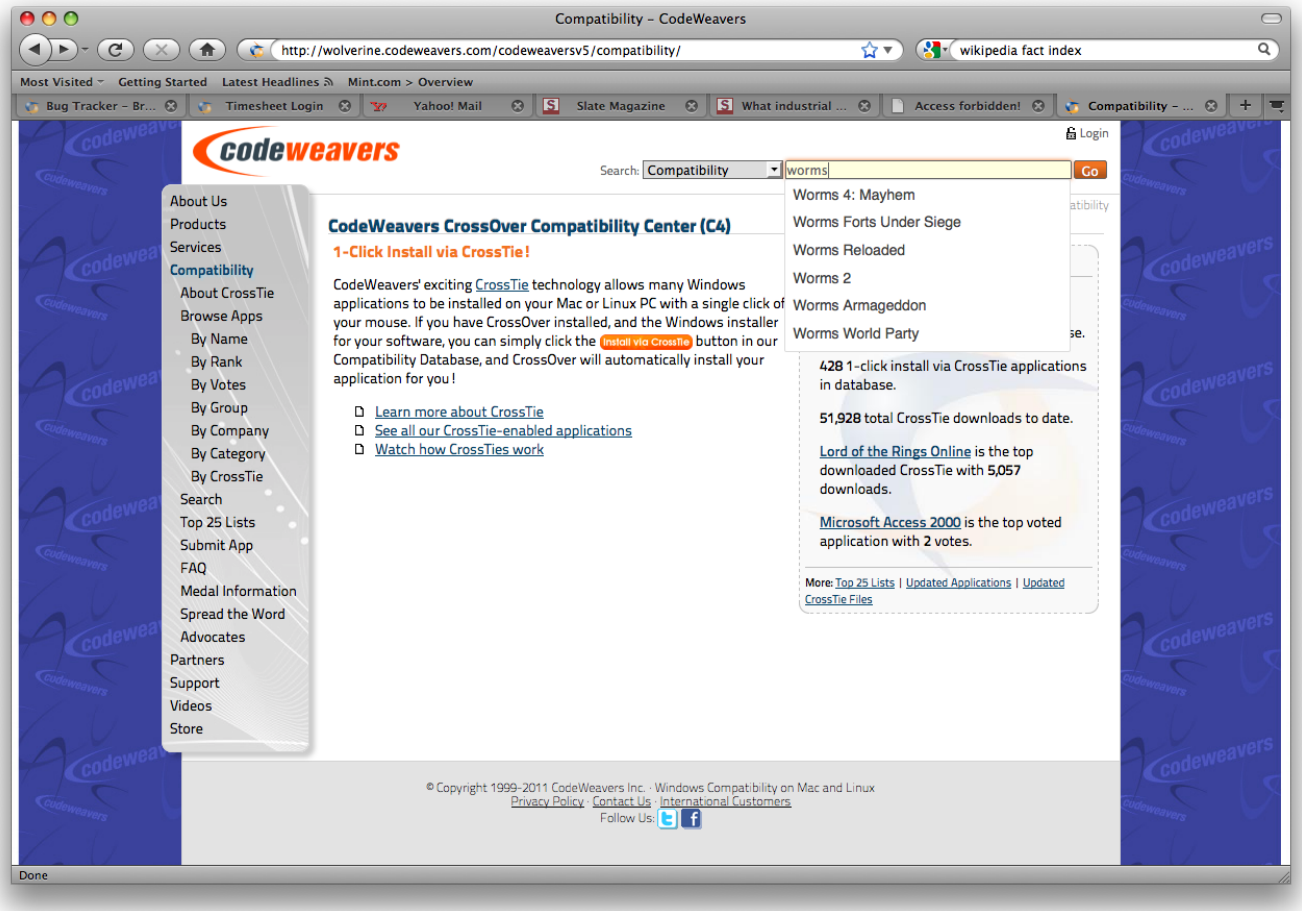
This logging and reporting is entirely optional and may be disabled at any time. Check the Log and report usage statistics check box to enable logging, or uncheck to disable.

Default value: Off.

Chapter 9

Using CrossTie files and the CodeWeavers CrossOv Compatibility Center

The community of CrossOver's advocates, users and volunteers gathers at the CodeWeavers CrossOver Compatibility Center. There's a lot of useful information to be found there for the casual user as well as for a CrossTie developer. Thousands of applications are cataloged there along with forums, articles, and tips and tricks. If you have questions about the use of a program, it's the first place to look.

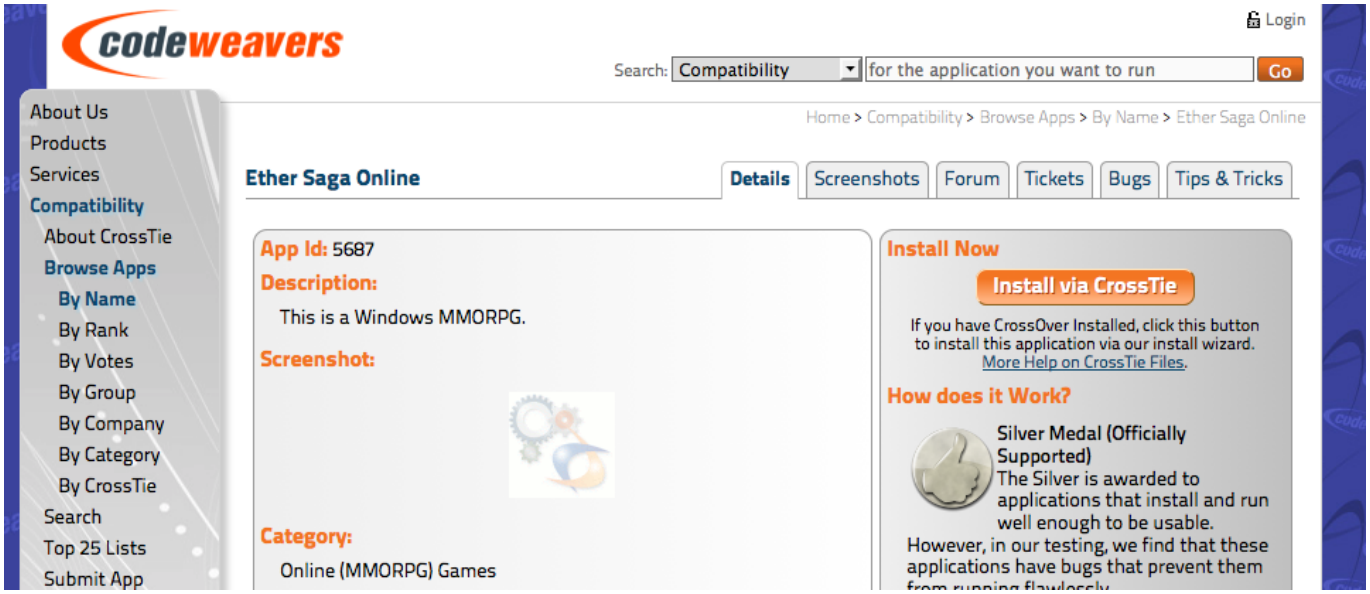


9.1 Installing Community Support Software via the Compatibility Center

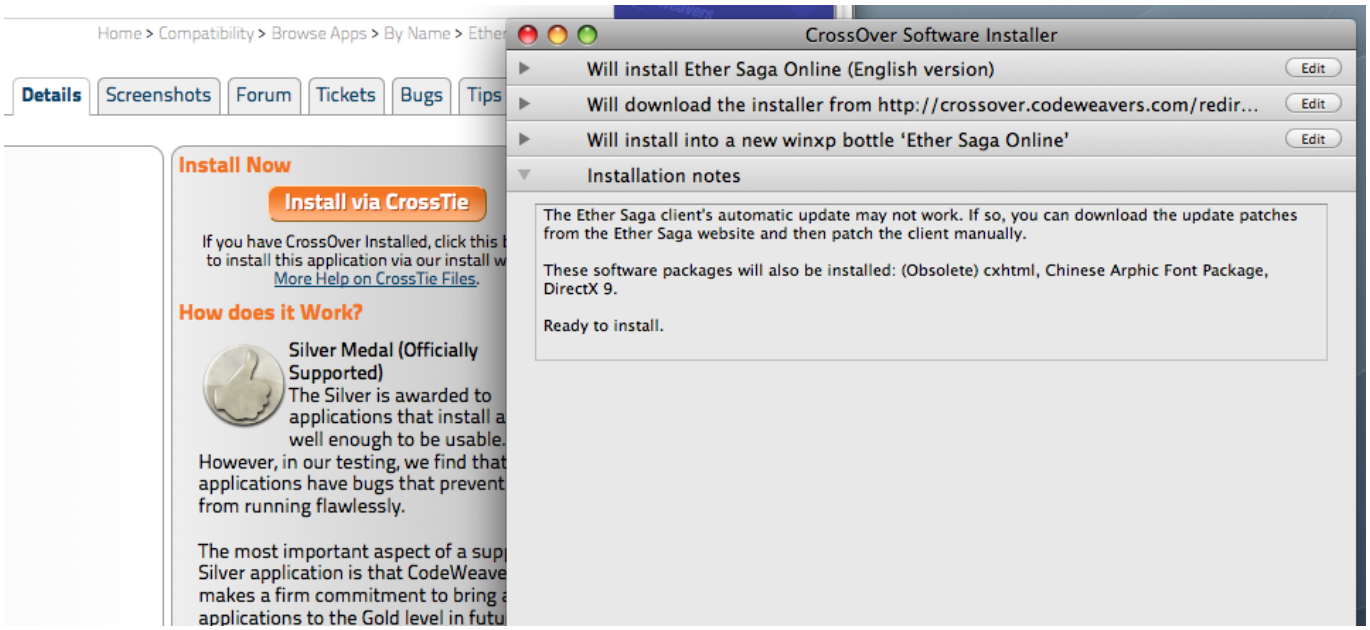
Along with the set of games supported by CodeWeavers staff, CrossOver contains profiles for a wide range of community supported programs. CrossOver is able to install these via user-submitted CrossTie files. A CrossTie file is a simple XML document that describes the steps that CrossOver should take to install and run a given piece of software. For application advocates or adventurous users, the Compatibility Center provides a graphical tool for creating and editing CrossTies. For less ambitious users, many programs cataloged in the Compatibility Center can be installed with a few quick clicks, starting on the web page.

Tip

If you have the Installer Assistant set to automatically download new profiles, then every working game in the compatibility center will also be already present in the assistant's application list. The Compatibility Center provides an alternative route for locating the same software for users who prefer to browse a website.



If a CrossTie exists for a given piece of software, its entry in the Compatibility Center will have an 'Install Now' button. Click to install!



In most cases, a single click will launch the Installer Assistant. With some browsers you may need to download the CrossTie file (it will have a .tie extension) and double-click to open.

9.2 Using CrossTies with multiple CodeWeavers products

CrossOver contains logic to distinguish between different types of CrossTie files and dispatch them to the correct product. In general, games CrossTies will automatically be opened by CrossOver Games, and CrossTies for productivity apps will be opened by CrossOver. CrossTie developers are able to specify within the CrossTie which program and version will provide the best results.

In a few cases, the product to use for a given CrossTie may not be obvious. Some software works equally well in CrossOver and CrossOver Games. Or, you may have multiple versions of a single product installed on your system (for example, CrossOver 9.2.0 and CrossOver 10.0.0.) If CrossOver is unable to determine the best default application, it will prompt you to make a choice.

Select your preferred version, and you'll be off and running.

Chapter 10

Advanced Manual Configuration Options

Most users will not need to use the instructions in this chapter. You should not attempt any of these procedures unless you have passing knowledge of the OS X command-line -- most of these sections require text commands to be issued.

10.1 Adding a new drive or customizing the drive label / serial number

CrossOver allows you to add new drives to be used by Windows applications, and to change their label or serial number. If you need to create a new drive or have an application which depends on a serial number or Windows volume label then follow the examples below.

For example to make the path `/mnt/something` available as the drive J: in a bottle, you would execute the following command:

```
$ ln -s /mnt/something "~/Library/Application Support/CrossOver
    Games/Bottles/bottlename/dosdevices/j:"
```

To associate this drive to the `/dev/hdb1` device you would add a double colon to the command. This command is equivalent to the "Device" line in the old configuration file.

```
$ ln -s /dev/hdb1 "~/Library/Application Support/CrossOver
    Games/Bottles/bottlename/dosdevices/j::"
```

For 'real' devices, CrossOver should automatically get the serial number and label for a volume. However you can also set these manually. To set the serial number of a given mount point you need to create a file called `.windows-serial` on the root of the virtual drive.

```
$ echo '12345678' >/mnt/something/.windows-serial
```

To set the label you would create a file called `.windows-label` on the root of the virtual drive.

```
$ echo 'MY_LABEL' >/mnt/something/.windows-label
```

10.2 Customizing bottles using bottle hooks

Bottle hooks are a mechanism that lets you automatically customize the bottles created by CrossOver. Because it relies on scripts, it is very flexible. For instance it can modify drive letter assignments but also registry settings, the contents of the `c:` drive, etc. This mechanism is especially useful when you want to customize a bottle which you distribute to a range of machines, or to customize a managed bottle for each specific user.

Bottle hooks can be created at three levels:

- System-wide hooks apply to all bottles on the system, including non-root user bottles if CrossOver was installed as root. Thus they are best suited to adapt the bottles to the configuration or hardware of the machine. These hooks are located in the `$CX_ROOT/support/scripts.d` directory.
- User hooks are the same as system-wide hooks but apply only to one specific user's bottles. They are run after all the system-wide hooks have been run. They are located in the `~/Library/ApplicationSupport/CrossOverGames/scripts.d` directory.
- Finally, each bottle can have its own set of hooks. These are especially suited to configure a managed bottle for use by each non-root user. This is also the only kind of hook that is automatically packaged with the bottle when it is archived, and are thus guaranteed to run when the bottle is restored later, even if this is on another computer. These hooks are located in the `scripts.d` directory in the bottle.

Each hook is an executable file, usually a shell script, and must be placed in one of the above hook directories. The name of the hook must be of the form **`nn.name`**, where **`nn`** are two decimal digits that dictate the order in which the hooks are run, and **`name`** must not contain any dot or tilde usually indicates the hook's purpose.

The hooks are then called as described in the following events:

- When a bottle is created

  `hook` create *`template`*

  The *`template`* parameter indicates the name of the template the bottle is based on, for instance 'win98'.

- When a bottle is restored

  `hook` restore

- When a bottle is upgraded to a new CrossOver version

  `hook` upgrade-from *`old-bottle-version`*

  Where *`old-bottle-version`* is the CrossOver version the bottle was last used with. This can help you gauge how out of date the bottle was, but note that the hooks are called only after CrossOver has upgraded the bottle.

- When a bottle stub is created

  `hook` create-stub *`managed-wineprefix`*

  This case happens when a managed bottle is used in a non-root account for the first time. In this case the `$WINEPREFIX` environment variable points to the freshly created bottle stub, while *`managed-wineprefix`* points to root's reference copy in `/opt/cxoffice/support`.

- When a bottle stub is updated

  `hook` update-stub *`managed-wineprefix`*

  This case happens when the administrator has updated the managed bottle's reference copy in *`managed-wineprefix`* and the user's bottle stub must not be updated to match.

In all cases the hooks are called in the Wine context. This means that they can count on the following environment variables being set:

`CX_ROOT` Contains the absolute path to the directory where CrossOver is installed.

`CX_BOTTLE` Contains the name of the current bottle.

`WINEPREFIX` Contains the absolute path to the bottle directory.

Bottle hooks can also use the **wine** script to call Winelib or Windows applications to modify registry settings or other aspects of the bottle.

Here is an example of a bottle hook that modifies the drive letter assignments so that there is no `Y:` drive, and the `H:` drive points to the user's `$HOME` directory.

```
#!/bin/sh
rm "$WINEPREFIX/dosdevices/y:"
if [ ! -d "$WINEPREFIX/dosdevices/h:" ]
then
    ln -s -f "$HOME" "$WINEPREFIX/dosdevices/h:"
fi
```

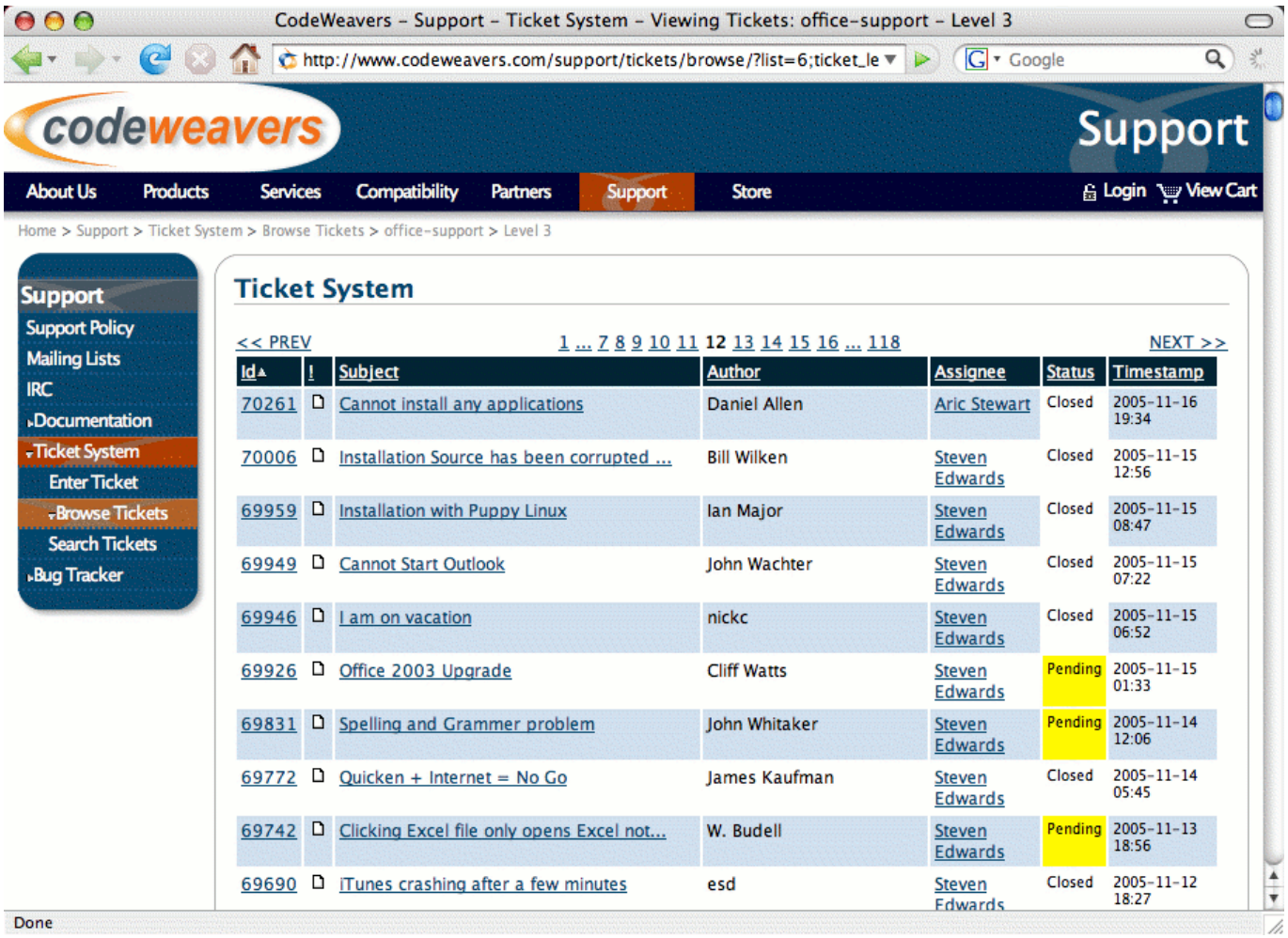
Chapter 11

Troubleshooting

In case of problem, the first place to start is the CodeWeavers Support Library. It is updated regularly to document known issues and their workarounds. With luck the solution to your problem may already be waiting for you.

You can help make CrossOver Games an even better product by reporting any new problem you come across to the CodeWeavers support site. Before you can enter a ticket, you will need to log in to the system.

Tip
This is a *public* system. Emails sent to this address will be viewable by all. This also means that you can access past support issues and their resolution by going to http://support.codeweavers.com. There are privacy options available if you do not wish your request to be public. To learn more about these, read the FAQ on that site.



When reporting a problem, please include a description of actual vs. expected behavior in your reports, as well as the steps we should go through to reproduce the problem.

Appendix A

Glossary

A.1 Supported Games

CrossOver Games provides many of the services which Windows programs expect to find. Because there may be imperfections in certain systems, CrossOver works better with some games than with others. CrossOver is expressly tested and tuned to work best with a predefined set of games. Because of concerns with copy-protection, most games work best when installed via an online system such as Steam.

Supported Games include:

- Guild Wars
- EVE Online
- Half-Life (via CD or Steam)
- Half-Life 2 and variants such as Counter-Strike (via Steam)
- Team Fortress 2
- Portal
- Call of Duty (via Steam)
- Call of Duty 2 (via Steam)
- Call of Duty 2 (via Steam)
- Prey (via Steam)
- Day of Defeat (via Steam)

Many games that are not on the Supported list will still work just fine. For a list of such applications, visit the CodeWeavers CrossOver Compatibility Center. At the compatibility center you can search for games, read about other users' experiences, and post tips and hints for other users.

A.2 Bottles

Important
CrossOver Games includes support for multiple bottles. A bottle is a virtual Windows environment with its own isolated C: drive, fonts, registry, and software.
Bottles are especially useful when installing unsupported software or when testing the behavior of a new application. They can also be used to run different versions of the same program (Internet Explorer, for example) at the same time.