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RAD Studio XE6
新產品發表會

Empowering VCL and
extending to multi-device

Embarcadero Technologies

- Founded 1993
- 3.2 Million Customers - 97% of Fortune 2000
- 35+ Product Awards – Consistent Innovation
- 500+ Employees in 29 Countries

Embarcadero Product Portfolio

Design → Develop → Deliver

Data Modeling & Architecture

Intelligent design and modeling for enterprise information architecture.

Database Management & Optimization

Development, administration and tuning

Application Development

Multi-Device, True Native App Development for Android, iOS, Windows and OS X.

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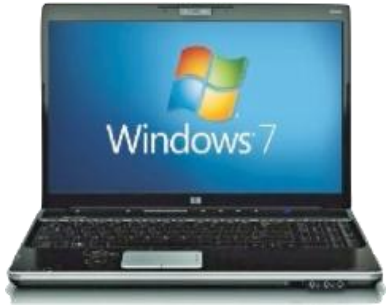
What is RAD Studio?

RAD Studio is the complete software development solution for building true native applications for Windows, Mac, iOS and Android from a single codebase and get them to market fast



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Introducing RAD Studio XE6!

- ***Quality, Stability, Performance!***
- C++Builder development for Android
- New VCL Styles and Components
- Mobile In-App Payment and Advertising Services
- New Backend-as-a-Service Client Components
- … and much more!

XE6: Something for Everyone

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The Big Picture

Your VCL applications are key to drive the business to multi-device

A recent market study of Windows developers and mobile

Research Goal

The primary research goal: Quantify the current levels of experience and expertise among developers making the **move from Windows desktop to mobile** applications.

Methodology

Windows developers from around the world were invited to participate in an online survey. They were asked a series of questions about **demand** for mobile applications, **experience** with delivering apps, and **challenges**.

Participants

1337 individuals completed in the survey.
All had responsibility for development of Windows **desktop** applications.

dimensional research

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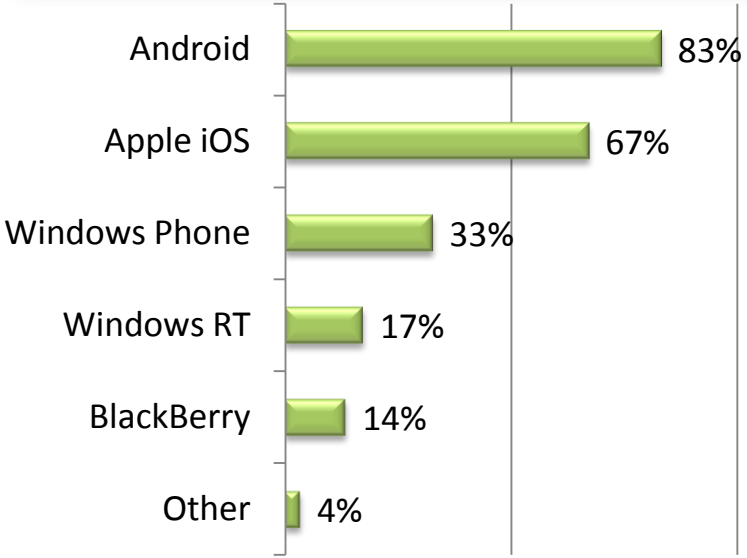
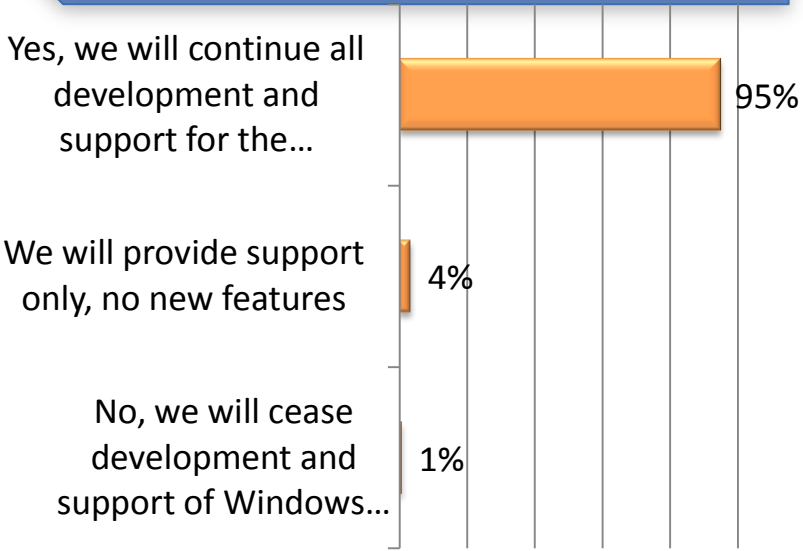
Windows developers must deliver mobile apps on iOS and Android and continue to support Windows

What mobile platforms are most important for your users to have applications for?



Will you still be required to develop and support your existing Windows applications?



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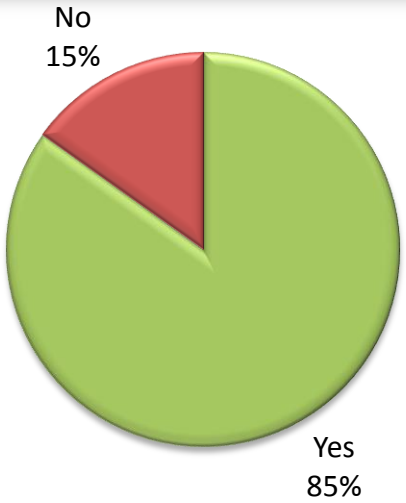
85% say native apps are best for users

Do you believe natively compiled apps deliver a better user experience and performance than a scripted/interpreted language solution (i.e. HTML5, Java, JavaScript, Python, etc.)?



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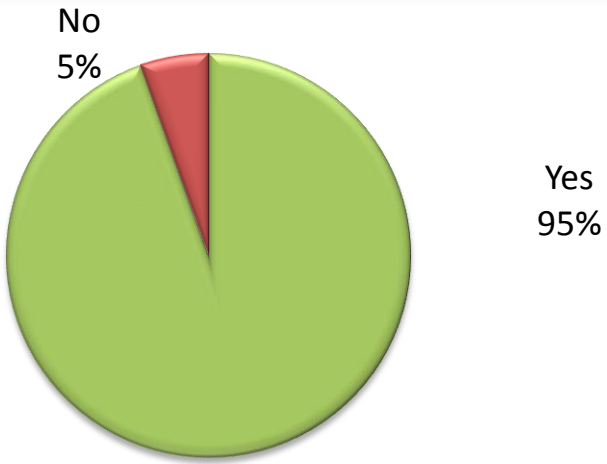
95% see value in common source code for mobile and desktop

Would it be valuable to have a tool that would allow you to use common source code to produce both desktop applications and native mobile apps with a single development effort?



Why RAD Studio XE6?

- Your way to mobile
  - Multi-device
  - True native
  - Single source
- Your key to Windows
  - Expanding VCL, best Windows library
  - Desktop/mobile integration

Windows 8

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Empowering your VCL codebase and developer productivity

- *Win 7/8 taskbar buttons*
- *Improved VCL Styling*
- *Supercharge VCL apps with Visual LiveBindings*

Windows XP End of Life – April 8th, 2014

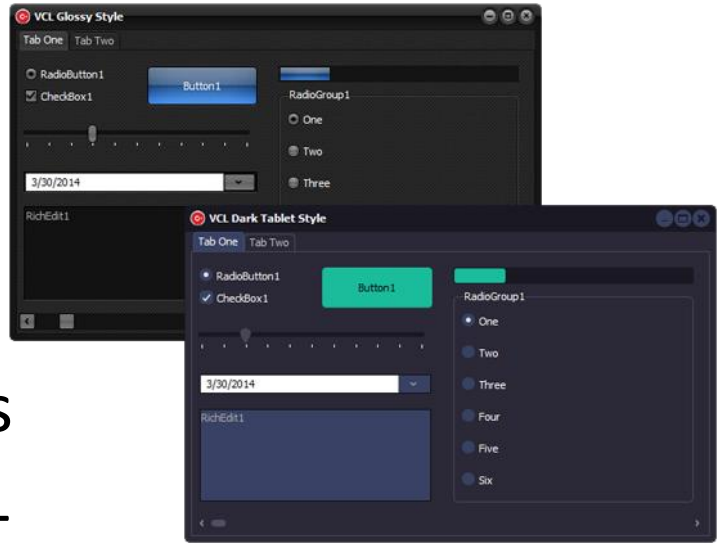
What does it mean to **ME**?

Reality Check

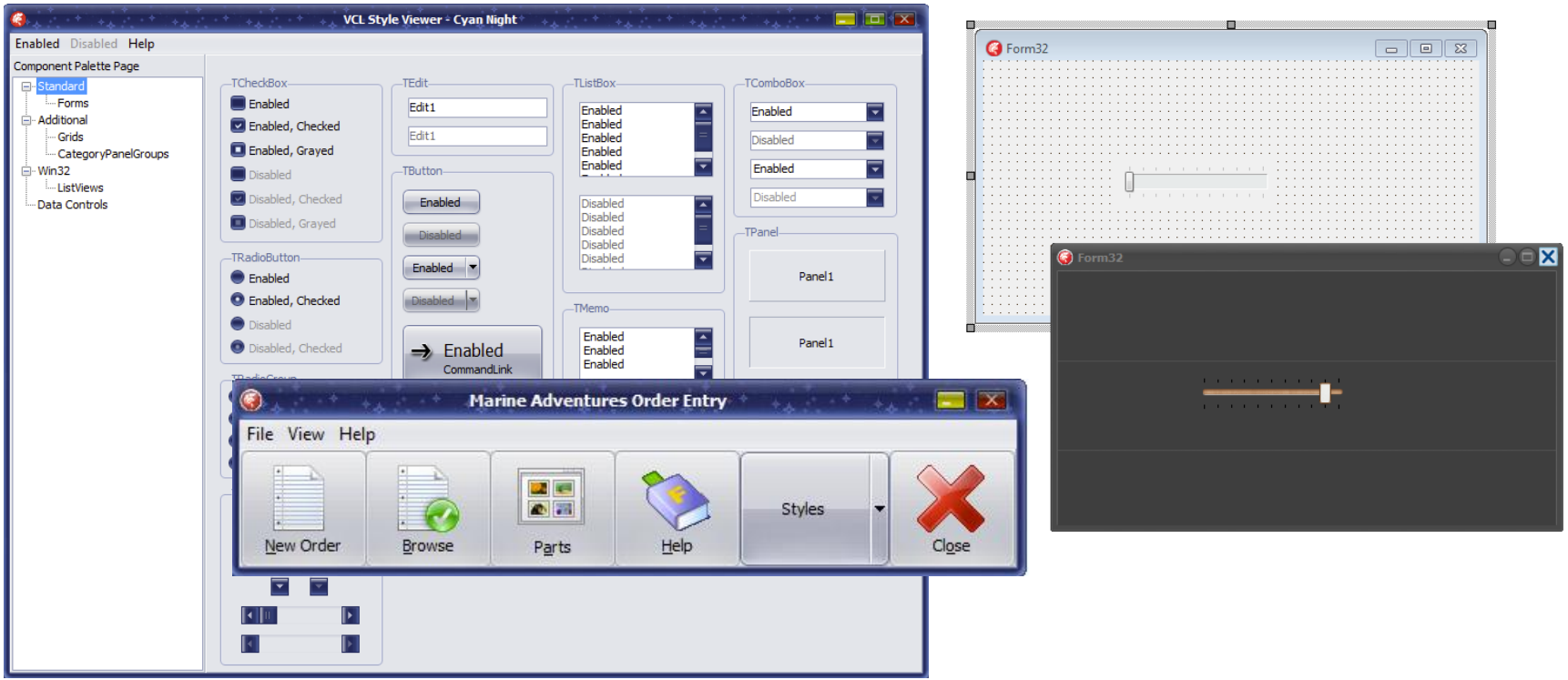
- ☐ Win64 ?
- ☐ Unicode ?
- ☐ User Interfaces?
- ☐ Modern Language Features?
- ☐ Visual LiveBindings ?
- ☐ FireDAC ?
- ☐ Cloud Services?

VCL Styles

- Update the look of your Windows applications with new VCL styles
- Includes Windows tablet styles and supports Windows 7 & 8.1
- Fully style your apps including menus and borders

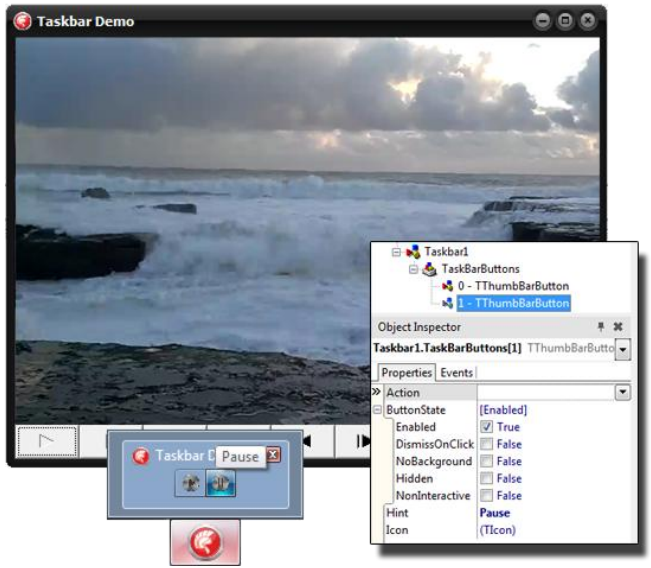


Custom VCL Styles



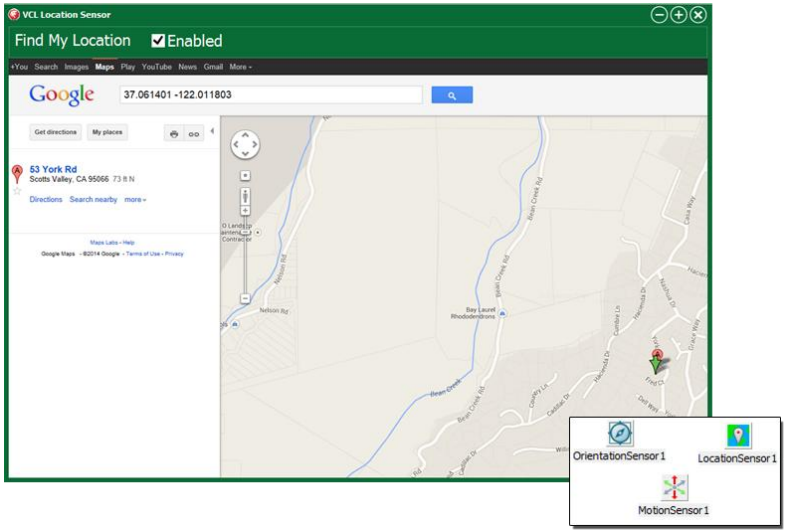
TaskBar Preview Component

- Present previews of your app's windows in the Windows taskbar
- Use button controls within previews
- Show progress and overlay icons on the taskbar buttons



VCL Sensor Components

- Access location, movement and other features on Windows tablets
- Access device sensors from VCL apps
- Accelerometer, GPS and gyroscope functionality



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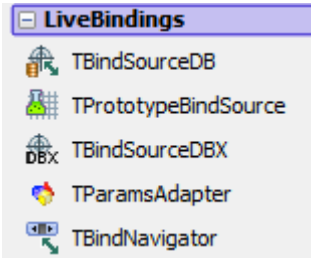
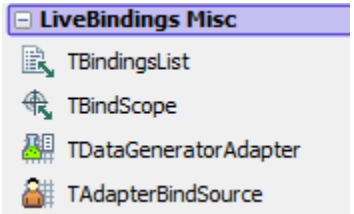
More New Features in XE6

- A New Look in the IDE!
- Sensor components available to VCL applications
- JSON support refactorings
- TWebBrowser on Windows updated to the latest IE
- Apache HTTP Server modules support in WebBroker and DataSnap
- DirectX 11 API support

Visual LiveBindings

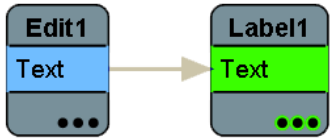
- Introduced in XE2
  - VCL and FireMonkey
  - C++Builder and Delphi
- Based on relational expressions, called binding expressions
  - Can be unidirectional or bidirectional
  - Standard converters out-of-the-box
  - Custom converters can be added
- Can be used at design time / runtime

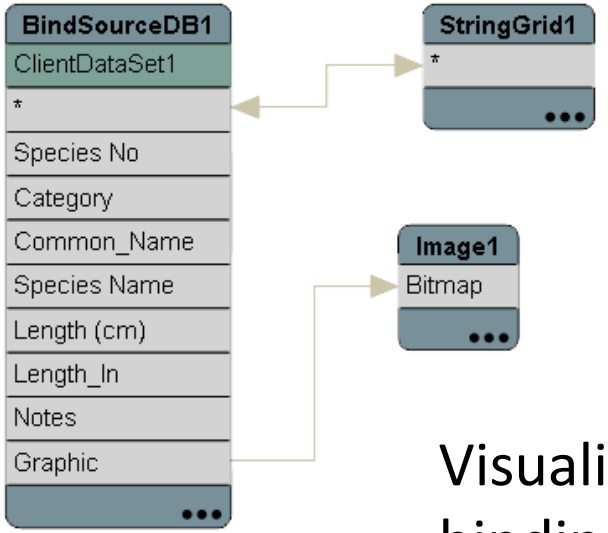




Visual LiveBindings

Bind data and properties by simply drawing lines between objects





Organize large numbers of bindings using Photoshop-like “layers”

Visualize your data bindings at a glance

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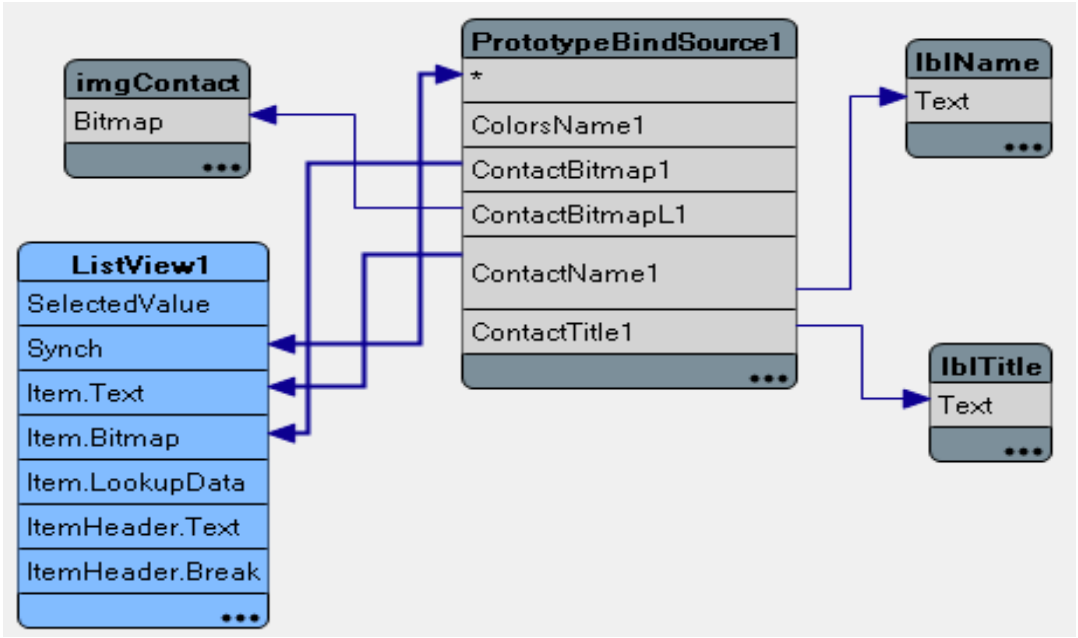
Rapid Prototyping with TPrototypeBindSource



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Database, Integration and Scalable Services with RAD Studio

- *What's new in FireDAC*
- *Building DataSnaps services*
- *InterBase*

What is FireDAC?

- High-performance, easy-to-use, enterprise database connectivity
- Universal data access, but with many database specific features
- No drivers required and full source code provided
- Compatibility with the BDE means easy migration of legacy applications with “reFind” utility
- *Database applications development is fun again with FireDAC*

New FireDAC Features

- FireDAC Data Explorer integration
  - Drag and drop with proper components and naming
- Streaming refactoring and JSON serialization format
- New FireDAC Informix native driver
- Support for encrypted backup / restore for InterBase

Improved FireDAC Features

- TFDMemTable design-time enhancements (Load from File, Save to File, Assign Data)
- TFDPhysXxxxDriverLink component usage is optional, proper unit added by default
- Major improvements to Centralized Cached Updates, better support for joins
- Local SQL improvements better handle ad-hoc datasets

NEW! DataSet Automatic Field Creation Control

- Flexible management of TFields lifetime with new FieldOptions property (for all datasets)
  - AutoCreateMode indicates how to combine fields
  - PositionMode determines sequence
- Goal: persistent fields can be merged with dynamic ones
  - Supports calculated fields with no other persistent fields
  - Supports dynamic queries with some persistent fields
- User code backwards compatible
  - Custom DataSets code compiles, requires clean up

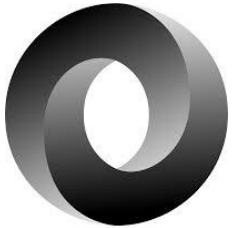
Build Scalable Services with DataSnap

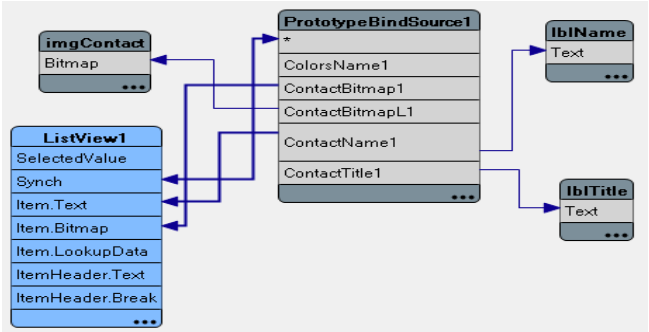
- FireMonkey added to DataSnap wizards
- Flexible server architecture and hosting
  - **NEW! Apache 2.4 Web Server hosting on Windows**
- REST Clients and RESTful interfaces
  - **NEW! FireDAC JSON Reflection**
- Role-based authentication and authorization
- Secure transport and communication filters
- Callbacks
- Multiple client types

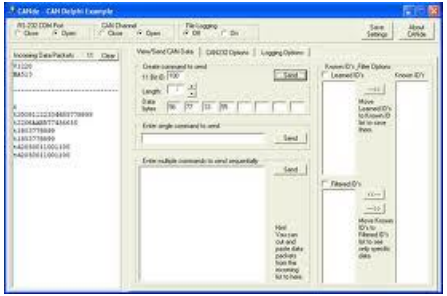
Why Multitier?

- Scalability
- High-availability
- Security
- Fault-tolerance
- Monitoring
- Messaging
- Provisioning

End-to-End DataSnap Scenarios







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Embed, Deploy, Relax

INTERBASE

The highly scalable, powerful, embeddable, encrypt-able database that works on multiple platforms, including iOS & Android

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InterBase® - Suited to Mobile, Desktop, Server

- Overview
  - Highly scalable, powerful, embeddable database.
  - Small memory and on-disk footprint,
  - Simple installation / deployment
  - Near zero administration
  - Encryption built into all paid versions*
  - Low TCO
- Notable Features
  - Full-featured DBMS
    - SQL92 compliant
    - SQL Domains
    - ODBC
  - ACID compliant / Multi-version architecture
  - Automatic crash recovery
  - SMP - Multiple core support
  - Self-tuning engine
  - Fully featured in all editions
    - *Some features limited in run-time royalty free IBLite*
  - Database monitoring and statistics built in

- Security
  - Embedded user & role based authentication
  - Full database, table or column encryption
    - DES (weak)
    - AES (strong 256bit) encryption
  - Decryption by user / user role
  - Allows developers to focus on creating fast, resilient applications.
- Disaster Recovery
  - Journaling
  - Data dumps
  - Partial Backups
- Also….
  - Window Direct I/O support & Amazon EC2 certified
  - Tight integration into Embarcadero Development tools, but also works with Visual Studio, Xcode, Eclipse, Ruby, PHP etc
  - ODBC

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Video & White Paper on demand!

- http://embt.co/ibxplatformdb
- Learn:
  - Basics of data protection (from a developers view)
  - Legal responsibilities around data
  - Risk around secure data
  - Case studies
  - What happens when it goes wrong and the costs!

- http://embt.co/MobEntWP
- In addition learn:
  - Top mistakes made when “Mobilizing enterprise data”.
  - How to avoid them

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Embrace and Extend Your VCL and Mobile applications

- *App Tethering*
- *BaaS Components*

App Tethering

- Easily expand your existing Windows apps to mobile devices
- Mobile companion apps are the answer for our Windows VCL customers
- Control and interact with existing Windows apps from mobile apps
- Simple communication components on each side
- For example, a Google Glass app can control aspects of an existing Windows app

App Tethering

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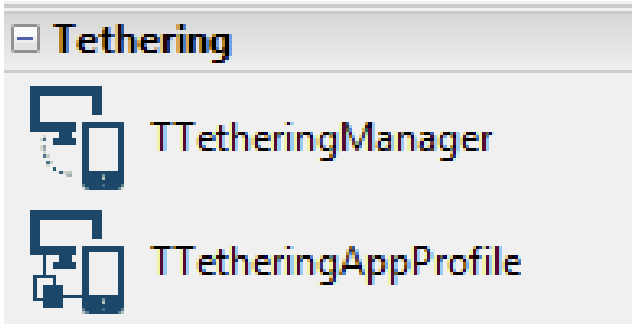
Why AppTethering?

- Build companion mobile apps
  - Mobile enable desktop VCL apps with companion apps
  - Embrace and extend, rather than migrate
- Automatic discovery
  - No configuration, IP setup, server management
  - Peer-to-peer model, across same app / companion apps

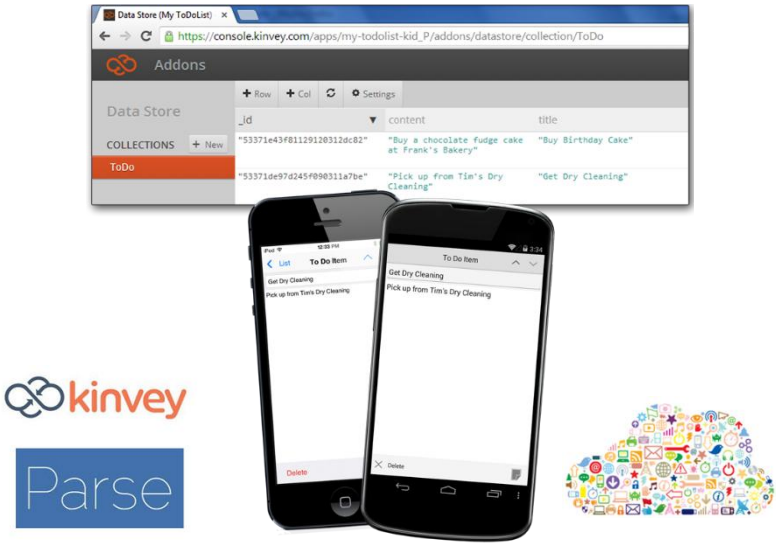
App Tethering



- VCL and FM apps can communicate and pass data over WiFi with a simple component
- Open, component-based, pluggable architecture
- TCP/IP connectivity, more to follow
- Use Case: Mobile FM “remote control” apps for existing VCL apps

Cloud Service (BaaS) Integration

- Use push notifications to engage your users
- Access data and object storage in the cloud
- User authentication
- Supports popular BaaS providers with a common API component



BaaS = Backend as a Service

- Most mobile apps need server storage for data, images, files
  - Build yourself (with DataSnap) or buy a scalable cloud solution (with Cloud or BaaS services)
- BaaS = cloud solution with mobile users management
  - Also usage analytics, push notifications (cross platform, and more

Backend-as-a-Service Client Components

- Based on REST Client architecture
  - Introduces in XE5
- BaaS clients for Kinvey and Parse
  - Native providers to use services directly
  - Providers integration with framework for common services
  - Framework works with these providers, open for future extensions

Backend-as-a-Service Model

- Supports abstract features, provider independent
  - Create, retrieve, update and delete (JSON) objects
  - Signup, login, retrieve, update and delete users
  - Upload, download and delete files or streams
  - Query objects and users
  - Send push notifications
  - Register for and receive push notifications on a device

Push Notifications Scenarios

- Send reminders to mobile apps even when not active
  - App to app notifications (via push server)
  - Server to app notifications (triggered by server events)
  - Client notifications (for example VCL) to companion app

Multi-Device Application Platform

Client Devices

DataSnap On Premise

mBAAS Providers

Enterprise Data

ORACLE
SYBASE
Microsoft SQL Server
InterBase
MySQL
PostgreSQL
IBM DB2

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“Turning on” to Mobile and The FM Application Platform

- *Android support in C++Builder*
- *What’s new in FireMonkey*
- *App Monetization components*

Device diversity will continue to expand!

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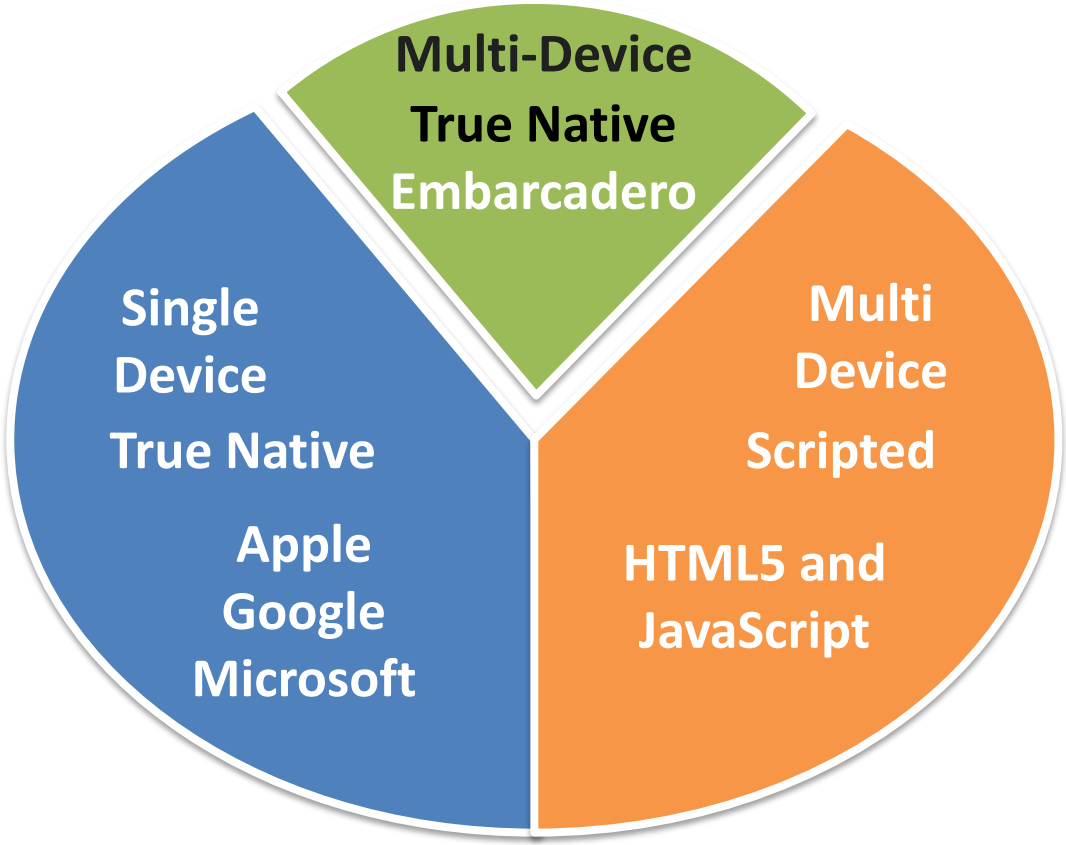
Multi-Device True Native



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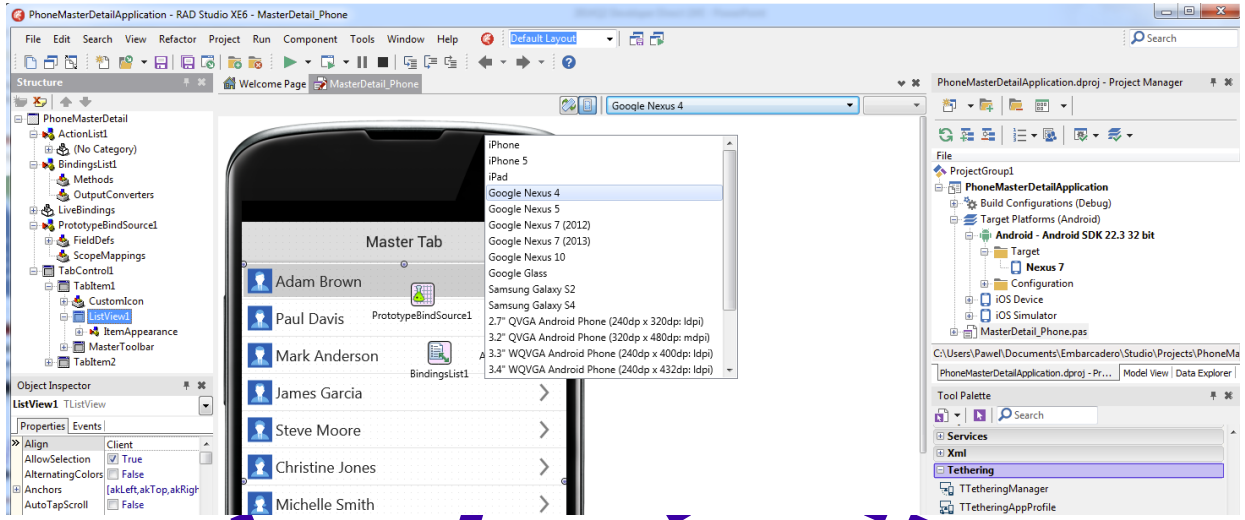
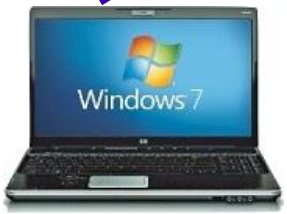
Visual Rapid App Development





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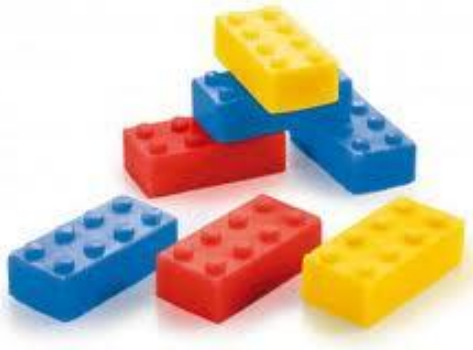
Get to Market Fast!

- Single source, multi-platform, is here today
- Rapid Prototyping
- Reusable and extendable visual component, building blocks for faster and highly maintainable development
- Quick and easy connectivity to enterprise databases and services

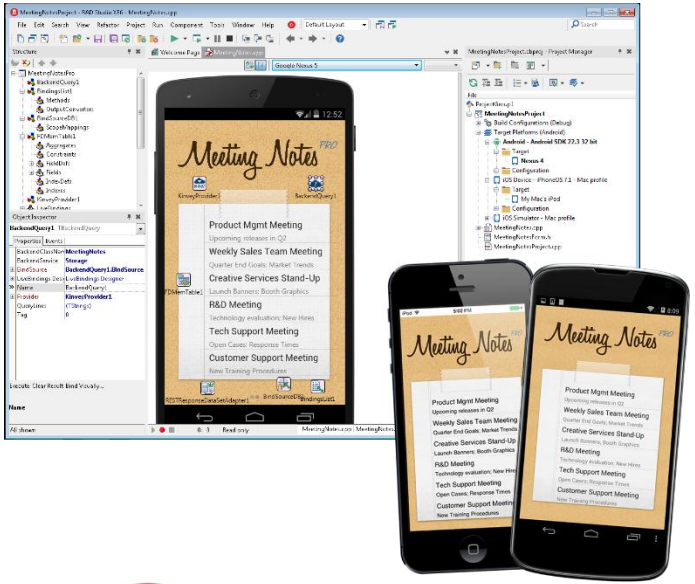


The Vision is Now Complete!

	Android	iOS	Windows	Max OS X
C++				
Object Pascal				

Build Android apps with standard C++

- The first C++ visual development environment and user interface framework for Android
- Develop apps for Android tablets, smartphones and Google Glass
- Develop visually and compile natively



C++

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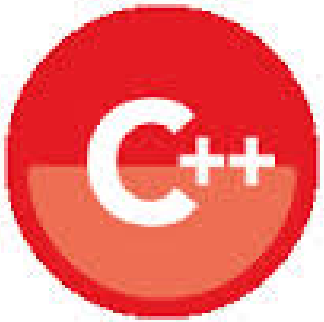
C++

NEW! Android Support in C++Builder

- New C++ Compiler for the Android Target Platform
  - First native C++ development tool and IDE for Android
- Common C++ codebase for iOS and Android
- Based on Clang
- C++11 Standards Compliance
- Automatic Reference Counting
- GNUSTL
- Also: package support for Windows 64-bit



New C++ Compiler

- Declaration now require a type. Cannot use an implicit “int”
- Open array definitions use „Data_High” instead of “Data_Size”
- “Generate .map symbols file” option disabled by default
- HPPEMIT Delphi compiler directive for linking and generating C++ namespace declarations

The FM Application Framework Architecture

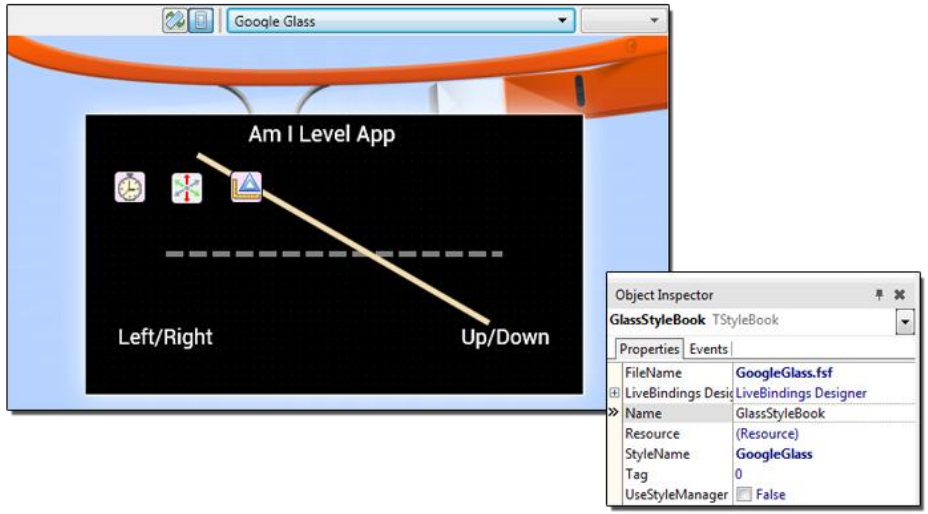
Language		
Framework		
3D API		
Platform	Desktop	Mobile

New and Improved FM Features

- New TintColor and IconTintColor properties in buttons and toolbars
- TGrid Improvements
- TListView enhancements
- Most FM enumerated types redeclared as scoped enumerations
- New TWebBrowser methods for static content
- New TAlphaColorF Record/Struct

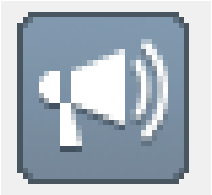
Develop Apps for Google Glass

- Google Glass optimized style
- Visual design template
- Multi-device dev now includes smartphones, tablets and wearables



In-App Payments and Advertising

- Monetize your apps with in-app payments and advertising
- Sell content, functionality, services and subscriptions
- Supports the top ad networks and app stores



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Summary and Q&A

Evolution within Revolution!

Primary Benefits of XE6

Migration off of Windows XP and modernize to Windows 7 & 8.1

Expand existing Windows applications to mobile and beyond

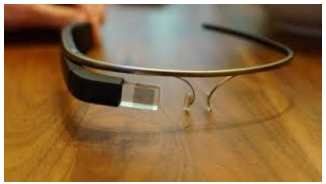
Use Standard C++ to develop Android (iOS, Windows, and OS X) Apps

Migrate from Windows XP and Modernize

- Apps need to be migrated off of Windows XP and modernized
- Windows 7 and Windows 8.1
- 64-bit, Unicode, UI, LiveBindings, database access, modern language features, REST, cloud, multi-device
- Resource page available

Expand Windows applications beyond Windows

- Easily created tethered mobile companion apps to your existing VCL apps
- Integrate Backed as a Service (Baas) services
- Design and build Google Glass apps



New for C++Builder developers

- First multi-device C++ development solution, now with Android
- 64-bit package support
- Find definition and find references (64-bit Windows, iOS and Android)
- Modernize Windows VCL apps– styles, new components (sensors, taskbar), app tethering
- Multi-device development – in-app purchase, advertising, BaaS connectivity, Google Glass

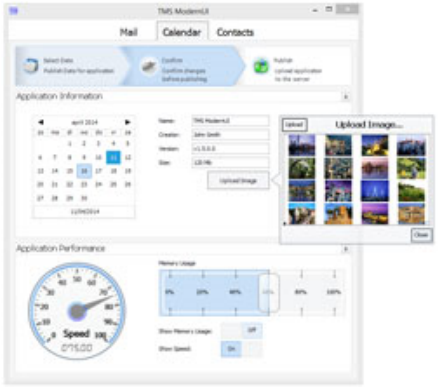
Quality, Performance and Stability

- Get the best development experience and deliver the best user experience for your users
- Addressed over 2,000 reported issues
- Increased overall application runtime performance on all platforms
- Out-of-IDE compilation for large projects

Bonus Pack

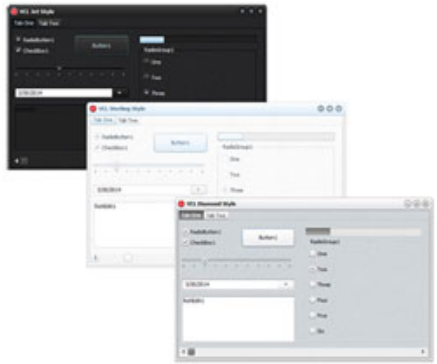
TMS Modern Windows UI Pack

Get a set of components for developing modern looking and highly attractive Windows VCL applications. The UI Pack includes TMS Smooth Controls, TMS Metro Controls and TMS W7 Controls.



VCL Premium Style Pack

Customize the look of your VCL Windows applications with three premium styles included in this style pack. Choose from the dark Jet style, or the two lighter variants, Diamond and Sterling, to change the look of your application.



FireMonkey Premium Style Pack

Customize your multi-device applications with three premium FireMonkey styles. Choose from Jet, Sterling or Diamond styles, optimized for Windows, Mac OS X, iOS and Android application development.

Offer ends June 30

embarcadero

RAD Studio XE6

Versions:

- Starter
- Professional
- Enterprise
- Ultimate
- Architect

Includes:

- C++Builder
- Delphi
- HTML5 Builder
- InterBase

What's Cooking in the "RAD" Labs?

- RAD Studio, Delphi and C++Builder Roadmap March 2014
- Check it out at: http://edn.embarcadero.com/article/43677

Summary

- XE6 has something for everyone
  - VCL developers – modernize apps with new components, styles, app tethering
  - Multi-device developers – take mobile apps to the next level with advertising, in-app purchase, BaaS integration, Google Glass
  - C++ developers – develop Android apps, 64-bit Windows package support, and all of the above
  - Quality, performance and stability