

SEE WHAT'S COMING IN DELPHI, RAD STUDIO™ AND C++BUILDER

RAD STUDIO™ FIRST LOOK WEBINAR | SEPT. 2, 2015



See What's ~~Coming~~ Available in RAD Studio, Delphi and C++Builder

RIDE THE WINDOWS 10 RELEASE WAVE



RAD Studio™ 10 Seattle

Product Launch

RAD Studio “10 Seattle”

- Going beyond the RAD Studio XE series
 - Which brought to you 64bit Windows, Mac, iOS and Android, FireUI multi device designer and more
- 10 Seattle: A renewed developer experience
 - Ready to become a classic edition
- Tied to the Windows 10 release
 - The renewed Windows experience

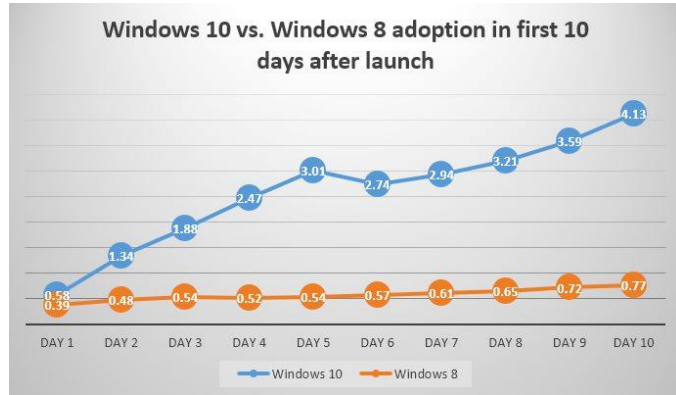
Trial version is available. Try it today!

Session Summary

- Today's Landscape: Windows 10, but not only
- RAD Studio focus and strategy
- The new technologies in RAD Studio 10 Seattle
 - C++11 Win32 compiler
 - Incredible Windows 10 Support
 - Double the IDE power
 - And much more...

Windows 10 Launch a Success

Over 4% total market share in first 10 days



Over 75M installations in the first month, according to Microsoft

THE VERGE

TRENDING NOW
Apple iPhone event announced for Wednesday, September 9

LOG IN | SIGN UP | LONGFORM | REVIEWS | VIDEO | TECH | SCIENCE | ENTERTAINMENT | CARS | DESIGN | US & WORLD

PREVIOUS STORY
Giving Minecraft a story

NEXT STORY
Shadowrun: Hong Kong is where nos plus cyborg elve

MICROSOFT | TECH

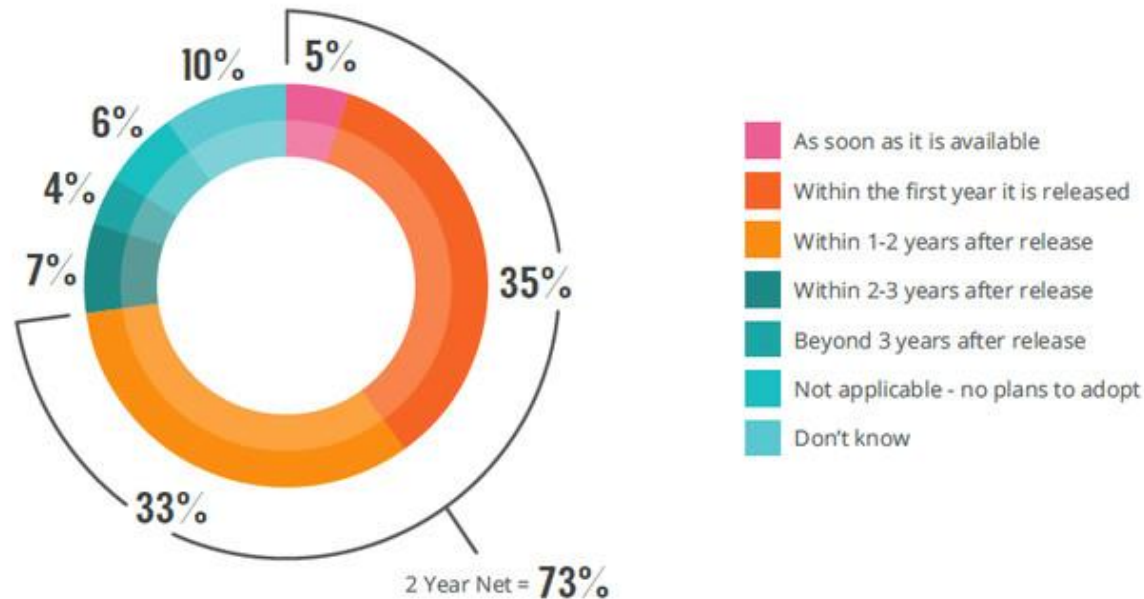
Windows 10 is now installed on 75 million PCs after just four weeks

By Tom Warren on August 26, 2015 09:34 am [@tomwarren](#)

<http://news.softpedia.com/news/windows-10-vs-windows-8-in-the-first-10-days-after-launch-488994.shtml>

40% of Business to Adopt Windows 10 in 1st year

Windows 10 Adoption Timeline for Businesses



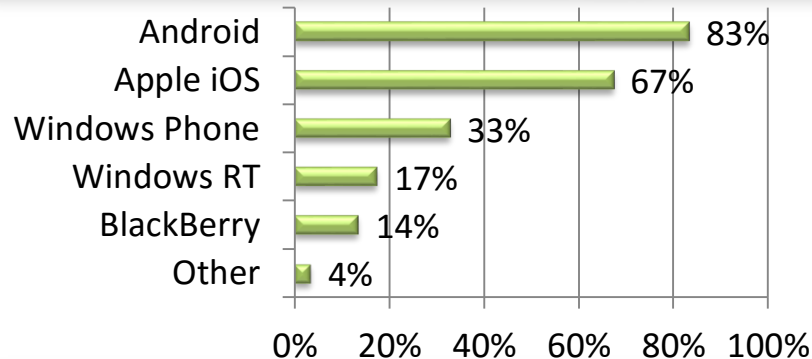
<http://www.neowin.net/news/survey-finds-40-of-businesses-want-to-adopt-windows-10-in-the-first-year>

Windows Developers Perspective

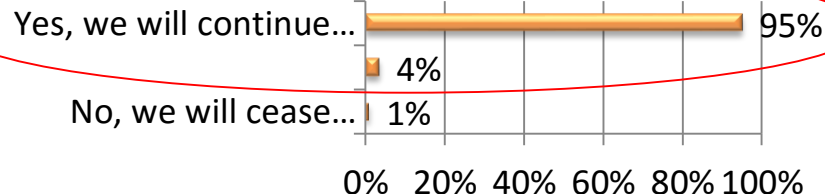
Multi-Platform with Windows Focus

- Windows developers are going mobile
 - Primarily Android and iOS
- However, 99% committed to continuing Windows development

What mobile platforms are most important for your users to have applications for? Choose all that apply.



If you deliver these mobile applications, will you still be required to develop and support your existing Windows applications?

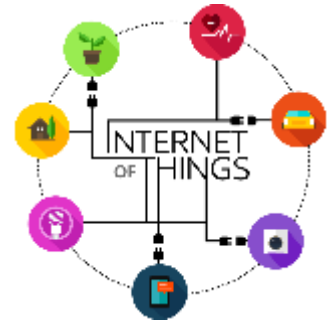


Mobile Trends Keep Rising

- 337M smart phones sold in Q2 2015 (Source IDC)
 - Over 1B/year
 - An estimate 2.5B in use today
- Android and iOS combined cover 95% of the market

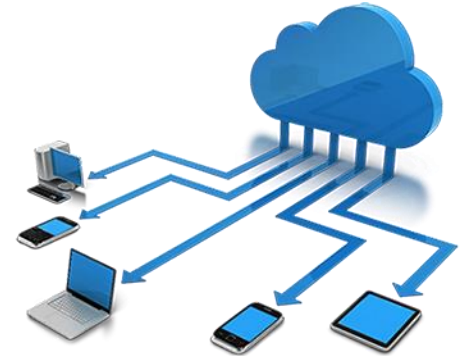
IoT is “Exploding”

- Internet of Things has tremendous growth
 - Countless number of devices getting “smart”, “connected”, and sending data to apps
- Transforming retail, marketing, production, entertainment, traveling, sports...



Cloud Connectivity is a Foundation

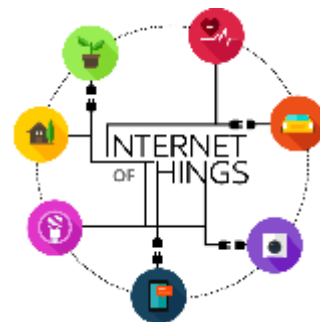
- Amazon AWS and Microsoft Azure on the growth trajectory
 - More business players getting into Cloud and BaaS
 - “Backend As a Service” mobile providers
- Data Connectivity is a given
 - Local caching is a big plus



What is RAD Studio?



The Ultimate Application Development Platform for Windows, Mac, Mobile, and IoT



RAD Studio 10 Seattle is the fastest way to build and update data-rich, hyper connected, visually engaging applications for Windows 10, Mac, Mobile, IoT and more.

Data-Rich, Hyper Connected, Visually Engaging

Data-Rich: FireDAC, Oracle, MongoDB, JSON, XML

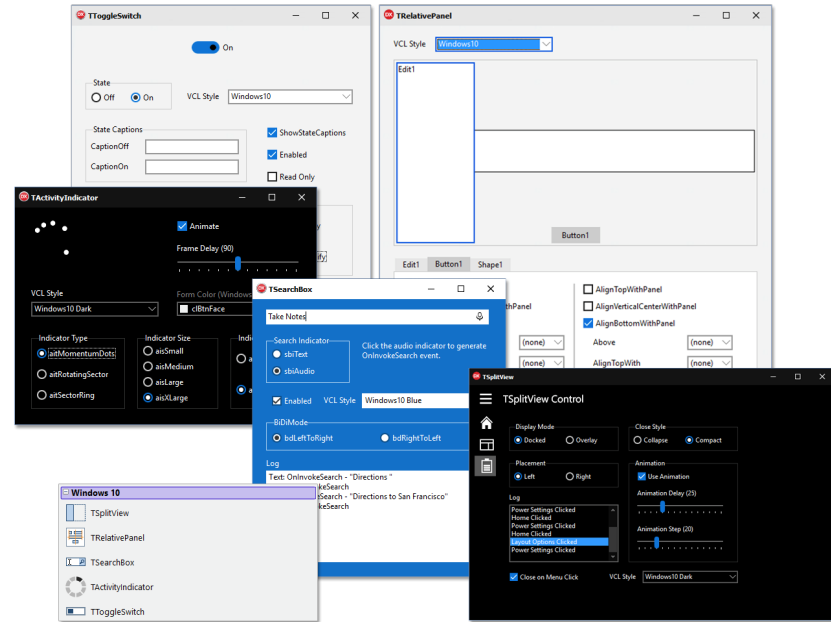
Hyper-Connected: Net, Wifi, Bluetooth/LE, Cloud, BaaS

Visually Engaging: VCL and FMX, Windows 10 and Multi-device



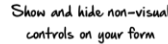
Incredible Windows 10 Support

- New VCL Controls, for Windows 10 User Experience
- Windows 10 Styles
- Universal Windows Platform (UWP)/WinRT Services and Components
 - Notifications and Contracts



- Re-architected IDE gets double the memory
- Build and debug large projects with millions of lines of code
- Over 20 new productivity features
 - Multi-Paste, Filterable Object Inspector, Editor File AutoSave , etc.

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Code Navigation Toolbar for easy access to classes and methods

- Clipboard History for access to previously copied content

Project Statistics to get a clear picture of team productivity

Multi-Paste for modifying previously copied text and pasting it into the Code Editor

RAD C++ for Windows and Mobile

- New C++ 11 language support for Win32
- CLANG enhanced toolchain supports:
 - C++11 Standard
 - RAD PME and rich RTTI
 - ARC for mobile

32-bit and 64-bit Windows



Share standard C++11 code across
32-bit and 64-bit Windows

iOS and Android

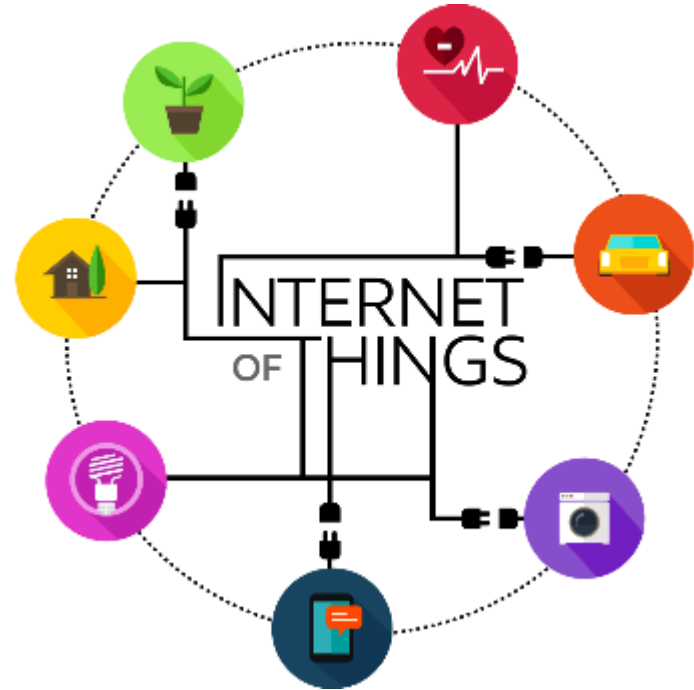
Hyper-Connected

Connect native client platforms, mobile extensions, smart devices, cloud services, Enterprise and embedded data



IoT Ready

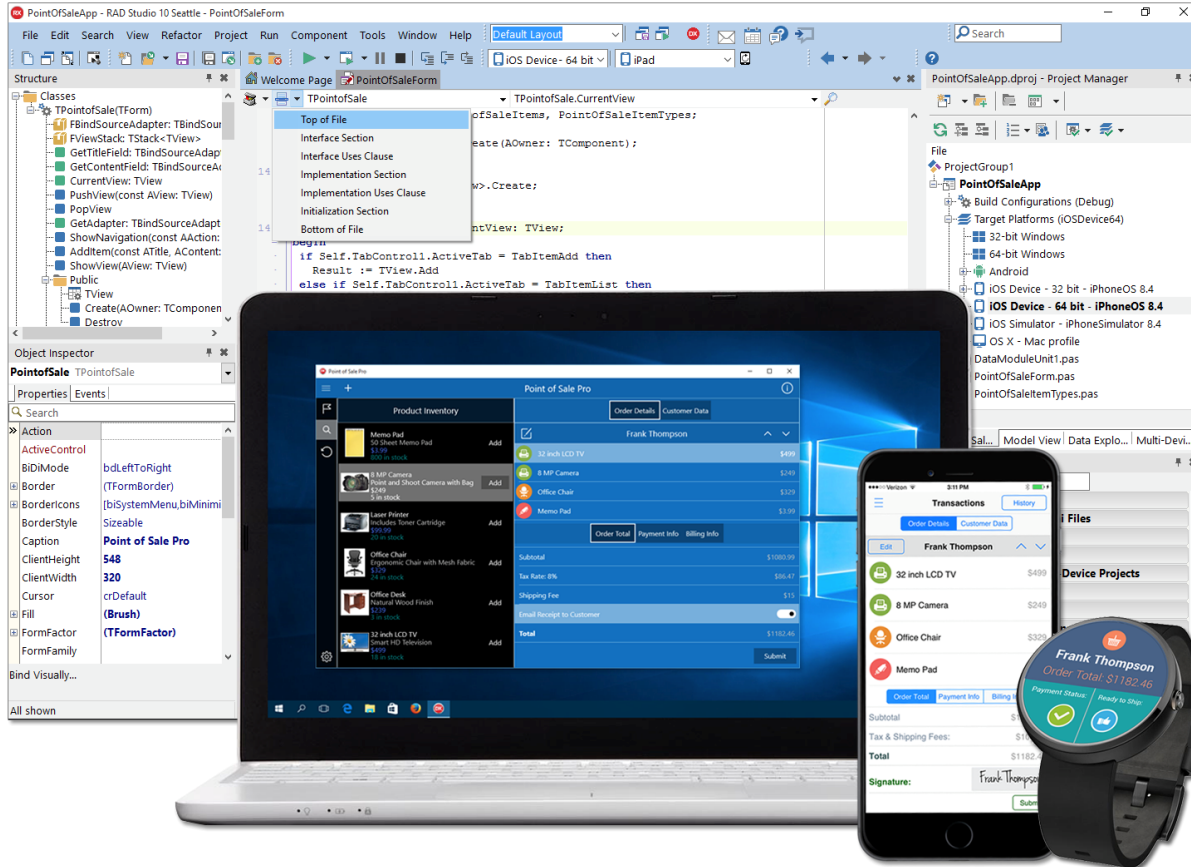
Extend apps with new Internet of Things capabilities: proximity awareness, devices, and sensor data collection



It's RAD! You Deliver Applications Faster

- Rapid Application Development means *fast development with solid architectures*
- Deliver applications up to 5x faster
 - Across multiple desktop and mobile operating systems
 - Across cloud and database platforms
 - Including 32-bit and 64-bit Windows 10

RAD Studio 10 Seattle: For Developers



“RAD Studio 10 Seattle is the most stable release of RAD Studio I can remember! Now I can target all major platforms with a unified code base and developer experience.

José A. Sánchez

CEO & Founder - Darcy Software



RAD Studio™ 10 Seattle

RAD Studio 10 Seattle

PLATFORMS AND COMPILERS

RAD Studio 10 Seattle Compilers

- Object Pascal and C++ Compilers
- Windows 32-bit and 64-bit
- Mac OS X
- Android ARM v7
- iOS Armv7, iOS Arm 64-bit
- iOS Simulator (Object Pascal only)

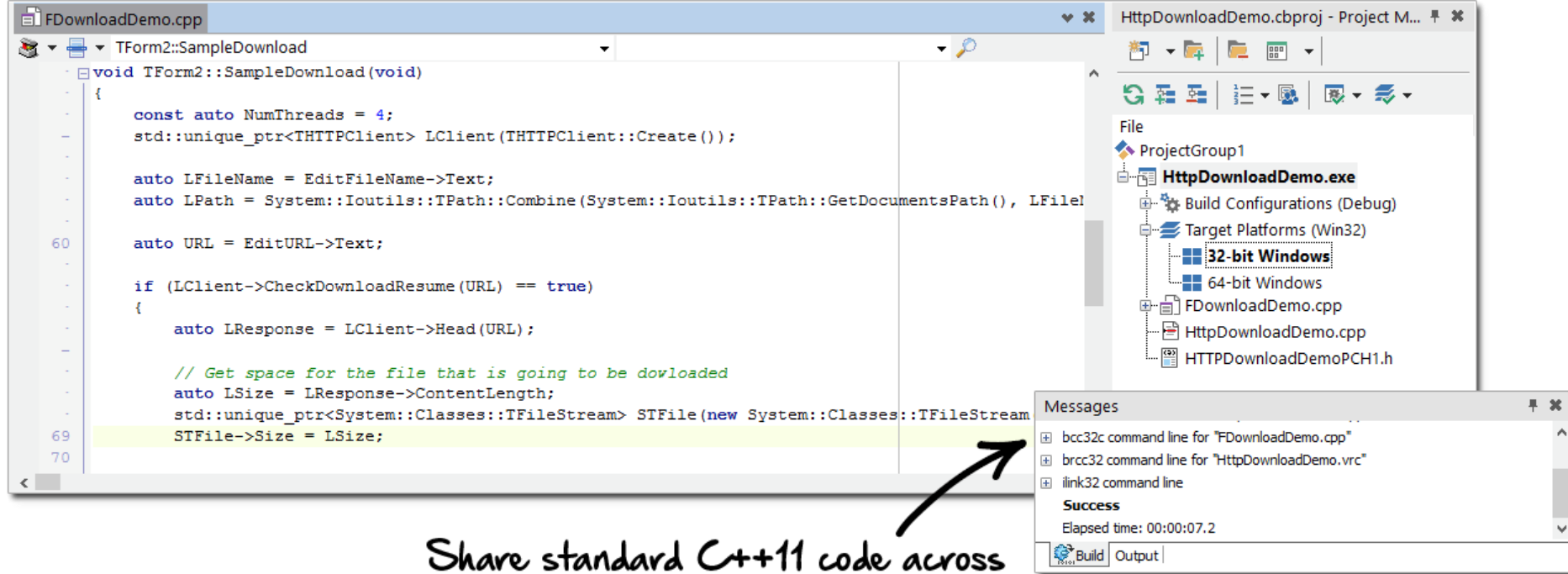
Total: 7 OP and 7 C++ compilers



New C++ Compilers in 10 Seattle

- New LLVM-based C++ compiler for Win32
 - Called bcc32c
 - “Classic Borland compiler” (bcc32) still available for higher compatibility
 - Win32 and Win64 compilers based on version 3.3 of CLANG and LLVM are “CLANG-enhanced”
- Full C++ 11 language specification support
- Also, C++ multi-threaded compiler

Standard C++ for Win32, Win64, and Mobile



Share standard C++11 code across
32-bit and 64-bit Windows

New C++ 11 Language Features for Win32

- auto
- nullptr
- Smart pointers
- Lambdas
- Move semantics
- Range-based for loops
- Override and final
- Strongly-typed enums
- non-member begin() and end()
- static_assert and type traits



“With Standard CLANG-based C++11 support, RAD Studio 10 Seattle enables us to write code once, deploy-anywhere!

Andrew Law, HGL Dynamics

“There is a lot to love with C++Builder 10 Seattle.

Ludo Stroetenga, Stroetenga Design



RAD Studio™ 10 Seattle

RAD Studio 10 Seattle

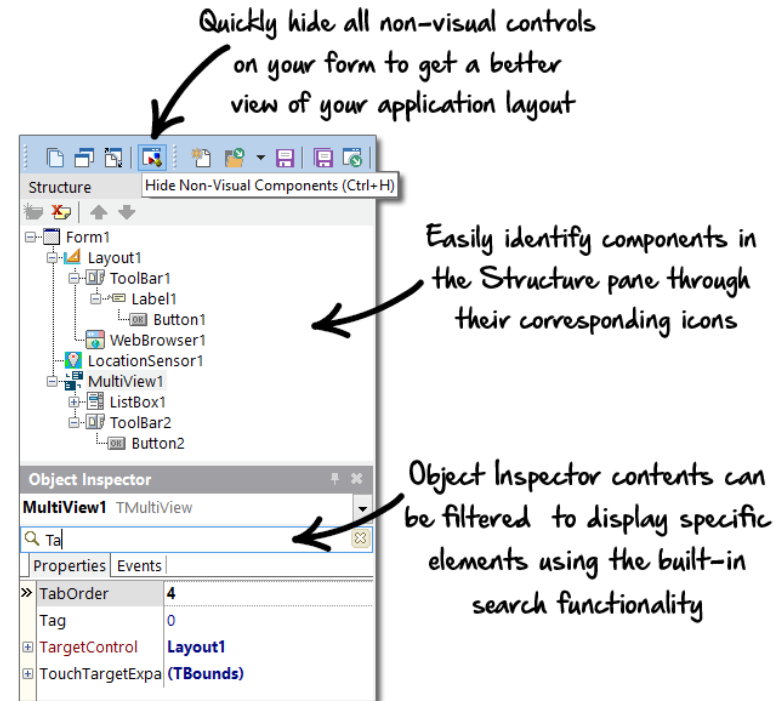
DOUBLE THE IDE POWER

Build Larger Projects within the IDE

- Twice the Memory
 - IDE and integrated compilers can use twice the available memory than previous versions
- Optimized Unit Caching
 - When building multiple projects in a project group
- Source Code File Auto Recovery
 - In case of a crash, source code files can be auto recovered

Enhanced IDE Experience

- Hide non-visual components
- Filter the properties in the Object Inspector
- Structure View has new component icons
- Extended Multi-Monitor support in the IDE



IDE Productivity Enhancements

Code Navigation Toolbar for easy access to classes and methods

Show and hide non-visual controls on your form

Identify components in the Structure pane through their corresponding icons

Filter properties and events using the built-in search functionality

Clipboard History for access to previously copied content

Project Statistics to get a clear picture of team productivity

Multi-Paste for modifying previously copied text and pasting it into the Code Editor

The screenshot shows the Embarcadero IDE interface. The main window is the Code Editor, displaying a form's code. Overlaid windows include the Structure pane (showing the form's components), the Object Inspector (showing the selected component's properties and events), the Project Statistics window (showing a pie chart of team productivity), the Clipboard History window (showing a list of copied content), and the Multi-Paste window (showing options for pasting text).

Structure Pane: Shows the form's components, including Form1, Layout1, Label1, Button1, WebBrowser1, LocationSensor1, MultiView1, ListSort1, Toolbar2, and Button2. The Object Inspector shows the selected component's properties and events.

Project Statistics: A pie chart showing the distribution of team productivity. The data is as follows:

Category	Time
Editing	0:01:58
Designing	0:00:01
Inspecting	0:00:01
Compiling	0:00:06
Other	0:02:37
Total	0:04:42

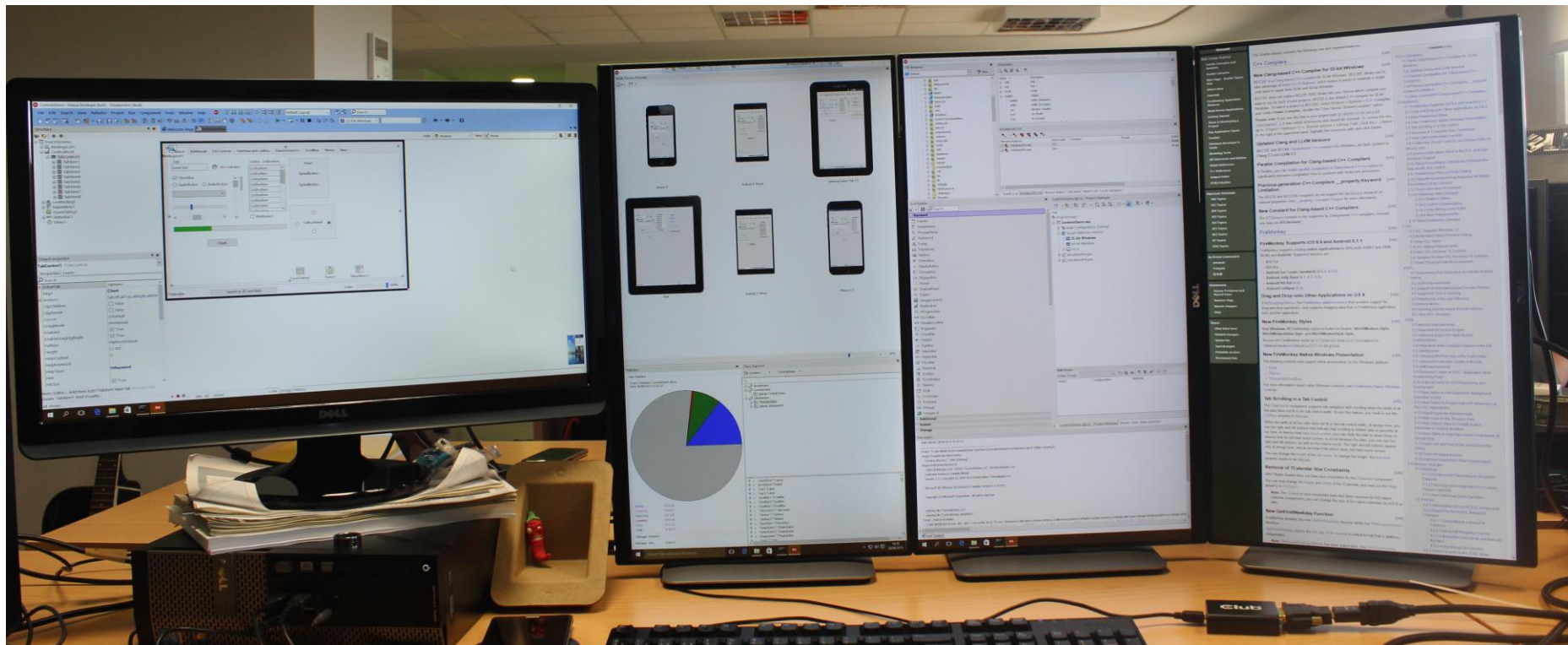
Clipboard History: A list of copied content, including code snippets like `AppAnalytics1.AllowTracking := Reader.ReadBoolean;` and `AppAnalytics1.UserID;`.

Multi-Paste: A window for pasting text into the code editor. It includes options for text before and after each line, escape quotes, Pascal style, and trim clipboard contents.

IDE Productivity

- Fully integrated project statistics
- Clipboard history, multi-paste support
- Smart keys
- Flow control and structural highlights
- Code navigation toolbar
- And more

Better Multi-Monitor Support in the IDE

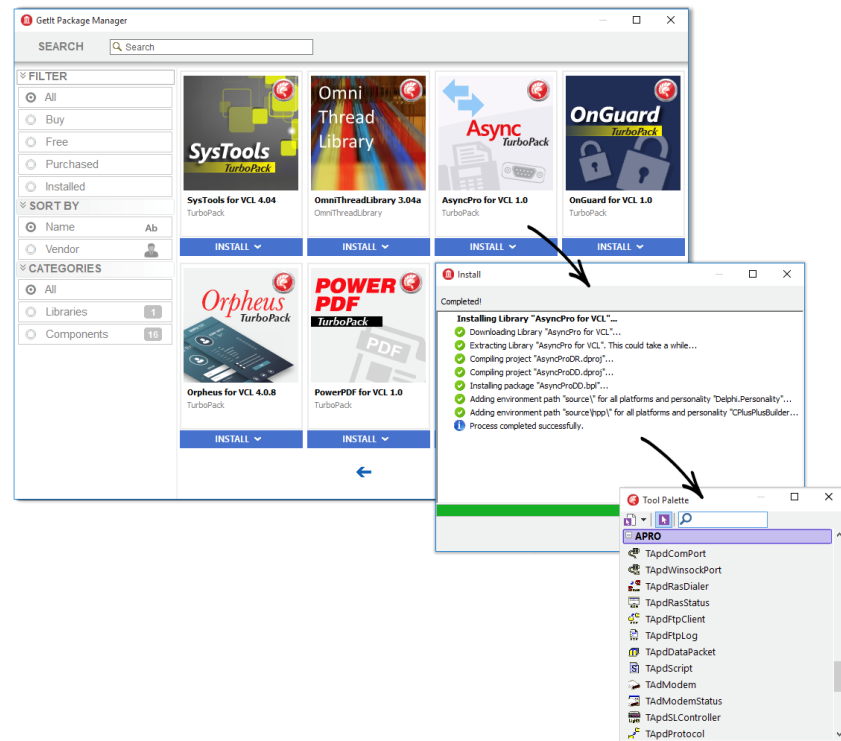


More IDE Enhancements

- Object Pascal Function Synchronization
- And integrated tools enhancements
 - DUnitX support for mobile platforms
 - Updated integrated SVN libraries (1.8.13)

Stay Connected From the IDE

- GetIt Enhancements
 - Categories and filters
- Community Toolbar
 - Messages
 - Events
 - Questions



“Thanks to the expanded memory available to the IDE, the increased stability and speed of large projects makes RAD Studio 10 Seattle a must!

Claudio Piffer



RAD Studio™ 10 Seattle

RAD Studio 10 Seattle

INCREDIBLE WINDOWS 10 SUPPORT

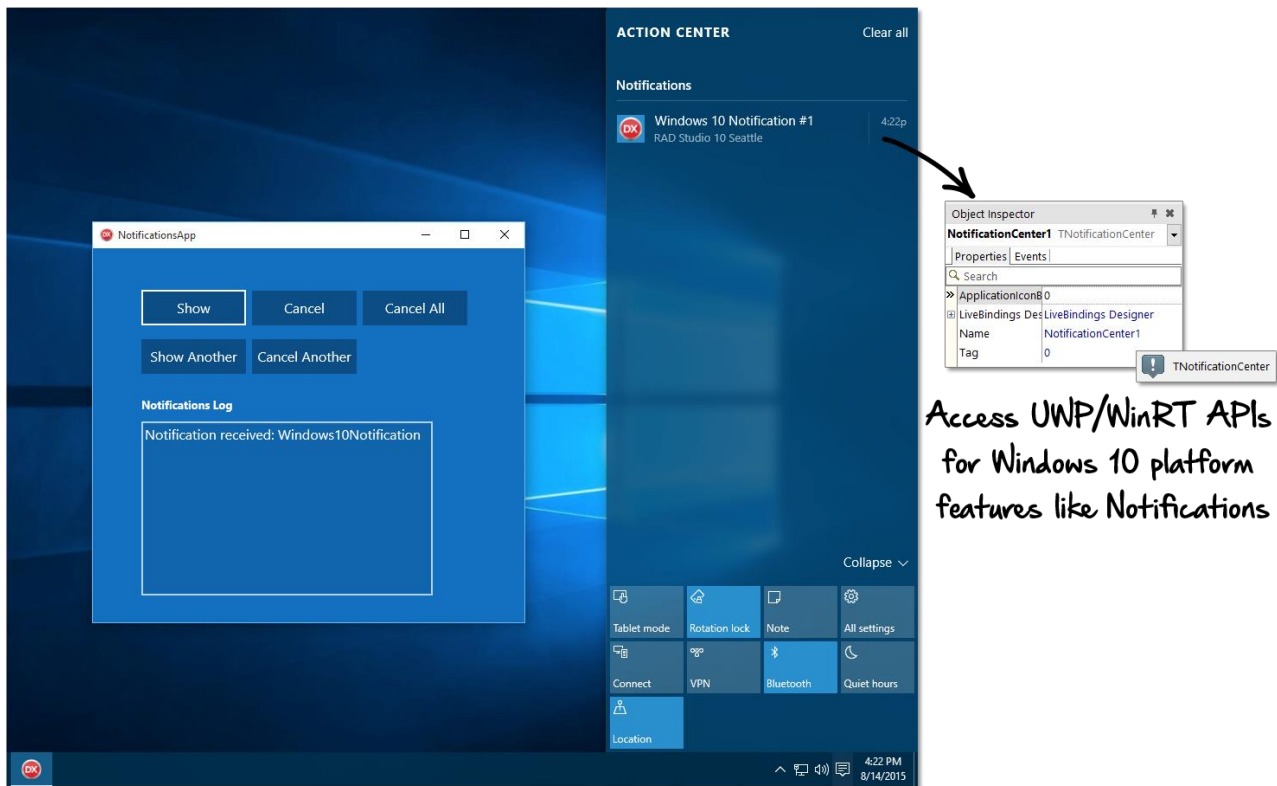
RAD Studio Windows Support

- Unparalleled support for Windows platform
- The VCL is the best and most complete component library for native Windows
 - Integrating Win32, Win64 and now also WinRT APIs
- FireMonkey offering seamless multidevice support and much improved Windows desktop support

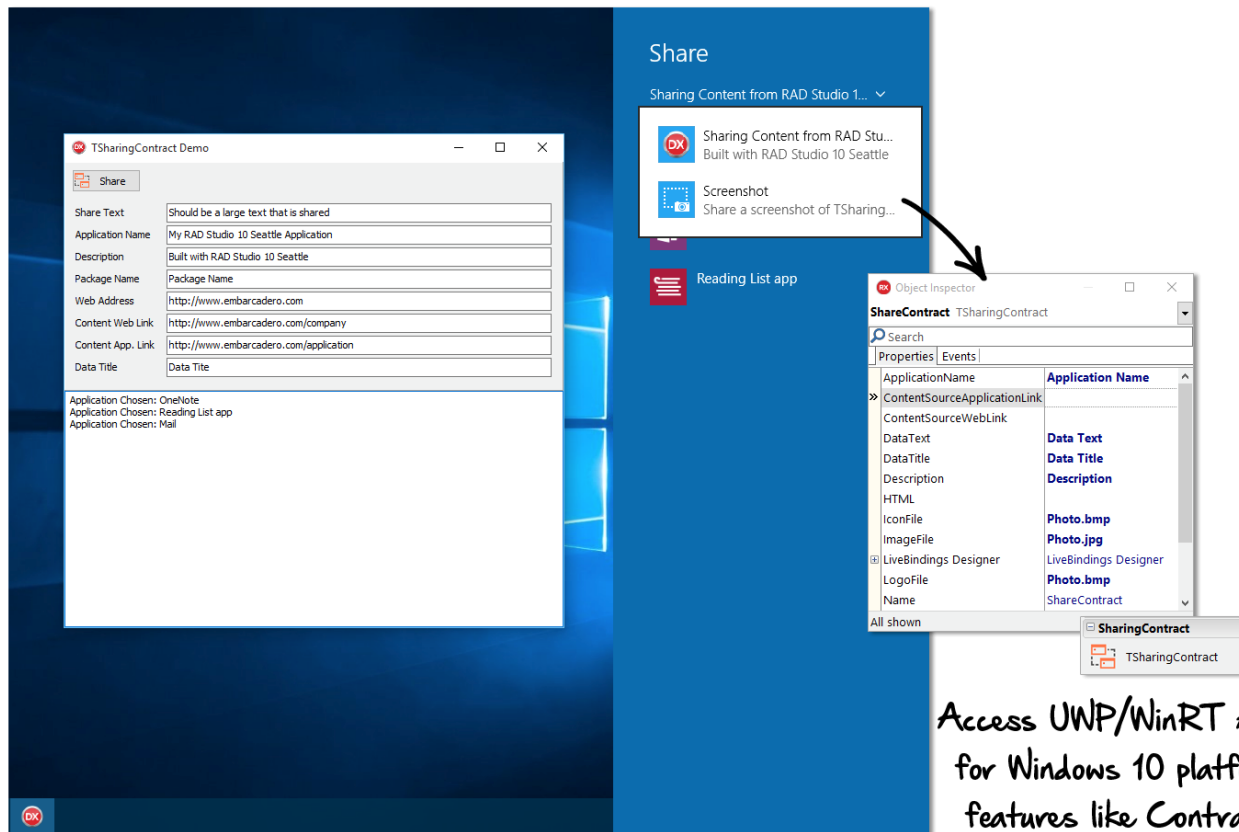
WinRT / UWP Integration

- *New in “10 Seattle”:*
Universal Windows Platform integration
- WinRT API mapping and Object Pascal interfaces
 - Windows 10 Notifications
 - Windows 10 Contracts (source only)
- Future plan to expand significantly via Microsoft Project Centennial

UWP/WinRT Notifications



UWP/WinRT Contracts



The screenshot illustrates the UWP/WinRT Contracts framework. It shows a 'TSharingContract Demo' application with a 'Share' button. The 'Share' app displays a list of shareable content, including 'Sharing Content from RAD Studio 10 Seattle' and 'Screenshot'. An arrow points from the 'Screenshot' item in the 'Share' app to the 'Object Inspector' window, which shows the 'ShareContract' properties.

Share Contract Properties:

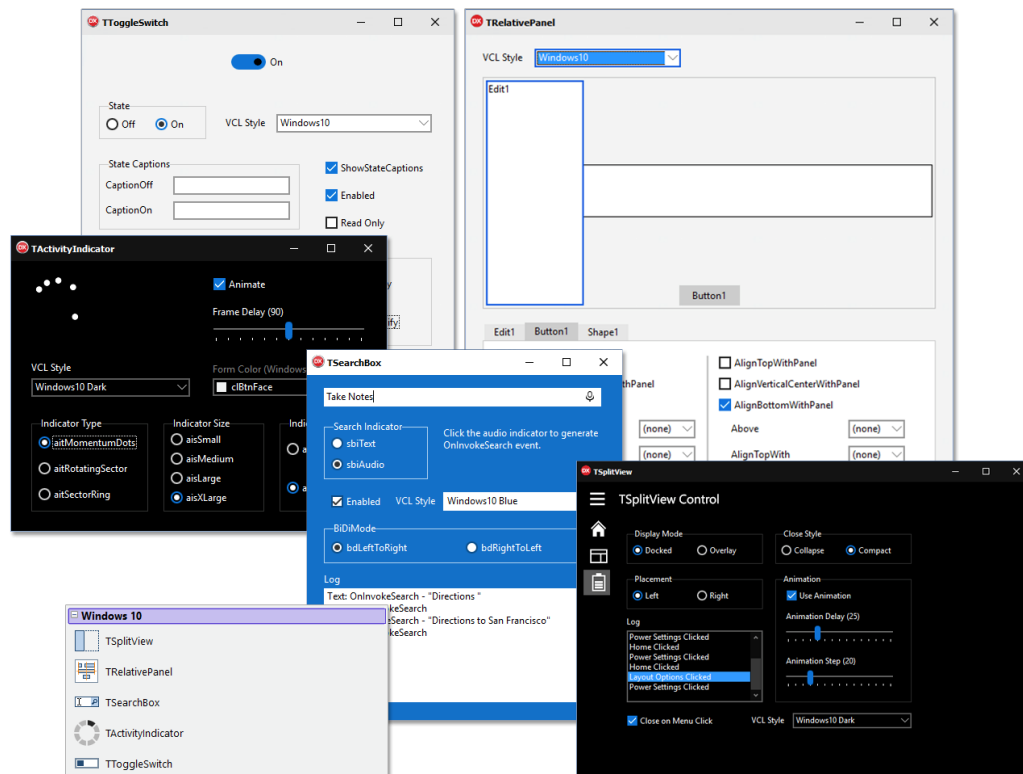
Property	Value
ApplicationName	Application Name
ContentSourceApplicationLink	
ContentSourceWebLink	
DataText	Data Text
DataTitle	Data Title
Description	Description
HTML	
IconFile	Photo.bmp
ImageFile	Photo.jpg
LiveBindings Designer	LiveBindings Designer
LogoFile	Photo.bmp
Name	ShareContract

Access UWP/WinRT APIs
for Windows 10 platform
features like Contracts

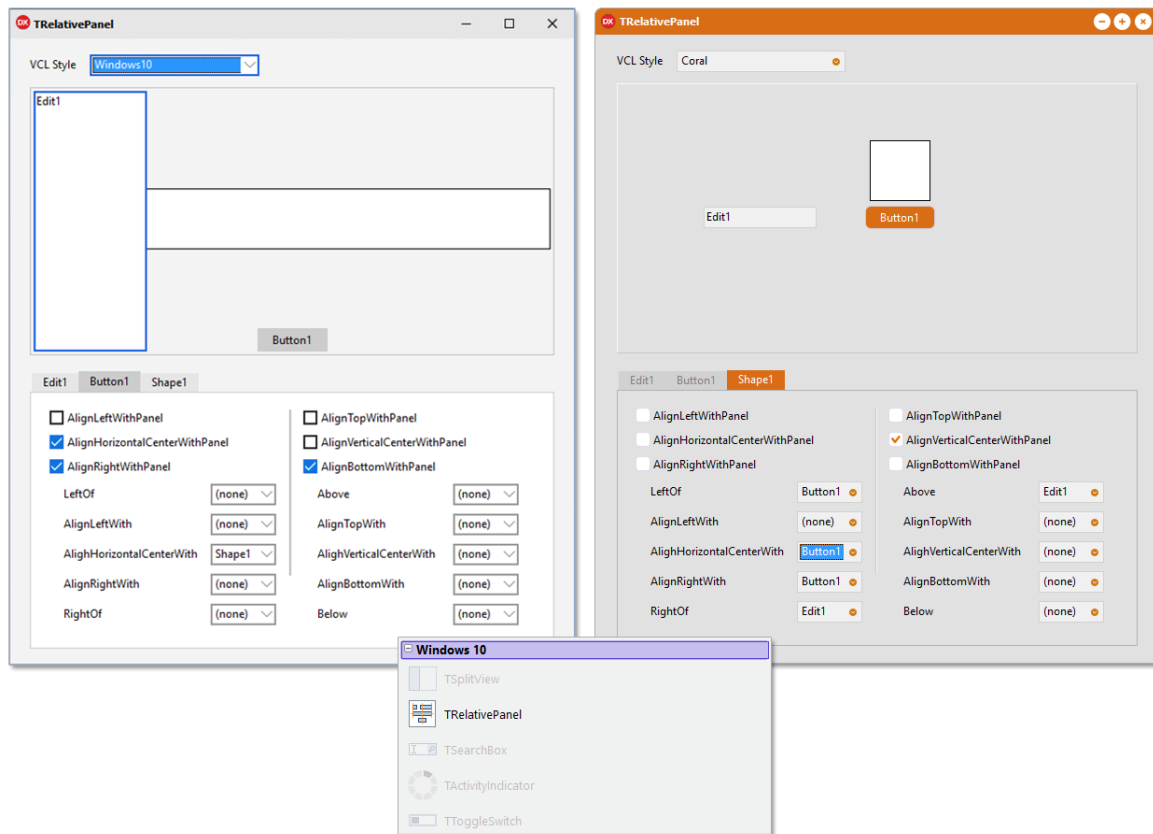
New Windows 10 VCL Controls

- A great set of new VCL “visual controls”
- Native VCL controls mapping common Windows 10 UI elements
 - Not tied to WinRT API, will work also on Windows 7 and 8
- 5 controls: RelativePanel, ToggleSwitch, SearchBox, SplitView, and ActivityIndicator

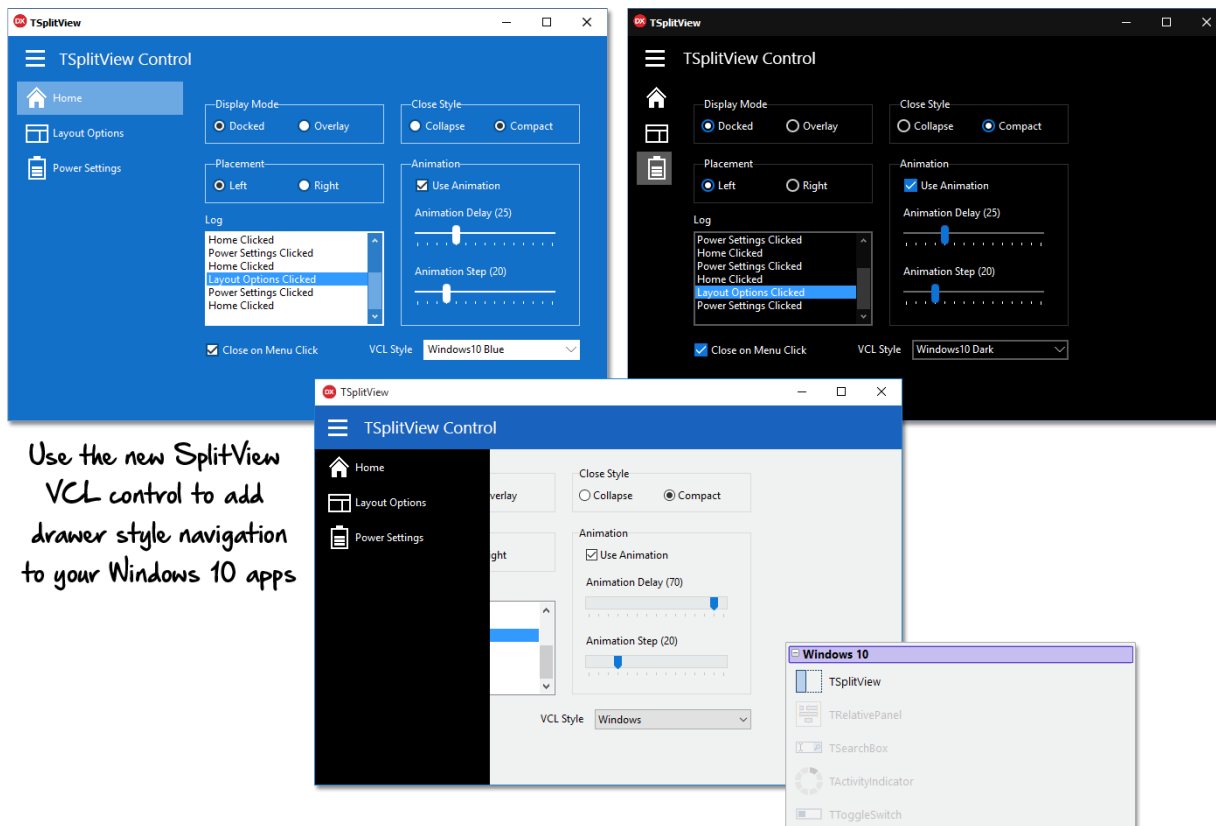
New VCL Controls for Windows 10: Overview



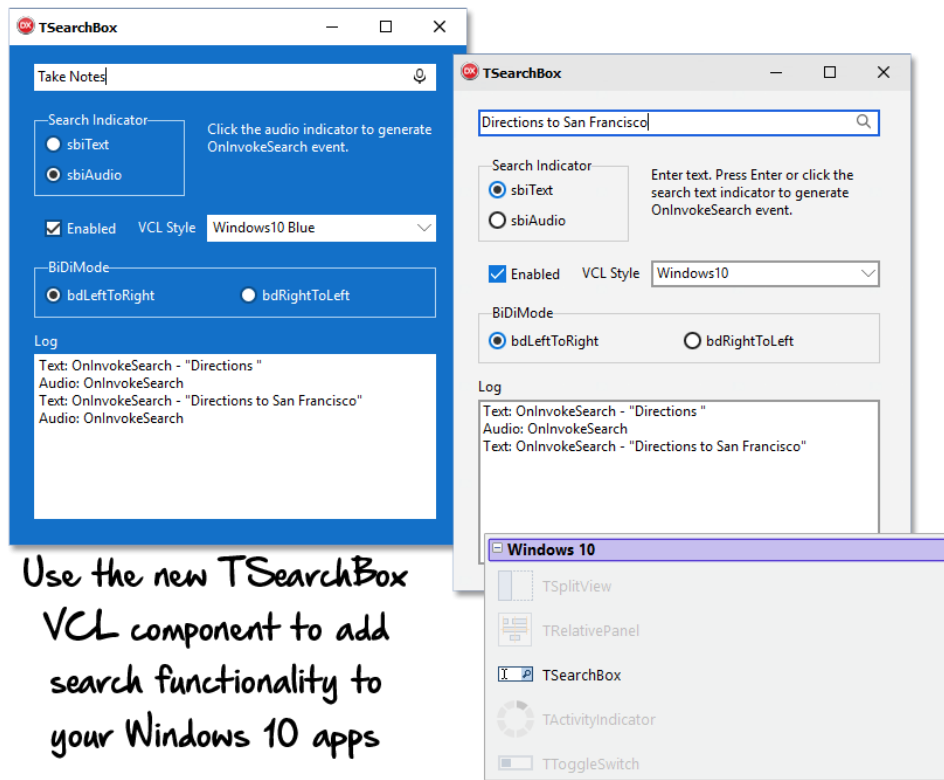
Relative Panel VCL Control



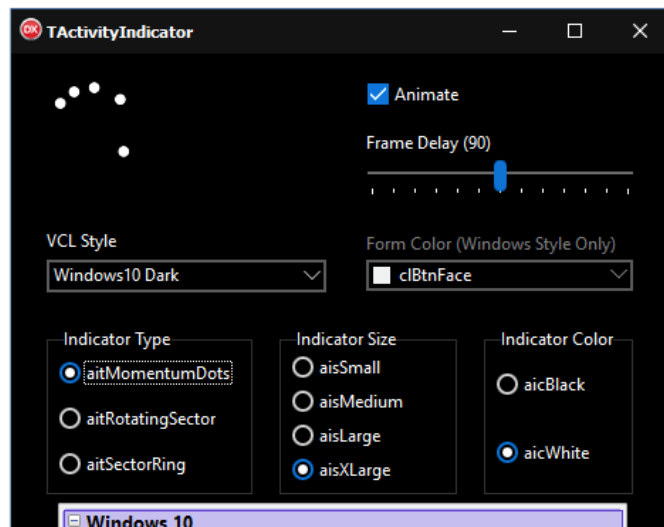
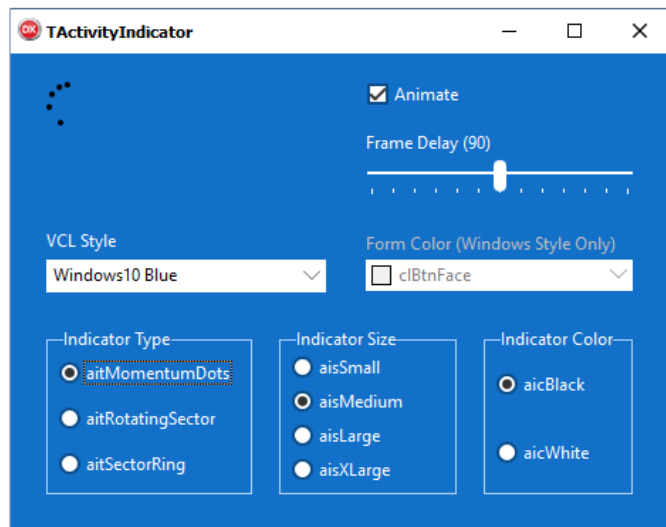
SplitView VCL Control



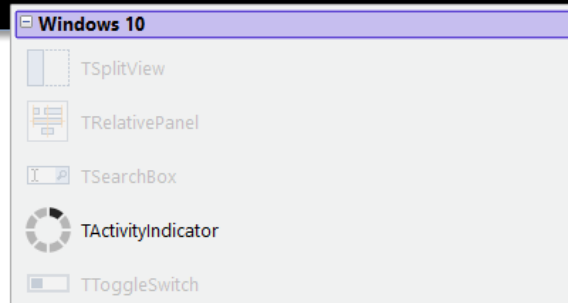
SearchBox VCL Control



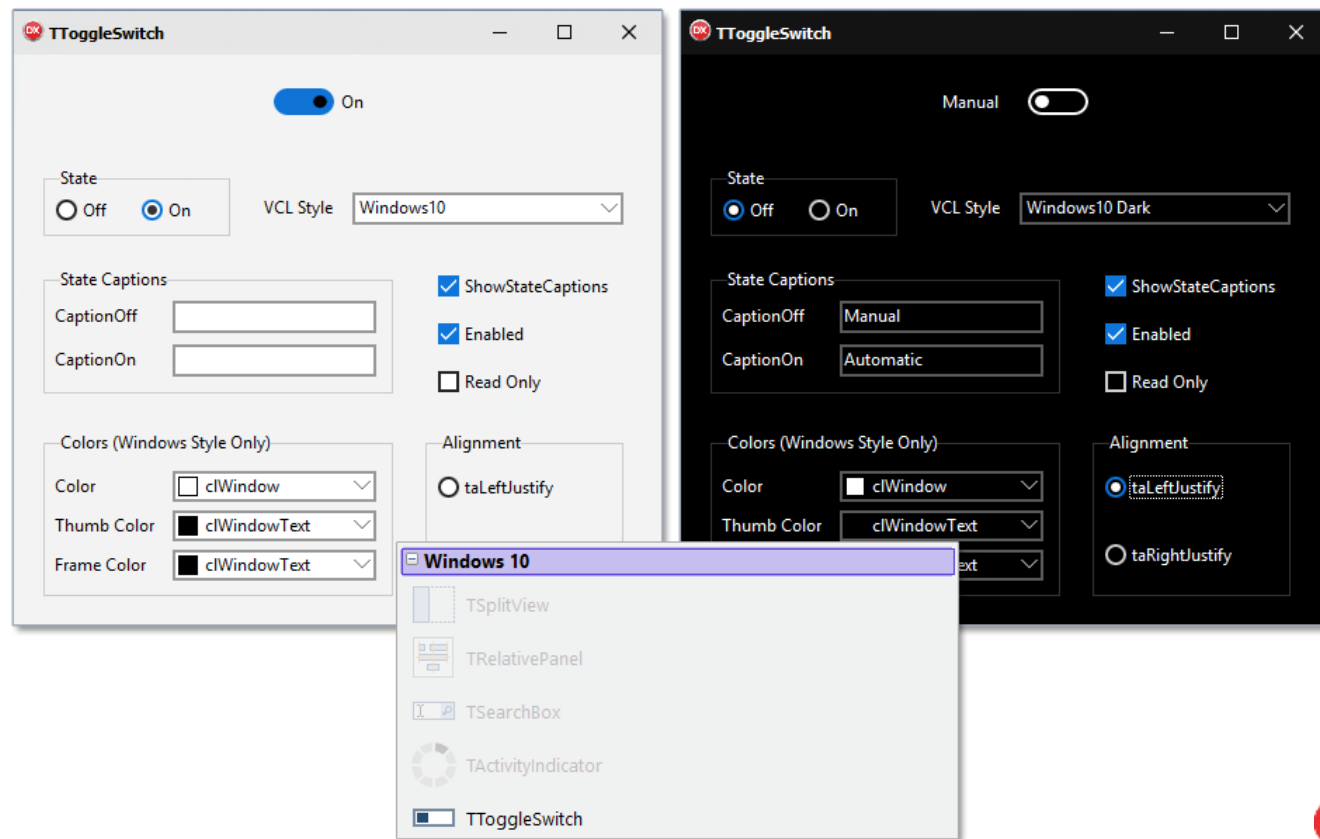
ActivityIndicator VCL Control



Choose from various loading spinner styles for your Windows 10 applications using the new TActivityIndicator VCL control

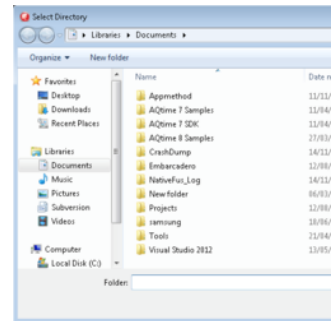


ToggleSwitch VCL Control



High-Res Monitors and Multi-Monitor

- Support for 4K monitors
 - Enable manifest setting in Project Options
- Per-monitor DPI in VCL
 - For Windows 8.1 and Windows 10
- Also, modern-looking SelectDirectory dialog
 - For VCL applications and for the IDE



VCL Styles for Common Dialogs

The image displays two side-by-side windows titled "VCL Styling for Common Dialogs".

The left window, labeled "Windows 10 Blue Style", features a blue-themed interface. It contains buttons for various dialog types: TOpenTextFileDialog, TOpenDialog, TPrintDialog, TFontDialog, TOpenPictureDialog, TPageSetupDialog, TFindDialog, TColorDialog, and TPrinterSetupDialog. A "Page Setup" dialog box is open, showing settings for Paper (Size: Letter, Source: Automatically Select), Orientation (Portrait selected), and Margins (Left: 1, Right: 1, Top: 1, Bottom: 1). An arrow points from the TPageSetupDialog button to the open dialog.

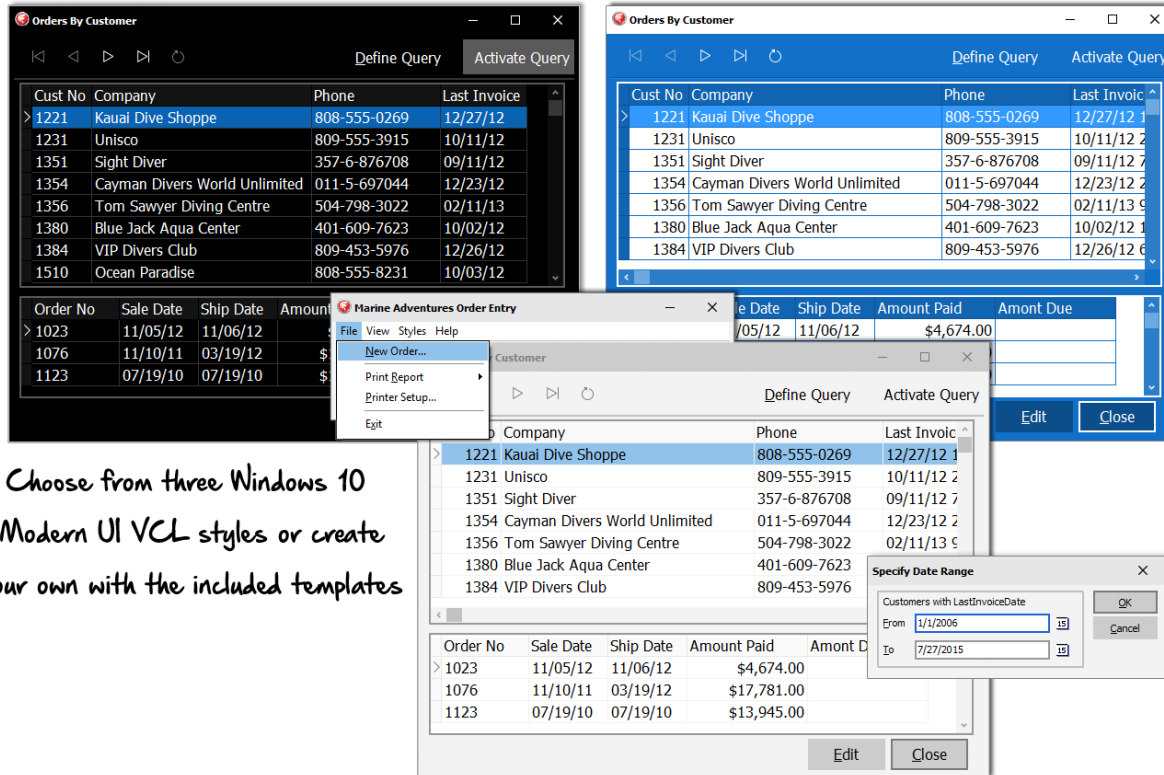
The right window, labeled "Emerald Premium Style", features a green-themed interface with the same set of dialog buttons. A "Color" dialog box is open, showing a grid of basic colors and custom colors. An arrow points from the TColorDialog button to the open dialog.

Between the two windows, a text box states: "Customize your Windows UI using VCL styles with support for common dialog styling".

At the bottom left, the number "49" is displayed.

At the bottom right, the text "Emerald Premium Style" is shown next to the EMBARCADERO TECHNOLOGIES logo.

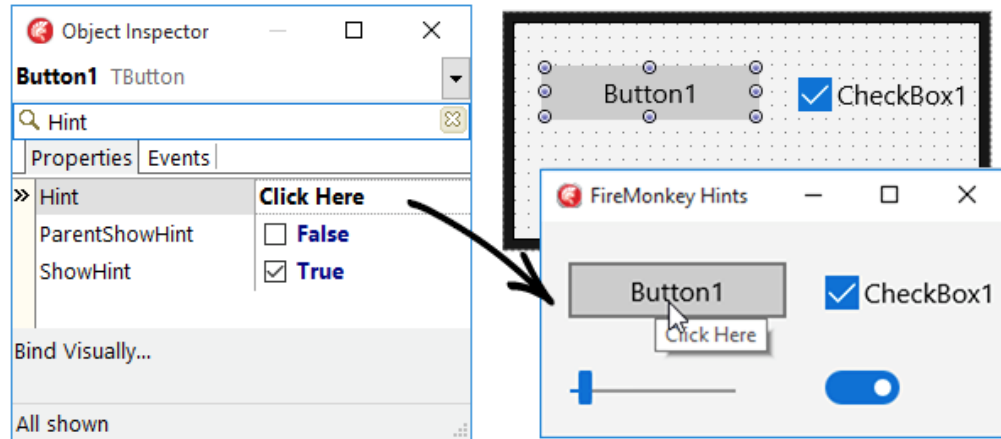
VCL Windows 10 UI Styles



FireMonkey Windows Overhaul

- Significant focus on quality and new features for FireMonkey Windows desktop
 - Mouse-over Hints
 - Native style presentation for Windows for Edit and Memo
 - Enhanced Clipboard support
 - MultiView and TSwitch components extended for Windows 10 look and feel

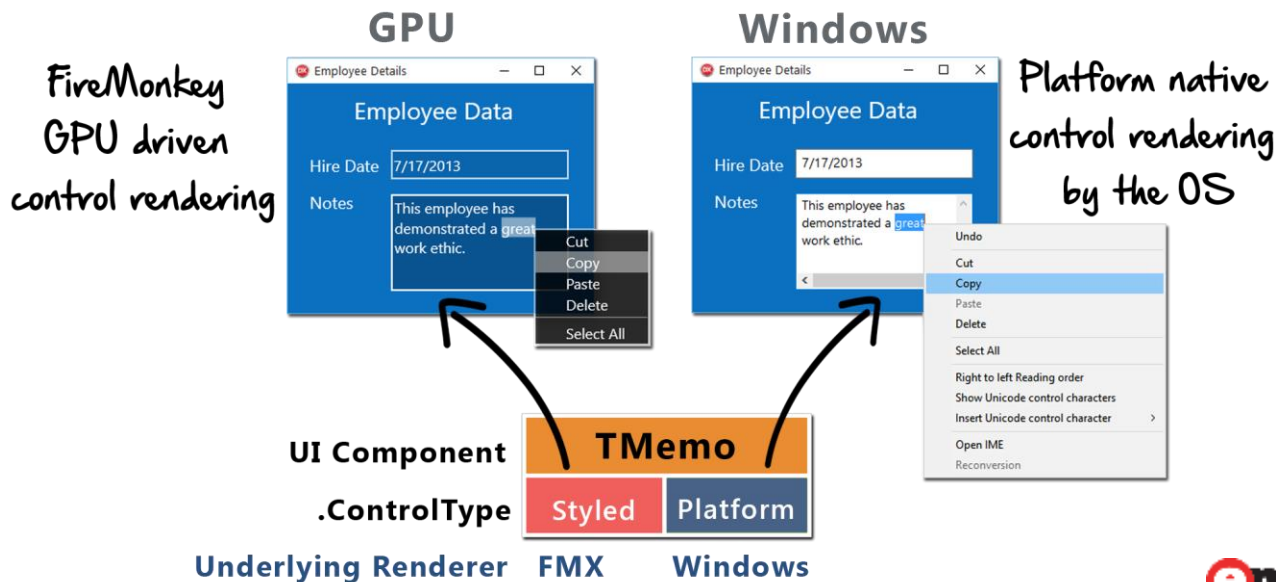
FireMonkey Controls Hints



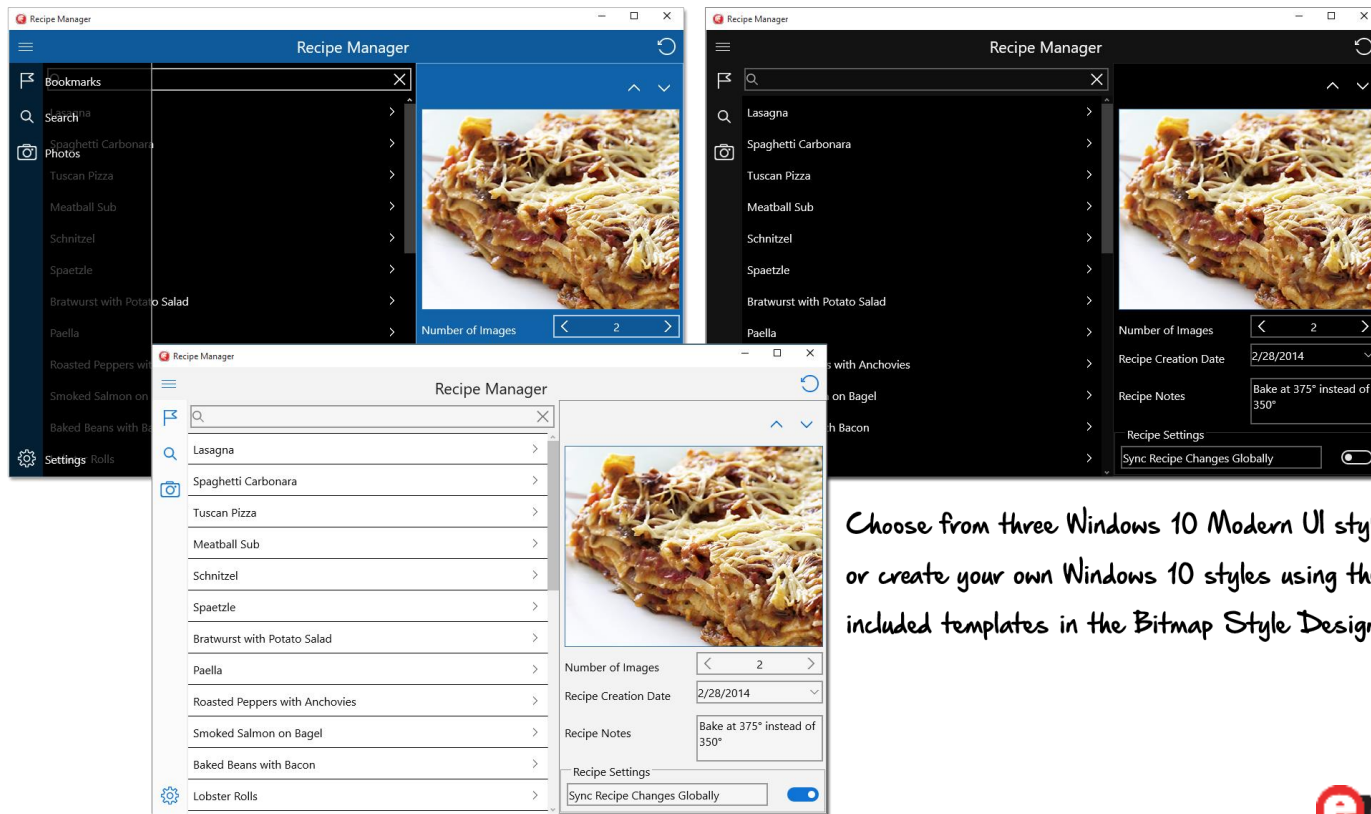
Add rollover **Hints** to your FireMonkey user interface controls

FireMonkey Platform Native Rendering Architecture

- Currently available on iOS and Windows



FireMonkey Windows 10 Styles



Choose from three Windows 10 Modern UI styles or create your own Windows 10 styles using the included templates in the Bitmap Style Designer

Summary: VCL, FMX and Windows 10

- VCL remains the best Windows client library
 - Now enhanced with Windows 10 UI controls and WinRT APIs and Components
- FireMonkey desktop significantly enhanced
- RAD Studio committed to keep focusing on the Windows 10 platform

“I have used Delphi since the beginning and the 10 Seattle release has made Windows 10 development a joy.

Davor Pleskina

“The RAD Studio 10 IDE gets my apps ready for the huge adoption of Windows 10. Thank you RAD Developers!

Gregor Kobler



RAD Studio™ 10 Seattle

中場休息





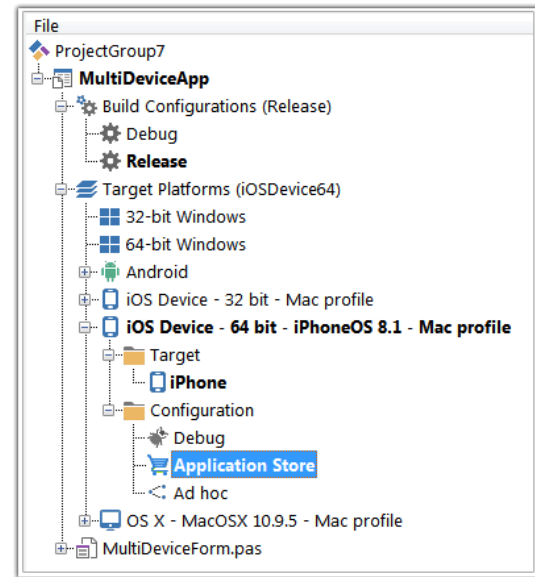
RAD Studio™ 10 Seattle

RAD Studio 10 Seattle

MOBILE AND IOT EXTENSIONS

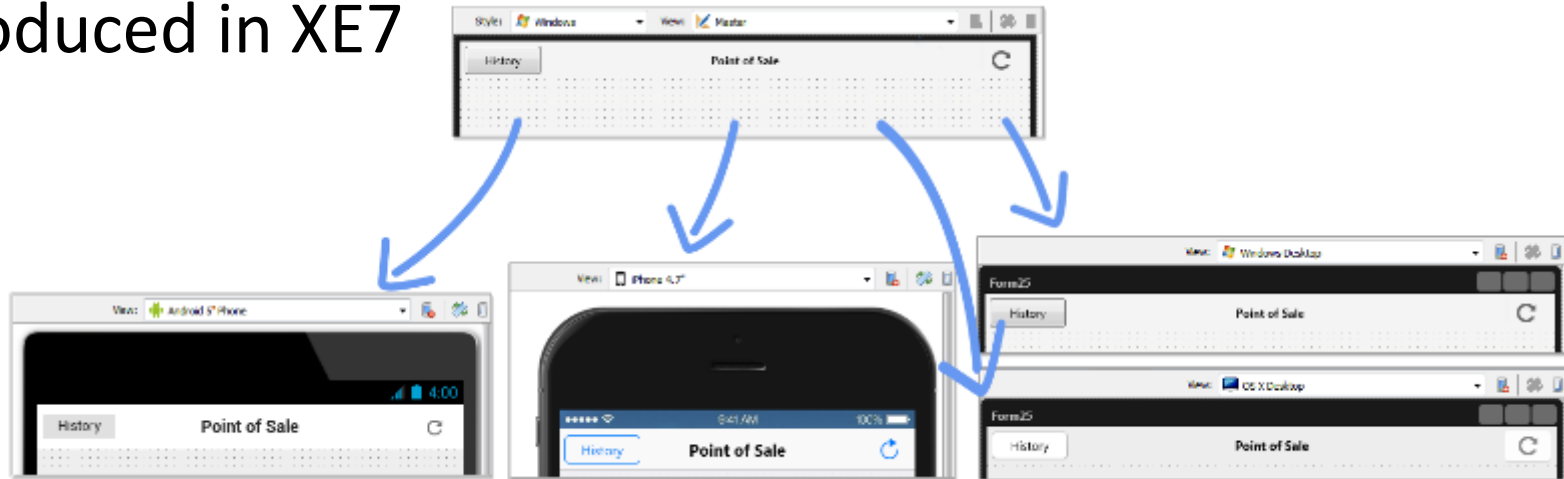
RAD Architecture: The FireMonkey Platform

- Single-source multi-device architecture
 - Including user interface controls, which can be styled or platform native
 - Multiple compilers for the different platforms, all producing native code
- RAD, with a strong OOP architecture
- For Windows, OS X, Android, iOS



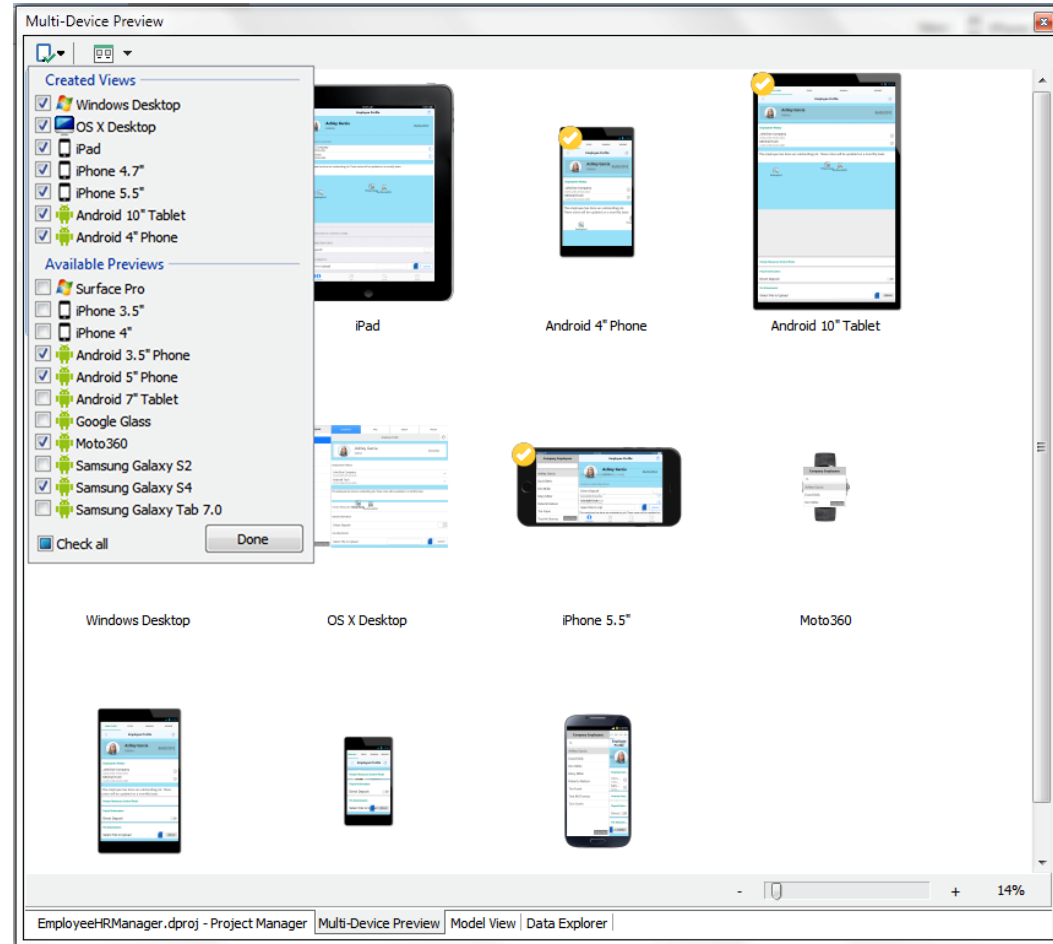
Best in Industry: FireUI Multi-Device Designer

- Shared master and specific views
- Visually customize forms for different platforms and form factors
- Introduced in XE7



Unique: FireUI Designer Previews

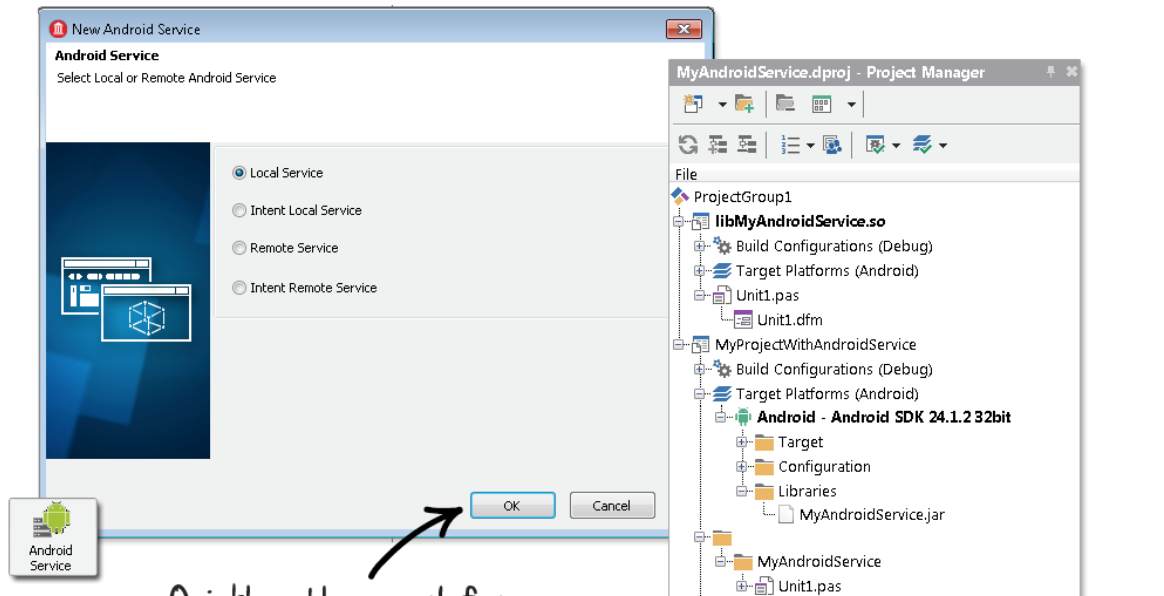
- Live Previews for mobile and desktop platforms
- Preview the UI on different form factors as you create it



“10 Seattle”: It’s Android Service Time

- Build Android services (Object Pascal only)
 - Let your code keep running in the background, even when app is swapped out
 - Integrate with regular application in single APK
- Other Android Features
 - General purpose support for receiving Android Intents
 - Touch animation for Android platform

Android Services: From Wizard to Code



The image shows two windows from the Embarcadero IDE. The 'New Android Service' wizard is on the left, with 'Local Service' selected. The 'Project Manager' on the right shows the project structure for 'MyAndroidService.dproj', including 'libMyAndroidService.so', 'Unit1.pas', and 'MyProjectWithAndroidService'. A small 'Android Service' icon is at the bottom left of the wizard. A handwritten note with an arrow points to the 'OK' button in the wizard.

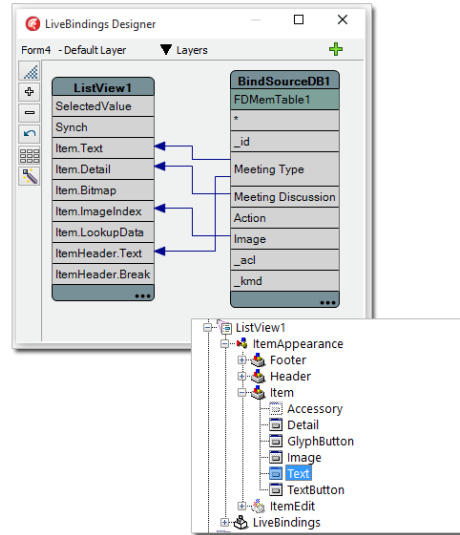
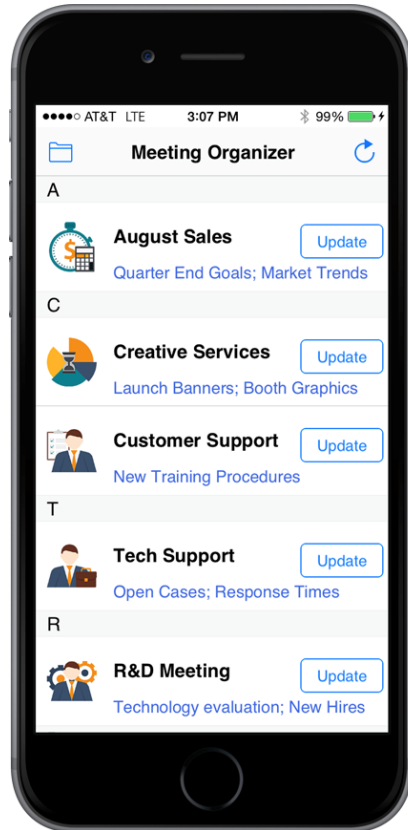
Quickly add support for background services to your project with the new Android Services wizard

```
1 program MyAndroidService;  
2  
3 uses  
4   System.Android.ServiceApplication,  
5   Unit1 in 'Unit1.pas' {AndroidServiceDM: TAndroidService};  
6  
7 ($R *.res)  
8  
9 begin  
10  Application.Initialize;  
11  Application.CreateForm(TAndroidServiceDM, AndroidServiceDM);  
12  Application.Run;  
13 end.
```

“10 Seattle” for iOS

- Platform presentation for iOS ScrollBox
- ListView control enhancements
- New iOS Certificate and Provisioning Management
 - Core changes required by Apple more stringent rules
- You can now build and *debug* iOS 64-bit and Universal apps on device

iOS ListView Custom Appearance



Change the layout of your ListView with custom appearance modes with support for FireMonkey GPU driven control rendering or platform native OS rendering on iOS

Debug iOS 64-bit

- Universal apps support
- Now with full support for iOS 64-bit debugging

The image shows a screenshot of the Delphi IDE. The top window displays Pascal code for a multi-device application. The code includes three procedures: `ActionBlurEffectExecute`, `ActionPaperSketchEffectExecute`, and `ActionResetEffectExecute`. The `ActionBlurEffectExecute` procedure is highlighted, showing it calls `SetEffect('GaussianBlur');`. The `ActionPaperSketchEffectExecute` procedure calls `SetEffect('PaperSketch');`. The `ActionResetEffectExecute` procedure calls `FreeAndNil(FEffect);` and `ImageContainer.Bitmap.Assign(FRawBitmap);`.

The bottom window shows the Project Explorer for `MultiDeviceApp`. The 'Target Platforms' section is expanded, showing 'iOS Device64' with sub-items for '32-bit Windows' and '64-bit Windows'. The 'iOS Device - 64 bit - iPhoneOS 8.4 - Mac profile' is selected. The 'Target' section is also expanded, showing 'iPhone' and 'Configuration'. The 'Configuration' section is expanded, showing 'Debug' and 'Application Store'. The 'Application Store' is selected.

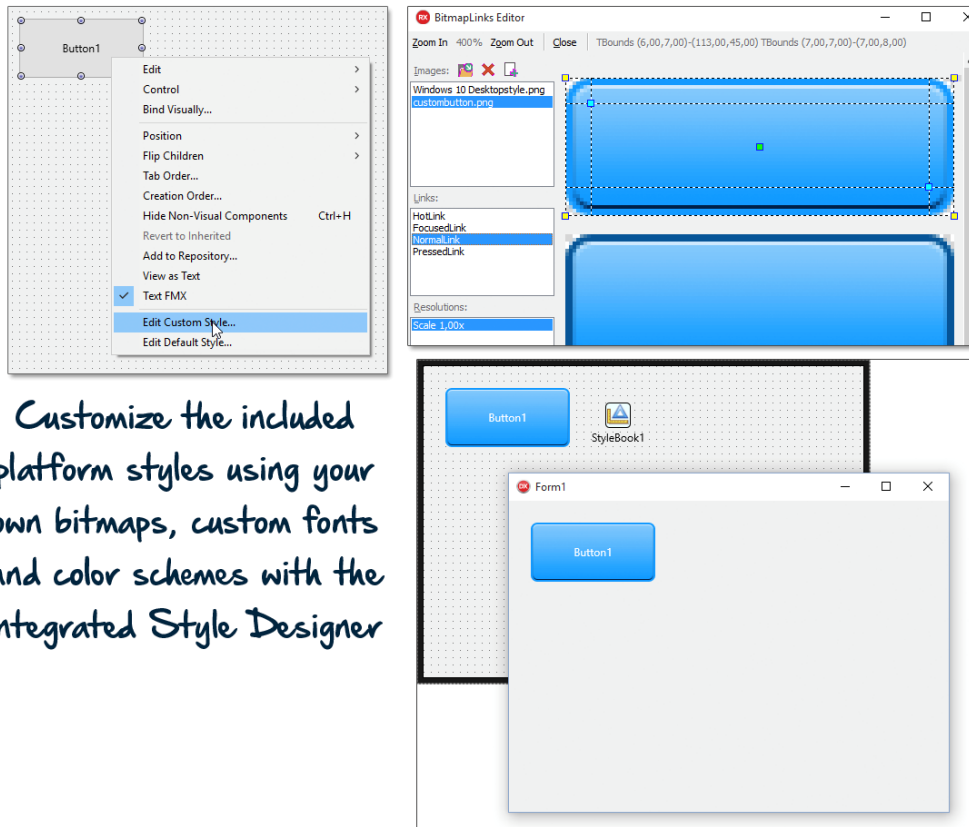
A 'Other options' dialog box is open, showing the option 'Generate iOS universal binary file (armv7 + arm64)' with a checkbox that is checked (true).

Build universal iOS apps that run on 32-bit and 64-bit devices with integrated debugging support

Enhanced Style Designers

- Bitmap Style Designer enhancement
 - Including new templates
 - Ability to create blank styles for different platforms
 - StyleViewer for Windows 10 Style in Bitmap Style Designer
- FireMonkey Style Designer enhancements
 - TStyleBook component to support a collection of styles for various platforms
 - Easier styling for individual controls on mobile

FireMonkey Style Designer Enhancements



Customize the included platform styles using your own bitmaps, custom fonts and color schemes with the integrated Style Designer

IoT Reminder

- RAD Studio has complete foundation for IoT support
 - Integrated REST, HTTP client libraries for Wi-Fi devices
 - Support for Bluetooth, Bluetooth LE, Beacons
 - Integration with native, platform SDKs
 - Mobile AppTethering for desktop integration
 - Backend connectivity, local data caching (IBLite)

The Overall Picture, IoT for Enterprise



IoT Core Technology Extensions

- Improvements to Bluetooth/LE and Beacons support
- Turn any Bluetooth LE compatible device into a 'Beacon' with the TBeaconDevice Component
- Benefit from new JSON libraries
- Separate add-on tools released
 - BeaconFence
 - More Coming

“With RAD Studio 10 we are building cross-platform, single-code base apps and every app, exe, apk, uses the same data module. So every project uses the same data-access and general structure!

Steve Beydekerken - B-Logicx Home Automation



RAD Studio™ 10 Seattle

RAD Studio 10 Seattle

EVEN MORE DATA-RICH

RAD Architecture: Database is Cornerstone

- RAD Studio offers unparalleled connectivity to any popular data source, relational database, and more
 - No bias on a specific DB
 - All mayor Enterprise databases included
 - Oracle, Microsoft, IBM, SAP
 - All key open source databases supported
 - MySQL, SQLite, Postgress
 - FireDAC is *the* universal database access engine

What is FireDAC?



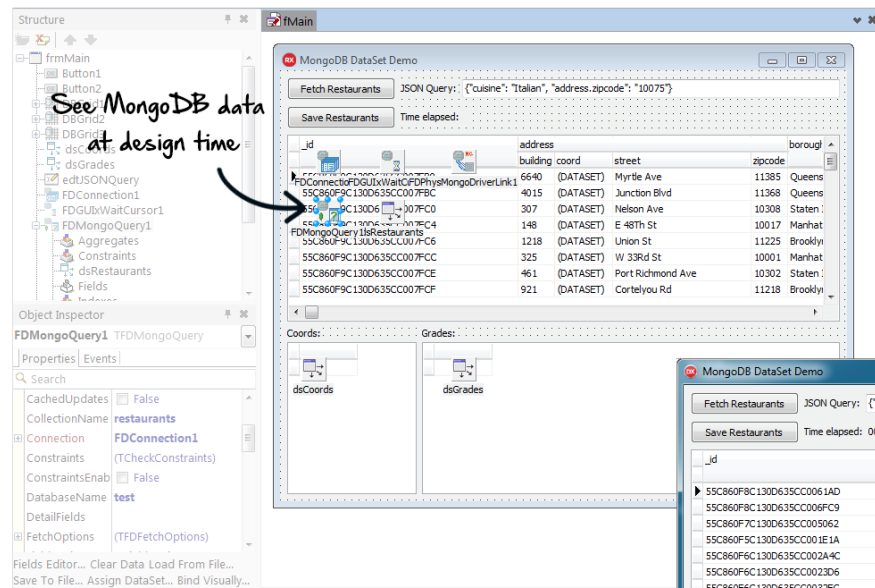
- High-performance, easy-to-use, enterprise database connectivity
- Universal data access with database specific features
- No drivers required and full source code provided (in Enterprise edition)

**Database applications development
is fun again with FireDAC**

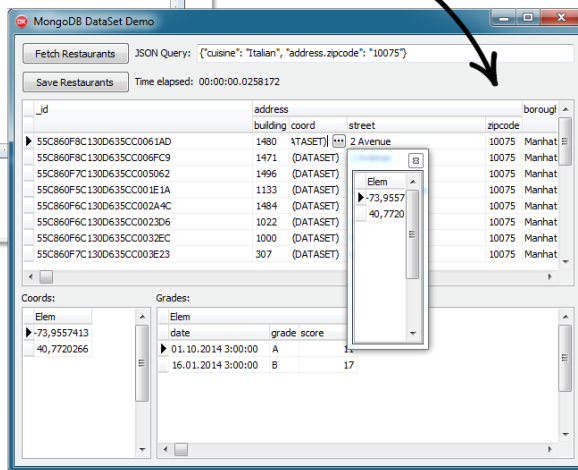
FireDAC for MongoDB

- First NoSQL database integration in FireDAC
- MongoDB, the most popular NoSQL database
- FireDAC Connection driver, but not only
- New datasets focused on NoSQL data structures
 - You know what? DBGrid supports abstract data types!
- Plus, RTL support for JSON and BSON parsing

MongoDB FireDAC Support



Display complex MongoDB data types at runtime using controls like the VCL DBGrid



MongoDB Specific Components and Classes

- MongoDB API wrapping classes:
 - TMongoConnection, TMongoDatabase, TMongoCollection
- MongoDB specific datasets
 - TFDMongoDataSet: attach a dataset to MongoDB cursor
 - TFDMongoQuery: execute queries to MongoDB collection
 - TFDMongoPipeline: execute pipelines to MongoDB collection

Cloud Extensions

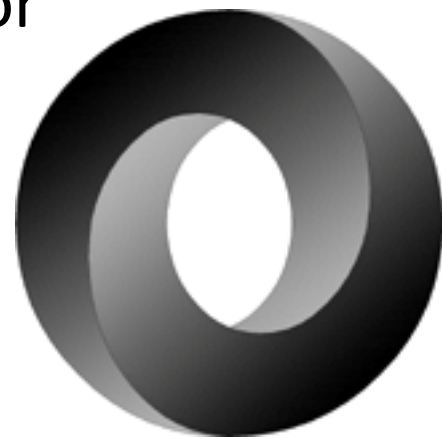
- Azure and AWS libraries now use the System.Net native HTTP and HTTPS support
 - No need to deploy OpenSSL library
- Enhanced and updated to latest versions
 - AWS: S3, Queue Service, SimpleDB APIs
 - Support for AWS Signature version 4
 - Azure: Blob, Table, Queue Services

New in “10 Seattle”: JSON and BSON Streams

- JSON processing using a JSON.NET implementation
 - Includes also BSON (Binary JSON) processing
- Streaming model, rather than DOM model
 - Abstract TJsonReader and TJsonWriter classes
 - JSON text processing with TJsonTextReader and TJsonTextWriter classes
 - BSON processing with TBsonReader and TBsonWriter classes

New in “10 Seattle”: JSON and BSON Streams

- Fluent method builders
 - TJSONArrayBuilder and TJSONObjectBuilder classes
- JSON and BSON fast forward-only iterator
 - TJSONIterator class



“Forget about the other versions of Delphi -
10 Seattle is the version to jump to!

Charles Wolfe – WolfePak Software

“C++ Builder Seattle is solid!

Gregor Brandt – The Marionette Group Inc.



Questions?