VCL2FMXConverter v7.0 Atlas

Generic Rules Reference

Generic conversion rules and their implementation responsibilities

Delphi VCL to FireMonkey conversion

Last changed October 18, 2026

V7 Atlas documentation

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Scope: This document lists the active generic conversion rules in VCL2FMXConverter v7.0 Atlas. It covers component mappings, data-aware rules, property and event rewrites, layout and style handling, runtime helper behavior, media conversion logic, project-generation rules, include analysis, Windows messaging policy, and the executable contract-test system. It does **not** include project-specific rules. Current v7.0 note: the live Component Map, Property Map, and Event Map screens are backed by the same compiled mapper knowledge used during conversion, and the mapper exports explicit RTTI inventories and class/property/event matrices for audit and maintenance.

Reference basis: retained source-generated mapping snapshot. The live application resolves mappings using runtime type information and enabled packs.

Reference matrix snapshot: classes: 77 named classes (36 direct, 33 substitute, 8 manual review); properties: 74 total (45 direct, 22 renamed, 5 transformed, 0 omitted, 2 manual review); events: 27 total (15 direct, 5 renamed, 7 incompatible signature, 0 manual review).

1. Component Mapping Rules

Rule Name	VCL Source	FMX Output	What the New Component / Rule Does	Implemented In
Direct component mapping	TAction	TAction	Maps directly to the matching FMX component surface.	Converter.Mapper.Component.pas
Direct component mapping	TActionList	TActionList	Maps directly to the matching FMX component surface.	Converter.Mapper.Component.pas
Unsupported / manual review	TADODataSet	Manual review / unsupported	Windows-specific ADO dataset requires manual review for FMX targets.	Converter.Mapper.Component.pas
Unsupported / manual review	TApdComPort	Manual review / unsupported	Third-party serial communications component - requires a custom FMX/WinAPI replacement	Converter.Mapper.Component.pas
Substitute component mapping	TBevel	TRectangle	Use TRectangle with appropriate Fill and Stroke	Converter.Mapper.Component.pas
Substitute component mapping	TBitBtn	TButton	Use TButton with Images property	Converter.Mapper.Component.pas
Direct component mapping	TButton	TButton	Maps directly to the matching FMX component surface.	Converter.Mapper.Component.pas
Unsupported / manual review	TChart	Manual review / unsupported	Requires TMS FMX Chart or similar third-party component	Converter.Mapper.Component.pas
Direct component mapping	TCheckBox	TCheckBox	Maps directly to the matching FMX component surface.	Converter.Mapper.Component.pas

Rule Name	VCL Source	FMX Output	What the New Component / Rule Does	Implemented In
Substitute component mapping	TCheckListBox	TListBox	Use FMX TListBox and review checked-item behavior manually.	Converter.Mapper.Component.pas
Unsupported / manual review	TClientDataSet	Manual review / unsupported	Dataset component requires manual review; preserve only if the target platform and supporting units are appropriate.	Converter.Mapper.Component.pas
Substitute component mapping	TColorBox	TColorComboBox	FMX color-selection equivalent is TColorComboBox in FMX.Colors	Converter.Mapper.Component.pas
Substitute component mapping	TColorDialog	TColorDialog	Generated compatibility dialog with a Color property and Execute support	Converter.Mapper.Component.pas
Direct component mapping	TComboBox	TComboBox	Maps directly to the matching FMX component surface.	Converter.Mapper.Component.pas
Substitute component mapping	TDateTimePicker	TDateEdit	Uses the closest stock FMX substitute and applies later parser or integration rules where needed.	Converter.Mapper.Component.pas
Substitute component mapping	TDBCheckBox	TCheckBox	Use LiveBindings to connect to data source	Converter.Mapper.Component.pas
Substitute component mapping	TDBComboBox	TComboEdit	Use LiveBindings to connect to data source	Converter.Mapper.Component.pas
Substitute component mapping	TDBCtrlGrid	TStringGrid	Major structural difference - requires LiveBindings and manual layout review.	Converter.Mapper.Component.pas
Substitute component mapping	TDBEdit	TEdit	Use LiveBindings to connect to data source	Converter.Mapper.Component.pas
Substitute component mapping	TDBGrid	TStringGrid	Major architectural difference - requires LiveBindings completely	Converter.Mapper.Component.pas
Substitute component mapping	TDBListBox	TListBox	Use LiveBindings with FMX TListBox and review lookup/list-source behavior manually.	Converter.Mapper.Component.pas
Substitute component mapping	TDBNavigator	TBindNavigator	Use FMX LiveBindings navigator with generated TBindSourceDB hookup	Converter.Mapper.Component.pas

Rule Name	VCL Source	FMX Output	What the New Component / Rule Does	Implemented In
Substitute component mapping	TDrawGrid	TStringGrid	Use FMX TStringGrid and review custom drawing/cell rendering manually.	Converter.Mapper.Component.pas
Direct component mapping	TEdit	TEdit	Maps directly to the matching FMX component surface.	Converter.Mapper.Component.pas
Substitute component mapping	TFileOpenDialog	TOpenDialog	Use FMX TOpenDialog as the closest standard substitute	Converter.Mapper.Component.pas
Substitute component mapping	TFileSaveDialog	TSaveDialog	Use FMX TSaveDialog as the closest standard substitute.	Converter.Mapper.Component.pas
Substitute component mapping	TFlowPanel	TFlowLayout	Use FMX TFlowLayout as the closest standard flow container.	Converter.Mapper.Component.pas
Substitute component mapping	TFontDialog	TFontDialog	Generated compatibility dialog with a streamed Font property and Execute support	Converter.Mapper.Component.pas
Direct component mapping	TForm	TForm	Root forms are converted through dedicated parser rules; this row keeps form properties and events explicit in the mapping matrix.	Converter.Mapper.Component.pas
Direct component mapping	TFrame	TFrame	FMX frames are available and should be treated as first-class matrix entries.	Converter.Mapper.Component.pas
Substitute component mapping	TGridPanel	TGridPanelLayout	Use FMX TGridPanelLayout as the closest standard grid layout container.	Converter.Mapper.Component.pas
Direct component mapping	TGroupBox	TGroupBox	Preserve visual FMX group box semantics and caption handling	Converter.Mapper.Component.pas
Direct component mapping	TImage	TImage	Maps directly to the matching FMX component surface.	Converter.Mapper.Component.pas
Direct component mapping	TImageList	TImageList	Maps directly to the matching FMX component surface.	Converter.Mapper.Component.pas
Direct component mapping	TLabel	TLabel	Maps directly to the matching FMX component surface.	Converter.Mapper.Component.pas

Rule Name	VCL Source	FMX Output	What the New Component / Rule Does	Implemented In
Substitute component mapping	TLabeledEdit	Manual review / unsupported	Create TLayout with TLabel and TEdit	Converter.Mapper.Component.pas
Substitute component mapping	TLinkLabel	TLabel	Hyperlink behavior requires manual review, but the visual text target is an FMX label.	Converter.Mapper.Component.pas
Direct component mapping	TListBox	TListBox	Item objects need conversion	Converter.Mapper.Component.pas
Direct component mapping	TListView	TListView	Maps directly to the matching FMX component surface.	Converter.Mapper.Component.pas
Substitute component mapping	TMainMenu	TMenuBar	Uses the closest stock FMX substitute and applies later parser or integration rules where needed.	Converter.Mapper.Component.pas
Substitute component mapping	TMaskEdit	TEdit	Use FMX TEdit and review EditMask behavior manually.	Converter.Mapper.Component.pas
Direct component mapping	TMediaPlayer	TMediaPlayer	Maps directly to the matching FMX component surface.	Converter.Mapper.Component.pas
Direct component mapping	TMemo	TMemo	Maps directly to the matching FMX component surface.	Converter.Mapper.Component.pas
Direct component mapping	TMenuItem	TMenuItem	Maps directly to the matching FMX component surface.	Converter.Mapper.Component.pas
Substitute component mapping	TMonthCalendar	TCalendar	Uses the closest stock FMX substitute and applies later parser or integration rules where needed.	Converter.Mapper.Component.pas
Direct component mapping	TNumberBox	TNumberBox	FMX TNumberBox is available in FMX.NumberBox	Converter.Mapper.Component.pas
Direct component mapping	TOpenDialog	TOpenDialog	Maps directly to the matching FMX component surface.	Converter.Mapper.Component.pas
Substitute component mapping	TPageControl	TTabControl	Uses the closest stock FMX substitute and applies later parser or integration rules where needed.	Converter.Mapper.Component.pas
Direct component mapping	TPaintBox	TPaintBox	FMX TPaintBox is available in FMX.Objects	Converter.Mapper.Component.pas

Rule Name	VCL Source	FMX Output	What the New Component / Rule Does	Implemented In
Direct component mapping	TPanel	TPanel	Preserve visual FMX panel semantics for container controls	Converter.Mapper.Component.pas
Direct component mapping	TPopupMenu	TPopupMenu	Maps directly to the matching FMX component surface.	Converter.Mapper.Component.pas
Direct component mapping	TProgressBar	TProgressBar	Maps directly to the matching FMX component surface.	Converter.Mapper.Component.pas
Unsupported / manual review	TQuery	Manual review / unsupported	Legacy query component requires manual review or replacement.	Converter.Mapper.Component.pas
Direct component mapping	TRadioButton	TRadioButton	Maps directly to the matching FMX component surface.	Converter.Mapper.Component.pas
Substitute component mapping	TRadioGroup	TRadioGroup	Generated compatibility group that rebuilds internal FMX radio buttons from Items	Converter.Mapper.Component.pas
Substitute component mapping	TRichEdit	TMemo	Use FMX TMemo and review rich-text formatting behavior manually.	Converter.Mapper.Component.pas
Direct component mapping	TSaveDialog	TSaveDialog	Maps directly to the matching FMX component surface.	Converter.Mapper.Component.pas
Direct component mapping	TScrollBar	TScrollBar	Maps directly to the matching FMX component surface.	Converter.Mapper.Component.pas
Direct component mapping	TScrollBox	TScrollBox	Maps directly to the matching FMX component surface.	Converter.Mapper.Component.pas
Direct component mapping	TShape	TShape	Maps directly to the matching FMX component surface.	Converter.Mapper.Component.pas
Direct component mapping	TSpeedButton	TSpeedButton	Maps directly to the matching FMX component surface.	Converter.Mapper.Component.pas
Substitute component mapping	TSpinEdit	TSpinBox	FMX TSpinBox is available in FMX.SpinBox	Converter.Mapper.Component.pas
Direct component mapping	TSplitter	TSplitter	Maps directly to the matching FMX component surface.	Converter.Mapper.Component.pas

Rule Name	VCL Source	FMX Output	What the New Component / Rule Does	Implemented In
Unsupported / manual review	TSQLDataSet	Manual review / unsupported	dbExpress dataset requires manual review for FMX targets.	Converter.Mapper.Component.pas
Substitute component mapping	TStaticText	TLabel	Static text converts cleanly to an FMX label.	Converter.Mapper.Component.pas
Direct component mapping	TStatusBar	TStatusBar	Maps directly to the matching FMX component surface.	Converter.Mapper.Component.pas
Substitute component mapping	TStringGrid	TStringGrid	Data model completely different - requires LiveBindings	Converter.Mapper.Component.pas
Substitute component mapping	TTabSheet	TTabItem	Uses the closest stock FMX substitute and applies later parser or integration rules where needed.	Converter.Mapper.Component.pas
Unsupported / manual review	TTaskDialog	Manual review / unsupported	No standard FMX task dialog component - requires a custom dialog implementation.	Converter.Mapper.Component.pas
Direct component mapping	TTimer	TTimer	Maps directly to the matching FMX component surface.	Converter.Mapper.Component.pas
Direct component mapping	TToolBar	TToolBar	Maps directly to the matching FMX component surface.	Converter.Mapper.Component.pas
Direct component mapping	TTrackBar	TTrackBar	Maps directly to the matching FMX component surface.	Converter.Mapper.Component.pas
Unsupported / manual review	TTrayIcon	Manual review / unsupported	No standard FMX tray icon component - requires platform-specific code	Converter.Mapper.Component.pas
Direct component mapping	TTreeView	TTreeView	Maps directly to the matching FMX component surface.	Converter.Mapper.Component.pas
Substitute component mapping	TUpDown	TSpinBox	Uses the closest stock FMX substitute and applies later parser or integration rules where needed.	Converter.Mapper.Component.pas
Substitute component mapping	TValueListEditor	TGrid	Complex - requires custom grid implementation	Converter.Mapper.Component.pas
Direct component mapping	TWebBrowser	TWebBrowser	Maps directly to the matching FMX component surface.	Converter.Mapper.Component.pas

2. Data-Aware and Binding Rules

Rule Name	VCL Source	FMX Output	What the New Component / Rule Does	Implemented In
Field binding analysis	TDBEdit / field-style DB-aware editors	TEdit + generated bind/sync code	Detects field-bound editors and generates the helper methods and events needed to keep FMX edits synchronized with dataset values.	Converter.Advanced.DataAware.pas; Converter.Core.Integration.pas
Grid binding analysis	TDBGrid	TStringGrid + binding/selector strategy	Captures grid column metadata and routes each form to either a browse-grid path or a selector-grid-with-editors path based on the form structure.	Converter.Advanced.DataAware.pas; Converter.Core.Integration.pas
Atlas binding analysis	TDBNavigator	TBindNavigator + generated bind source	Detects navigator usage and generates the FMX navigator/bind-source setup needed to drive the dataset.	Converter.Advanced.DataAware.pas
Lookup combo analysis	TDBLookupComboBox	Lookup-style LiveBindings setup	Marks lookup combos for fill-control binding behavior so list values and selected keys can be bridged in FMX.	Converter.Advanced.DataAware.pas
Display text binding	TDBText	TLabel + text binding	Routes read-only DB text fields to an FMX label with text/property binding semantics.	Converter.Advanced.DataAware.pas; Converter.Advanced.ThirdParty.pas
Editable combo text binding	TDBComboBox	TComboEdit + combo text sync	Uses an editable FMX combo-edit for data-aware combo text and generates selection, popup, and field-sync logic around it.	Converter.Advanced.DataAware.pas; Converter.Core.Integration.pas
Blob image binding	TDBImage	TImage + blob binding	Flags image fields for blob/property binding so visual image content can be pushed into FMX bitmap-based controls.	Converter.Advanced.DataAware.pas
Memo text binding	TDBMemo	TMemo + text binding	Routes memo fields to multiline FMX text components with property binding behavior.	Converter.Advanced.DataAware.pas
Boolean field binding	TDBCheckBox	TCheckBox + IsChecked binding	Maps boolean database fields to FMX check boxes using IsChecked rather than Checked.	Converter.Advanced.DataAware.pas
Enum / radio-group binding	TDBRadioGroup	TRadioGroup + enum binding	Maps enumerated field groups to FMX radio-group/property binding behavior when the current compatibility path is appropriate.	Converter.Advanced.DataAware.pas; Converter.Advanced.ThirdParty.pas
Bind-source code generation	DB-aware datasets and controls	LiveBindings objects and generated helper code	Creates the FMX-side bind-source objects and related link components where direct FMX data-aware controls do not exist.	Converter.Advanced.DataAware.pas

Rule Name	VCL Source	FMX Output	What the New Component / Rule Does	Implemented In
Read-only browse grid rule	Editable source DB grid with separate editors	Browse-only TStringGrid	Keeps the grid for browsing/selection and pushes editing responsibility into the already-existing standalone editors on the form.	Converter.Core.Integration.pas
Selector-grid rule	Editable source DB grid without separate editors	TStringGrid + generated editor panel	Builds a selector grid plus generated editors so inline VCL DB-grid editing is replaced with a safer FMX editing model.	Converter.Core.Integration.pas

3. Property, Event, and Semantic Translation Rules

The current explicit property matrix classifies 74 rows (45 direct, 22 renamed, 5 transformed, 0 omitted, 2 manual review). The current explicit event matrix classifies 27 rows (15 direct, 5 renamed, 7 incompatible-signature, 0 manual review).

Rule Name	VCL Source	FMX Output	What the New Component / Rule Does	Implemented In
Caption-to-Text translation	Caption-based control text	Text / TextSettings-based output	Converts VCL Caption usage to the appropriate FMX text property or text-setting path depending on the control type.	Converter.Parser.DFM.pas; Converter.Core.Integration.pas
Checked-to-IsChecked translation	Checked	IsChecked	Normalizes VCL toggle state access to the FMX boolean property used by check boxes and radio buttons.	Converter.Mapper.Component.pas; Converter.Core.Integration.pas
Picture-to-Bitmap translation	TPicture-based image content	Bitmap-based FMX image content	Bridges the VCL picture model to the bitmap-oriented FMX image control model.	Converter.Mapper.Component.pas; Converter.Core.Integration.pas
Brush and Pen translation	Brush / Pen	Fill / Stroke	Maps VCL drawing properties to the FMX rendering property model.	Converter.Mapper.Component.pas; Converter.Core.Integration.pas
Combo popup event translation	OnDropDown	OnPopup	Rewrites combo drop-down events to the FMX popup event used by combo boxes and combo-edit controls.	Converter.Mapper.Component.pas; Converter.Parser.DFM.pas
Combo close event translation	OnCloseUp	OnClosePopup	Rewrites combo close-up events to the FMX popup-close event used by combo boxes and combo-edit controls.	Converter.Mapper.Component.pas; Converter.Parser.DFM.pas
Date picker open event translation	OnDropDown	OnOpenPicker	Maps the VCL date-picker open event to the FMX picker-open event.	Converter.Mapper.Component.pas; Converter.Parser.DFM.pas

Rule Name	VCL Source	FMX Output	What the New Component / Rule Does	Implemented In
Date picker close event translation	OnCloseUp	OnClosePicker	Maps the VCL date-picker close event to the FMX picker-close event.	Converter.Mapper.Component.pas; Converter.Parser.DFM.pas
Key event signature review	OnKeyDown / OnKeyUp	FMX key events with different signatures	Marks keyboard events whose FMX handler signatures differ from VCL so the converter can report or adapt them honestly.	Converter.Mapper.Component.pas
Form mouse-move signature review	Form OnMouseMove	FMX mouse events with Single coordinates	Flags signature differences where FMX expects floating-point coordinates instead of the VCL integer pattern.	Converter.Mapper.Component.pas
Root-form double-click adaptation	Form OnDblClick	Generated OnMouseUp adapter	Keeps FMX forms from streaming an unsupported OnDblClick property by remapping root-form double-click behavior through a generated mouse-up adapter.	Converter.Parser.DFM.pas; Converter.Core.Integration.pas
Masked-edit rule	EditMask	Manual review	Keeps TMaskEdit on the supported class matrix while leaving masking semantics explicit instead of pretending there is a full FMX equivalent.	Converter.Mapper.Component.pas
Windows message to FMX event translation	WM_* handlers	OnEnter / OnExit / OnClick / OnResize / etc.	Translates common Windows message-handler patterns into the closest FMX event model and marks critical areas for review when needed.	Converter.Advanced.CriticalAreas.pas
VCL color constant translation	clBtnFace, clWindow, clActiveCaption, and similar constants	TAlphaColor / FMX-safe color literals	Converts common VCL color constants into the FMX color system so colors render correctly outside WinAPI painting.	Converter.Advanced.WinAPI.pas; Converter.Core.Integration.pas
TColor cast normalization	TColor(...)	TAlphaColor(...)	Normalizes explicit color casts so converted code compiles and uses the FMX color type system.	Converter.Advanced.WinAPI.pas
MessageDlg button qualification	[mbOK], [mbYes, mbNo] and similar sets	[TMsgDlgBtn.mbOK], [TMsgDlgBtn.mbYes, TMsgDlgBtn.mbNo]	Qualifies generated FMX message-dialog button sets so they use the FMX/System.UITypes enum surface instead of bare VCL-style identifiers.	Converter.Core.Integration.pas
Folder picker dialog translation	TFileOpenDialog with fdoPickFolders	FMX SelectDirectory helper path	Converts folder-only browse flows to FMX directory selection and suppresses unsupported VCL dialog option constants from leaking into generated FMX Pascal.	Converter.Core.Integration.pas

Rule Name	VCL Source	FMX Output	What the New Component / Rule Does	Implemented In
Toggle user-change semantics	VCL check box / radio button OnClick semantics	FMX OnChange plus generated silent setter	Preserves user-change behavior generically by separating programmatic state assignment from user-triggered event handling.	Converter.Core.Integration.pas
Message dialog preservation	ShowMessage(...)	ShowMessage(...)	Preserves standard message dialogs rather than routing them through an extra helper layer.	Converter.Core.Integration.pas

4. Layout, Text, and Style Rules

Rule Name	VCL Source	FMX Output	What the New Component / Rule Does	Implemented In
Scoped StyledSettings emission	Styled text-capable controls with custom font/color/alignment	Scoped StyledSettings literal	Clears only the FMX style buckets actually overridden by converted font, color, and alignment settings instead of forcing StyledSettings to an empty set.	Converter.Parser.DFM.pas
Label AutoSize preservation	AutoSize and non-AutoSize VCL labels	TLabel sizing that follows the original intent	Keeps safe AutoSize behavior where appropriate and avoids over-expanding labels that were fixed-width in VCL.	Converter.Parser.DFM.pas
Fixed-width label width bump	Long single-line fixed-width labels	Wider TLabel output	Adds a mild width increase so slightly larger FMX text does not clip or crowd adjacent controls.	Converter.Parser.DFM.pas
Wrapped label width normalization	Long wrapped labels and labels with manual line breaks	Wider wrapped TLabel output	Expands wrapped labels so multiline text fits more naturally in FMX.	Converter.Parser.DFM.pas
Wrapped label height normalization	Wrapped labels that need extra vertical space	Taller TLabel output	Increases label height so wrapped text fully displays instead of truncating after the first line.	Converter.Parser.DFM.pas
Right/centered label alignment preservation	Right-justified or centered labels	Fixed-width aligned FMX label output	Preserves alignment intent and keeps labels visually aligned with nearby controls rather than forcing unsafe autosizing.	Converter.Parser.DFM.pas
Auto-sized label anchor reset	Auto-sized VCL labels carrying broad anchor sets	Default FMX anchors for auto-sized labels	Prevents FMX from stretching centered or auto-sized labels just because the source VCL label carried opposite-edge anchors.	Converter.Parser.DFM.pas
DIP-aware font scaling	VCL pixel-sized text controls	Adjusted FMX font sizes and dimensions	Applies component-aware sizing adjustments so text controls look closer to their VCL proportions under FMX device-independent pixels.	Converter.Parser.DFM.pas

Rule Name	VCL Source	FMX Output	What the New Component / Rule Does	Implemented In
Editable combo read-only safeguard	TDBComboBox converted to TComboEdit	Editable combo-edit output	Prevents VCL ReadOnly metadata from incorrectly locking editable converted combo-edit controls.	Converter.Parser.DFM.pas
Runtime font-size styled-setting release	Control.Font.Size assignments on FMX styled text controls	Generated font-size helper that clears TStyledSetting.Size first	Ensures runtime font-size changes are honored on FMX text controls whose styles would otherwise keep Size locked.	Converter.Core.Integration.pas
VCL-style text layout math preservation	Label stacking math that depends on Height after runtime font changes	Generated VCL text-height helper	Preserves vertical spacing in converted dashboards and clock-style layouts by using source label metrics instead of trusting raw FMX auto-size heights.	Converter.Core.Integration.pas
Style-resource background application	VCL styled containers with explicit background colors	Styled FMX container tinting	Applies explicit container colors through the FMX style tree so panels, group boxes, toolbars, and status bars keep their visual intent.	Converter.Core.Integration.pas
Recursive container color propagation	Nested VCL containers with explicit color usage	ApplyContainerBackgroundColor helper	Walks the FMX control tree and applies compatible background color handling to styled container hierarchies.	Converter.Core.Integration.pas

5. Runtime Helper and Code-Rewrite Rules

Rule Name	VCL Source	FMX Output	What the New Component / Rule Does	Implemented In
Bound date parser	Date text entered into converted bound edits	GeneratedTryParseBoundDate	Accepts flexible date text, validates it, and converts it safely before the dataset field is updated.	Converter.Core.Integration.pas
Bound time parser	Time text entered into converted bound edits	GeneratedTryParseBoundTime	Accepts flexible 12-hour and 24-hour time input and normalizes it for FMX-bound field updates.	Converter.Core.Integration.pas
Bound field assignment helper	Field updates from converted edits	GeneratedAssignBoundFieldValue	Centralizes type-aware field assignment so invalid values are rejected cleanly and valid values normalize through the field display logic.	Converter.Core.Integration.pas
DisplayText refresh preservation	TDBEdit.Field.DisplayText refresh logic	GeneratedGetManualFieldDisplayText	Preserves VCL data-aware display formatting such as OnGetText-driven month/day presentation when converted edits refresh from their bound field display text.	Converter.Core.Integration.pas
Bound edit commit wiring	TDBEdit-style behavior	OnChangeTracking / OnExit / OnKeyDown wiring	Wakes dataset edit mode while typing, commits on Enter or exit, and re-syncs from the field display value afterward.	Converter.Core.Integration.pas

Rule Name	VCL Source	FMX Output	What the New Component / Rule Does	Implemented In
TMemo clear normalization	TMemo.Clear	Lines.Clear	Normalizes memo-clearing calls to the FMX multiline text model.	Converter.Core.Integration.pas
Numeric Position-to-Value normalization	Track and progress Position semantics	FMX Value semantics	Normalizes common slider-style control reads and writes to FMX Value properties.	Converter.Core.Integration.pas
Combo startup popup suppression	Generated combo setup on form creation	Field sync without popup side effects	Initializes converted combo values from the bound field without calling actual popup-open logic during form startup.	Converter.Core.Integration.pas
Combo popup-close preservation	Existing OnClosePopup handlers on converted combo controls	Generated close-popup wrapper plus restore-on-cleanup	Chains original close-popup logic with generated field-sync behavior and restores the original handler for externally owned/shared combo controls during teardown.	Converter.Core.Integration.pas
External datasource handler restoration	Wrapped external TDataSource.OnDataChange handlers	Restore original OnDataChange on cleanup	Prevents generated binding cleanup from leaving a shared datasource with its handler nilled out after the form closes.	Converter.Core.Integration.pas
External navigator handler restoration	Wrapped external TBindNavigator.BeforeAction handlers	Restore original BeforeAction on cleanup	Prevents shared navigators from being left pointed at generated wrapper methods on a destroyed form.	Converter.Core.Integration.pas
Startup OnEnter guard	Side-effecting OnEnter handlers that fire during initial FMX display	Generated startup-guard enter wrappers	Prevents startup focus churn from triggering VCL OnEnter logic too early when a form first appears in FMX.	Converter.Core.Integration.pas
Deferred FormShow toggle click	Programmatic toggle state changes followed by click handler calls in FormShow	ForceQueue-deferred simulated click	Lets the FMX form finish showing before the original handler runs, which better matches VCL startup timing.	Converter.Core.Integration.pas
Media duration to milliseconds	MediaPlayer.Length-style millisecond logic	Round((Duration / MediaTimeScale) * 1000)	Converts FMX TMediaTime values into the millisecond units expected by converted VCL code.	Converter.Core.Integration.pas
Media duration to seconds	MediaPlayer.Length div 1000-style logic	Round(Duration / MediaTimeScale)	Converts FMX TMediaTime values into seconds for countdown and remaining-time calculations.	Converter.Core.Integration.pas
FMX media notify bridge	TMediaPlayer.OnNotify / Notify usage	Generated media-notify timer bridge	Emulates the VCL-style media notify pattern on FMX players by watching playback state and firing the original callback path generically.	Converter.Core.Integration.pas

Rule Name	VCL Source	FMX Output	What the New Component / Rule Does	Implemented In
Ellipse drawing helper	VCL-style ellipse fill/stroke drawing patterns	FillAndStrokeEllipse	Injects a reusable FMX helper for shape-drawing scenarios that do not map cleanly one-to-one from the VCL canvas model.	Converter.Core.Integration.pas
Client geometry normalization	CenterX / CenterY and client-size assumptions	ClientWidth / ClientHeight-aware output	Normalizes geometry calculations that depend on VCL client sizing so they make sense under FMX layout rules.	Converter.Core.Integration.pas
Hide-to-tray fallback simplification	Hide To Tray button or handler	WindowState := wsMinimized	Converts hide-to-tray niceties to a simpler FMX-safe minimize behavior rather than trying to emulate a platform tray implementation automatically.	Converter.Core.Integration.pas
Form centering float normalization	Mixed Integer/Extended center-position math	Rounded integer-safe assignment	Prevents generated form-centering code from assigning Extended expressions directly to integer Top/Left properties.	Converter.Core.Integration.pas
TMemo string collection preservation	Lines.Strings, Items.Strings, SQL.Strings, Params.Strings	Structured collection output	Preserves string-list collection properties without flattening them into invalid FMX text.	Converter.Parser.DFM.pas
StringGrid event-before-child emission	TStringGrid event properties and generated column children	Event properties emitted before child objects	Keeps generated FMX forms loadable in Delphi by preserving reader-sensitive ordering.	Converter.Parser.DFM.pas
FMX UTF-8 BOM output	Generated .fmx text with international characters	UTF-8 with BOM	Ensures accented text and international captions display correctly when opened in Delphi.	Converter.Core.FileManager.pas
DPR auto-create preservation	Application.CreateForm list in the source DPR	Preserved Application.CreateForm output	Keeps the source form auto-create list intact and suppresses the immediate extra Show call that caused FMX startup instability.	Converter.Project.Generator.pas
ShellExecute preservation	Windows ShellExecute help/document/URL launch calls	Live ShellExecute output in Windows-targeted FMX projects	Keeps valid Windows shell-launch behavior active instead of commenting it out, restoring help/document buttons and similar utilities.	Converter.Advanced.WinAPI.pas
Serial and named-pipe handle preservation	Comm-resource CreateFile / WriteFile patterns	Preserved Windows handle open/write calls	Keeps valid Windows serial-port and named-pipe communication paths live instead of downgrading them as ordinary file I/O.	Converter.Advanced.WinAPI.pas

Rule Name	VCL Source	FMX Output	What the New Component / Rule Does	Implemented In
Process-control preservation	GetExitCodeProcess / TerminateProcess around preserved CreateProcess flows	Live Windows process-control output	Keeps partial process-runner code from breaking by preserving the surrounding Windows process-status and termination calls when the process path is already being preserved.	Converter.Advanced.WinAPI.pas

6. Analysis, Catalog, and Review Rules

Rule Name	VCL Source	FMX Output	What the New Component / Rule Does	Implemented In
Explicit matrix export	Current mapper state	JSON inventory and matrix artifacts	Exports RTTI inventories plus explicit class, property, and event matrices so coverage can be audited from the compiled mapper.	Converter.Mapper.Component.pas
Third-party component catalog	Known VCL components and compatibility metadata	Catalog-backed FMX suggestions	Provides a compatibility catalog used during analysis and documentation of what maps directly, what needs bindings, and what needs redesign.	Converter.Advanced.ThirdParty.pas
Manual-review comment emission	Unsupported or risky VCL patterns	FMX manual review comments	Leaves review markers only where the converter still needs the user to make a conscious follow-up decision.	Converter.Advanced.CriticalAreas.pas; Converter.Parser.Pascal.pas; Converter.Core.Integration.pas
Critical-area reporting	Message maps, WinAPI-heavy code, unsupported patterns	Conversion report output	Collects risky patterns during conversion so they can be surfaced for later inspection.	Converter.Advanced.CriticalAreas.pas; Converter.Core.Engine.pas
Live mapping reference tabs	Current mapper knowledge	Component / Property / Event map pages	Uses the same mapper and discovery paths that drive conversion so the on-screen reference tabs reflect the compiled v7.0 knowledge base.	MainForm.pas
Pascal include analysis	{$I} and {$INCLUDE} directives	Analysis-first include handling with safe copy	Analyzes include contents for VCL, Winapi, and message usage, copies source-tree includes to output, warns on missing/outside-tree files, and guards recursive/nested include chains.	Converter.Core.Engine.pas
Windows messaging contract policy	WM/CM/CN/ common-control messages, WndProc, message declarations, message APIs	Category-based conversion or manual-review reporting	Converts only reliable cases, preserves mixed system-command behavior as manual review, ignores comments/strings/false positives, and emits source-line report details for unsupported messaging.	Converter.Advanced.WinAPI.pas; Converter.Parser.Pascal.pas; Converter.Rewrite.AutoFixes.pas

Rule Name	VCL Source	FMX Output	What the New Component / Rule Does	Implemented In
Protected conditional uses cleanup	VCL/Winapi units inside protected or conditional uses blocks	Contract-tested uses normalization	Removes stale VCL units such as Vcl.Themes when active generated output no longer needs them, while preserving Windows units only when active code still requires them.	Converter.Rewrite.UsesClause.pas; Converter.Core.Integration.pas
Inventory-based runtime companion reporting	Real runtime-support files in the source root	Actionable staged/found report entries	Copies runtime companions from the source root only, avoids ambiguous build-output duplicates, filters out build folders, and reports only meaningful staged or still-manual items.	Converter.Project.Generator.pas
Executable conversion contracts	Small Delphi fixtures plus .expected.json files	Contract runner assertions	Runs 227 v7.0 expectations against generated output and report text so structural rules are tested before release.	contracts; tools/run_conversion_contracts.ps1
Report wording clarity	Distinct-file issue count and staged companion wording	Clearer text and HTML report labels	Clarifies that the report count is for distinct files needing attention and uses explicit staged-runtime wording in both report channels.	Converter.Core.Engine.pas; Converter.Project.Generator.pas
Generic release hygiene	Project-specific identifiers in converter source	Audit and sweep checks	Supports the generic/public release process by allowing the converter source to be scanned for forbidden project-specific markers.	GENERIC_RULE_AUDIT_2026-03-20.txt; generic sweep process

End of reference.

V7 Atlas language support and operating safeguards

Last changed October 15, 2026

VCL2FMXConverter v7.0 Atlas retains the established conversion workflow and adds 35 selectable interface language packs, translated display messages and reports, and online translation of Help. Language packs do not add conversion rules or translate generated applications. V7 also includes input, output and encoding safeguards described in this edition; it is not strictly a language-only code change.

Choosing a language

Choose a language in the header. The 35 bundled interface packs work offline and the preference is saved. On first use the language manager can select a matching system language. Missing packs fall back to English. Display messages and reference descriptions are translated; technical identifiers retain their spelling. The language selected when conversion starts is used for saved text and HTML reports. Existing reports are not rewritten when the interface language changes. Canonical JSON reports retain their English schema and data.

Reading translated Help

Help opened from Atlas uses a local HTTP server and passes the selected language to the manual. Keep Atlas running while browsing that Help session. Automatic Help translation requires Internet access; English Help remains available offline. Help hosted as ordinary web pages uses its language selector and can inherit the

website selection. Opening local HTML directly with file:// does not provide the same online translation behavior. PDF and DOCX guides are supplied in English.

Editing and adding translations

Use the Delphi App Translation Studio with the matching V7 source workspace. Open the translation project/catalog under Localization/Development, scan the application, edit translations and glossary entries, run Validation, then Export Runtime Pack. Install the locale JSON under Localization/Languages beside the executable and restart Atlas. Back up customized packs before replacement. For a new language, create a catalog for that target locale rather than relabeling an existing pack. Check placeholders, technical names, long labels and right-to-left layout. A new Help language also needs a supported language mapping in the separate Help selector. Editing an interface pack does not change the online Help translation service.

Translation review

The included language packs are machine-generated and have not been reviewed by native speakers. Translation problems can be corrected using the Delphi App Translation Studio or reported to the developer with the locale, current wording and proposed correction. For a complete procedure, see the V7 Translation Guide and the Help topic Using and maintaining translations.

Source and output checks

Select one original VCL project and a separate output folder. V7 resolves paths before conversion, checks project selection before output cleanup, rejects ambiguous or mismatched DPR/DPROJ selections, and blocks empty input and unreadable source files. Scanned directory links and reparse points, and hard-linked output files, are rejected. Dry-run preview may write reports and create the output directory, but does not write converted source or remove existing build/history folders. Report actions use only paths produced by the current run.

Text encoding

Input text detection supports UTF-8, UTF-16 and explicit supported Pascal code-page directives. Without a byte-order mark or directive, valid UTF-8 is preferred; other legacy bytes use Windows-1252. Convert other legacy encodings to UTF-8 in Delphi before conversion. Generated Pascal output is UTF-8, and active code-page directives are normalized to {$CODEPAGE UTF8}. This can change generated text without changing the intended conversion rule.