

LiveCode 8.1.10-rc-2 Release Notes

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Overview

LiveCode 8.1 provides important improvements for delivering high-quality cross-platform applications!

- LiveCode Indy and Business editions now come with the tsNet external, which supercharges LiveCode's Internet features and performance. LiveCode 8.1 also introduces mergHealthKit, for accessing activity, sport and health data on iOS devices.
- The standalone builder now has a greatly-improved user experience for including externals, script libraries and LiveCode Builder extensions in your cross-platform application. Usually, it'll now do the right thing automatically, but you can still select the specific inclusions you need.
- The IDE has lots of other upgrades, too: a keyboard-navigable Project Browser that highlights any scripts that failed to compile, an improved dictionary user interface, and access to the message box just by starting to type.
- The player control can be used in Windows application without any need for users to install any additional libraries or dependencies, thanks to a brand new player implementation based on DirectShow. For most apps, it should now be unnecessary to install or use QuickTime at all.
- The LiveCode Builder programming language has had some enhancements as part of the

Infinite LiveCode project. Variables now get initialised by default, `unsafe` blocks and handlers can be used to flag sections of code that do dangerous things, and you can even include raw `bytecode` if necessary.

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.
- The browser widget does not work on 32-bit Linux.
- 64-bit standalones for Mac OS X do not have support for audio recording.

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

LiveCode supports the following versions of Windows:

- 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)
- Windows 10

Note: On 64-bit Windows installations, LiveCode runs as a 32-bit application through the WoW layer.

Linux

LiveCode supports the following Linux distributions, on 32-bit or 64-bit Intel/AMD or compatible processors:

- Ubuntu 14.04 and 16.04
- Fedora 23 & 24
- Debian 7 (Wheezy) and 8 (Jessie) [server]
- CentOS 7 [server]

LiveCode may also run on Linux installations which meet the following requirements:

- Required dependencies for core functionality:
 - glibc 2.13 or later
 - glib 2.0 or later
- Optional requirements for GUI functionality:
 - GTK/GDK 2.24 or later
 - Pango with Xft support
 - esd (optional, needed for audio output)
 - mplayer (optional, needed for media player functionality)
 - lcms (optional, required for color profile support in images)
 - gksu (optional, required for privilege elevation support)

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

Note: The requirements for GUI functionality are also required by Firefox and Chrome, so if your Linux distribution runs one of those, it will run LiveCode.

Note: It may be possible to compile and run LiveCode Community for Linux on other architectures but this is not officially supported.

Mac

The Mac engine supports:

- 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
- 10.10.x (Yosemite) on Intel
- 10.11.x (El Capitan) on Intel
- 10.12.x (Sierra) on Intel
- 10.13.x (High Sierra) on Intel

iOS

iOS deployment is possible when running LiveCode IDE on a Mac, and provided Xcode is installed and has been set in LiveCode *Preferences* (in the *Mobile Support* pane).

Currently, the supported versions of Xcode are:

- Xcode 4.6 on MacOS X 10.7
- Xcode 5.1 on MacOS X 10.8
- Xcode 6.2 on MacOS X 10.9
- Xcode 6.2 and 7.2 on Mac OS X 10.10
- Xcode 8.2 on MacOS X 10.11
- Xcode 9.2 on MacOS 10.12 (Note: You need to upgrade to 10.12.6)
- Xcode 9.3 on MacOS 10.13 (Note: You need to upgrade to 10.13.2)

It is also possible to set other versions of Xcode, to allow testing on a wider range of iOS simulators. For instance, on OS X 10.10 (Yosemite), you can add *Xcode 5.1* in the *Mobile Support* preferences, to let you test your stack on the *iOS Simulator 7.1*.

We currently support deployment for the following versions of iOS:

- 6.1 [simulator]
- 7.1 [simulator]
- 8.2 [simulator]
- 9.2
- 10.2
- 11.2
- 11.3

Android

LiveCode allows you to save your stack as an Android application, and also to deploy it on an Android device or simulator from the IDE.

Android deployment is possible from Windows, Linux and Mac OSX.

The Android engine supports devices using ARMv6, ARMv7 or ARMv8 processors. It will run on the following versions of Android:

- 2.3.3-2.3.7 (Gingerbread)
- 4.0 (Ice Cream Sandwich)
- 4.1-4.3 (Jelly Bean)
- 4.4 (KitKat)
- 5.0-5.1 (Lollipop)
- 6.0 (Marshmallow)
- 7.0 (Nougat)
- 8.0 (Oreo)

To enable deployment to Android devices, you need to download the [Android SDK](#), and then use the 'Android SDK Manager' to install:

- the latest "Android SDK Tools"
- the latest "Android SDK Platform Tools"

You also need to install the Java Development Kit (JDK). On Linux, this usually packaged as "openjdk". LiveCode requires JDK version 1.6 or later.

Once you have set the path of your Android SDK in the "Mobile Support" section of the LiveCode IDE's preferences, you can deploy your stack to Android devices.

Some users have reported successful Android Watch deployment, but it is not officially supported.

HTML5

LiveCode applications can be deployed to run in a web browser, by running the LiveCode engine in JavaScript and using modern HTML5 JavaScript APIs.

HTML5 deployment does not require any additional development tools to be installed.

LiveCode HTML5 standalone applications are currently supported for running in recent versions of [Mozilla Firefox](#), [Google Chrome](#) or [Safari](#). For more information, please see the "HTML5 Deployment" guide in the LiveCode IDE.

Setup

Installation

Each version of LiveCode installs can be installed to its own, separate folder. This allow multiple versions of LiveCode to be installed side-by-side. On Windows (and Linux), each version of LiveCode has its own Start Menu (or application menu) entry. On Mac OS X, each version has its own app bundle.

On Mac OS X, install LiveCode by mounting the `.dmg` file and dragging the app bundle to the `Applications` folder (or any other suitable location).

For Windows and Linux, the default installation locations when installing for "All Users" are:

Platform	Path
Windows	<code><x86 program files folder>/RunRev/LiveCode <version></code>
Linux	<code>/opt/livecode/livecode-<version></code>

The installations when installing for "This User" are:

Platform	Path
Windows	<code><user roaming app data folder>/RunRev/Components/LiveCode <version></code>
Linux	<code>~/.runrev/components/livecode-<version></code>

Note: If installing for "All Users" on Linux, either the **gksu** tool must be available, or you must manually run the LiveCode installer executable as root (e.g. using **sudo** or **su**).

Uninstallation

On Windows, the installer hooks into the standard Windows uninstall mechanism. This is accessible from the "Add or Remove Programs" applet in the windows Control Panel.

On Mac OS X, drag the app bundle to the Trash.

On Linux, LiveCode can be removed using the `setup.x86` or `setup.x86_64` program located in LiveCode's installation directory.

Reporting installer issues

If you find that the installer fails to work for you then please report it using the [LiveCode Quality Control Centre](#) or by emailing support@livecode.com.

Please include the following information in your report:

- Your platform and operating system version
- The location of your home or user folder
- The type of user account you are using (guest, restricted, admin etc.)
- The installer log file.

The installer log file can be located as follows:

Platform	Path
Windows 2000/XP	<documents and settings folder>/<user>/Local Settings/
Windows Vista/7	<users folder>/<user>/AppData/Local/RunRev/Logs
Linux	<home>/ .runrev/logs

Activating LiveCode Indy or Business edition

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.

Command-line installation

It is possible to invoke the installer from the command-line on Linux and Windows. When doing command-line installation, no GUI will be displayed. The installation process is controlled by arguments passed to the installer.

Run the installer using a command in the form:

```
<installer> install noui [OPTION ...]
```

where `<installer>` should be replaced with the path of the installer executable or app (inside the DMG) that has been downloaded. The result of the installation operation will be written to the console.

The installer understands any of the following `OPTION`s:

Option	Description
<code>-allusers</code>	Install the IDE for "All Users". If not specified, LiveCode will be installed for the current user only.

Option	Description
- desktopshortcut	Place a shortcut on the Desktop (Windows-only)
- startmenu	Place shortcuts in the Start Menu (Windows-only)
- location LOCATION	The folder to install into. If not specified, the LOCATION defaults to those described in the "Installation" section above.
- log LOGFILE	The file to which to log installation actions. If not specified, no log is generated.

Note: the command-line installer does not do any authentication. When installing for "All Users", you will need to run the installer command as an administrator.

As the installer is actually a GUI application, it needs to be run slightly differently from other command-line programs.

On Windows, the command is:

```
start /wait <installer> install noui [OPTION ...]
```

Command-line uninstallation

It is possible to uninstall LiveCode from the command-line on Windows and Linux. When doing command-line uninstallation, no GUI will be displayed.

Run the uninstaller using a command of the form:

```
<uninstaller> uninstall noui
```

Where *.setup.exe* on Windows, and *.setup.x86* on Linux. This executable, for both of the platforms, is located in the folder where LiveCode is installed.

The result of the uninstallation operation will be written to the console.

Note: the command-line uninstaller does not do any authentication. When removing a version of LiveCode installed for "All Users", you will need to run the uninstaller command as an administrator.

Command-line activation for LiveCode Indy or Business edition

It is possible to activate an installation of LiveCode for all users by using the command-line. When performing command-line activation, no GUI is displayed. Activation is controlled by passing command-line arguments to LiveCode.

Activate LiveCode using a command of the form:

```
<livecode> activate -file LICENSEFILE -passphrase SECRET
```

where `<livecode>` should be replaced with the path to the LiveCode executable or app that has been previously installed.

This loads license information from the manual activation file `LICENSEFILE`, decrypts it using the given `SECRET` passphrase, and installs a license file for all users of the computer. Manual activation files can be downloaded from the [My Products](#) page in the LiveCode account management site.

It is also possible to deactivate LiveCode with:

```
<livecode> deactivate
```

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

On Windows, the command is:

```
start /wait <livecode> activate -file LICENSE -passphrase SECRET
start /wait <livecode> deactivate
```

On Mac OS X, you need to do:

```
<livecode>/Contents/MacOS/LiveCode activate -file LICENSE -passphrase SECRET
<livecode>/Contents/MacOS/LiveCode deactivate
```

Engine changes

Improved `ul_TraceLocals` output (8.1.10-rc-1)

The `ul_TraceLocals` function in `revLibURL` has been improved so that it prints out keys and values of the script local arrays in the library. This is useful for troubleshooting `libURL` issues.

Script-only deploy (8.1.10-rc-1)

It is now possible to use script-only stacks in the mainstack and auxiliary stack parameters to the `deploy` command.

Script only stacks with behavior (8.1.10-rc-1)

Script only stacks can now store a stack behavior as part of the file format. A 'with behavior' clause is added to the header of a script only stack, if it has a behavior property which references a stack.

When a script-only-stack with such a clause is loaded, the behavior is set as part of the loading.

Send script form of send command (8.1.10-rc-1)

The syntax

```
send script <script> to <obj>
```

has been added to allow a chunk of script to be executed in the context of an object without any attempted evaluation of parameters that occurs with the original form of the send command.

For example, suppose there is a stack named "Stack" with script

```
on doAnswer pParam
  answer pParam
end doAnswer

function myName
  return the short name of me
end myName
```

and a button on the stack named "Button" with script

```
on mouseUp
  send "doAnswer myName()" to this stack
  send script "doAnswer myName()" to this stack
end mouseUp

function myName
  return the short name of me
end myName
```

clicking the button would result in an answer dialog first saying "Button" as the `myName` function would be evaluated in the button context, then "Stack" as using the `script` form would result in the `myName` function being evaluated in the stack context.

Add param that suppresses success message when building standalone (8.1.10-rc-1)

By default `revSaveAsStandalone` displays the message

`answer information "Standalone application saved successfully."` when it is done.

You can turn off this message by setting the test environment to true but doing so suppresses all error messages and other feedback as well.

I am calling `revSaveAsStandaLone` from my own scripts multiple times and want feedback and error reporting but not the success message. Adding an additional parameter to `revSaveAsStandaLone` that suppress the success message would allow this.

Throw error when changing behavior from behavior script (8.1.10-rc-1)

Previously it was theoretically possible to change the behavior of an object from that object's existing behavior script. This will now result in an execution error

```
parentScript: can't change parent while parent script is executing
```

This change was necessary as the engine would occasionally crash when changing a behavior this way, and would be guaranteed to crash if stepping over the behavior script line that changes the behavior.

Fix problems with printing PDFs to some printers (8.1.10-rc-1)

It was possible for LiveCode to generate PDFs which were incompatible with some printers. This has been fixed by upgrading the PDF generation library which LiveCode uses (cairo).

Ensure CMYK JPEGs display correctly on Mac (8.1.10-rc-1)

This fixes the incorrect rendering of CMYK JPEGs containing an ICC profile on Mac.

Add builtin implementation of field 'Select All' (8.1.10-rc-1)

The field control will now understand Cmd/Ctrl+A as the 'Select All' action - causing the whole text of the field to be selected.

Improve efficiency of compiled regex cache (8.1.10-rc-1)

The efficiency of lookups of previously compiled regexs has been improved. To take full advantage of the regex cache make sure that you either use a string constant for the regex pattern, or a variable which is not mutated between uses. e.g.

```
get matchText(tTarget, "someregexpattern") -- efficient
get matchText(tTarget, tUnchangedPatternVar) -- efficient
get matchText(tTarget, tPatternPrefix & tPatternSuffix) -- inefficient
```

In general you will only gain advantage from the regex cache if you repeated use the same regex pattern in the way described above repeatedly in a tight loop.

Ensure matchText and replaceText don't affect target string (8.1.10-rc-1)

Previously calling matchText or replaceText on a string would cause subsequent uses of that string to use slower codepaths causing unexpected performance degradation.

clipboard always converts plain text to styled text (8.1.10-rc-1)

Whenever `text` was placed on the clipboard, it was first converted to LiveCode styled text and then put on the clipboard as styled text, RTF, HTML, and plain text. This introduced errors when pasting to other applications since they would prefer the HTML version which made the text appear double spaced.

Fix deletion of the target in safe cases (8.1.10-rc-1)

You can now safely 'delete the target' as long as there are no handlers on the stack owned by the target.

After deleting 'the target', 'the target' will become empty which will result in an execution error when an attempt is made to dereference it.

Type should work with accented characters (8.1.10-rc-1)

The `type` command now handles Unicode characters in a manner consistent with normal keyboard entry. If a Unicode character is typed and it has a native mapping, then it is propagated as a keypress with the keycode being the code of the character. If it has no native mapping, it is propagated with keycode equal to the Unicode codepoint with bit 22 set to 1. In either case the string value of the keypress is the Unicode codepoint.

Ensure browser widgets are in the correct location (8.1.10-rc-1)

Browser widgets in nested groups now remain in the correct location rather than shifting down vertically out of sync with everything else.

Synthesize an MS Paint compatible clipboard format for images (8.1.10-rc-1)

The engine will (once again) synthesize a DIBV5 format when an image is copied to the clipboard. This will be a 32-bit RGBA DIB. Windows then automatically synthesizes a 24-bit RGB DIB format.

revAvailableHandlers and revAvailableVariables now in all engines (8.1.10-rc-1)

The 'the [effective] revAvailableHandlers' and 'the revAvailableVariables' properties are now available in both the IDE and Standalone engines.

Note: These properties are currently undocumented, and reserved for IDE related uses. You are free to use in your own code, but their semantics could change in any release.

Fix treatment of NUL containing arguments in ask dialogs (8.1.10-rc-1)

Prior to 7, any arguments passed to LiveCode provided ask dialogs (e.g. ask question) containing NUL would be truncated at the NUL. After 7, any such arguments would cause incorrect calling of the ask dialog. The pre-7 behavior has been resurrected, meaning that trailing NUL bytes in arguments passed to ask dialogs will be ignored.

Remove legacy mergExt externals (8.1.10-rc-1)

The following mergExt deprecated externals are no longer included in LiveCode.

- `mergAES` - we have revsecurity based encryption for mobile
- `mergDropbox` & `mergDropboxSync` - these use the now abandoned by Dropbox (v1 API). We have a script library available for v2 API.
- `mergSocket` - we have sockets in the engine for mobile
- `mergZXing` - no longer supportable as the ZXing project no longer supports iOS. Use `mergAVCam` for barcode capture instead.

Make the encoding property of field char chunks more useful (8.1.10-rc-1)

The 'encoding' char-level field property will now return native if all chars in the chunk can be encoded in the native encoding, and unicode otherwise.

This means that the property will now return the identical value as it did in 6.7 and before, assuming that the field text hadn't had its encoding changed by script (via the textFont 'unicode' flag).

Support resizing stacks for orientation changes in fullscreen modes (8.1.10-rc-1)

A new mobile command `mobileSetFullScreenRectForOrientations` has been implemented to allow stacks that use the `fullscreenMode` property to be resized when the device orientation changes.

Improve export/import snapshot from screen on iOS (8.1.10-rc-1)

The from screen form of export/import snapshot has been changed to use a different API on iOS7+, which allows a greater variety of native layers to be captured.

Specific engine bug fixes (8.1.10-rc-2)

21228 **Ensure android working screenrect is updated when the keyboard is presented**

Specific engine bug fixes (8.1.10-rc-1)

- 10947 Fix hypercard-compatibility dynamic path behavior
- 11039 Throw error when changing behavior from behavior script
- 11146 Ensure that the initial orientation is not upside down on Android when "portrait" is selected.
- 11170 Disable keyboard suggestion when entering password in Android native input field.
- 11313 Support mobilePickPhoto() maximum width and height settings on Android
- 11727 Fix arrow key not work in Android field
- 12187 Make sure keyboardActivated/keyboardDeactivated messages are sent when the status bar is hidden on Android
- 13055 Improve formatting of try syntax description
- 13151 Correct example of setting "listIndent" for whole field
- 13180 Allow GPS access from Android Browser
- 13370 Correct terminology in "convert" command documentation
- 13482 Document optional catch clause in try control structure
- 13857 Correct dictionary entry for revProfile
- 13935 Fix modal dialog opening behind other windows on Linux
- 13992 Fixed bug causing crash on mouse enter
- 14080 Fix find command not finding in specified field when not on current card
- 14238 Ensure background pattern stays aligned in long fields
- 14266 Fixing crash when using "import eps"
- 15302 Fix common misspelling of occurred
- 15384 Fix incorrect handling of a 204 response from a server.
- 15997 Implement player 'mirrored' property on Windows
- 16131 Ensure backdrop is sized to fill the screen on Linux
- 16388 Fix setting dragdata["files"] when filename has spaces
- 16551 Ensure the "hilitedButtonName" returns the name of the hilited button
- 16758 Fixed bug causing crash when setting 65535 points to a graphic
- 16965 Fix incorrect placement of browser widget after stack rect change when fullscreenmode used.
- 17008 Fix selection handles remaining after selected object deleted
- 17247 Remove selection artefacts when handles are drawn outside of parent group rect
- 17323 Ensure backdrop window is behind all other windows on Linux
- 17540 Fix crash on Mac when displaying IDE usage message
- 17541 Fix problems with printing PDFs to some printers
- 17577 Make sure we can set the hilitedItemName property of the navBar widget
- 17622 Fix extra data added on Windows when pasting html data from the clipboard
- 17639 Fix vertical placement of caret on long wrapped lines
- 17657 Make sure modifier keys are recognised in keysDown()
- 17779 Fix scrolling group drawing outside its bounds when acceleratedRendering used.
- 17850 Fix inconsistent browser callbacks in browser widget on iOS

- 17918 Make sure setting clipboarddata["text"] and clipboarddata["html"] works as expected
- 17969 Fixed bug preventing correct rendering of ovals when creating them
- 17973 Make sure the machine can distinguish between iOS device and simulator
- 18058 Fix keyboard not show in landscape orientation
- 18243 Ensure horizontal two finger scrolling on Linux respects the system settings
- 18264 Don't fail standalone build completely if unlicensed platforms are selected
- 18273 Prevent crash when rendering card with invalid objptr
- 18275 Enable sqlite FTS5 feature
- 18277 Calculate the height of the mac desktop space correctly
- 18287 Update sqlite version to 3.15.0
- 18293 Crash when deleting a stack that is used as a popup menu
- 18295 Fix empty specialFolderPath("resources") on Windows
- 18343 Fix incorrect result from itemOffset when first character of stringToSearch is the delimiter
- 18349 Fix variable contents modified when used to set stack name
- 18353 Remove duplicated urlResponse documentation
- 18358 Make sure mobileControlGet does not return rounded values of startTime/endTime/currentTime
- 18369 Add explicit instruction to DMG images
- 18379 Don't include incorrectly copied resource forks in standalones
- 18392 Ensure "ceiling" is listed as a reserved word
- 18406 Fix delay in triggering handlers when called by JavaScript in browser widget
- 18407 Fixed bug preventing the use of "set the visible of line <> of field <>"
- 18440 Respect SB Copy Files pane relative / absolute path distinction on mobile
- 18441 Make sure the purchaseStateUpdate callback is sent with status=complete when necessary
- 18443 Ensure 'private' clipboard is reset when another application sets the clipboard
- 18444 Make sure put cookie with empty value works as expected
- 18447 Moved misplaced text in iconGravity dictionary entry
- 18454 Allow socket to send broadcast packet on Android.
- 18459 Fix incorrect behavior of files() and folders() function on Android.
- 18472 'load url' is not properly cleaned up on socketError
- 18473 Prevent hang when adjusting field pixmap offset
- 18484 Prevent mobilePlaySoundOnChannel crash on Android
- 18488 Error returned by hostnametoaddress was not being reported in libURL.
- 18496 Fix memory leak when using filter on unicode strings
- 18498 Ensure bundled Android externals are available on Windows and Linux
- 18499 Fix libUrlSetStatusCallback on mobile platforms when tsNet is in use
- 18514 Make sure setting clipboarddata["html"] works as expected on Windows
- 18521 Resolve folder path before processing files(folder) and folders(folder)
- 18526 Allow command key shortcuts to work in color dialog
- 18536 Added support for Xcode 8.1 / iOS 10.1
- 18539 Don't change the defaultFolder on startup
- 18566 libURL inserts "::" between host and port when creating CONNECT request
- 18578 Ensure color name rgb value mapping is in alphabetical order

- 18600 Fix crash when quitting from script editor
- 18604 Fix crash when converting objective-C objects to LiveCode values
- 18610 Add code examples to tsNet dictionary entries
- 18614 Fix Linux player crash when accessing properties
- 18619 Delete slash at the end of specialFolderPath("resources") to be consistent with other result of special folders.
- 18623 Remove tsneterr: from the start of output of tsNetVersion()
- 18625 Fix browser javascripthandlers not working on iOS after loading a new page
- 18626 Make sure the Standalone Application Settings on Windows are respected
- 18632 Mark the copyResource function as deprecated
- 18642 Fixed crash on iOS 10 when trying to read local notifications
- 18652 Fix occasional crash when getting the clipboarddata["text"] on Windows.
- 18653 Encode bundle display name as utf-8 in ios app plist
- 18666 Fix crash when find command matches text in sharedText field on non-current card
- 18670 Fixed bug preventing all table names being retrieved in MySQL db's
- 18683 Fix crash on iOS 10 when the app needs access to the device's microphone
- 18686 Fix a crash related to the message watcher
- 18689 Fixed bug causing erroneous cursor movement when using arrow keys
- 18690 Provide mergExt Builds for building against iOS 10.1 SDK
- 18691 Provide tsNet Builds for building against iOS 10.1 SDK
- 18703 Fix handling of new tsNet network requests when an existing network request is still waiting to connect
- 18709 Cannot deploy an app to iOS 10.1 simulator
- 18724 Fix incorrect cross-references in lockLocation dictionary entry
- 18738 Fix data loss when cr inserted into a styledText run
- 18755 Fix loss of BMP as supported clipboard image format
- 18762 Fix a rare crash on saving after cloning a field
- 18778 Send standalone saving messages at correct time
- 18783 Resolve delay in opening Windows standalones that include tsNet 1.2.4 and the Internet inclusion
- 18809 Prevent lock up of PI when not selecting choice from font menu
- 18810 Fix a crash when cutting controls
- 18812 Fix crash when opening cards referencing images on non-open cards
- 18823 Fix a crash when popping up transient windows
- 18824 Fix a crash when drag-selecting controls
- 18833 Don't change name of tsNet stack during standalone build
- 18852 Fix exception thrown in IDE when saving standalone with more than one stack
- 18863 Fix encrypt/decrypt operations broken by the OpenSSL 1.1.0 update
- 18870 Fix crash caused by calling tsNetGetSync() repeatedly against the same URL
- 18871 Add support for upper and lower case field shortcuts on Mac
- 18873 Fix documentation of valid values for lineSize property
- 18890 Fix crash when playing non-imported audioclip
- 18893 Fix formatting in description of stack mode property
- 18894 Don't strip context tags from HTML clipboard formats
- 18900 Fix a crash when closing a stack with substacks still open
- 18911 Fix graphical artefacts when reshaping polygon graphics while selected

- 18912 Ensure objects can't be deleted if their behaviors are handling a message or they are the target
- 18923 Ensure CMYK JPEGs display correctly on Mac
- 18925 Prevent crashes on memory exhaustion
- 18938 Fix text encoding issues when pasting HTML into LiveCode
- 18939 Fix player image incorrectly scaled in edit mode
- 18946 Fix browserNavigateComplete not firing when document has frames
- 18948 Make 'obj of me' consistent across all control types
- 18955 Fix crash when using HTML file input dialog in browser widget
- 18958 Make sure our prebuilt libs do not use reserved (by Apple private APIs) function names
- 18959 Fix crash after getting the points of a regular polygon graphic
- 18962 Fix crash when using field
- 18969 Add builtin implementation of field 'Select All'
- 18977 Ensure setting the card triggers openCard / closeCard in no UI mode
- 18982 Improve shift+click behavior of text selection in XPDF
- 18988 Deal with stack id cache correctly on stack delete
- 19003 Stackfiles under the mainstack path preserve folder structure in standalone
- 19004 Improve efficiency of compiled regex cache
- 19005 Ensure matchText and replaceText don't affect target string
- 19008 Place modals at their own location when neither the defaultStack or topStack can provide useful relative locations
- 19009 mergExt external builds for iOS 10.2
- 19010 Provide iOS 10.2 builds for tsNet
- 19017 Fix crash when deleting object which is being moved
- 19024 Prevent crash when calling `mobileStoreRequestProductDetails`
- 19026 Fix DNS resolver issue causing connection hang when using tsNet on Linux
- 19032 Prevent crash when creating and deleting two data grids
- 19035 Fix crash when using tsNet with OS X 10.6 and 10.7
- 19036 Fix incorrect local file path when setting url of browser widget on Android.
- 19044 Prevent crash when deleting stack which has an open substack
- 19045 Fix BiDi algorithm for surrogate pairs
- 19049 Prevent crash when deleting mousestack stack via button click
- 19051 Make sure the player endtime property cannot be set to a value greater than the player duration
- 19060 Ensure error when binding widget is caught correctly
- 19069 Fixed bug causing crash when building standalone
- 19076 Prevent redraw recursion when going to stack twice in no ui mode
- 19080 Do not show linking warnings when building iOS standalones
- 19084 Ensure text is copied as unstyled on mac
- 19088 Do not show "Success" dialog if an error occurred in S/B
- 19093 Prevent recursion when fetching mouseColor in mouseMove handler
- 19097 Ensure all menus are updated after mouseDown to menu group
- 19105 Resolve crash when deleting a stack in the message path in a front script
- 19108 Correct references for scriptOnly property docs

- 19116 Ensure tsNetGetStatus reports transfer status as "uploading" appropriately during POST requests
- 19120 Ensure substacks with cantDelete don't cause execution errors when deleting the mainstack
- 19121 Pass correct folder to standaloneSaved message
- 19138 Update OpenSSL to version 1.1.0d
- 19154 Fix widget browser stuck on handling javascript
- 19158 Prevent crash when using undo to bring back removed controls
- 19185 Ensure the dragData["private"] isn't cleared during a drag
- 19192 Add ios and android to "allowDatagramBroadcasts" dictionary entry
- 19200 Make sure printSettings are set correctly
- 19206 clipboard always converts plain text to styled text
- 19212 Prevent a crash when calling mobileComposeMail with just one param (tSubject)
- 19215 Make sure botton icons are present in standalones when building for multiple platforms
- 19229 Fix crash when connecting an IR Receiver
- 19246 Remove objects from message path ASAP when deleted
- 19275 Fix Android crash when a stack is deleted shortly after switching to another stack.
- 19279 Prevent mobilePickMedia crash without 'Write External Storage' permission
- 19287 Make sure the clickLoc is updated on mouseDown/touchEnd on mobile
- 19293 Server returns 'ELF' over HTTP
- 19298 Make sure "Search for Inclusions" detects correctly widget inclusions on iOS simulator
- 19307 Prevent crash when saving standalone while player is playing
- 19313 Fix crash when saving field with fdata
- 19320 Fix SVG parsing of 'a' instruction
- 19327 Fix incorrect browser widget location when stack has a menu on OSX
- 19328 Standalone startup stack needs to be mainstack before resolving parent scripts
- 19352 Fix crash when getting the urlResponse
- 19361 Added missing parantheses for revIsSpeaking()
- 19390 Reposition native layer controls correctly when resizing stacks
- 19404 Fix crash on iOS when calling `play empty` followed by `play path/to/audio/file`
- 19416 Ensure all object messages are cleared when obj or ancestor is deleted
- 19417 Use correct comment syntax in docs on documentation
- 19420 Fix crash on startup when resuming android app after quit
- 19424 Make sure getting `the securityPermissions` returns the expected result
- 19457 Prevent crash when deleting selected objects with the backspace key
- 19469 Make sure the long time format is correct if `twelveHourTime` is false
- 19490 Make sure launch url sets the result to empty on success
- 19500 Fix crash when invalid url is used with iOS native browser
- 19509 Make sure Android Studio works with LiveCode
- 19515 Ensure the formattedRect of line N always returns the correct result
- 19520 Make sure mirrored property works correctly on Mac
- 19525 Fix SFTP connection hang when remote directory doesn't exist
- 19528 Allow 'relaunch' message to be in behavior of main stack
- 19529 Fix incorrect snapshot area when primary screen origin is not 0,0

- 19535 Fixed error causing blue rectangle to be drawn incorrectly when doing CMD-A on text
- 19538 Fixed bug preventing users from selecting text of length 65535

- 19541 Fix clipboard ownership checks on windows causing private clipboard data to be cleared
- 19573 Provide iOS 10.3 builds for tsNet
- 19577 Fix crashes related to card deletion
- 19578 Fix crash after leaving edit group mode
- 19580 Ensure colors round-trip through styledText correctly
- 19581 Do not send pushNotificationReceived/localNotificationReceived message twice
- 19584 Allow deletion of a message's target object in a frontscript
- 19587 Fix deletion of the target in safe cases
- 19592 Prevent crash when deleting combo box
- 19593 Type should work with accented characters
- 19599 Ensure correct source rect is used for 'print card from lt to rb'
- 19609 Make sure unicode characters display correctly when set htmlText in browser
- 19613 Make sure setting the htmlText of a field does not remove superscripts
- 19615 Fixed references in the quit dictionary entry
- 19620 Update cursor when entering window on windows
- 19630 Make sure setting the iphoneSetAudioCategory is respected
- 19633 Modify tsNet libUrl wrapper to treat HTTP status codes > 400 as errors
- 19635 Ensure browser widgets are in the correct location
- 19637 Errors building iOS standalones should only be reported once
- 19646 Make sure using mobile camera does not change the value of mobileLockIdleTimer
- 19649 Correctly parse multiple bytes escaped as hex in the format function
- 19650 Fix tsNet proxy support on Linux, OS X and Android
- 19652 Refresh player on windows when mirroring property is set
- 19666 Make sure you can set more than one javascriptHandlers on CEF Browser
- 19668 Fixed bug causing crash when using custom undo
- 19672 Prevent crash on throwing certain errors
- 19687 Preserve error from chunk-of-code send form
- 19688 Ensure 'put the objProp' causes a parse error
- 19693 Ensure closed players use no system resources
- 19699 Fixed bug that overrides previous matches in matchText
- 19701 Try HTTP basic authentication if a HTTP server responds with 401 without supplying the WWW-Authenticate header
- 19713 Synthesize an MS Paint compatible clipboard format for images
- 19730 Fix resolution of relative paths of images in Mac standalones
- 19742 Fix crash when deleting an object when a socket has a reference to a deleted object
- 19743 Fix crash when checking a watched variable on a deleted object
- 19766 Fix FTPS connection support on LC server under Linux
- 19775 Fix various error inconsistencies in selected object cut and delete
- 19796 Fix crash when SSL is unavailable on HTML5
- 19797 Implement put before msg in HTML5
- 19808 Notify property listener when text of control is changed via put cmd
- 19820 Given the dictionary entries for remove and place references to each other.

- 19826 Fix iOS simulator deployment with Xcode 8.3.3
- 19830 Fixed regression introduced by bugfix-19535
- 19837 Fix crash due to deletion of object with pending message
- 19841 Message box does not find handlers in behaviors
- 19843 revAvailableHandlers and revAvailableVariables now in all engines
- 19857 Make sure `clipsToRect` is included in the group properties
- 19861 Fix crash on startup on Linux when RGBA is not supported
- 19869 The effective revAvailableHandlers only includes private handlers of the target
- 19891 Ensure player controller thumb shows within the allowed range
- 19893 Ensure player respects startTime in reverse playback
- 19929 Fix crash when using click command with invalid mouse stack or click stack
- 19935 Made various improvements to the show and hide dictionary entries
- 19936 Ensure window masks with no transparency still work on Mac
- 19950 Fix crash due to invalid object in event queue
- 19965 Fix error when building a standalone if the added stackfiles have substacks
- 19972 Make sure setting playRate to negative does have an effect when player has reached the end of movie
- 19983 Ensure `put URL tUrl` does not return empty when tUrl is invalid
- 19994 Ensure startup stack substacks are cleanly removed from memory
- 20014 Fixed several errors in the start/stop using font dictionary entries.
- 20019 Ensure `GetPixelHeightOfCanvas()` returns the height of the canvas
- 20030 Ensure the S/B always uses a valid certificate when codesigning iOS standalones
- 20061 Ensure data is not lost when opening and saving a stack with a widget that is not loaded
- 20080 Fix malformed documentation of the `the universal time`
- 20144 Corrected hiliteChanged dictionary entry for the switch button extension.
- 20167 Fix capitalization of menu item "Hide Others" on Mac
- 20201 Ensure `the controlNames` does not return numbers instead of names for controls in groups
- 20206 Mention in `revBrowserOpenCEF` dictionary entry that it is no longer supported on Mac in LC 8+
- 20209 Generate correct RGB values in rtfext
- 20212 Ensure setting the enabledTracks of a player is reliable
- 20231 Fix crash on Windows when exiting with taskbar hidden.
- 20232 Ensure dragdata["files"] returns a Unix path on all platforms
- 20239 Ensure answer folder shows the prompt on OSX 10.11 and above
- 20256 Ensure iOS picker subview width scales correctly
- 20259 Fix crash when inserting large binary data to SQLite databases that aren't opened with the "binary" option
- 20269 Throw parse error when dispatch ... with has empty params
- 20282 Ensure 'the engine folder' returns a LiveCode path on Windows
- 20285 Fix crash when dispatching to an object and the defaultStack has been deleted
- 20293 Fixed bug causing crash when using chunks of the type 'the last char to -4 of "fdwbfd"
- 20298 Ensure a diamond checkmark is used when requested on Mac

- 20308 Fix iOS 64-bit Mach-O structure
- 20310 Make pasting from MS Paint work
- 20321 Fix treatment of NUL containing arguments in ask dialogs
- 20323 Remove legacy mergExt externals
- 20324 Convert dropped file paths correctly on Windows
- 20335 Mac folder dialog missing "add folder" button
- 20349 Fix crash when deleting the focused object
- 20363 Update DIB format when image placed on Windows clipboard
- 20405 Fixed bug causing incorrect formattedWidth to be returned for buttons
- 20413 Add documentation for android specialFolderPath external prefix
- 20419 Fix accelRender issues on Android
- 20423 Add tsNet builds for iOS SDK 11.0
- 20424 Add mergExt builds for iOS SDK 11.0
- 20434 Fix crash on iOS when the app uses HealthKit
- 20467 Fixed bug causing crash when using multiple players.
- 20478 Prevent crash on quit when using the commandName
- 20489 Remove revVideoGrabber external from IDE as it can no longer be supported
- 20490 Fix crash when closing color dialog on macOS High Sierra
- 20503 Fix quote key not working with Turkish keyboard layout on Mac
- 20507 Ensure Y is respected in 'read from socket X for Y'
- 20510 Fix crash on Windows when using revDatabaseTableNames()
- 20538 Ensure flushEvents("all") works on MacOS
- 20565 Fix setting stack to fullscreen hides all other stacks on Linux
- 20582 Ensure the iOS device plist has correct values for the version of Xcode and SDKs used to build the standalone
- 20592 Ensure iOS standalones are treated as unique by fingerprint scanning
- 20627 Set default timeout in tsNet to prevent app hangs when Internet connection drops
- 20628 Add tsNet builds for iOS SDK 11.1
- 20633 Ensure vtab doesn't interfere with styling
- 20641 Added support for splash screens and icon for iPhone X
- 20642 Fix crash when undoing a group deletion
- 20654 Fix crash when trying to write to a disconnected socket
- 20670 [Xcode 9+] Detect correctly if a simulator device is already open
- 20742 Add tsNet builds for iOS SDK 11.2
- 20755 Fix crash when calling iPhoneSetRemoteControlDisplay
- 20758 Fix performance regression in replaceText
- 20759 Fix crash saving images to iOS photo library
- 20760 Fixed documentation for tsNetSetTimeouts to specify correct units for all parameters
- 20763 Fix crash when deleting datagrid then undoing
- 20811 Make the encoding property of field char chunks more useful
- 20884 Fixed AppStore submission error when minimum deployment target is iOS 11.0 or more
- 20898 Fix crash when converting from utf16 with revDataFromQuery
- 20907 Ensure params passed to iPhoneSetDoNotBackupFile are taken into account
- 20925 Fix crash when repeatedly dragging

- 20946 Remove 32 bit slice from Mac externals if the standalone supports 64 bit only
- 20952 Fix shell on Windows Server
- 20961 Clear the menu object when moving from one menu to another
- 20986 Ensure mobileSoundOnChannel() returns correct value on iOS
- 20997 Add tsNet builds for iOS SDK 11.3
- 21016 Add support for local storage to Android browser
- 21019 Support resizing stacks for orientation changes in fullscreen modes
- 21062 Fix detection of HTTP digest authentication with tsNet
- 21109 Ensure when setting `the fullClipboardData["text"]` to only clear the clipboard if it contains styled text and do not clear private data
- 6506 Fix regression to watching global variables
- 8274 Improve modal placement documentation
- 9092 Fixed typo in the revPrintField dictionary entry.
- 9992 Improve export/import snapshot from screen on iOS

Specific engine bug fixes (8.1.7-rc-1)

- 17098 Ensure cursor moves to end of last tab in line.

IDE changes

Create script only stack behavior (8.1.10-rc-1)

The menu for assigning a behavior to a control has two additional options:

- Create behavior from new script only stack
- Create behavior using control script and script only stack Either option will prompt you for a stack name and a location for the script only stack. The new stack will be saved, assigned as the behavior of the control, and then added to the stackfiles property of control's stack.

Default handlers (8.1.10-rc-1)

Objects no longer have default scripts that appear in the script editor when their empty scripts are edited. Instead, all the associated message handlers for the object type now appear in a list underneath the list of handlers that are present in the script. When clicked, these lines add the selected default handler to the end of the current script.

If there is a default script for this handler and object type in the appropriate location (Toolset/resources/supporting_files/default_scripts/ for 'classic' objects, /support/ for widgets), the content of the handler is obtained from that script (including preceding comments)

If there is no default script for this handler and object type, the handler is constructed using information from the documentation, namely the Summary element is used as a preceding

comment to describe the handler, and then the handler declared with all the specified parameters.

First run backdrop (8.1.10-rc-1)

The IDE now has a backdrop by default on first-run. This can be turned off as usual via the view menu. Users with existing preferences should be unaffected.

ideScriptEdited message (8.1.10-rc-1)

A new IDE message has been added:

```
ideScriptEdited pScript, pObj
```

This message is sent when the script of an object as displayed in the script editor is changed. pScript contains the current contents of the script editor field for pObj, which, until applied, is not necessarily the same as the script of pObj.

Script editor handler menu (8.1.10-rc-1)

The Handler menu of the script editor menubar has been modified in accordance with the default handler changes to the script editor handler list. It now has the following structure:

Go to handler... -> list of extant handlers Add default handler... -> list of default handlers Show default handlers

The show default handlers menu item toggles the script editor preference to show the default handler list, which defaults to true.

Interactive Tutorial syntax (8.1.10-rc-1)

The syntax `load stack <FileName>` has been added to interactive tutorials. This allows prepared stacks to be imported as operating stacks in the current tutorial.

The prepared stack will be loaded from the internal resources folder of the tutorial (i.e. from `_resources/<FileName>`). Any `cTutorialTag` custom property of objects on the stack will be converted to tags for objects which can subsequently be used in the current tutorial.

Allow substack to become a mainstack via property inspector (8.1.10-rc-1)

The property inspector Basic pane for substacks now has a button beneath the mainstack labelled "Make mainstack". Note that once pressed this button will disappear, as the stack will no longer a substack.

Reinstate store tab of extension manager (8.1.10-rc-1)

The store tab of the extension manager has been reinstated and the revBrowser implementation has been replaced with a browser widget.

Drag and drop stackfiles (8.1.10-rc-1)

You can now drag and drop stack files onto the stackFiles field in the PI.

Specific IDE bug fixes (8.1.10-rc-1)

- 15917 Font Size for Project Browser can now be set from LiveCode Preferences -> Project Browser
- 17447 Reinstate resize checkbox in property inspector Position pane
- 17448 Make sure messages are sent when going to stacks/cards from the Project Browser
- 17485 Allow accessing Image Library and Object Library from LiveCode menubar
- 17536 Fix or mitigate effect of nudging many controls at once
- 17618 Reinstate 'fit content' button in property inspector Position pane
- 17819 Enable cmd+c in dictionary
- 17889 Repaired confusing layout of fill gradient control in Property Inspector
- 18029 Show 20 fonts at a time in property inspector font menu
- 18035 Make sure the gradient popup stack is displayed as expected
- 18088 Allow setting multi-line tooltips from the Property Inspector
- 18177 Reinstate text properties and graphic effects to datagrid inspector
- 18201 Make sure rulers can be hidden
- 18290 Use datagrid template safely while building custom headers
- 18292 Fix hidden palettes not reappearing
- 18300 property inspector custom property list is not sorted
- 18302 Retain custom prop changes when clicking on tree view in editor
- 18393 [Project Browser] Change "Sort controls by number" to "Sort controls by layer" to avoid confusion + make sure they are sorted numerically
- 18452 Saving a substack from the Project Browser no longer asks for a path to save
- 18455 Show the correct version of LiveCode in Start Center title
- 18460 Mark stack as edited when property changed from the PI
- 18483 Prevent iOS display name standalone setting becoming utf-8 encoded data
- 18485 Ensure relayering menu items don't relayer objects out of owner groups
- 18491 Allow substack to become a mainstack via property inspector
- 18549 Make sure `lock cursor` works in the IDE
- 18557 Ensure dragging object from tools palette is smooth
- 18586 Make sure the Project Browser stack/card/group view can always expand
- 18598 Prevent error on backspace in empty script editor
- 18685 Remember the last position of menubar on Windows and Linux
- 18701 Prevent over-enthusiastic save prompts
- 18721 Make sure unchecking "Notify me of development releases" is respected
Make sure the Bug Report checkmark appears at the correct place in Standalone

- 18726 Settings
- 18791 Fix PI list editors not updating when value changed
- 18804 Update locked inspectors when mainstack names change
- 18857 Import as control > Text file doesn't set text of control
- 18878 Setting stackFiles in PI causes an error if you "cancel" the file dialog or select multiple files
- 18897 "Show Sections" for Project Browser can now be set from LiveCode Preferences -> Project Browser
- 18915 Allow a 'set the name of stack' step in interactive tutorials
- 18930 Reinstate store tab of extension manager
- 18981 Added tooltip to iOS icon and splash screen selection
- 18987 Reinstate fixedLineHeight for tableField
- 18991 Disable custom property editor when no node selected
- 19015 Reset the templateStack after datagrid creation
- 19152 Show warning if the new stack name begins with "rev"
- 19153 Ensure objects can not be dragged to invisible open stacks from the tools palette
- 19160 Make sure the S/B respects the "iPad initial orientations" settings
- 19177 Update guide images for LiveCode 8
- 19178 Add test to ensure default folder doesn't change when loading IDE
- 19179 Add tests for standalone builder inclusions
- 19181 Ensure tutorial has location set when being skipped
- 19188 Make outputting debug vars from message box work in all contexts
- 19195 Allow vertical scrolling in "Value" field of Variable Visualizer window
- 19196 Ensure extension is installed before deleting files
- 19264 Ensure LCB errors display reasonably in script editor
- 19439 Ensure the "Effects" settings stack always appears onscreen
- 19451 Don't try to delete breakpoint while it is a target in the call stack
- 19480 Ensure message box execution succeeds first time if no compile error
- 19511 Move "User Guide" higher in Help menu
- 19547 Fixed bug preventing users from finding | and - in the script editor
- 19564 Prevent error when deleting script editor tab
- 19585 Improve rendering of Interactive Tutorial on Windows when screenPixelScale > 1
- 19589 Fix 'put globalVar' in msg box
- 19627 Clear deleted objects from project browser correctly
- 19629 Check for changes in filename when getting object row in project browser
- 19749 Unsubscribe from ideExtensionLog when extension builder closes
- 19838 Add explicit 'select object' steps to the Interactive Tutorials to ensure the correct object is always selected.
- 19856 Prevent extension builder from duplicating logs
- 19888 Fix some minor typos and errors in interactive tutorials
- 19889 Allow tutorial instruction window to be moved
- 19940 Always use Return key in tutorial instructions instead of Enter key.
- 19942 Fix typos in BMI tutorial
- 19943 Fix ambiguity in a couple of BMI tutorial instructions
- 19967 Fix second parameter evaluation for script in message box
- 19978 Ensure default script is editable from within the Extensions Builder

- 19984 Ensure custom props value comparison is case-sensitive
- 19985 Remove errant group from the script editor
- 20039 Position tutorial controls in better location when using 'Do It For Me'
- 20040 Use smaller images of todo list on smaller screens
- 20041 Prevent tutorials breaking when stack name is changed
- 20044 Detect specific errors in user scripts in tutorial
- 20046 Ensure there are separate scripting / apply steps in tutorial
- 20071 Make default handler name text grey
- 20072 Add space above default handler list and before each name
- 20074 Prevent removal of initial P from default handler name
- 20077 Default to 3-column tools palette
- 20102 Don't shortcut 'is changed' property steps
- 20103 Clear highlights before epilogue of interactive tutorial
- 20112 Unlock cursor on tab-command-alt key
- 20117 Don't override existing users' backdrop setting
- 20133 Ensure cloning stacks or cards from the Project Browser works correctly
- 20170 Fixed incorrect name of PI template stack
- 20171 Make sure LiveCode 8+ launches correctly if only an old (livecode.rev) Preferences file is present
- 20330 Show error dialog when the name of the stack contains quotes
- 20345 Ensure the IDE reopens a DB connection if this was previously closed by the user
- 20431 Show ask and answer dialogs in correct location when the screen top is not 0
- 20535 Check for IDE stacks correctly when toggling `Suppress Messages`
- 20536 Check for IDE stacks correctly when suspending development tools
- 20647 Ensure Dictionary responds to cmd+W shortcut
- 20713 Enable lock/unlock text from popUp for fields
- 20894 [Start Center] Ensure creating new stack with tablet Landscape button works as expected
- 4010 Ensure Image/Object Library places images/objects only on user's stack
- 5787 Drag and drop stackfiles
- 6289 Ensure navigation with arrow keys works in the LiveCode Preferences window

LiveCode Builder changes

LiveCode Builder Standard Library

Foreign function interface

- When passing a Number to one of the foreign integer types (`LCInt`, `LCUInt`, `IntSize`, `UIntSize`), an error will be thrown if the value is outside the range of the requested type.
- The `IntSize` and `UIntSize` types can hold the full 64-bit integer range, however the

maximum magnitude which is supported for converting to and from Number is 2^{53} . An error will be thrown for any conversions outside this range.

Specific LCB bug fixes (8.1.10-rc-1)

- 18856 Use cached numeric values when converting numbers to/from strings
- 19067 Ensure an error is thrown if there is no script access
- 19214 Increase usable range of IntSize and UIntSize types
- 19244 Nil pointers should bridge to nothing

LiveCode extension changes

Tree View widget

Limit display calculations

Previously when an array was expanded in the Tree View widget, all of the display calculations for were done before the next redraw. Now the keys are sorted (as before) but the display calculations are made for a maximum of 1000 rows. When more rows are needed due to scrolling, another 1000 are calculated at that point. This provides a near-continuous scrolling experience for arrays with large numbers of keys, and ties the expense of expanding an array to that of sorting its keys.

Specific extension bug fixes (8.1.10-rc-1)

- 16241 Runtime error when changing itemCount by more than one
- 18319 Prevent segmented control fill from bleeding outside border.
- 18391 Correctly order default marker styles
- 18500 Ensure color properties are documented correctly
- 18693 Prevent long delays when expanding arrays with many keys
- 19261 Clear selection when deleting selected node
- 19350 Remember iconPresetName in SVG Icon when reopening
- 19907 Prevent LCB error when deleting key at path with no selection
- 20534 Ensure segmented widget created in LC 9.x opens in LC 8.1.x too

Dictionary additions

- **deleteAudioclip** (*message*) has been added to the dictionary.
- **mobileSetFullScreenRectForOrientations** (*command*) has been added to the dictionary.

Previous release notes

- [LiveCode 9.0.0 Release Notes](#)
- [LiveCode 8.1.9 Release Notes](#)
- [LiveCode 8.1.8 Release Notes](#)
- [LiveCode 8.1.7 Release Notes](#)
- [LiveCode 8.1.6 Release Notes](#)
- [LiveCode 8.1.5 Release Notes](#)
- [LiveCode 8.1.4 Release Notes](#)
- [LiveCode 8.1.3 Release Notes](#)
- [LiveCode 8.1.2 Release Notes](#)
- [LiveCode 8.1.1 Release Notes](#)
- [LiveCode 8.1.0 Release Notes](#)
- [LiveCode 8.0.2 Release Notes](#)
- [LiveCode 8.0.1 Release Notes](#)
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- [LiveCode 7.1.1 Release Notes](#)
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- [LiveCode 7.0.4 Release Notes](#)
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- [LiveCode 6.7.9 Release Notes](#)
- [LiveCode 6.7.8 Release Notes](#)
- [LiveCode 6.7.7 Release Notes](#)
- [LiveCode 6.7.6 Release Notes](#)
- [LiveCode 6.7.4 Release Notes](#)
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- [LiveCode 6.6.2 Release Notes](#)
- [LiveCode 6.6.1 Release Notes](#)
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- [LiveCode 6.0.0 Release Notes](#)