

# LiveCode 6.5.1-rc-2 Release Notes

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## Overview

This document describes all the changes that have been made for LiveCode 6.5.1-rc-2, including bug fixes and new syntax.

## Known issues

- The installer will currently fail if you run it from a network share on Windows. Please copy the installer to a local disk before launching on this platform.

## Platform support

The engine supports a variety of operating systems and versions. This section describes the platforms that we ensure the engine runs on without issue (although in some cases with reduced functionality).

### Windows

The engine supports the following Windows OSes:

- Windows XP SP2 and above
- Windows Server 2003
- Windows Vista SP1 and above (both 32-bit and 64-bit)
- Windows 7 (both 32-bit and 64-bit)
- Windows Server 2008
- Windows 8.x (Desktop)

**Note:** On 64-bit platforms the engine still runs as a 32-bit application through the WoW layer.

### Linux

The linux engine requires the following:

- 32-bit installation, or a 64-bit linux distribution that has a 32-bit compatibility layer
- 2.4.x or later kernel
- X11R5 capable Xserver running locally on a 24-bit display
- glibc 2.3.2 or later
- gtk/gdk/glib (optional – required for native theme support)
- pango/xfnt (optional – required for pdf printing, anti-aliased text and unicode font support)
- lcms (optional – required for color profile support in JPEGs and PNGs)
- gksu (optional – required for elevate process support)

**Note:** The optional requirements (except for gksu and lcms) are also required by Firefox and Chrome, so if your linux distribution runs one of those, it will run the engine.

**Note:** If the optional requirements are not present then the engine will still run but the specified features will be disabled.

**Note:** LiveCode and standalones it builds may work on remote Xservers and in other bit-depths, however this mode of operation is not currently supported.

## Mac

The Mac engine supports:

- 10.4.11 (Tiger) on Intel and PowerPC
- 10.5.8 and later (Leopard) on Intel and PowerPC
- 10.6.x (Snow Leopard) on Intel
- 10.7.x (Lion) on Intel
- 10.8.x (Mountain Lion) on Intel
- 10.9.x (Mavericks) on Intel

**Note:** *The engine runs as a 32-bit application regardless of the capabilities of the underlying processor.*

## Setup

### Installation

Each distinct version has its own complete folder – multiple versions will no longer install side-by-side: on Windows (and Linux), each distinct version will gain its own start menu (application menu) entry; on Mac, each distinct version will have its own app bundle.

The default location for the install on the different platforms when installing for 'all users' are:

- Windows: <x86 program files folder>/RunRev/ LiveCode 6.5.1-rc-2
- Linux: /opt/runrev/livecode-6.5.1-rc-2
- Mac: /Applications/ LiveCode 6.5.1-rc-2.app

The default location for the install on the different platforms when installing for 'this user' are:

- Windows: <user roaming app data folder>/RunRev/Components/LiveCode 6.5.1-rc-2
- Linux: ~/.runrev/components/livecode-6.5.1-rc-2
- Mac: ~/Applications/ LiveCode 6.5.1-rc-2.app

**Note:** *If your linux distribution does not have the necessary support for authentication (gksu) then the installer will run without admin privileges so you will have to manually run it from an admin account to install into a privileged location.*

### Uninstallation

On Windows, the installer hooks into the standard Windows uninstall mechanism. This is accessible from the appropriate pane in the control panel.

On Mac, simply drag the app bundle to the Trash.

On Linux, the situation is currently less than ideal:

- open a terminal
- `cd` to the folder containing your rev install. e.g.

```
cd /opt/runrev/livecode-6.5.1-rc-2
```

- execute the `.setup.x86` file. i.e.

```
./ .setup.x86
```

- follow the on-screen instructions.

## Reporting installer issues

If you find that the installer fails to work for you then please file a bug report in the RQCC or email [support@runrev.com](mailto:support@runrev.com) so we can look into the problem.

In the case of failed install it is vitally important that you include the following information:

- Your platform and operating system version
- The location of your home/user folder
- The type of user account you are using (guest, restricted, admin etc.)
- The installer log file located as follows:
  - **Windows 2000/XP:** <documents and settings folder>/<user>/Local Settings/

- **Windows Vista/7:** <users folder>/<user>/AppData/Local/RunRev/Logs
- **Linux:** <home>/runrev/logs
- **Mac:** <home>/Library/Application Support/Logs/RunRev

## Activation

The licensing system ties your product licenses to a customer account system, meaning that you no longer have to worry about finding a license key after installing a new copy of LiveCode. Instead, you simply have to enter your email address and password that has been registered with our customer account system and your license key will be retrieved automatically.

Alternatively it is possible to activate the product via the use of a specially encrypted license file. These will be available for download from the customer center after logging into your account. This method will allow the product to be installed on machines that do not have access to the internet.

## Multi-user and network install support (4.5.3)

In order to better support institutions needing to both deploy the IDE to many machines and to license them for all users on a given machine, a number of facilities have been added which are accessible by using the command-line.

**Note:** *These features are intended for use by IT administrators for the purposes of deploying LiveCode in multi-user situations. They are not supported for general use.*

## Command-line installation

It is possible to invoke the installer from the command-line on both Mac and Windows. When invoked in this fashion, no GUI will be displayed, configuration being supplied by arguments passed to the installer.

On both platforms, the command is of the following form:

```
<exe> install noui options
```

Here *options* is optional and consists of one or more of the following:

-allusers	Install the IDE for all users. If not specified, the install will be done for the current user only.
-desktopshortcut	Place a shortcut on the Desktop (Windows-only)
-startmenu	Place shortcuts in the Start Menu (Windows-only)
-location <i>location</i>	The location to install into. If not specified, the location defaults to those described in the <i>Layout</i> section above.
-log <i>logfile</i>	A file to place a log of all actions in. If not specified, no log is generated.

Note that the command-line variant of the installer does not do any authentication. Thus, if you wish to install to an admin-only location you will need to be running as administrator before executing the command. As the installer is actually a GUI application, it needs to be run slightly differently from other command-line programs.

In what follows <installerexe> should be replaced with the path of the installer executable or app (inside the DMG) that has been downloaded.

On Windows, you need to do:

```
start /wait <installerexe> install noui options
```

On Mac, you need to do:

```
"<installerexe>/Contents/MacOS/installer" install noui options
```

On both platforms, the result of the installation will be written to the console.

## Command-line activation

In a similar vein to installation, it is possible to activate an installation of LiveCode for all-users of that machine by using the command-line. When invoked in this fashion, no GUI will be displayed, activation being controlled by any arguments passed.

On both platforms, the command is of the form:

```
<exe> activate -file license -passphrase phrase
```

This command will load the manual activation file from *license*, decrypt it using the given *passphrase* and then install a license file for all users of the computer. Manual activation files can be downloaded from the 'My Products' section of the RunRev customer accounts area.

This action can be undone using the following command:

```
<exe> deactivate
```

Again, as the LiveCode executable is actually a GUI application it needs to be run slightly differently from other command-line programs.

In what follows <livecodeexe> should be replaced with the path to the installed LiveCode executable or app that has been previously installed.

On Windows, you need to do:

```
start /wait <livecodeexe> activate -file license -passphrase phrase
start /wait <livecodeexe> deactivate
```

On Mac, you need to do:

```
"<livecodeexe>/Contents/MacOS/LiveCode" activate -file license -passphrase phrase
"<livecodeexe>/Contents/MacOS/LiveCode" deactivate
```

On both platforms, the result of the activation will be written to the console.

## Proposed changes

The following changes are likely to occur in the next or subsequent non-maintenance release:

- The engine (both IDE and standalone) **will require** gtk, gdk, glib, pango and xft on Linux

## Engine changes

### Text wrapping and metrics issues. (6.5.1-rc-2)

A problem with text measurement meant that in some cases fields were not wrapping text in a consistent nor identical manner across platforms - this has been resolved.

Additionally, metrics on Windows when `formatForPrinting` is set to true have been adjusted to match Mac. This means that for a stack with `formatForPrinting` set to true, the text will be rendered with almost identical metrics on Mac and Windows whether on screen or hardcopy.

[ Note that setting `formatForPrinting` to true on a stack no longer causes display issues on screen on Windows thus - although slower to render - it is a viable property to set all the time if WYSIWYG display is needed ].

### Crash of standalone -ui mode and server engine on some Linux distributions (6.5.1-rc-2)

The engine (both server and standalone) were not previously checking properly for the correct initialization of the optional text libraries it needs to support graphics. This has been fixed by disabling text rendering if the libraries are not available (other graphics operations will still work, however).

### Control the screen pixel scaling. (6.5.1-rc-1)

The following global properties have been added to the engine:

- `systemPixelScale`
- `pixelScale`

The pixel scale determines the mapping from logical screen pixels to physical device pixels.

#### The '`systemPixelScale`' property

This property is read-only. It returns the pixel scale reported by the operating system as being appropriate for the display device.

For example, an iOS with a retina display has twice the pixel density of previous generations, so the following will return '2':

```
get the systemPixelScale
```

Currently the `systemPixelScale` returns the correct value for mobile devices, returning '1' on desktop platforms.

We will soon be adding support for high density displays on the desktop, at which point this property will return a meaningful value on all supported platforms.

#### The '`pixelScale`' property

This property determines the scaling factor between logical and device pixels and can be set to any positive real number.

The `pixelScale` is initialised to the `systemPixelScale` on startup but can be modified at any point.

For example, if you want to turn off automatic scaling on a high-density display you can set the `pixelScale` to '1.0':

set the pixelScale to 1.0

### Specific bug fixes (6.5.1-rc-2)

(bug fixes specific to the current build are highlighted in bold, reverted bug fixes are stricken through)

- 11609 Getting the rect of Android native controls returns empty rect**
- 11606 Text wrapping and metrics issues.**
- 11604 Image rotate**
- 11592 Import / export snapshot not working on Windows & Linux**
- 11590 Fullscreen stacks on multiple monitors always appear on the same screen.**
- 11586 Android native controls are positioned incorrectly for certain fullscreen modes**
- 11572 Certain iOS fonts clip vertically**
- 11571 iPhoneUseDeviceResolution does not update the current pixelScale**
- 11568 Bitmap effect colors are incorrect on iOS and Android**
- 11567 Scaled OS themed parts render aren't filtered**
- 11563 Drag-n-drop hotspot is in wrong location on OS X stack with menubar**
- 11560 Fix graphical anomalies in outer glow effect**
- 11559 Crash of standalone -ui mode and server engine on some Linux distributions**
- 11558 Artefacts when drawing Windows checkmarks**

### Specific bug fixes (6.5.1-rc-1)

- 11553 Fill overlaps borders for arcs
- 11551 Stacks with many referenced images can take a long time to save.
- 11549 Text fails to render if a single native encoded character is followed by a unicode character in a field in certain cases.
- 11547 Setting the textColor of a line in a field doesn't work
- 11535 Monospaced fonts do not have consistent character width.
- 11528 Gradient colors incorrect on Android
- 11527 Unicode text on Android clipped
- 11513 If a stack has font attributes set
- 11507 Prevent crash in revBrowser on OSX when there is no data source
- 11505 Multiply blend mode does not work correctly for graphic effects
- 11447 'put the MCSSendString of' crashes

## Dictionary additions

- **resolve image** (*command*) has been added to the dictionary.
- **start using font** (*command*) has been added to the dictionary.
- **stop using font** (*command*) has been added to the dictionary.
- **measureText** (*function*) has been added to the dictionary.
- **measureUnicodeText** (*function*) has been added to the dictionary.
- **revXMLDataFromXPathQuery** (*function*) has been added to the dictionary.
- **revXMLEvaluateXPath** (*function*) has been added to the dictionary.
- **xsltApplyStylesheet** (*function*) has been added to the dictionary.
- **xsltApplyStylesheetFromFile** (*function*) has been added to the dictionary.
- **xsltLoadStylesheet** (*function*) has been added to the dictionary.
- **xsltLoadStylesheetFromFile** (*function*) has been added to the dictionary.



- **colorDialogColors** (*property*) has been added to the dictionary.
- **fontFilesInUse** (*property*) has been added to the dictionary.
- **fullscreenmode** (*property*) has been added to the dictionary.

## Dictionary changes

- The entry for **edit** (*command*) has been updated.
- The entry for **filter** (*command*) has been updated.
- The entry for **intersect** (*command*) has been updated.
- The entry for **libURLSetSSLVerification** (*command*) has been updated.
- The entry for **revXMLAddDTD** (*command*) has been updated.
- The entry for **revXMLAddNode** (*command*) has been updated.
- The entry for **revXMLAppend** (*command*) has been updated.
- The entry for **revXMLCopyNode** (*command*) has been updated.
- The entry for **revXMLDeleteAllTrees** (*command*) has been updated.
- The entry for **revXMLDeleteNode** (*command*) has been updated.
- The entry for **revXMLDeleteTree** (*command*) has been updated.
- The entry for **revXMLInsertNode** (*command*) has been updated.
- The entry for **revXMLMoveNode** (*command*) has been updated.
- The entry for **revXMLPutIntoNode** (*command*) has been updated.
- The entry for **revXMLSetAttribute** (*command*) has been updated.
- The entry for **union** (*command*) has been updated.
- The entry for **revXMLAttribute** (*function*) has been updated.
- The entry for **revXMLAttributeValues** (*function*) has been updated.
- The entry for **revXMLAttributes** (*function*) has been updated.
- The entry for **revXMLChildContents** (*function*) has been updated.
- The entry for **revXMLChildNames** (*function*) has been updated.
- The entry for **revXMLCreateTree** (*function*) has been updated.
- The entry for **revXMLCreateTreeFromFile** (*function*) has been updated.
- The entry for **revXMLCreateTreeFromFileWithNamespaces** (*function*) has been updated.
- The entry for **revXMLCreateTreeWithNamespaces** (*function*) has been updated.
- The entry for **revXMLFirstChild** (*function*) has been updated.
- The entry for **revXMLMatchingNode** (*function*) has been updated.
- The entry for **revXMLNextSibling** (*function*) has been updated.
- The entry for **revXMLNodeContents** (*function*) has been updated.
- The entry for **revXMLNumberOfChildren** (*function*) has been updated.
- The entry for **revXMLParent** (*function*) has been updated.
- The entry for **revXMLPreviousSibling** (*function*) has been updated.
- The entry for **revXMLRootNode** (*function*) has been updated.
- The entry for **revXMLText** (*function*) has been updated.
- The entry for **revXMLTree** (*function*) has been updated.
- The entry for **revXMLTrees** (*function*) has been updated.
- The entry for **revXMLValidateDTD** (*function*) has been updated.
- The entry for **editScript** (*message*) has been updated.
- The entry for **revEndXMLNode** (*message*) has been updated.
- The entry for **revStartXMLData** (*message*) has been updated.
- The entry for **revStartXMLNode** (*message*) has been updated.
- The entry for **revXMLEndTree** (*message*) has been updated.
- The entry for **revXMLStartTree** (*message*) has been updated.
- The entry for **filename** (*property*) has been updated.

- The entry for **secureMode** (*property*) has been updated.
- The entry for **securityPermissions** (*property*) has been updated.

## Previous Release Notes

6.5.0 Release Notes	<a href="http://downloads.livecode.com/livecode/6_5_0/LiveCodeNotes-6_5_0.pdf">http://downloads.livecode.com/livecode/6_5_0/LiveCodeNotes-6_5_0.pdf</a>
6.1.3 Release Notes	<a href="http://downloads.livecode.com/livecode/6_1_3/LiveCodeNotes-6_1_3.pdf">http://downloads.livecode.com/livecode/6_1_3/LiveCodeNotes-6_1_3.pdf</a>
6.1.2 Release Notes	<a href="http://downloads.livecode.com/livecode/6_1_2/LiveCodeNotes-6_1_2.pdf">http://downloads.livecode.com/livecode/6_1_2/LiveCodeNotes-6_1_2.pdf</a>
6.1.1 Release Notes	<a href="http://downloads.livecode.com/livecode/6_1_1/LiveCodeNotes-6_1_1.pdf">http://downloads.livecode.com/livecode/6_1_1/LiveCodeNotes-6_1_1.pdf</a>
6.1.0 Release Notes	<a href="http://downloads.livecode.com/livecode/6_1_0/LiveCodeNotes-6_1_0.pdf">http://downloads.livecode.com/livecode/6_1_0/LiveCodeNotes-6_1_0.pdf</a>
6.0.2 Release Notes	<a href="http://downloads.livecode.com/livecode/6_0_2/LiveCodeNotes-6_0_2.pdf">http://downloads.livecode.com/livecode/6_0_2/LiveCodeNotes-6_0_2.pdf</a>
6.0.1 Release Notes	<a href="http://downloads.livecode.com/livecode/6_0_1/LiveCodeNotes-6_0_1.pdf">http://downloads.livecode.com/livecode/6_0_1/LiveCodeNotes-6_0_1.pdf</a>
6.0.0 Release Notes	<a href="http://downloads.livecode.com/livecode/6_0_0/LiveCodeNotes-6_0_0.pdf">http://downloads.livecode.com/livecode/6_0_0/LiveCodeNotes-6_0_0.pdf</a>