

# Visual C||Cure

## Release Notes

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## 4r9965 (from 4r9752) 30-Jul-2025

### New Features/Mods:

- No Changes

### Fixes:

- Fix "app checksum" checking when loading existing apps

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## 4r9752 (from 4r9549) 29-Apr-2025

### New Features/Mods:

- Enable UTF8 support in app "Release Notes" & library "Description" / "Version Info"
- Simplify language import/export dialogs
- Improve header colour
- Add sorting to Language and Alarms tabs
- Comms links now show sync status of datamap and link definition separately
- Warn if any tables modified when loading/pasting blocks
- Allow multi-selected display rows to be moved up/down to parent/child
- Hide array index for "IP Address" pins
- Make sure units honour the "View Aliases" option
- Add support for non-persistent unconnected inputs
- When updating a comms block, resync other comms blocks as a shared datamap may have changed.
- Added breadcrumb bar to Code Editor
- Active/Inactive Reports Bar highlighting now matches Displays Bar
- In the Properties Bar, the pin values are now shown at the bottom of the list
- General improvements

### Fixes:

- Fix "app checksum" checking when loading existing apps
- Fix incorrect invalid entry when importing language aliases using negative table indices
- Add extra debug info when language import fails
- Fix clearing wrapped pin status
- Fix bug preventing wrapped pins from being added to report placements
- Fix pin highlighting bug
- Disable new I/O pin popup option when in top level container
- Hide/fix version info on old non-library blocks
- Add missing UTF8 support to ACTIVE column on Displays bar
- Revert r9475 so we can add wrapped pins to displays, datamaps, etc
- In VCCure Properties, perform extra checking to match correct target template
- Fix scanning the "user templates" directory
- Fix changing block via status bar "Viewing" path when currently viewing codeblock
- Fix moving comms blocks up/down (pins connectivity could get confused in certain scenarios)
- Ensure report placement paths are correctly updated when renaming blocks
- Fix overwriting (shared) datamaps when updating comms blocks from library
- Pasting placements correctly replicates the order as when they were copied
- Fix possible incorrect Tables warnings/errors on Validate tab

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## 4r9549 (from 4r9426) 25-Jul-2024

### New Features/Mods:

- Disallow drag/drop of 'virtual' wrapped pins
- Highlight invalid/missing reports in Displays tree
- Validate now checks for invalid/missing reports in Displays tree
- Paste blocks at the current pointer position when using CTRL-V

### Fixes:

- Fix crash when clicking on empty datamap i/o point
- Fix "false positive" pin highlighting error
- Fix greyed out drop-downs when editing array pin values with lookup table
- Fix crash when pasting blocks with an alarm into an app that has separator pins
- Fix possible crash when changing array index spin boxes
- Fix Shift-Select row highlighting
- Clear selected pin/block when removing comms block to prevent possible crash
- Show pin alias on wrapped 'input' pins
- Rework pin highlighting
- Copy/paste now correctly keeps container sizing
- Change DataSet selection dialog to prevent editing
- Ensure "new document" table usage count is correct
- Prevent duplicate reporting of table usage on wrapped pins
- Correctly update [Object Explorer] when changing pin dimension
- Update [Object Explorer] when adding a new comment
- In [Object Explorer], ignore double-clicks on read-only pin value column(s)
- Various bug fixes

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## 4r9426 (from 4r9231) 12-Feb-2024

### New Features/Mods:

- Add report attributes to Validate info
- Dropping a single pin onto an existing datamap/display/report/historical items now keeps the existing array index
- Removed Width & Leading Zeros from non-report pin properties
- Where appropriate, show raw and formatted pin value(s) in properties bar
- In Workspace bar, show errors in locked containers
- Validate now reports if a locked container has a child codeblock with build errors
- Add support for "separator" pins on containers (to allow pins to be visually grouped)
- Check parameter array size in function calls
- Check parameter format in functions calls
- Parameter formats for printf() type functions now validated when building codeblocks
- Grid item combo boxes are now "inline" (pulldown vs dialog box)
- File no longer removed from Recent Files list if (as an example) the wrong password is entered
- Maximum Recent Files size increased to 10 entries
- Add column headings when copying displays tree to clipboard
- Add support for Significant Figures
- Allow comms blocks to be moved up/down
- Creating Codeblock/Comments block/Containers via keyboard shortcuts places the block at the current cursor (if valid)

### Fixes:

- Don't set "document modified" status if the datamap alias cell clicked but not changed
- In the Properties Bar, prevent "read-only" properties such as, block checksum, from being edited
- Fix initial pin values / tables when loading comms templates
- Show pin units even when the pin uses a lookup table
- Fix Reports Active Index value lookup
- Fix issue when dragging multiple report placements
- Select correct screen item (pin vs block) when locating Validate errors
- Prevent comms i/o pins being moved up/down beyond the first/last pin in the block
- Update comms block library status when comms pins moved up/down
- Invalid active values in report placements now correctly shown in red
- Recent Files entry now kept if application open is cancelled mid operation
- Fix potential screen redraw issue when application open is cancelled mid operation or fails
- Fix "connected pins" highlighting
- Ignore empty datamap aliases when loading/saving to library
- In the Reports placement list, dropping a non-array pin onto a pin with an existing array index resets the index to 0
- Invalid report placements are now always highlighted correctly in red
- Disable new i/o pin/separator when pin already selected
- Various bug fixes

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## 4r9231 (from 4r9169) 11-May-2023

### New Features/Mods:

- Various speed-ups of user interface
- Impose limit of maximum 16 datasets
- Display inherited Units, ADP, Table and Field Table values in Properties bar
- When updating blocks from library, show new dialog to allow updates to (a) just selected block or matching blocks on (b) current page or (c) entire app
- Report Editor updates (horizontal scrolling, "sticky" line numbers on Left Hand Side, add zoom limits)
- Add "linked pin" custom colours
- When selecting a pin, any linked pins are also highlighted

### Fixes:

- ReportEditor 'background' text now has transparent background to match website, PDF and Postscript
- Prevent possible crash when deleting/renaming blocks
- Fix "in use" values when restoring block changes via Undo/Redo
- Report Editor now honours dynamic ADP values
- Prevent copy/cut/paste/delete/etc when performing drag/drop operations
- Fix "non-printing characters" no longer being shown (broken in r8312)
- Fix possible crash when editing datamap entries that reference invalid pins
- Fix blank comms pin name (e.g. when drag/dropping newly added comms blocks)
- Double-clicking comms pins (from Displays, Datamaps, etc) now locates the pin correctly
- Include pin alias when filtering Datamaps
- Update main window when toggling "View Aliases"
- Fix incorrect Array Index check when validating reports
- Show correct icon ("blank", not locked block) for comment blocks in the Workspace tree
- Various smaller fixes

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## 4r9169 (from 4r9018) 6-Feb-2023

### New Features/Mods:

- Comms polls list now supports DELETE key
- Invalid pins & triggers now highlighted in red
- Add "Copy" functionality to Alarms, Languages and Object Explorer tabs
- Enhance Validate function – now checks Historicals and skips invalid pins when checking for duplicate datamap pins
- Fix so that new blocks don't get added outside the page boundary
- On the Displays tree, you can now select multiple rows and perform Delete/Remove Ident/Remove Active
- Properties bar comments/description box now auto-wraps long text
- Scroll wheel now jumps 3 lines in [Alarms] tab
- On Displays bar, double-clicking on screen/report display item brings up properties dialog
- In Report Editor, mark document changed if placements move when lines inserted/deleted
- Add support for images in Report Editor
- Add Trigger and Visible info when copying report to HTML

### Fixes:

- Fix Alarms tab so it shows the correct alarm state
- Fix incorrect '&' on codeblock input variables properties
- Fix possible crash when sorting via Groups column in Object Explorer
- Fix possible crash when updating library blocks
- Zoom now maintains better block & link layout
- Fix crash when deleting blocks and (eg) display pin references pin in sub-block of the deleted block
- Fix table count when updating comms blocks with clashing tables
- Update (i.e. renumber) comms poll list correctly when a poll is deleted
- Correctly update Languages tab when importing languages to comms blocks
- Fix incorrect "...[-1]" text when non-array Historical trigger removed
- Fix saving top-level Main container to library
- Importing container/comms languages now updates displays/datamaps/reports bars correctly
- Multiple selecting items on Reports Bar and Report Editor now updates correctly
- Ensure Setup filter index is updated when adding/removing/renaming pins/blocks
- Prevent crash when clicking on grid items (regression from r9064)
- Right-click **not** on container now enables "Add New Input/Output Pin" (apart from when at top-level)
- Right-click on codeblock now disables "Add New Input/Output Pin"
- Fix possible crash when deleting containers with sub-containers
- Ensure block description is read-only if block is locked
- Correctly update block sync status when description changes
- Fix possible crash when pasting blocks
- Fix library sync when sub-block is a missing library block
- Fix missing sub-block library version when saving blocks to library
- Update resource usage when loading block from library
- Correctly update pins in displays, datamaps and reports bars when updating library blocks

- Fix spurious row selection when using drag/drop with SHIFT or CTRL key
- Prevent possible invalid ident index when dropping display pins
- Fix possible incorrect link update when renaming pins

## 4r9018 (from 4r8980) 13-Sep-2022

### New Features/Mods:

- Exporting block aliases now shows all pins (regardless of any existing alias)
- Codeblock Variables bar now has:- highlight on value change, array grouping, sorted variables
- Only INTs can be dropped onto Report trigger/visible pins or Active lines
- Flag error when array access is attempted on non-array variable

### Fixes:

- In codeblocks, declaring top level variables that clash with function parameters now raises an error
- Fix handling of stand-alone "scope" blocks "{...}"
- Non-array items on Active Report Lines now grey out Array Index item
- Rework fix for "sticky" report placement (r8821) so that BUTTON grid items work correctly
- Refresh [Languages] tab when adding/deleting/renaming/importing language
- Fix expired license key check
- More invalid array detection (eg int a[1] = 1; int b = a[1];)
- Fix possible crash when validating comms links

## 4r8980 (from 4r8948) 21-Jun-2022

### New Features/Mods:

- Warn if user unable to export datamaps, displays, etc (eg if file locked)
- Add new "Merge or Overwrite?" dialog when importing datamaps

### Fixes:

- Correctly update displays tree when report name changed
- Update breadcrumb when unlocking locked blocks
- Fix unable to delete tables
- Correctly update table usage when deleting tables
- Correctly update table usage when updating library blocks (and there's a table clash)
- Inform user when input pins are "unlinked" when updating library blocks



## 4r8948 (from 4r8774) 28-Apr-2022

### New Features/Mods:

- Enable "Save to library" for top level container (BUGZ 605)
- Added autoscroll when dragging pins or blocks off edge of view window
- Allow multi-selected report placements to be moved up/down the list
- Allow Copy/Paste of blocks to work across multiple instances of VCCure (BUGZ 1087)
- Moving a block brings it in front of other blocks
- Dragging/dropping a pin moves the block to the front
- Tweak "copy report" HTML output
- Ensure live reports are shown as "read-only" in the displays tree
- Add report type(s) to Validate info
- Active Pin on Displays tree now supports array index (BUGZ 978)
- Line Active rows on Reports now support array index (similar to BUGZ 978)
- Report placements with no pin reference now shown in Validate info
- Comms blocks with no I/O pins now visible in top level container (to allow library updates, etc)
- Blocks can now be resized horizontally (vertical height is still set by the number of I/O pins)
- Indicate block type when showing table usage
- Reduce flicker when resizing splitter windows
- Move Resource Usage from Properties dialog to Validate info
- Comms poll dialog now displays pin aliases where applicable
- Allow tables to be copied as "const int abc = xyz" text for use in codeblocks
- Show report "storage usage" in Validate (even when no errors)
- Add new "comment" blocks
- Remove obsolete "Set as filter" option from Workspace popup menu
- Add extra filtering options in SETUP and LANGAUGES tab (containers, codeblocks, comms, comments)
- Select relevant Workspace item when double-clicking items on Object Explorer or Languages view
- Units/ADP/etc lookup pins now correctly sorted in Properties bar dropdowns
- Allow comms blocks to be renamed via the Properties bar
- Remove comms link unused "Properties" and "Advanced" buttons
- Remove unused comms links parameters (eg REMOTEDATAMAP, PASSWORD, etc)
- Comms link now uses standard Librarian dialog
- Add search filter to Datamaps bar
- Code editor now supports F3 to repeat last search and has its own Find toolbar
- Validate now checks for duplicate pins in TAGNAMES datamap
- "SYSTEM" setup is now maintained when loading/saving documents
- Make sure dialog boxes are forced on-screen when they open

### Fixes:

- Fix typo in Displays bar popup menu (BUGZ 1098)
- Undo/Redo now handles Alarm pins correctly
- Fix Validate sometimes missing unused tables (if block was loaded/updated from library or pin table/fieldtable is changed)
- Prevent crash when multiple instances of VCCure are running
- Fix Z-order when selecting pins or blocks

- Fix "Copy Report" to allow for formatting codes
  - Report placements correctly highlighted in red when first placed (as the pin reference is missing)
  - Fix "sticky" report placement when selecting between report editor and placement list
  - Correctly flag any invalid pins when a comms block is deleted
  - Ensure "modified document" flag is set when changing Summary text
  - Language import/export now works correctly for comms blocks
  - Ensure data returned from CGFile::ReadLine() is null terminated
  - Fix potential crash in Properties bar when selecting "read-only" properties
  - Fix broken 'continue' in if() statements
  - Hide empty / hidden table entries when changing Report placement array index
  - Populate initial report placement values when adding a new report from a template
  - Prevent Validate view from flickering when in Remote Debug mode
  - Prevent wrapped pins being dropped onto the wrapped copy
  - Adding pins to empty comms link now correctly maintains existing comms pin linkage
  - Updating comms link now correctly maintains existing comms pin linkage
  - Changing the base setup, now correctly updates the selected setup if the pin is set to <Base>
  - Make Displays tree update correctly when changing "live report" type
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## 4r8774 (from 4r8771) 6-Jan-2022

### New Features/Mods:

- No Changes

### Fixes:

- Fix non-working keys in code editor (eg cursor keys, backspace, delete, ...)
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## 4r8771 (from 4r8624) 17-Dec-2021

### New Features/Mods:

- Add "Copy to clipboard" button to Validate tab
- Initialise variables to zero when no value specified (eg "int a;")
- Validate now checks for unused tables, duplicate tagnames and invalid pin/block names
- Arrays can be initialised to non-zero using (eg) "int a[5] = { 123 };"
- Validate now handles codeblock errors better (counts code errors, navigate to error line)
- Suppress codeblock errors when navigating from console or validate
- Suppress codeblock errors when loading app
- Tweak tooltips so they (a) show the block description and (b) work in remote debug

- Rework "active" display node indication to change whole row
- Show IP clashes (in orange) in "Remote Machines" bar
- "Application Browser" dialog now uses built-in tree view to navigate
- Last used "Update IO/Firmware" folders now remembered
- Alert user if unable to get Read Access on I/O or Firmware update file
- Speed up scrolling on Validate tab
- Reset report editor zoom using Ctrl+1
- Ctrl+NUMPAD1/2/3 now do the same zoom as Ctrl+1/2/3
- Reset code editor zoom using Ctrl+1 (or Ctrl+NUMPAD1)
- Add support for custom line widths and custom colours
- Add SDCard and FTP to Report printer options dialog
- Scale line widths when zooming in/out

## Fixes:

- Update library sync status when adding/removing pins on comms block
- Fix being able to enter invalid comms name on Properties bar
- Fix pre/post increment/decrement on array variables
- Fix "Languages | Import/Export" popup menu
- Fix logic of when to save a <DATAMAP> element to comms library files
- Fix possible crash when updating library file
- "Application Browser" sort fixed (indicator arrow and case-insensitive)
- No need to update Save icon if modified state not changed (fixes various slow-downs)
- Fix loading library codeblocks with alarm pins
- Fix possible false "ip clash" if unit not yet seen
- Increase Alarm/Event list member buffer size to prevent memory corruption / crash

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## 4r8624 (from 4r8437) 9-Jul-2021

### New Features/Mods:

- If app has more than one dataset, prompt for which one to use when loading
- Rework of Undo/redo logic
- Add new "Validate" tab (replaces Edit | Validate/Check App menu)
- Dimension mismatch on linked pins will now warn and remove the link
- Where possible (i.e. constant expressions), array index checked when building codeblocks
- Show path as tooltip when asking for container/codeblock password
- Remove RemoveNonExistantRefs() as it's now handled via the Validate tab
- Remove IssueConsoleWarnings() as it's now handled via the Validate tab
- Alarms tab now shows live "active" status of each alarm pin (PINK == inactive)
- Add "Go to" Table & Field Table source to popup menu
- Change pin highlight to make it more visible
- Add "Clear Recent Files" menu option
- Implement more standard look & feel to grid views
- When saving block to library, auto-update sync status of any other block using same library file

- Double-clicking on "index" grid items brings up option select dialog
- Double-clicking on Validate library block checksum (data#1) column toggles "record checksum" setting
- Rename "Lid" display to "Integrated" display
- Comms blocks can now be linked to & updated via library manager
- Validate now forces a library sync refresh (where applicable)
- Add extra info when creating datamaps clipboard data
- Pin "usage" list now includes report Trigger and Visible pins
- Increase default remote debug socket timeout from 5sec to 30sec
- Add support for "continue" statement in for() and while() loops
- Prevent blocks/pins being changed when in Remote Debug mode
- Validate now checks for duplicate alarm pin names

## Fixes:

- Fix possible incorrect block checksum compare
- Copy & paste now preserves library link information
- When deleting pin or block, refresh inherited "in use" values as they may have changed
- Prevent codeblock pins from being deleted
- DELETE key now deletes the correct item(s)
- Fix library block sync check when deleting tables
- "Go to" Units/ADP Source logic fixed
- Remove confusing "ident link has changed" warning
- Fix alarm pins when loading from library or on copy/paste block
- Correctly clear selected report placements grid item when clicking between editor and placement list
- Fix saving/loading library blocks with nested library blocks
- Removing library link from block now updates (re-sync) parent containers correctly
- Reset library version of non-library child blocks when saving to library
- Fix possible alarm list corruption when updating block from library
- For datamap entries, don't save <DB>, <ID>, <AI> or <DIM> when comparing / saving to library
- Correctly report code errors in if() statements
- When remote debugging, don't rebuild pool:index database (it breaks old apps pre about r8116)
- Ensure Alarms view gets updated when importing language aliases
- Prevent crash when importing top-level aliases

## 4r8437 (from 4r8364) 17-Feb-2021

### New Features/Mods:

- Add support for "Lid" display tree
- Save app datetime in <INFO> section
- In app browser dialog, display filesystem timestamps with '\*'
- Don't disable code editor when Find/FindReplace dialog open

- Support non-numeric firmware version in ZeroConf broadcast (e.g. "Installing...")
- Update "Click To Copy Serial Number" button in About box

#### **Fixes:**

- Close dropdown lists when you click outside the list
  - Fix possible crash when rebuilding language view
  - Prevent block checksums from changing when library location changes
  - Remove duplicate (and incorrect) checking of "NEXTID" value on app load
  - Fix loading comms templates (loading <TABLES> and screen refreshing)
  - Restore missing code error exclamation on code-blocks
  - Fix incorrect resource counts list in Properties dialog (broken in r8212 when SYSINFO2 pool added)
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### **4r8364 (from 4r8948) 27-Nov-2020**

#### **New Features/Mods:**

- Tweak Report Editor to add better handling of scrollbars and large report text
- Display outcome of datamap import process in Console
- Lines starting with '#' ignored during datamap import process

#### **Fixes:**

- Fix checksum handling when library file missing
  - Fix screen refresh issue when prompting for app password
  - Fix datamap import when "description" column missing
- =====

### **4r8296 (from 4r8279) 5-Oct-2020**

#### **New Features/Mods:**

- Update properties pane when doing "checksum compare"

#### **Fixes:**

- Fix crash when doing copy/paste container
  - Sort new alarms after copy/paste codeblock/container
  - Keep library save version when comparing blocks to maintain checksum if library file missing
  - Rebuild execution order when comparing container with library
  - Prevent crash when closing tabbed view
- =====

## 4r8279 (from 4r8157) 24-Sep-2020

### New Features/Mods:

- Task xmlcomms now works under Windows
- Add extra info when saving TAGNAMES datamap
- App hash now calculated on main <CONTAINER> only
- Legacy apps (saved before this change) still use old "whole app" hash
- Save GROUPS info into displays tree items (so e.g. xmlcomms can pick up any METROLOGY group)
- Add "Storage usage" indicator to report property dialog
- Report storage checked on pin placement assignment or pin dimension change

### Fixes:

- Fix sorted dynamic pins
  - Fix UTF8 strings in Object Explorer, Datamaps and Historicals bars
  - Prevent array pins from being dropped onto Historical/Reports trigger/visible pins
  - RefreshManager now correctly handles changing pin dimension
  - Use table string aliases when creating "TAGNAMES" clipboard data
  - Fix dynamic pin handling when doing block copy/paste
  - Fix DB index bug when saving comms datamaps
  - When updating target template, ensure "in-use" variables are updated before calling the RefreshManager
  - Improve how units are matched when ZeroConf packet received
  - Fix library save when dynamic pins reference a pin outside the block
  - Prevent flickering Properties pane when dropping pin onto Reports bar
  - Don't save pin DB and ID to comms library blocks
- =====

## 4r8157 (from 4r8040) 26-Jun-2020

### New Features/Mods:

- Add "Validate" option to block pop-up menu
- Add "modified" indicator to Save icon
- Change report/code editor font to Lucida Console to fix "overwrite" caret bug
- Code editor now supports SHIFT + click when selecting text
- Use sorted CScreenItemList to fix execution order changing on reload and to show sorted breadcrumbs
- When adding new codeblock/container pins, set tables to "inherit" by default
- Add "Quick Save" function
- Dynamic pins (e.g. ADP, UNITS) now sorted when shown in pin properties
- Create special table data when copying "TAGNAMES" datamap to clipboard

## Fixes:

- Fix pin value init when loading blocks from library
  - Unlocking block no longer sets "file modified" flag
  - Check (and fix) container sizes when app loads
  - Improve version handling when loading/saving library blocks
  - Prevent possible datamaps crashes when adding blocks
  - Update VI map when updating library blocks
  - Check (and fix) 'reset to x' / linked pin clashes when app loads or on library update
  - Check for "date/time" property in CVariableItem::GetValueAsString()
  - Fix "date/time" and "ip address" pin properties so they update correctly when toggled
  - Ensure new alarms are setup correctly when loading library blocks
  - Fix library load/save/compare to work correctly for different library versions
- =====

## 4r8040 (from 4r7865) 4-Mar-2020

### New Features/Mods:

- Add support for new Modbus comms link
- Also look for comms links in "Comms" subfolders
- On codeblock rebuild, check linked pin array sizes (and unlink if they no longer match)
- On app or container load, warn of any mis-matched array sizes
- General speed-up
- Changing library path now updates Workspace tree sync status for each library block
- Reinstate saving LIBNAME to library files
- Add username and date to comments when saving library blocks
- Sanity check "reset to x" property when saving pins
- Multiple display items can be moved up/down using "u" and "d" keys
- Add better highlighting of array index errors in datamaps/displays/report/historical bars
- Validate now checks for valid "active value" values and invalid array indexes
- Validate now shows number of errors/warnings per section

### Fixes:

- Fix dropping comms block pins onto a container
- Fix alarm list when pasting containers/codeblocks that have alarm pins
- Retain previous container/codeblock checksum if library file goes missing
- Fix report "Report and/or Screen" property checking
- Fix codeblock expression checking and parsing of unary operators
- Fix librarian tree highlighting
- Fix confusing "locked block skipped" message when exporting container aliases
- Ensure un-initialised variables default to zero
- Updating library blocks now retains values of top-level unconnected inputs
- Prevent sidebars from resetting when double-clicking inactive buttons/etc
- Prevent possible crashes when no report selected
- Don't allow codeblock pins to be moved using 'u' and 'd' keys

- Speed up "save block to library"
  - Refresh main view when deleting comms block
  - When saving comms block to library, ensure top-level <LINKNAME> elements don't get saved
  - Improve error handling when "file open" fails
  - Rebuild execution list when saving (to fix "file changed ..." warnings)
  - Fix possible incorrect table entries when pasting blocks
  - Fix moving "reset to x" property when drag/dropping pins
  - Fix potential crash when updating properties of wrapped pins
  - Correctly update "in use" tables when setting a pin to <inherit>
  - Fix reports bar to maintain selected rows when changing pin properties
  - Correctly update invalid pin status (on Displays, Datamaps, Reports) if the pin gets re-created
  - Fix [Object Explorer] item filter
- =====

## 4r7865 (from 4r7862) 18-Oct-2019

### New Features/Mods:

- No Changes

### Fixes:

- Revert fix from 4r7862 as it did not improve the situation
- =====

## 4r7862 (from 4r7858) 16-Oct-2019

### New Features/Mods:

- No Changes

### Fixes:

- Improve Save execution order
- =====



## 4r7738 to 4r7858

### ***New Features/Mods:***

- Don't save which library (User/Shared), the path of where the library is stored or the name of the library to any library files (so the checksum is maintained when moving library files around)
- Compact the database before saving
- Report "visible" and "trigger" pins now highlighted red when invalid
- Add "library info" to Validate App code
- Add default comment header to new codeblocks

### ***Fixes:***

- Deleting a pin now correctly resets any linked pins (BUGZ 1078)
  - Fix "record checksum" loading bug
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## 4r7610 to 4r7738

### ***New Features/Mods:***

- Displays tree now fully collapsed on app load
- Save/SaveAs now shows version/notes dialog first and can be cancelled cleanly (BUGZ 1076)
- Added size of report checking on app load/save – based on the amount of memory required (BUGZ 1077)
- Remove Draconian version checking introduced in release 4r7540
- Blank datamap addresses are no longer highlighted as an error
- Prevent "reserved" characters from being used in library/codeblock/container/variable/datamap names
- Holding down CTRL when dropping array pins now drops only a single pin
- Reworked checksum calculation so that TABLES are no longer included

### ***Fixes:***

- Enhancements to syntax checking
  - Prevent crash when renaming pins present on displays tree
  - Don't remove invalid datamap pins when adding a comms block ... they're now highlighted in red instead
  - Prevent crash & duplicate dialog when changing container/codeblock password
  - Fix "Reset All" option in View|Bars menu
- =====

## 4r6964 to 4r7610

### ***New Features/Mods:***

- Add code/report editor zoom using CTRL + MouseWheel
- Scroll wheel now jumps 3 lines in code editor
- Don't auto-focus on Properties when adding a new codeblock/container
- Add import/export of datamaps
- Added RAM-based Historical Slot
- Can now use DEL key to delete selected placements
- Checksum on locked blocks can now be copied
- Added "max width" marker to Report Editor
- Added Report Editor shortcuts CTRL-B for bold and CTRL-U for underline
- Add "max string length" support to value edit dialog
- Add "duplicate" option to "Add Table" dialog
- Change report/code editor font (for better BOLD rendering)
- Don't load apps if they were saved in a \*newer\* version of VCCure
- Warning shown if app changes when loaded from different VCCure version
- Show "[Main]" in Alarms/Setup explorer rather than empty block name
- Report editor reworked to handle UTF8 characters better
- Report editor now supports HOME/END/DELETE keys
- If a locked block is selected via a breadcrumb, show the block itself rather than the contents
- "Run" button now performs a warm start (rather than "continue")
- Added "Coldstart + Run" button which performs a cold start before running app
- Added "Run Once" button which performs a single cycle of the entire app
- Added breakpoint support
- Added code outlining
- Attributes for reports/displays now allows 128 chars.
- Soft functions supported in variable declaration, e.g. `int x = myfunc();`
- Soft functions supported in existing variable non-equals equal types, e.g. `x += myfunc();`
- Allow reports to be moved up/down in the list
- Add direct connect Ident LED strobe (previously only worked for local machines)
- Resource usage added to popup menu for block view. Prints pool counts and % usage of the selected block to the console
- Ensure remote debug stops when VCCure closes
- Workspace error/warning highlighting updated
- Max codeblock line length increased to 512 chars
- Increase File|Properties dialog window size
- Add various extra keyboard shortcuts
- DELETE key now works in edit boxes
- Add "Visible" pin to Reports bar.
- "Clear" buttons added to report Visible and Trigger pins
- Show Aliases on Historical/Reports TRIGGER and VISIBLE pin paths
- Save/link to library separated out on menus.
- Blocks show L for linked to library but no file.
- Save/link/unlink from library on locked blocks doesn't need the password.
- Copy Serial Number To Clipboard button added to about box.
- Add ability to drag input/output pins

- "Code differs" message added
- Load/Save referenced tables along with commsblocks.
- Languages save to library blocks.
- Language import/export implemented at block level.
- Backing up application now includes System settings

## **Fixes:**

- When loading from the library, update aliases before alarms
- When comparing with the library, always use library checksum (if it exists)
- Fix Unicode string handling in "Edit Variable" dialog
- Fix/rework table merge code
- Fix pasting placements into report editor
- Fix text cursor position when right-clicking
- Dragging codeblock outputs to displays tree now leaves IDENT blank
- Only allow unconnected pins to be dragged onto displays tree IDENT field
- Copy/paste containers & codeblocks now retains persistent pin values
- Fix missing alias when re-selecting units/ADP pin
- Fix table lookups on report placements
- Ensure blank block checksums get ignored when saving/loading
- Don't load codeblock NV output pins from setup
- Unicode now better supported in Tables editor
- Block language import/export changed to TSV file
- Language import/export changed to TSV file
- Copying a block updates the breadcrumb
- Fix for empty pool names in VCCure properties (and possibly elsewhere)
- If applicable, show error message if remotedebug poll fails
- Show correct SVN version info in About dialog
- Disallow duplicate global variables
- Fix possible hang when retrieving reports
- Update Workspace bar when adding new container/codeblock
- Ensure workspace tree rebuilds correctly
- Fix when deleting comms links
- Remove spurious values in comms poll xml
- Fix pin name scanning when saving comms links
- Fix multi-line array decoding
- Fix loading preset values from comms links
- Fix loading preset values from comms link templates
- Fix Unicode error in language pin description
- Prevent Historicals "Set X" tabs from being re-ordered
- Prevent "<inherit>" being treated as a valid table name in <DISPLAYS> tree
- Tables import/export fixed to work with TSV files
- Creating a pin marked red on the displays bar clears the red.
- Alarm list cleaned up when a block is deleted, stopping crashes.
- Update from library refreshes correctly.
- "Clear active" option enabled for menus in display bar.
- Saving a new block to the library populates the name in the save dialog.
- Units propagation/checking extended to cover more complex cases.

- Fix crash after delete/add blocks
- Alarms synced during update from library
- Fix possible invalid displays IDENT field
- Various other bugfixes.

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## 4v6r0 to 4r6964

### ***New Features/Mods:***

- Languages save to library blocks.
- Language import/export implemented at block level.

### **Fixes:**

- No Changes

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## 4v5r0 to 4v6r0

### ***New Features/Mods:***

- Save/link to library separated out on menus.
- Blocks show L for linked to library but no file.
- Save/link/unlink from library on locked blocks doesn't need the password.
- Copy Serial Number To Clipboard button added to about box.
- Add ability to drag input/output pins
- Add "Visible" pin to Reports bar.
- "Clear" buttons added to report Visible and Trigger pins
- "Code differs" message added
- Load/Save referenced tables along with commsblocks.

### ***Fixes:***

- Alarm list cleaned up when a block is deleted.
- Update from library refreshes correctly.
- Clear active enabled for menus in display bar.
- Saving a new block to the library populates the name in the save dialog.
- Units propagation/checking extended to cover more complex cases.
- Fix crash after delete/add blocks
- Alarms synced during update from library
- Fix possible invalid displays IDENT field

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## 4v4r0 to 4v5r0

### ***New Features/Mods:***

- Edit/Validate implemented to produce a report of initially:
  - Bad display refs
  - Bad report refs
  - Bad datamap refs
  - Units conflicts
  - Bad dynamic ADP/UNITS/ALARMS refs
  - Codeblock build errors
  - Blocks out of sync (Warning)
- Properties bar will manage passwords for blocks.
- Remove Library link added to popup for blocks.
- Workspace bar refresh optimised.
- Display bar refresh optimised.
- Comparison Report added for codeblock code.
- VCC\_XXXSELECT pins (e.g. UNITS, ADP and ALARM) now show base alias (if present).

### ***Fixes:***

- Creating a pin marked red on the displays bar clears the red.
  - Renaming a pin/block updates placement actives on the reports.
  - Remote debug fixed for large data size systems.
  - Minor resource leak on display import fixed.
  - Rebuilding a codeblock could cause a crash at some point later if the pins are idented or viewed in the object explorer. This is fixed.
- =====

## 4v1r0 to 4v4r0

### ***New Features/Mods:***

- View Alarm/Data connections removed.
- Alarm groups implemented.
- Bad language references cleaned up at save time.
- Next pinid saved in app file.
- Alarm list rebuilt after a paste.
- System screens now support "write level" and "read only"
- Changing target in properties maintains pin ids if necessary. (BUGZ 901)

### ***Fixes:***

- Update target template refresh issue with i/o pins on displays fixed.
  - Table editor crashes fixed.
  - Datamap format dropdown fixed.
  - Changing field using table dropdown in dataset bar fixed.
  - Pasting multi-line text into the report editor maintains style sync. (BUGZ 867)
  - Undo/Redo problems with styles in report editor fixed. (BUGZ 872)
  - Table import fixed if no alias present. (BUGZ 896)
  - Adding a table ensures the action buttons are disabled correctly.
- =====

## 4v0 to 4v1r0

### ***New Features/Mods:***

- Placements support bold/underline in the report editor.
- Application compression support.

### ***Fixes:***

- Copy/paste of styled report text implemented/fixed.
  - Report editor popup menu bold/underline indication improved.
  - Report/alarm history items in remote debug show correct time when offset is set.
  - Pasting blocks assigns new pinids. (BUGZ 886)
  - Fixed a column sort crash in the app explorer when a corrupt app is present.
  - Workspace bar crash after removing and adding blocks fixed.
- =====

## 3vXrY to 4v0

### ***New Features/Mods:***

- Setups made more flexible and manageable and renamed to Datasets.
- Historical data expanded into 3 sections.
- Some C||Cure warnings implemented. Navigation enabled from console into code.
- Active value state shown in bars when running.
- Groups shown in object explorer.
- asin/acos/atan/atan2/sqrt/sinh/cosh/tanh added to C||Cure.
- App Browser added.
- Library files checksummed.
- Displays/Reports bars retain deleted pin references.
- Support for multiple languages added.
- Style support added to report editor.
- Language export/import reworked to new format. Options offered on export.
- "case" statements expect constant expressions to fit in with standard C/C++.
- Duplicate case expressions in switch statements flagged as errors.
- Installing an app just installs the selected setup.
- Editing an integer pin value validates your entry and marks the box as red and disables the OK button if invalid.
- "Reset to 0" changed to "Reset to X" and "Reset Value" added to pin properties and app file.

### ***Fixes:***

- Historical trigger respects "Full Pin Paths" option.
- Unwrapping a pin does not make vccure think it's been deleted and remove links and references to it.
- Navigating using the path entry respects security of locked blocks.
- Report &'s fixed and placements realigned
- Support CRLF / LF / CR text endings when importing aliases
- Report editor SHIFT/CTRL placement selection fixed.
- Import/Export language doesn't change the app save folder.
- Language Grid (and all other grids) supports Unicode strings in the header.
- Integer arithmetic fixed in the C||Cure.
- Historical pin references loaded correctly.
- In use dynamic references no longer saved to the library.
- Editing an integer pin value allows you to enter the '-' sign.
- Units dropdown shows aliases if selected.
- Variable ADP display fixed.
- Enter value allows -ve exponents. Other invalid cases detected.
- Displays bar edits disabled in remote debug.
- Spin controls in the version dialog work the correct way around now.
- Persistent container outputs show correct values now.
- Refresh marks all machines as not seen and waits for replies to come back before marking them seen again.