

embarcadero®
TECH VISION 20
Implementing amazing apps

Delphi @ 25
Product Address

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About Us



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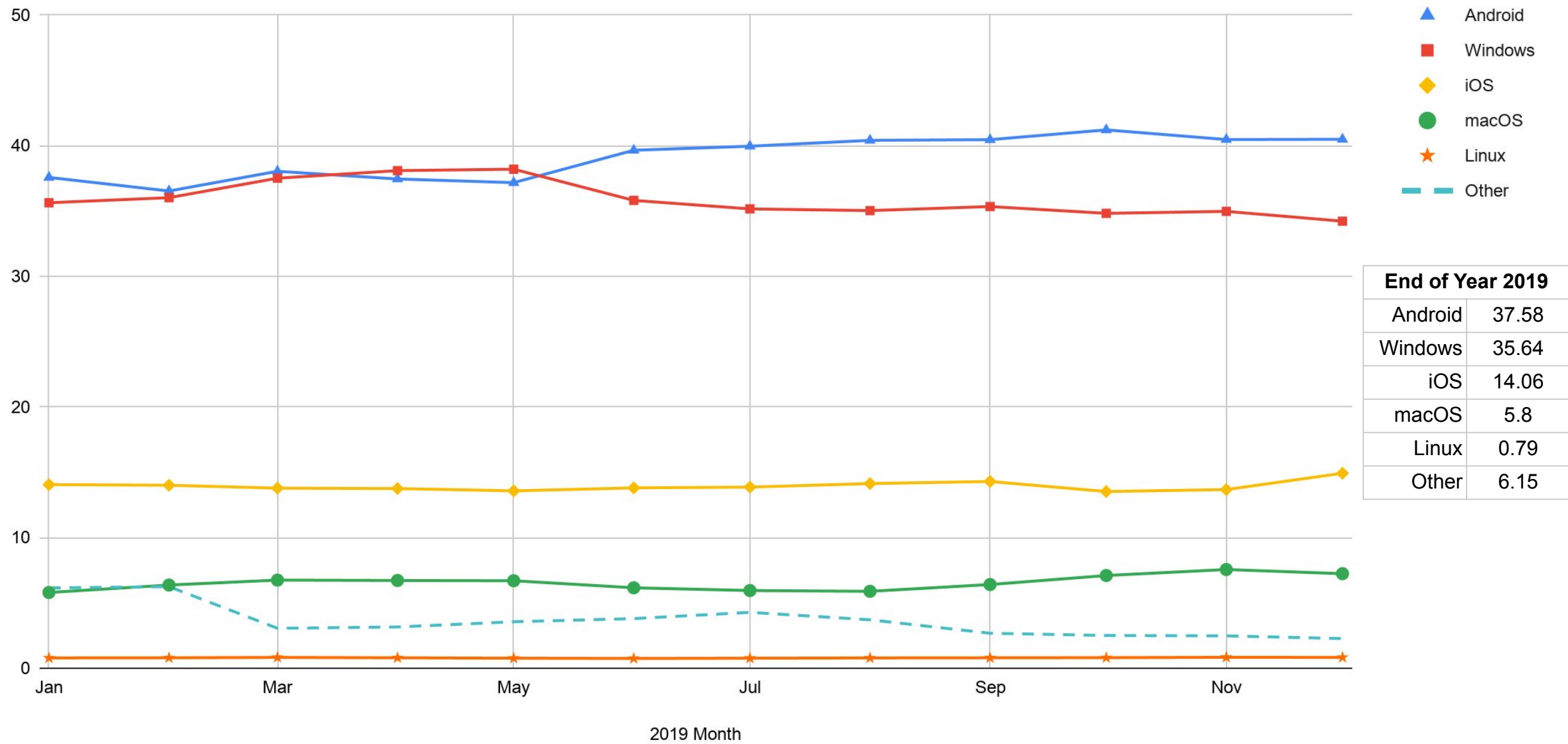


Jim McKeeth

Developer Relations

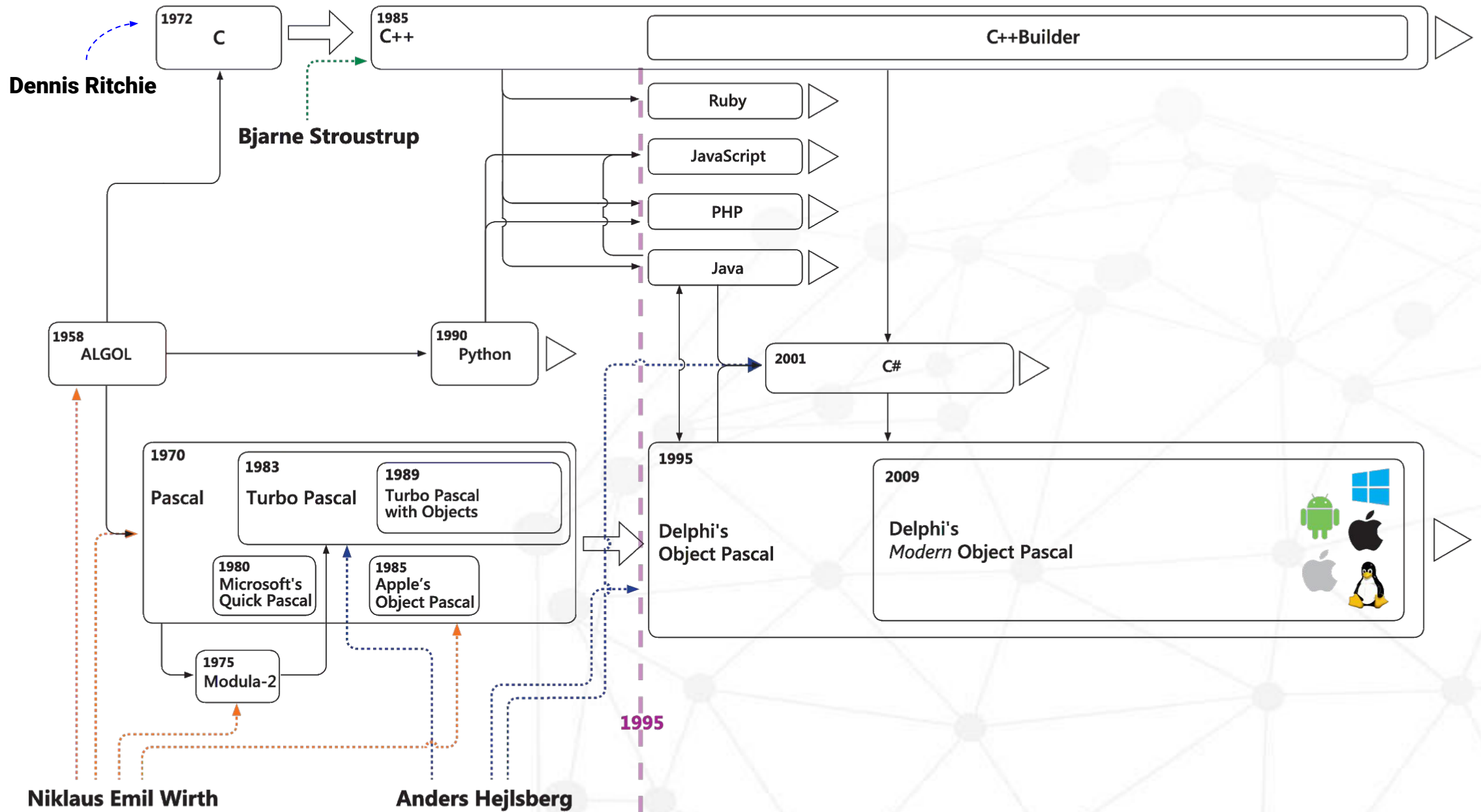
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Overall Operating System Market Share (Worldwide)



We live in a Multi-Device World





What is Delphi?



- Modern Object Pascal language
 - With features like Generics, records, anonymous types, properties, etc.
- Rich runtime libraries
- Powerful Integrated Development Environment
 - Visual designers, code editor, refactoring, compiler, debugger, etc.
- First class database access
 - FireDAC, Database Explorer in IDE, Design Time Data, TDataSet
- Multi-tier Client Server solution
 - DataSnap, RAD Server, Web Broker
- Reusable PME Components
 - Property, Method, Events
- Fast native compilation across all platforms

RAD Studio

Single Project file

C++ or Object Pascal



FMX layout

Android
Variant

iOS
Variant

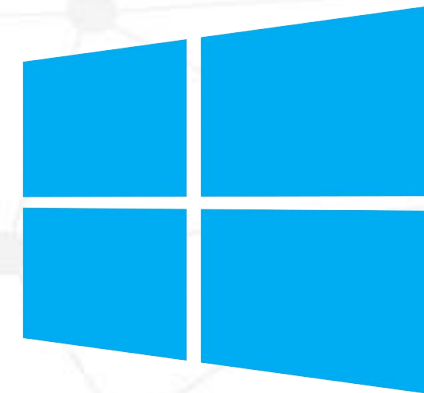
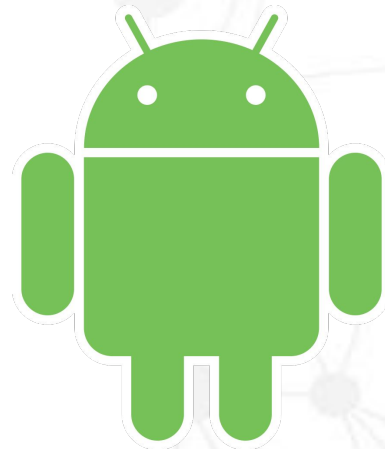
Resources

FMX & RTL Libraries

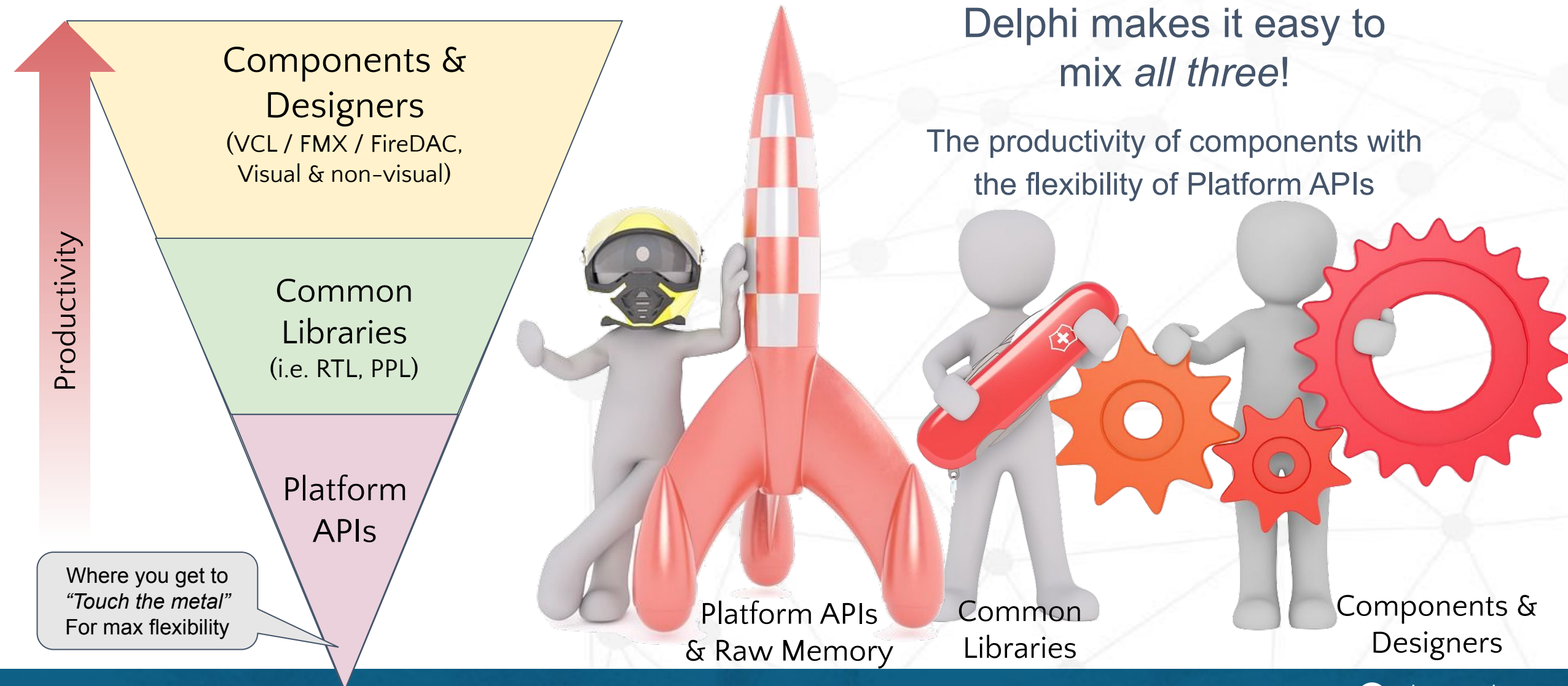
Platform APIs



One Project
Every Platform

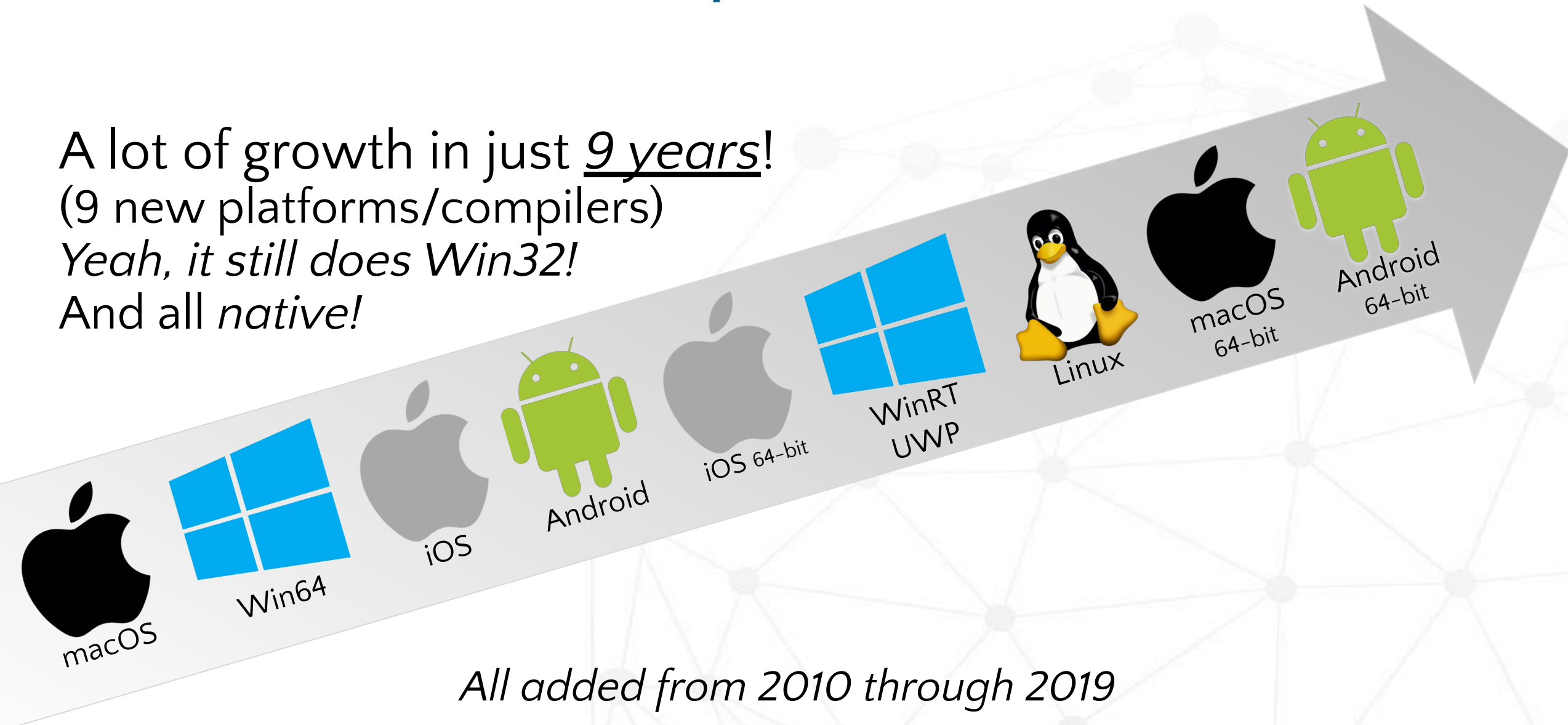


Three Levels of Development

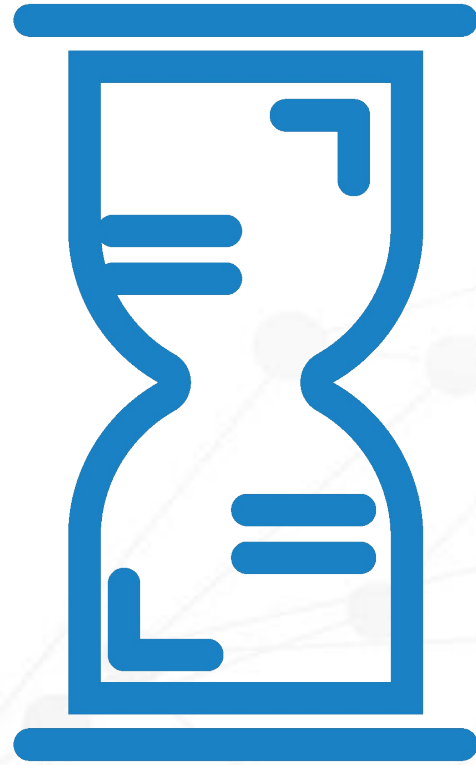


What's New with Delphi?

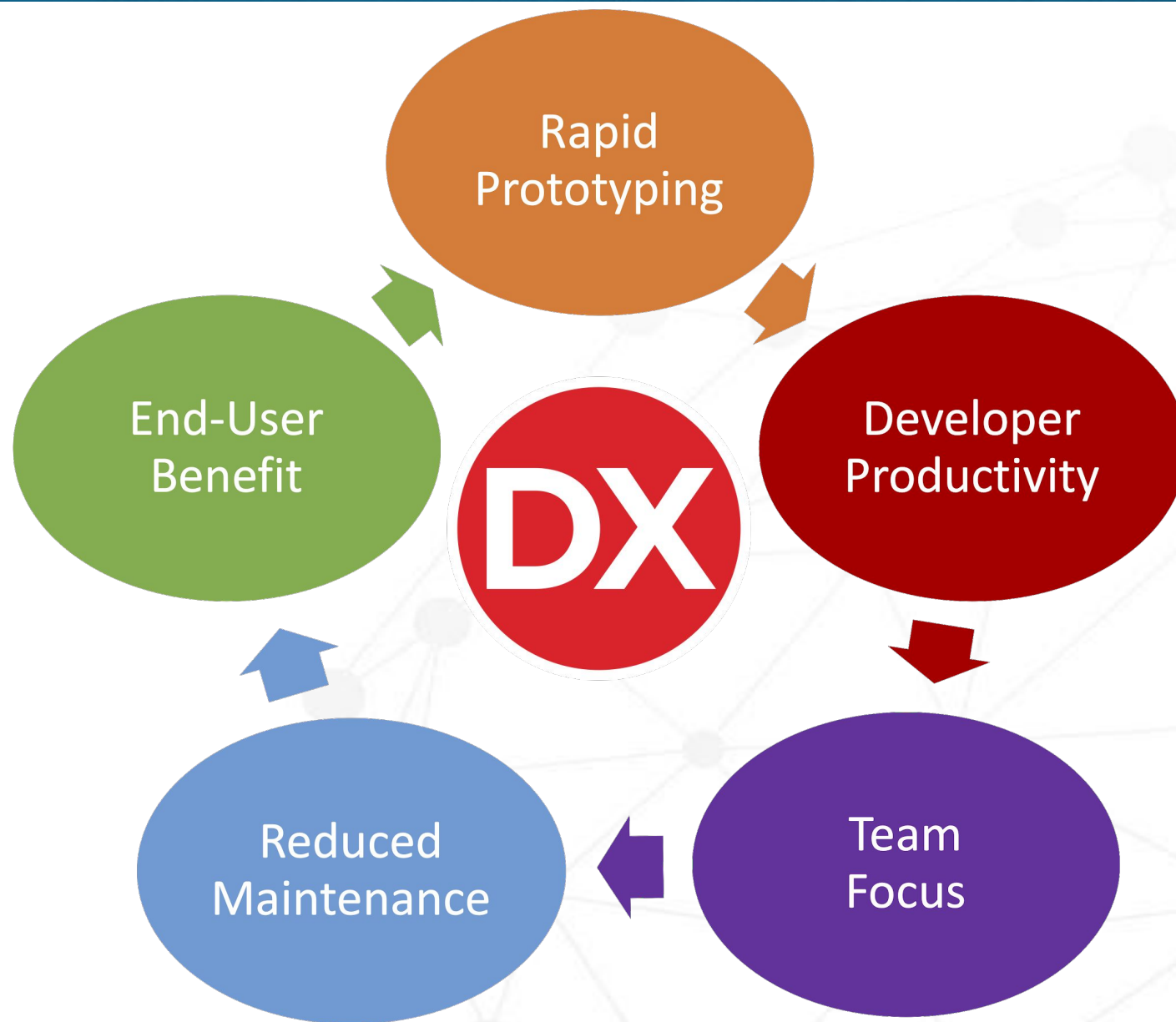
A lot of growth in just 9 years!
(9 new platforms/compiler)
Yeah, it still does Win32!
And all native!



All added from 2010 through 2019



Delphi
is about
Time



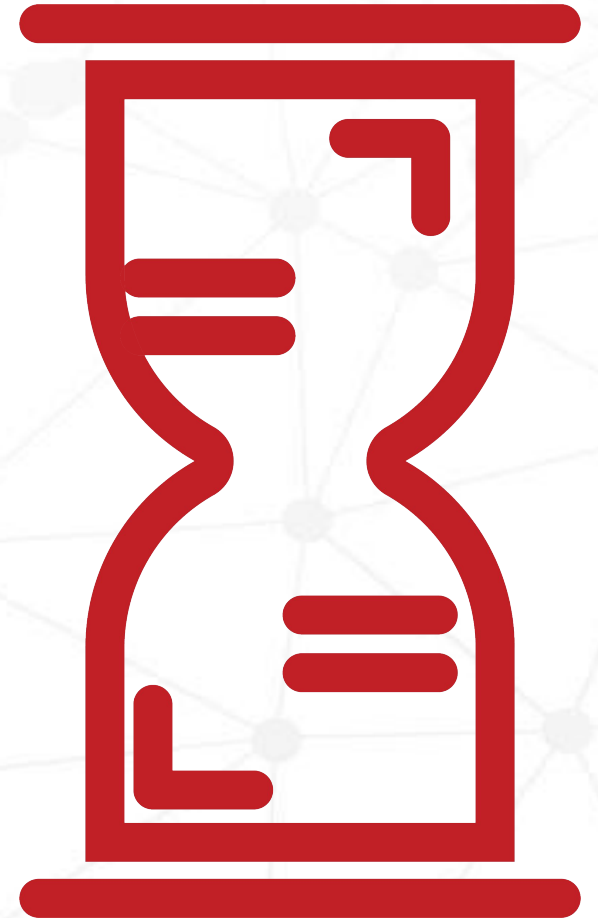
Rapid Prototyping

- Integrated Designer
 - Multi-device preview in IDE
 - FireUI live preview on-device
- Robust styling system
 - Both VCL & FireMonkey
 - Easily customizable even by end users
- FireUI intelligently adapts layout to different platforms, form factors, and screen sizes
 - FireUI platform variant forms
 - MultiView, TabControl, etc. are platform aware



Developer Productivity

- Reusable Components
 - Property-Method-Event (PME) model for maximum customizability
- Rich 3rd Party EcoSystem
 - Plenty of components to choose from
- Robust Runtime Library
 - Generic collections, platform APIs
- FireDAC Complete Database Access
 - Same framework to access every database
 - Also supports remote SaaS providers via EC



Team Focus

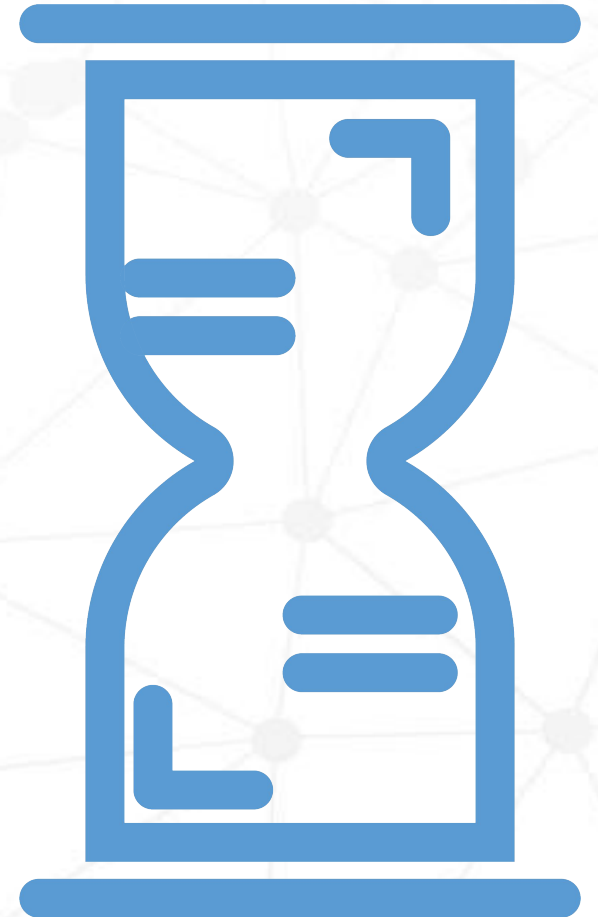
- One project for all the platforms
 - Allow all developers to work on entire system
 - No need to arbitrarily divide teams across platforms
- Integrated Source Control
 - Support for SVN, Mercurial, and Git in the IDE
- Integrated Unit Testing
 - Build and run Unit Tests in the IDE
- Faster Time to Market
 - All developers focused on one project, with better productivity, translates to getting done quicker



Reduced Maintenance

- 10:1 Ratio for Reading vs. Writing
 - Developers spend 10x time reading and maintaining code as they do writing it

Robert C. Martin, Clean Code: A Handbook of Agile Software Craftsmanship
- Less code makes it easier to maintain
 - Easier to find bugs & less code = less bugs
- Easy to read language
 - Object Pascal uses less symbols
- Entire Team can focus on **one project**



End-User Benefit

- Consistent experience across platforms
 - Users are on multiple platforms
 - Single code-base projects behave consistently
 - Bugs fixed on all platforms in unison
- Faster turn around on bugs and features
 - Focused teams add features quicker
- Fast performing native code
 - Native on ARM & x86
 - Supports 32 & 64-bit
 - Deterministic memory management - no pause for GC



A nighttime photograph of Rio de Janeiro, Brazil, showing the city's lights reflecting on the water and the surrounding mountains. The Christ the Redeemer statue is visible on a mountain peak in the background.

RAD Studio 10.3.x Rio

What's New with Delphi?

Solid language that keeps evolving

Keeping is consistent with Pascal heritage

Focusing on compatibility with existing code

Reverting some “breaking” decisions

Just in 10.3: Inline variables and type inference

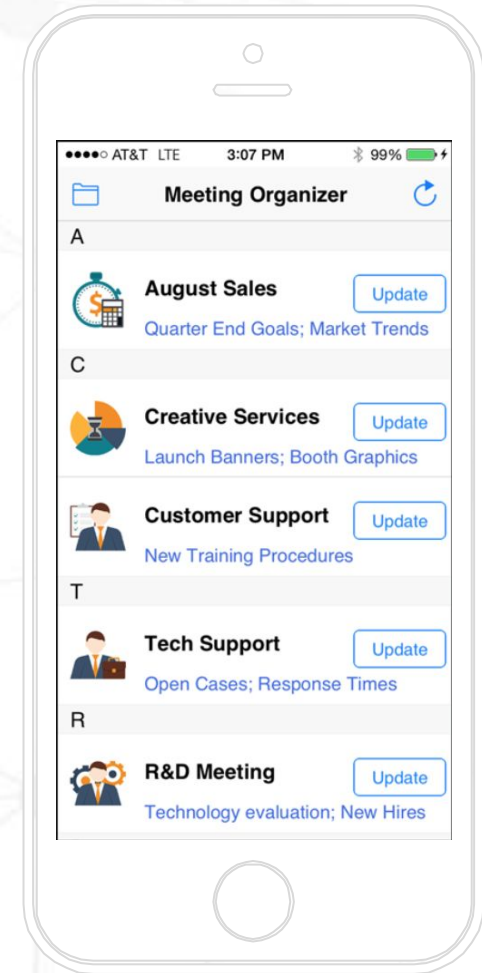
Coming in 10.4: Managed Records*

*Features not committed until released

What Was New in RAD Studio 10.3.1




- Expanded support for iOS 12 and iPhone X series devices
- RAD Server Console UI redesign and migration to the Ext JS framework
- Improved FireDAC support for Firebird 3.0.4 and Firebird embedded
- New VCL and FMX Multi-Device Styles
- IDE Productivity Components
- Quality improvements to over 150 customer reported issues



What's New in RAD Studio 10.3.2

- Delphi macOS 64-bit
- C++17 for Windows 64-bit
- C++ LSP Code Insight Improvements & New Features
- RAD Server Wizards and Deployment Improvements
- Android Push Notification Support with Firebase
- Delphi Linux FireMonkey GUI Application Support
- 400+ Quality Improvements



The logo for FmxLinux 1.41, featuring a stylized blue flame or 'F' shape inside a dark circle, with a red 'RX' badge in the top right corner.

FmxLinux 1.41
Full-featured FireMonkey implementation for Linux Platform.

JUN 2019
Embarcadero Software License
[Install](#)

Embarcadero Technologies

macOS 64-bit application support for Delphi

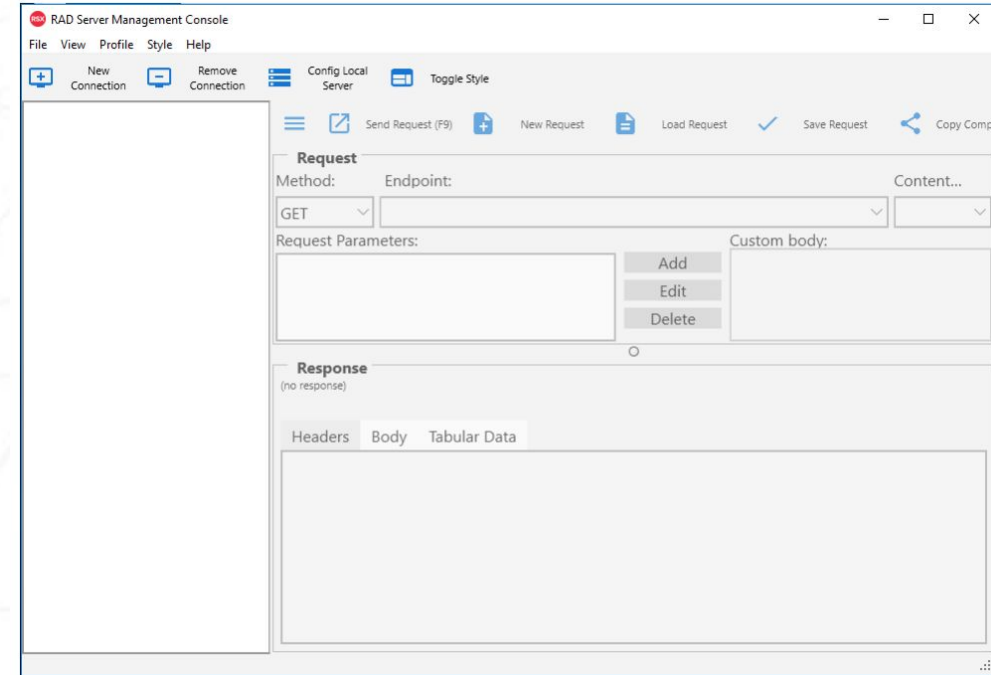
Support the Mac App Store and prepare for the upcoming 64-bit-only version of macOS

- Build App Store ready macOS 64-bit applications
 - Includes macOS notarization support
- New Delphi compiler for the macOS 64-bit platform, based on the LLVM compiler infrastructure
 - Non-ARC model like all other Delphi desktop and server platforms
 - Extensive RTL support
- Complete support for the FireMonkey library and all FireMonkey controls previously available on the macOS 32-bit platform
- Support for the database RTL and the FireDAC client access library
 - InterBase support for Delphi macOS 64-bit
- Quality Improvements in macOS FMX support for both 32-bit and 64-bit

RAD Server Wizards and Deployment Improvements

Much easier configuration, deployment and management for RAD Server multi-tier

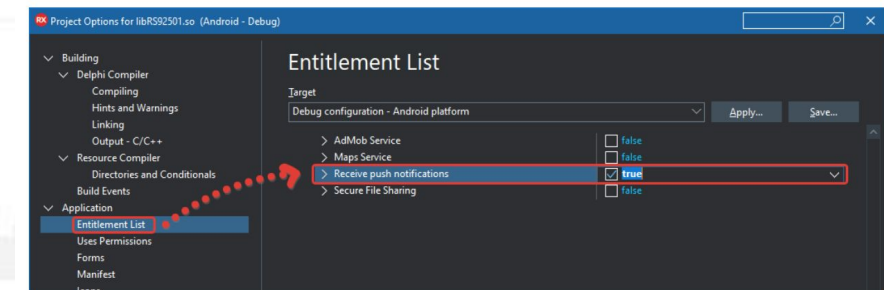
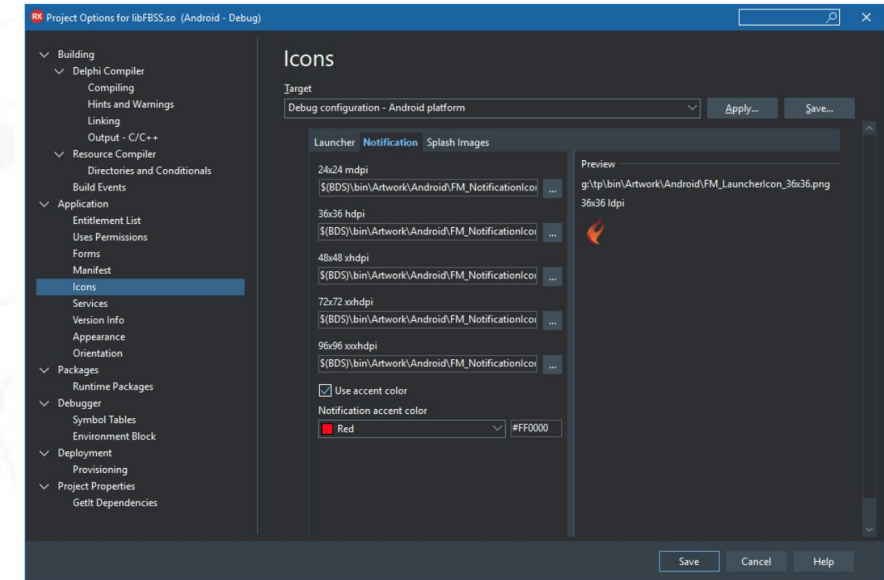
- Improvements to the RAD Server wizards for automatic FireDAC database mapping and API documentation
 - Smoother Swagger API documentation and support for Swagger-UI
- New RAD Server Management Console with configuration editor and integrated REST debugger for quickly executing a generic REST call against the server
- Simplified deployment process with installers for Linux and Windows servers



Android Push Notification Support with Firebase

Push notifications are a key feature for many apps – we now support the latest standards from Google

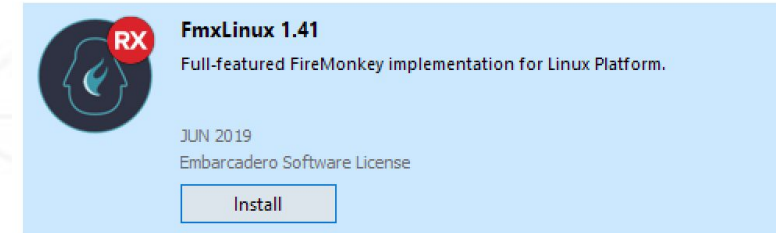
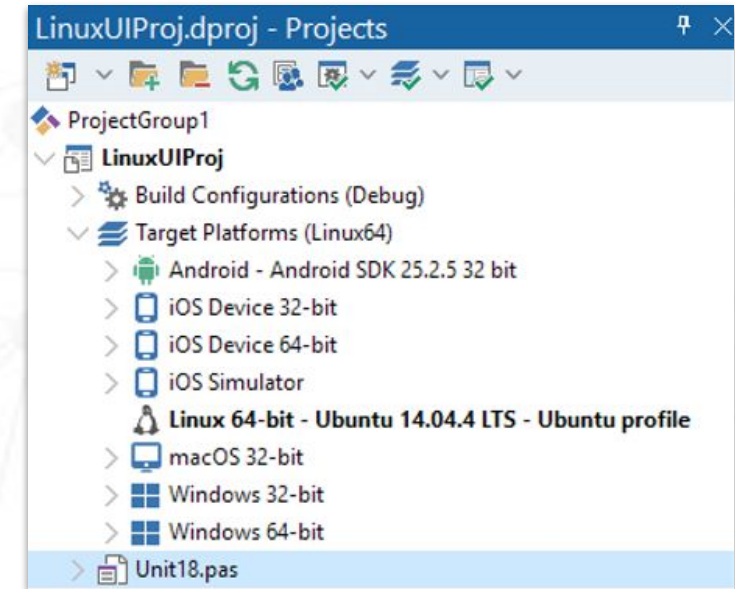
- FireBase push notification support for your FireMonkey 10.3.2 Android applications
 - Replaces deprecated Google Cloud Messaging
- Provided as part of our Android platform support
 - Includes improvements to icons for all types of notifications
 - Includes updates to Google Play Services and Maps to match Firebase version support requirements



FMXLinux for Delphi

You can now create Linux desktop apps with FMX GUI

- Easily build GUI applications for popular Linux distributions
- Extends Delphi's FireMonkey cross-platform framework
- Includes several ready-to-use user interface styles
- Many of the FMX components, such as grids, widgets, etc. work seamlessly on Linux clients
- Leverage RAD Studio's innovative features, such as Live Bindings, and much more, in your Linux client applications
- Available via GetIt for Enterprise and Architect Edition customers



10.3.2 Key Quality Enhancements

- Runtime Library Performance Enhancements
- Significant VCL quality improvements
- C++17 Quality (compiler, RTL, STL, and more)
- C++ code completion accuracy and functionality
- IDE UX Quality
- FireMonkey Platform Enhancements
- HTTP & REST Improvements
- FireDAC & Database

10.3.2 addresses 400 publicly reported quality issues

CData Enterprise Connectors Free Bundle

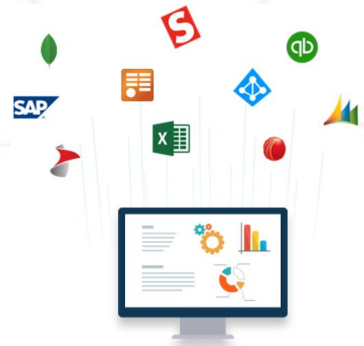
Included (free) in Enterprise and Architect editions

New customers and current subscription customers

70+ application services supported via FireDAC drivers, SQL access

Including QuickBooks Desktop, MailChimp, Salesforce, YouTube, SugarCRM, Jira, SurveyMonkey, Amazon DynamoDB, Couchbase, PayPal, eBay, Google Sheets, Facebook, Twitter, Slack, Dropbox

Enterprise+ Pack sold by CData



What's New in RAD Studio 10.3.3

- Delphi Android 64-bit support
- Delphi macOS Catalina, including notarization
- RAD Server Docker deployment (pre-built Docker image for Linux)
- 1 year subscription license to Enterprise Connectors, in Architect and Enterprise



Delphi Android 64-bit^{*}

New Delphi compiler for the Android 64-bit platform

- Based on the LLVM compiler infrastructure
- Still ARC enabled, to reduce migration effort to 64-

All libraries: RTL – FireMonkey – Database

IDE support and debugging

Android App Bundle support



^{*} Features are not committed until GA of product

RAD Studio 10.3.3 Key Quality

- App Tethering improvements
- IDE: many fixes, and features: font size in IDE, editor tabs showing modified status, many fixes around window behaviour and styling
- C++: focus on RTL and compiler, especially for Win64
- Delphi compiler and RTL: performance, compiler fixes
- iOS, Android, macOS improvements

Over 180 customer-reported issues



What's Coming

Current development and roadmap plan

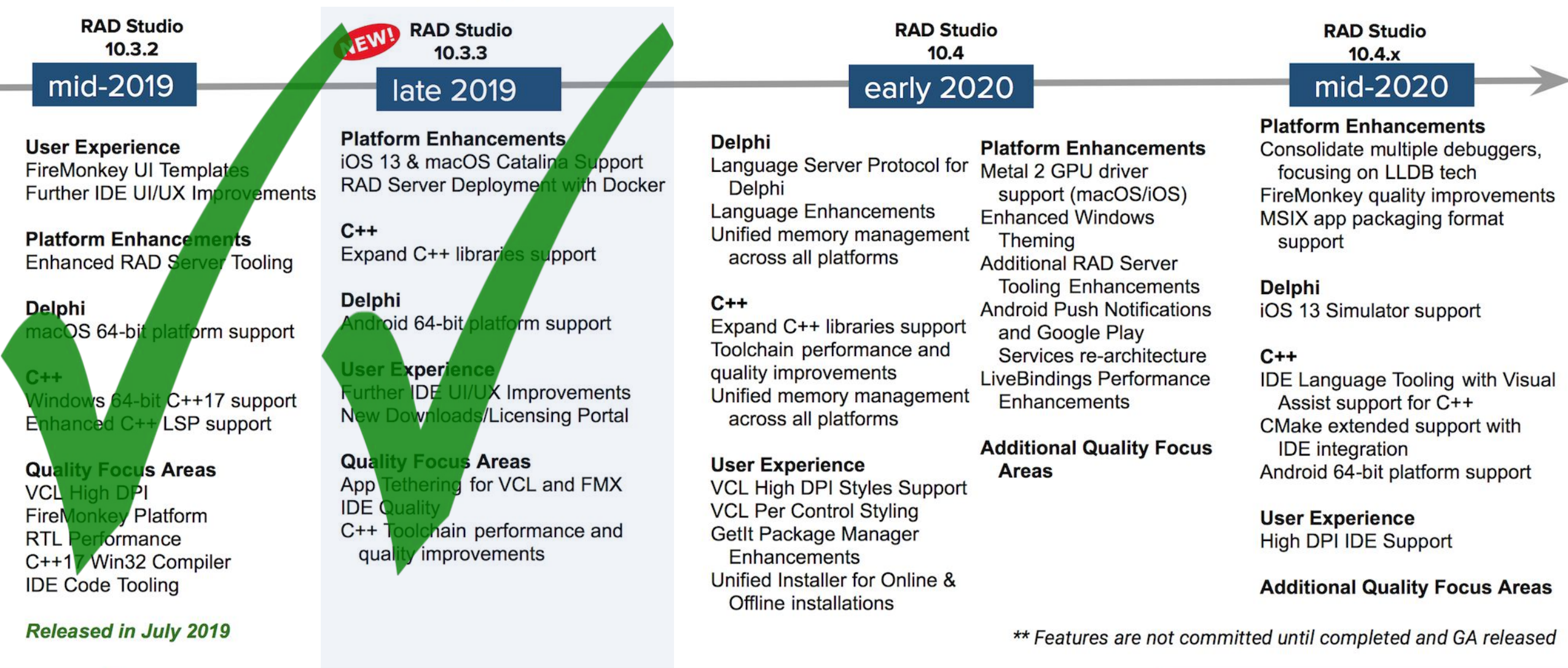
Safe Harbor Statement

- These plans represent our intentions as of this date, and our development plans and priorities are subject to change, due to competitive factors, availability of resources and other matters common to all independent software vendors.
- Accordingly, we can't offer any commitments or other forms of assurance that we will ultimately release any or all of the described products on the schedule or in the order described, or at all.
- These general indications of development schedules or "product roadmaps" should not be interpreted or construed as any form of a commitment, and our customers' rights to upgrades, updates, enhancements and other maintenance releases will be set forth only in the applicable software license agreement.
- ***IMPORTANT: Features are not committed until completed and **GA** released***



RAD Studio Roadmap**

RAD Studio CY 2019 / CY 2020 Timeline**



Delphi Memory Management Plans*

10.3.3 Android 64-bit still uses ARC

Phase out ARC for mobile compilers (Android + iOS) in 10.4

Refocus on key tenets:

- Components ownership
- Reference counted interfaces

Research alternative ideas (like local automatic management)

* Features are not committed until GA of product

InterBase 2020

- InterBase
 - Low footprint, embeddable, zero-administration, secure RDBMS
- InterBase 2020 Server
 - Main feature: TableSpace
- IBLite/ToGo
 - New platforms: macOS 64-bit, Android 64-bit

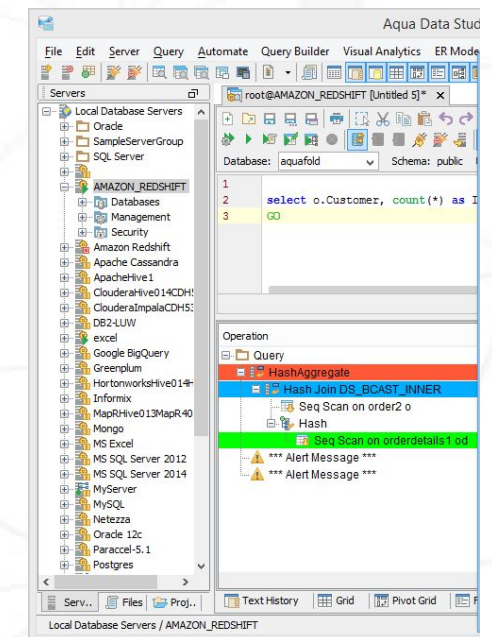
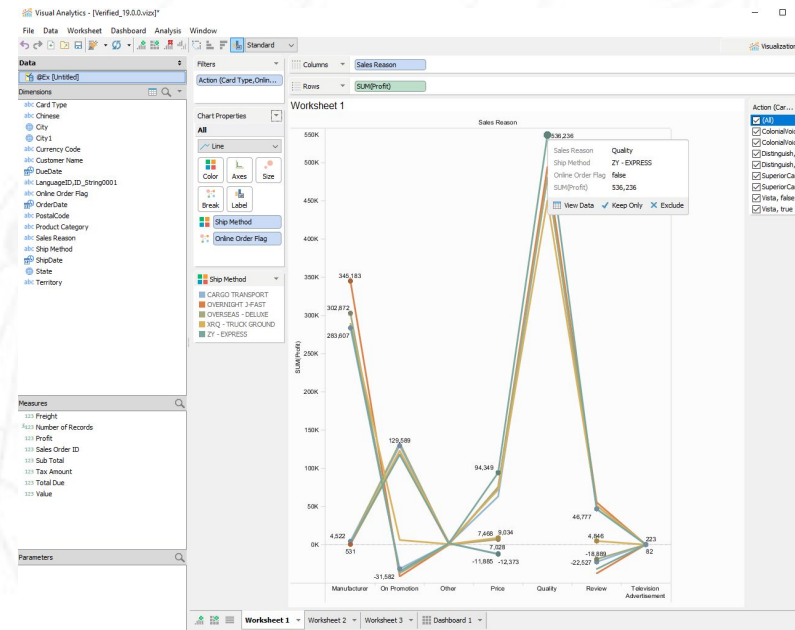
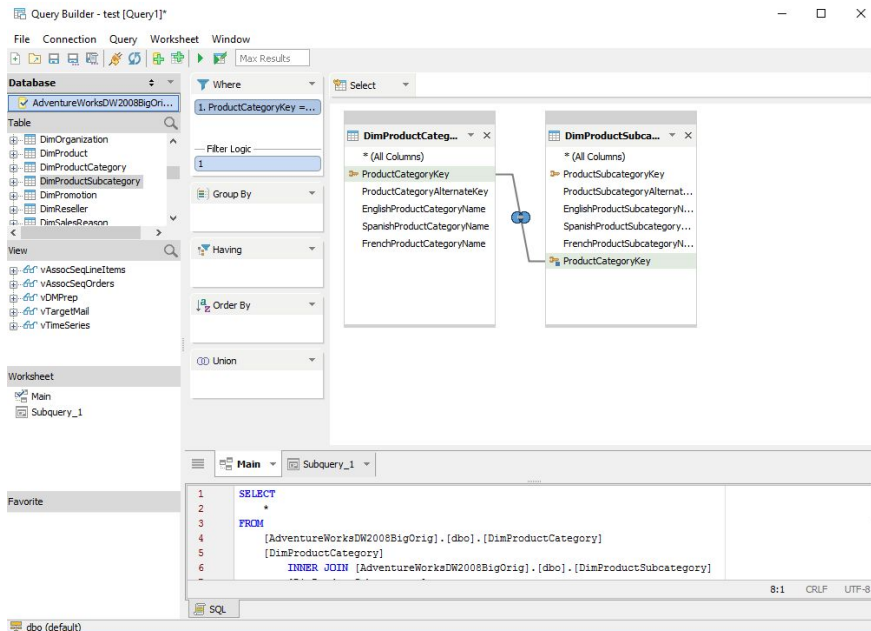
InterBase 2020 was just released

InterBase and Aqua Data Studio

Visual Query Builder

Data Analysis

Edit SQL

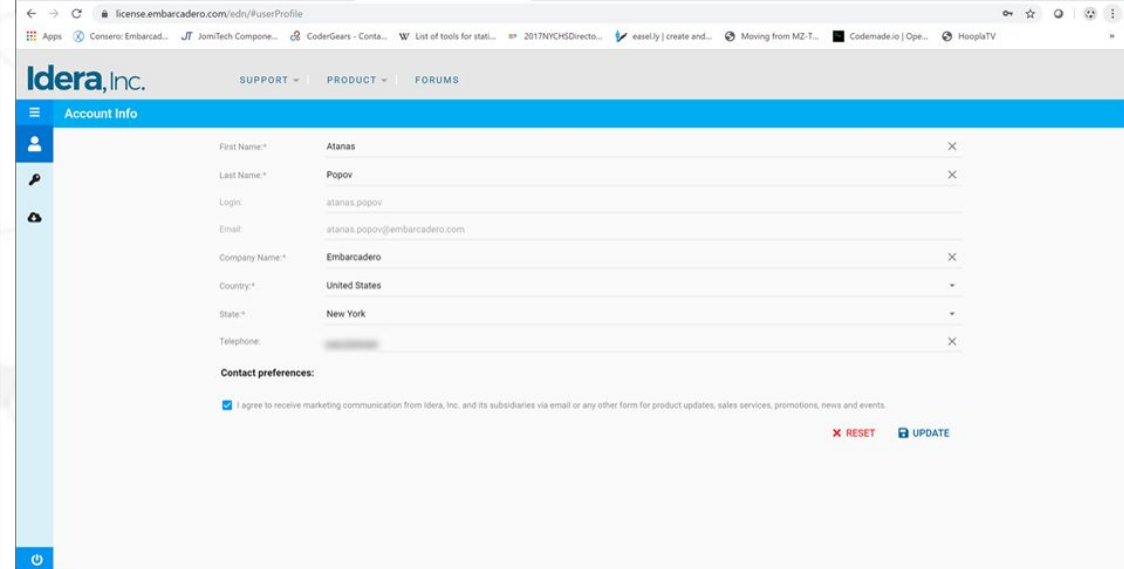
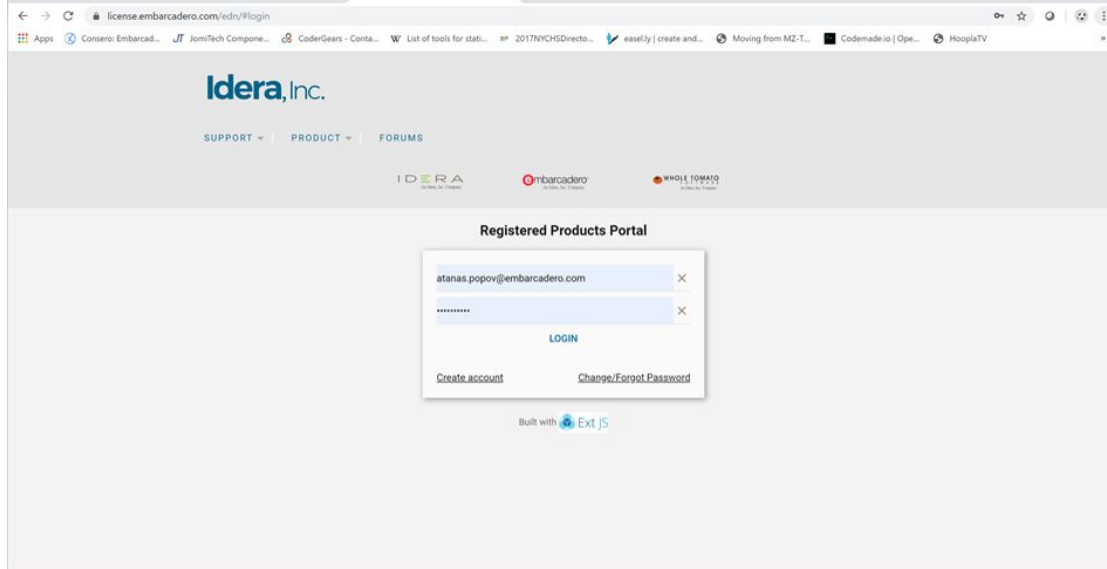


InterBase and RAD Studio

- Developer Edition and Embedded Edition licensed with RAD Studio
 - All editions include free IBLite deployment license
 - RAD Studio Ent/Arch includes IBToGo Mobile deployment license
 - RAD 10.3.2: macOS 64-bit support for InterBase ToGo/IBLite
 - RAD 10.3.3: Coming Android 64-bit support
- RAD Server uses InterBase 2017 behind the scenes (Win/Linux)

New Licenses and Downloads Portal

CodeCentral and other sites going away. Getting modern replacements, more stability, nice ExtJS UI.
community.idera.com/developer-tools/b/blog/posts/gm-update



Conclusion

- The best tool for Windows desktop app
 - Native Windows matters, Microsoft getting back to it!
- A unique solution for single source multi device native development
- Growing set of features and quality focus (subsystems redesign)
- Long term code compatibility and portability (preserve investments)
- Healthy business and active third-party ecosystem



Questions?