Information Engineering Technology

Rapide Release Notes

Release 3.0.1

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Important Notes

For this update you need to use GuardIEn 8.7.5 or later if you use GuardIEn to build Rapide applications. Do not copy the GDOPRAPG.dll to your GuardIEn folder unless you are using GuardIEn 8.7.5 or later.

New Functionality

The following features have been added in Release 3.0.1

Explicit override of Gen Comms Type for Coop

A new token COMMS_TYPE may be specified in rapide.properties to explicitly override the Gen comms type classes to use for Co-Operative calls to servers. Default is TCPIP, but other values can be ECI, EJBRMI, ITPIP, J2CSRmi, J2CS, MQS, TUX and WS.

Add specific support for TUXEDO coop flows

Enhance Rapide runtime to support Tuxedo co-operative flows. Regenerate of GUI XML for clients will be required if using overrides for server pstep Tuxedo Service Names.

New Rapide API method to set Custom Theme on the fly

Added method setControlCustomTheme to Rapide Function Library to allow BROWSER applications to change the theme of a specific control at run-time.

Performance improvements when same AB called many times

Some performance improvements where a PStep calls the same Action Block multiple times during an execution of its' logic.

Method to Refresh Specific Window/DialogBox

A new method called refresh is provided in the Rapide Function Library to allow requesting a refresh of the UI for a specific window or dialog box, which differs from the standard Gen REFRESH statement since that refreshes the UI for all windows and dialog box in the PStep. A special value of "<TOP>" may be passed to the new API method to have the top-most shell's UI refreshed (the shell must be a window or dialog box belonging to the current PStep, otherwise the request is ignored).

Overlay HTML properly configurable for Radio Buttons

A new rapide.properties token, RADIO_OVERFLOW_CLIP, controls whether the HTML Overflow property is applied to radio button controls to enable the choice between clipping if the radio's design size is too small to contain the full text of its' prompt. Default is False, which means that the text will NOT be clipped.

Performance improvement in Trees with Images

Significant performance improvements have been made for DESKTOP where Tree controls have images in subsequent columns.

New API Props/Methods for PStep Generation Date, Time and Rapide Version

New Rapide API Properties are available to retrieve the generation date, time and Rapide generator Version for the calling PStep instance: generationDate; generationTime; generationRapideVersion. In addition, methods are provided to return the same date, but passing in the Member Name of any PStep in the application.

Block Mode Transformation Tab Sequence

The first field with the 'place cursor here' property defined will have its GUI sequence defined to be the first field in the tab sequence. Remaining fields will be tabbed in sequence apart from the PF Key area which will have the lowest tab sequence.

Application-Designed Timeout Facility

If an application is inactive for a period, it may be useful to support a timeout. This is already possible on BROWSER with appserver session timeout and RAP's native session timeout support. However, this gives little control in how the application times out and what happens at that point. Therefore, new functionality has been added which allows the application to register a timeout event which is triggered when reactivating after a period of inactivity. See the Rapide API documentation for further details, in particular, new methods registerAppTimeoutEvent and rapide.properties token RAPIDE_APPLICATION_TIMEOUT.

Protected fields option to not show error markers

When a field has an error in its' input, such as not adhering to the attribute's permitted values, an error marker is tagged to the field and an appropriate tooltip is attached to indicate what the problem is. If the field is disabled/protected (not the same as read-only), the error marker is still displayed. A new option controlled by rapide.properties token PROTECTED_CONTROLS_NEVER_SHOW_ERROR_MARKERS can be set to True which will suppress these error markers for protected/disabled controls.

Option to continue with references to unpackaged procedure steps

Normally it is desirable that Rapide generate/build fails early on if a pstep is being generated which references an unpackaged pstep (via flow or pstepUSE). However, in the case of testing, there may be situations where you want to ignore this failure and have the ability to build, assemble and test small portions of an application, even where some packaging is missing (if you are not going to test those areas). To support this, an environment variable can be set to instruct Rapide to skip such issues, RAP_IGNORE_UNPKG=YES.

The Rapide runtime accommodates this possibility, and any flows/calls to unpackaged psteps are trapped, with suitable error messages presented to the user.

Support Set/Get Enabled & Caption on MenuItems

Support included for Set and Gen Enabled & Set and Gen Caption on MenuItems.

Restrict number of tab sessions in a client browser

A new rapide.properties token, MAX_SESSIONS_PER_CLIENT, allows you to restrict the maximum number of tabs that can contain sessions pointing to the same Rapide application. This is because it has been found that different browsers have different limitations on resources and too many sessions can cause the browser to freeze, which also knocks on to the AppServer, thus affecting other users on different clients. In the GuardIEn WebCR application, as an example, we found that IE11 could handle around 42 session tabs, Chrome and FireFox could only handle 6. Default limit remains unrestricted.

App Timeout facility to auto-flush specific events

The Application Timeout facility has been further enhanced to allow automatic flushing (ignoring) of specific types of events in the event queue when a timeout occurs. For example, if the timeout is detected at the point where a flow is triggered, you probably want to process the timeout and NOT the flow, so this feature would allow you to throw away FLOW events in this situation. The feature is enabled with new rapide.properties token APP_TIMEOUT_FLUSH_EVENT_TYPES.

Custom XML template folder

A new CustomXML folder is provided beneath the main Rapide software folder where you may copy and customise any of the template XML skeleton files, and if they exist there, these will be used in preference to the default versions of the XML files.

Support override selection character for group-view drop-downs

Previously, it has been possible to define an override selection character for normal listboxes, so that a character other than '*' is used in the group view data to identify the selected row(s). This feature is also now available for group-view-based Drop-Down controls too.

New Function Library Method replaceCharsAll

Provided a new method in the Rapide Function Library to perform a 'replace all' where all occurrences of a string of characters will be replaced with another string.

Improved performance for image handling

Startup performance of the application and also individual PSteps which contain images has been improved.

GainFocus support

Previously, Rapide runtime would ignore GainFocus events. These are now supported on single and multi-line fields, although they always run in foreground so you cannot interact with the UI during the processing of the triggered event.

Rotated text literals

A new property is available for text literals to rotate by 90, 180 or 270'. Supported only on DESKTOP targets.

New Method listboxGetColumnPosition

A new method is available in the Rapide Function Library, listboxGetColumnPosiiton, to retrieve the current position of a column.

Support for RightMouseBtnDown Added

Added limited support for RightMouseBtnDown for Listboxes and Single Line Fields. Note that this works well in DESKTOP, but should probably be avoided in BROWSER due to round-trip performance (same as most mouse-intensive events).

Diagnostics added for tracking hangs/crashes better

New tokens are available in rapide.properties (MUTEX_DANGER_TIME and MUTEX_DANGER_GIVEUP) which can be enabled with IET Support's guidance to help in diagnosing occasional hangs/crashes in an application.

ZZ Edit Pattern and Zero entry not to flag as auto-changed

If a field has a 'Z'-only edit pattern e.g. ZZZ.ZZ and a value of zero "0" is entered by the user, this is normally flagged through Rapide's auto-correct logic and pops up a warning message box if such an auto-correct is applied (according to rapide.properties tokens). This specific case where a "0" is reset to blank is now excluded from the pop-up message.

New Methods to iterate URL parameters on Browser

Previously, the API method urlGetParameter was available to retrieve the value of a specific parameter as passed on a browser's URL e.g. "….?X=1&Y=2". This required you to know what the parameter names were in advance. Additional API methods are now available that allow you to iterate through all URL parameters

retrieving names and values for each: urlGetParmCount; urlGetParmNameAtIndex and urlGetParmValueAtIndex (zero-based).

Support MAKE on Radio Buttons

Rapide previously did not honour MAKE statements for Radio Buttons

UNITTEST any PStep without an Entry Point on Browser

In a Rapide BROWSER application you normally have to define specific PSteps with Entry Points, and the application may only be started at those PSteps. However, for local/unit testing it may be useful to be able to go directly into a particular PStep that isn't normally an entry point. This is now possible by setting an environment variable RAPIDE_ALLOW_UNITTEST=YES (usually inside the GdClientEnv.bat scripts of Rapide), then reassembling the application. By doing this, an extra Entry Point called UNITTEST is included in the application that you may launch with a URL, specifying any PStep Member Name directly as the starting point, for example:

```
<appserver>:<port>/UNITTEST?APP=<appname>&PSTEPMBR=<mbrname>
```

The UNITTEST entry point will only be accessible if the application was assembled with the RAPIDE_ALLOW_UNITTEST option switched on at the time of the assemble, so you should ensure that this is not activated for your controlled test environments or production.

Assembling for Unit Test

When assembling a Rapide application, the load modules have to be included in the application definition and all load module components generated and built before the application can be assembled. If you are performing local workstation testing on a subset, you may not have the complete application downloaded, have the necessary update access to allow the definition of the Rapide application, or you may simply want to quickly test a procedure step without wanting to generate, build and assemble the entire application.

To support unit testing, you can tick the *Assemble for Unit Test* checkbox. This then allows you to select individual load modules for an assemble into a test application called 'unittest'. You must have set the environment variable RAPIDE_ALLOW_UNITTEST=YES (see below) and be assembling for a BROWSER application.

When performing unit testing, you do not need to define entry points and can launch any procedure step.

Limited Support for LeftMouseBtnDown on Fields

Limited support has been added to the Rapide runtime for LeftMouseBtnDown events defined on entry fields. These are not recommended though, especially when the field has other events defined.

Fonts with Underline & Strikethrough supported on DESKTOP

Implemented support in SWT/DESKTOP targets (and STUDIO/ECLIPSE) for fonts with Underline and strikethrough styles. This is still not possible within BROWER or MOBILE targets.

GENRT for Gen 8.6 Java Runtimes Updated – WKS86200

The Gen 8.6 Java Runtimes shipped with Rapide (genrt.jar) have been updated to reflect changes in WKS86200, which include support for WildFly and JBossEAP as AppServers. This has been tested with Rapided connecting to Gen EJBs deployed within WildFly.

New RFL method setOrientation

New method, setOrientation, for changing an individual control's RTL or LTR orientation at run-time.

Value of ALL for RTL_LANGUAGES

A new value of ALL or <ALL> can be set for token RTL_LANGUAGES causing all locates to present as RTL orientation.

Tokens to override Gen trace HOST and PORT

When AB/PStep logic is generated with Gen Trace, normally the Gen Java runtimes will attempt to connect to a Gen Diagram Trace Utility at locahost:4567. New tokens, GEN_TRACE_HOST and GEN_TRACE_PORT, are now provided in rapide.properties to allow you to override the DTU that will be used to connect to, making it easier (and more explicit) to connect to a different workstation that the one where the Rapide client logic is executing.

Method to set an image for a listbox column header

A new RFL method is provided to allow you to set an image for a listbox column heading, listboxSetColumnHeadingImage.

New tokens to set listbox header background and foreground colours

Provided new rapide.properties tokens to set the background and foreground colours for all listbox headers in the application - LISTBOX_HEADER_BG_COLOUR and LISTBOX_HEADER_FG_COLOUR.

Application-specific sections in rapide.properties

By placing tokens in the rapide.properties between markers, it is now possible for these tokens to only apply to the specified application name. For example:

```
<application name="testapp">
TOKEN=VALUE
TOKEN=VALUE
</application>
```

New method postEventToPStepWithCommand

A new RapideFunctionLibrary method is available, similar to the existing postEventToPStep, but allowing a COMMAND value to be sent on the triggered event too.

New option on setNextFlowWindowStyle for NEXTTRAN into a Frame

If NEXTTRAN is detected, it is now possible to force the new PStep into a specific Frame as a child by calling setNextFlowWindowStyle beforehand to "CONTROL:<frameControlName>". This is designed primarily for Multi-Instance Tabs.

New option to package server import/export classes into separate jar

For a co-operative server flow to be implemented, the server import and export view classes are generated and by default packaged into the client load module .jar. However, if a server is invoked by multiple clients, either directly, or via a used action block, all client load modules that include the server ia/oa classes need to be relinked. A new option is available to package the server ia/oa classes into a separate <application>_SVRIA jar file so that they are only included in a single jar. This jar is re-built automatically when assembling the application. To enable this functionality, tick the 'Package Server IA/OA into separate JAR' checkbox in the Options dialog. Note that if you enable this function for existing applications, you will need to re-build existing client load modules to remove the server classes from their JARs. This option is not available when using s shared folder to build from multiple models. If you are using GuardIEn to build Rapide applications, the option is defined using the RAPSVRIA target property.

New User Exits invoked before a Server Call, and after a Server Abend

New methods in UserExits are called before every server call (*determineIfServerCallAllowed*) and another exit whenever an error occurs during a server call - could be a comms failure or a server abend (*serverCallAbended*).

New User Exits invoked when Client logic fails

A new methods in UserExits is called when client AB logic fails (*clientLogicAbended*). Details of the calling pstep instance and the exception are provided, and you can decide whether to modify the displayed message, or even suppress the pop-up message altogether.

Option to directly start the System Console

A new rapide.properties token, ALLOW_SYSCONSOLE_DIRECT=True, can be set which permits starting a browser application with a special URL/EntryPoint of SYSCONSOLE. This launches the System Console without the need to start a real session for the application and you can view all the other active sessions from there.

Fixes

The following issues have been fixed.

Scroll listbox with keyboard hangs if cell selection enabled

If the cell selection feature ("ENABLE_CELL_SELECTION=True") is enabled and you use the keyboard up/down arrow keys to scroll a list quickly (hold down the key), it will often hang with the cell selection popping up when it should not.

Cater for more view name duplicate situations

If 2 views give similar names in generated code, Gen will suffix subsequent views with a digit to distinguish them. Rapide now detects additional situations more accurately when this might happen, avoiding issues in view mapping which may have picked the wrong view to transfer data over.

Gen UI OLE list methods fail when no objects to return

Any of the Gen UI list methods, such as CurrentWindow() . Buttons() will give incorrect list objects when there are no matching controls of that type.

Menus in frames not always visible

If a window with a menu is loaded into a Frame, the menu is there, but it not always visible (z-order incorrect).

Non-resizable dialogs can be partially resized

In BROWSER, if a dialog box is defined as not allowed resize, it may still be possible to resize the border outline, although the content does not resize.

Browser title to include focus frame

The logic to set a BROWSER application's title (in the browser tab) has been improved to include the title of whichever window or dialog box contains the control with current focus, which includes windows/dialogs loaded into frames.

Exception on session start ConcurrentModificationException

In very rare cases (of timing), if 2 sessions start up extremely close to each other, a ConcurrentModificationException might be issued in one of the sessions as it registers itself with the SystemConsole.

Resource conflict when multiple sessions start closely together

Improvements have been made with retry attempts and exception handling which could occur on occasions when 2 or more sessions were started within very close times of each other.

Exception in Auto-Suggest Drop-Downs

An exception could occur on window creation if a group-view drop-down control was enhanced as an auto-suggest field.

Incorrect inheritance of fonts from business system

When a control has some override font properties defined, Rapide would sometimes inherit part of the font details from the Business System too – font name, size and style must be taken as a group and never treated individually.

MAKE reverse video normal not working

Executing a MAKE statement to set Reverse Video with all other options *Normal* did not work correctly.

Improved CMIDEBUG Support

Changes have been made to Rapide's interaction with the Gen Comms Runtime so that comms trace logs (with CMIDEBUG) are more fully supported.

Set Foreground Colour not working for some control types

When you set the foreground colour within logic, many control types were having their background colour set instead.

Group view attributes placed as singleton field may revert values

When a group view attribute is placed as a singleton field (populated with the values from the currently selected row in a listbox on a parent window), the content of the export group may be reverted to its' previous data under a few situations where events are triggered in a specific sequence.

Field changes without a Changed event get moved to Exports

When a user changes the value in a field, if there is no "Changed" event defined for the field, only the Import view should be updated with the new value, but the Export was also being updated.

Button Command being passed to click event

When a Button control has a Command defined (for disabling or auto-flow), it should not pass that Command to the Click event's logic if the event itself has a Command of <NONE> defined.

Support for Firefox 64 and higher

Rapide runs in all modern web browsers, without any add-ons required. Only JavaScript needs to be enabled. The runtime deals with browser's specifics and quirks. When talking about native key events, there are two standard browser sequences – for printable (letters, numbers, Space) and non-printable keys (Home, End, Tab, Escape, Backspace, Page Down, arrows, etc.). For many years Firefox has been dispatching keypress events for non-printable keys, but other browsers not. This will change in one of the upcoming Firefox versions (probably 64.0 scheduled for December). As a result, key navigation and selection in many widgets like Tree, Table, List, and Dropdowns will not function correctly. The runtime framework used by Rapide has been enhanced to cater for this change in the Firefox browser.

Auto check row with blanked editable cells not flagging

When a listbox has the auto-row-check functionality enabled, and an editable cell has its' value changed from a non-space/zero value to a space/zero value, this was not auto-checking the row.

Decimals in listbox cell entry fields sometimes lose values

For some fixed-length decimal number fields that are placed in a listbox as entry fields (overlay cells), the value entered by the user may be lost on the next even logic processed.

Load Module .jar contains unnecessary server IA/OA classes

When building a client load module .jar, procedure step IA/OA classes are included for servers indirectly invoked by clients. This can cause a problem when the server import or export views are changed and the load modules incorrectly containing the server IA/OA classes are not re-built. With this fix the server IA/OA classes are not included in client load modules where the client does not directly flow to the server. It is recommended that client load module .jars are re-built to ensure that they do not contain old versions of the server IA/OA classes.

TextButton cell overlays with leading spaces

On browser, if a cell overlay is defined to be a TextButton (dynamic), and the text value has leading spaces, then the value is displayed with html formatting strings.

Minor memory leak fix – failed images

Images that failed to load (could not find resource) could cause a small memory leak.

Column Click triggered when click beyond last row

Column Click events were being triggered when the click was beyond the last populated row in a listbox.

Column Click events lost on DESKTOP on top rows

A column click event is often discarded on DESKTOP/STUDIO targets if clicked on the first 2 or 3 rows of a listbox.

Failed Dialog Flow to Server should not execute PStep

When a Dialog Flow to a Server fails (e.g. comms error), the PStep logic was being executed regardless – this should only be done if the flow was completed successfully.

Failed PStepUSE should stop logic execution

If a PStepUSE failed (for example due to communications error), the client event logic would continue at the next statement. This now stops immediately.

Browser Title set to focus Shell, not children in frames

Previously there was inconsistency as to which PStep's window caption/title would appear in the browser's title, uses logic to calculate the PStep based on the control with current focus, which sometimes gave a child PStep loaded into a frame/tab. This has been changed to always take the title from the next PStep up the chain that has an actual shell/window i.e. never a child loaded into a frame/tab.

Open window without event resets changed data

When a field has its' value changed, and there is no Changed event defined, then an Open event occurs on a secondary dialog, the data change is reset to the previous value.

Numeric fields can accept non-numeric on Browser

It is possible to enter non-numeric characters into a numeric field on browser targets by highlighting one or more digits of the existing value and overtyping with a non-numeric.

Update to RAP 3.10 runtime for Browser

The RAP runtime version used for Browser applications has been updated to RAP 3.10.

Tab Sequences on Browser with Tab Controls

Tab sequences on Browser applications where Tabs (both persistent and MDI tabs) no longer honoured the designed tab sequence.

Clearable Date Fields not clearing

When using the CLEARABLE DATE feature, the 'X' button did nothing.

Crash on font parsing

A recent update introduced support for Strikethrough and Underline font styles. Under some circumstances, this new logic could cause a crash when applying styles that didn't include those styles.

Block Mode Screen to Window Transformation

If the Block Mode Rapide properties for a screen literal specify that the literal is hidden, the literal is always excluded from the transformed window design even if the option to 'Use Enhanced Widget Styles from Block Mode Design' is not ticked. The hidden literals are now ignored only when the transformation option is ticked.

RTL UI Designs

Previously, an LTR UI design could be rendered in RTL at runtime when running in an RTL Locale, but if the original UI design was actually in RTL itself, this would not be honoured correctly at runtime.

Bitmap handling memory leak

A GDI Handles leak on Windows was a result of incorrect storing and disposal of bitmaps on some control types.

Toolset Designer Plugin not working

Recent changes in generated code caused an issue for the Rapide Designer Toolset Plugin where the tab interface was not correctly displayed.

SetVisible for AutoSuggest not applying to Prompts

The SetVisible method does not show/hide the prompt for a GroupView-based DropDown control that is enhanced as an AutoSuggest control.

AutoCheck columns not getting correct width initially

When a listbox with an autocheck column is displayed for the first time, the autocheck column is often very narrow and cannot easily be seen.

AutoCheck columns should not be adjusted proportionally with AutoSize

When a listbox with an autocheck column is displayed and LISTBOX_AUTO_WIDTH is being applied to all listbox columns, it should exclude the autocheck column from the adjustment, keeping the original width, otherwise it is highly likely that the autocheck will end up much smaller than any value defined in LB_AUTOCHECK_DEAFULT_COLUMN_WIDTH.

Hyperlinks on browser do not get transparent backgrounds

Hyperlinks on browser should have transparent backgrounds, but the colour was being explicitly set as the inherited window background colour.

Dynamic Menu incorrect theming and alignment

Listboxes enhanced as Dynamic Menus had the top-level theme applied to level-1 branches. Also, right-aligned Dynamic Menu items had their child menu aligned to the left of the clicked button, so could be clipped off the right of the display.

Crash in System Console if refreshed while a sessions starts/ends

If Refresh is used in the System Console while another session is starting or being destroyed, this could cause an exception in the System Console session.

Listbox Column API methods may not find column

A recent change which temporarily blanks out the column heading for a hidden column caused other listbox column API methods to potentially fail, not being able to find the specified column. This included methods such as show and hide columns.

Disabling of AutoSuggest Controls not honoured

If there is any disabling of an AutoSuggest control (PV drop downs and drop downs based on group view data), the disabling was not being applied.

Disabling from AutoSuggest Controls not honoured #2

If a control is disabled when a drop-down "has one selected" or "does not have one selected", and the drop-down is enhanced as an AutoSuggest field, the disabling does not work.

Long currency edit patterns lose currency symbol

If a numeric edit pattern with currency is designed in the UI with long length than the underlying attribute, the currency symbol will be truncated if the value is the maximum length for the attribute.

Disabled Overlay Columns are not disabled

The disabled property of an overlay listbox column was not being honoured by the Rapide runtime (dynamic overlays were ok).

Support Auto-Size on TabFolders

The Auto-Size property could previously be defined on TabFolders but the runtime did not properly honour this accurately – the TabFolder would only get resized with an overall window/browser resize. A similar fix has been made to ExpandBars where the parent (e.g. TabFolder) did not get auto-resized when the ExpandBar was expanded/collapsed.

Track top of a control to EDGE of a TabFolder not working

If you define EDGE tracking of the top edge of a control to the bottom of a TabFolder, this did not work and you'd end up with the control's top tracking to the top edge of the window instead.

Autoflow back picks wrong flow

If there are multiple dialog flows between the same pair of psteps, and they use the same command for autoflow on the return, Rapide runtime may pick the wrong return flow, and thus set command, display-first properties and return flow data mapping incorrectly.

Known Issues

Rapide Designer enhancements not honouring Design Mode

Although the Rapide Designer will allow you to store different enhancements for the same control/window for each Design Mode (Window vs. HTML vs. ASP), some of the enhancements are only honoured for the 'Common' (Windows) Design Mode. It is not anticipated that Design Modes will have different enhancements, but if it is a requirement then we will move this support forward.

Tabs on BROWSER do not show focus

The focus indicator is not displayed on Tab Items when running on a Browser, although they do take focus and are included in the tab sequence as expected – you just cannot see it. This may change in the future, but relies on rework of the underlying framework that Rapide uses.

Numeric edit patterns with formatting characters

Currently, there is no support for special formatting (mask) characters in numeric edit patterns, except at the start and end of the field. For example, you cannot use spaces to separate groups of digits.

First column in tables alignment not honoured

Due to a restriction in the underlying runtime, the horizontal alignment of the first column in a listbox is not honoured – it is always left-justified.