



30TH EMBARCADERO DEVELOPER CAMP

第30回 エンバカデロ・デベロッパーキャンプ・ツアー

Multi-Device Development for the IoT Generation

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What is RAD Studio?



The Connected App Platform for
Windows and Beyond

RAD development for Windows,
Mac, iOS, and Android and IoT

Industrial strength. Business ready

RAD Studio XE8: Enterprise Ready

Build industrial strength and business ready solutions



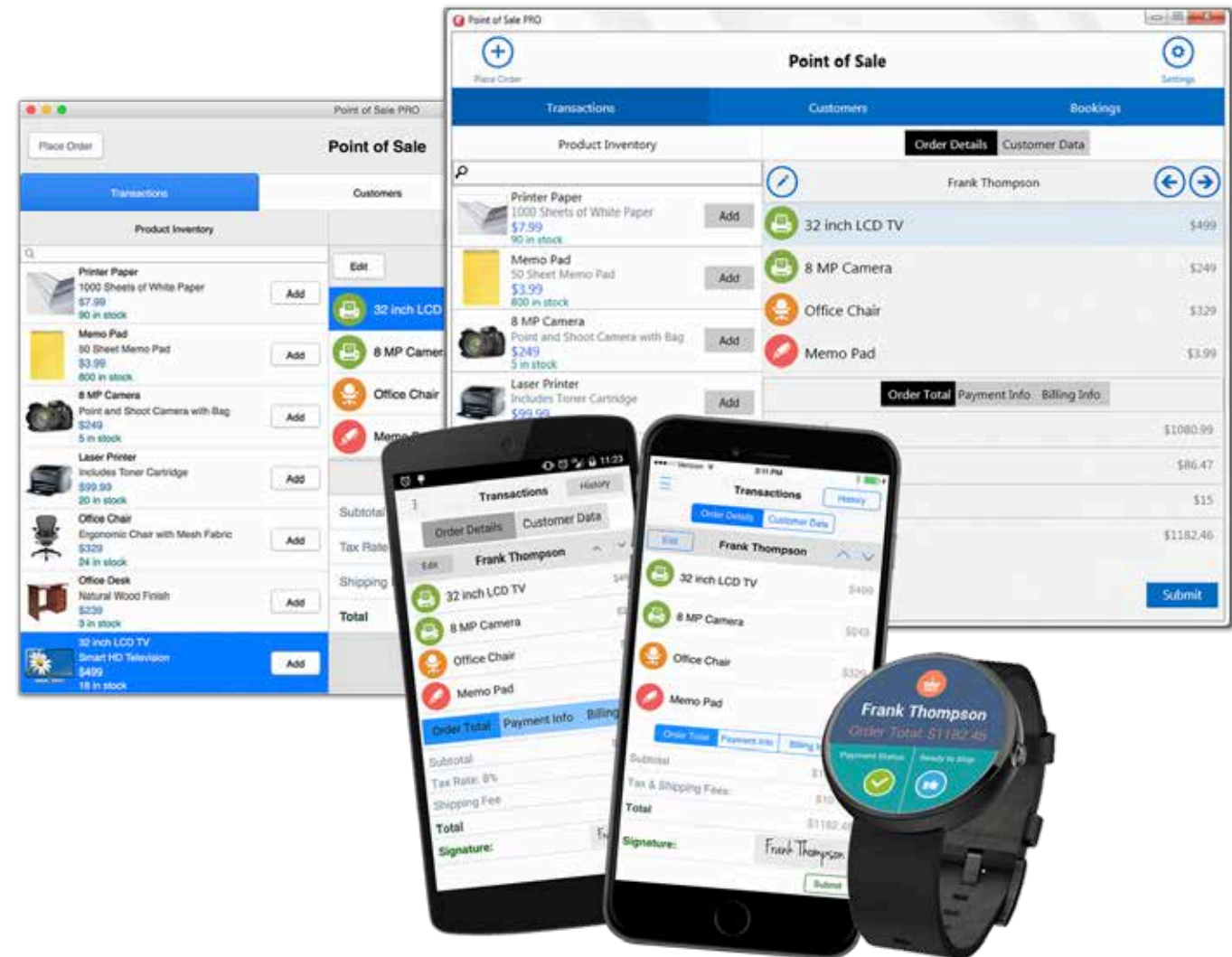
RAD Studio XE8: Connected

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



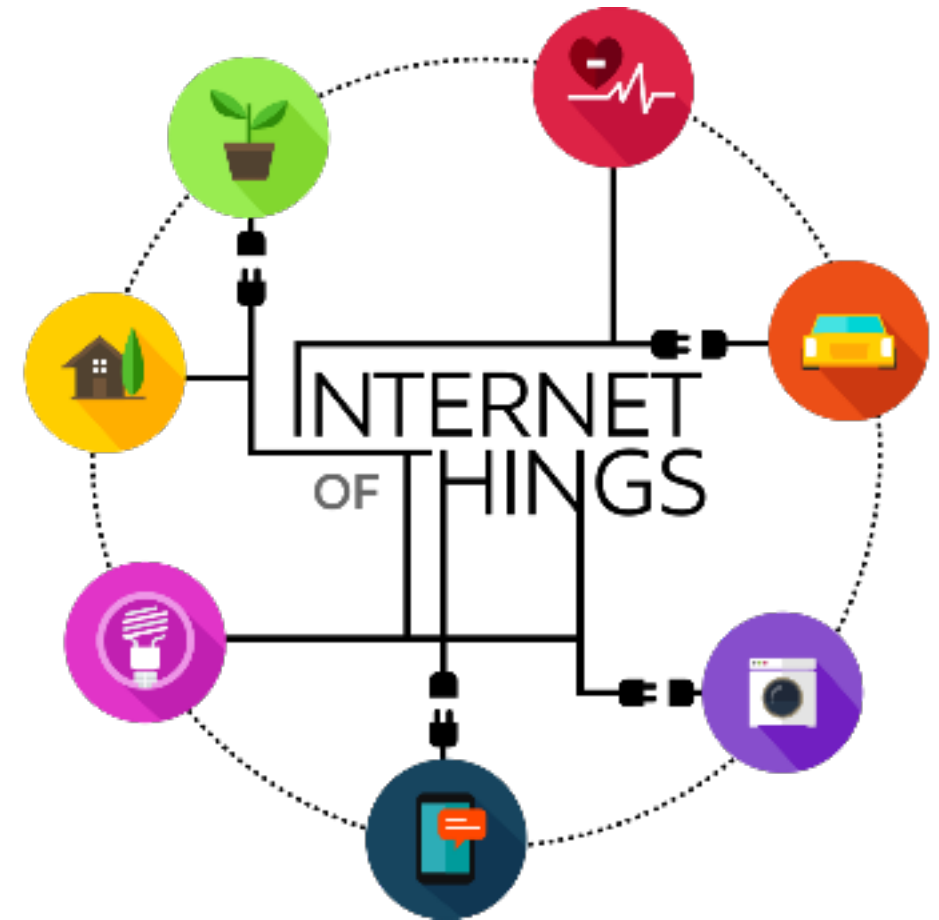
RAD Studio XE8: MultiDevice

Deliver single-source user interfaces across multiple form factors with FireUI



RAD Studio XE8: IoT Ready

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

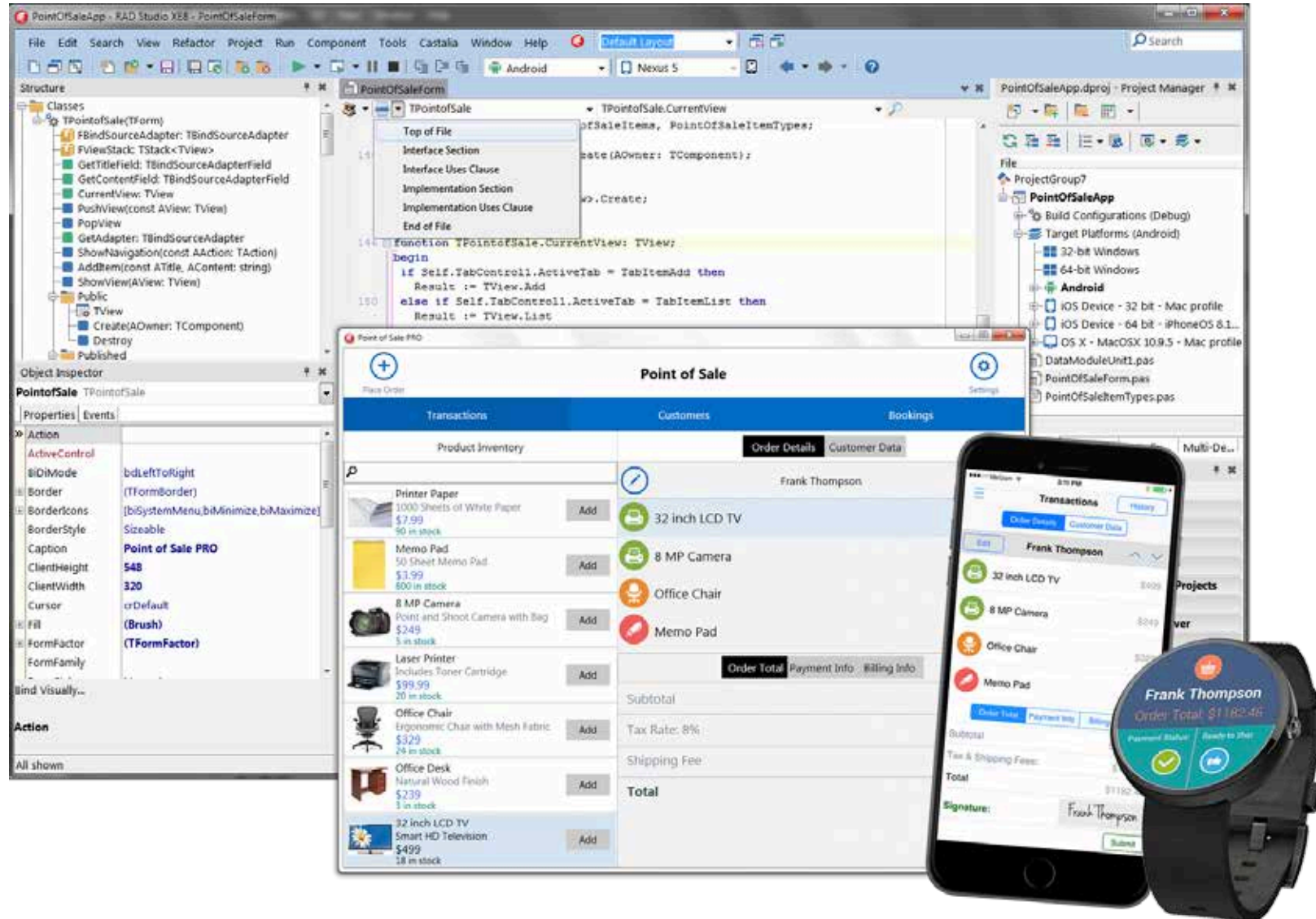


RAD Studio XE8: EMS MiddleWare

Access and sync enterprise data and publish custom REST APIs with turn-key Enterprise Mobility Services



RAD Studio XE8: For Developers



Multi-Device Development for the IoT Generation

RAD STUDIO SUCCESS STORIES

TKC – Japan Corporate

- Est. 1966
- 2200 employees
- 77 offices through Japan
- Mission: Protecting the operations of accounting offices and improving efficiency in administrative procedures of local governments



TKC - Quote

“Taxation and accounting systems provided by TKC Corporation **require an update every year** according to laws and regulation changes,” said Hitoshi Uotani, Corporate Officer, and Director of System Laboratory of TKC Corporation. “**Prompt and stable software provision** is extremely critical in order to support management of our client corporations. Delphi enables visual development through **components and ensures high levels of productivity** from our team. We also greatly appreciate Delphi’s **multi-device support** for deploying our development assets to mobile devices.”

Hitoshi Uotani

Corporate Officer, and Director of System Laboratory of TKC Corporation

Digifort - Company

- Brazil and Australia
- Customers in over 85 countries
- Multi-device
- Award winning
- Stunned competitors developing new mobile product in less than one month



DigiFort - Top Quote



"Delphi is the cross platform tool I've always dreamed of –
there's nothing that can beat it."

Eric Fleming Bonilha, Director of Development, Digifort

XE8 Customer Comments

- Mobile support and Universal 32-bit and 64-bit iOS apps make RAD Studio XE8 the best tool I have ever tried
 - Luca Scomparin - Direttore Tecnico - Sonar Italia
- XE8 is one of the best RAD Studio releases so far.
 - Brian Frost Technical Director Applied Relay Testing Ltd.
- RAD Studio XE8 looks great in Windows 8
 - Marco Cirinei - Lead Developer - HappySoft Srl

XE8 Customer Comments

- Delphi users will benefit from the GetIt Package Manager and the code productivity features added to XE8.
 - Warren Postma - Senior Software Developer - RAMSOFT Inc
- The overall vision of where RAD Studio is going is awesome
 - Davis Peterson
- RAD Studio XE8 is a crazy good upgrade for developing mobile, desktop, or web applications.
 - Andrew Tierney - CEO – CastleSoft

Multi-Device Development for the IoT Generation

WHAT IS THE INTERNET OF THINGS?

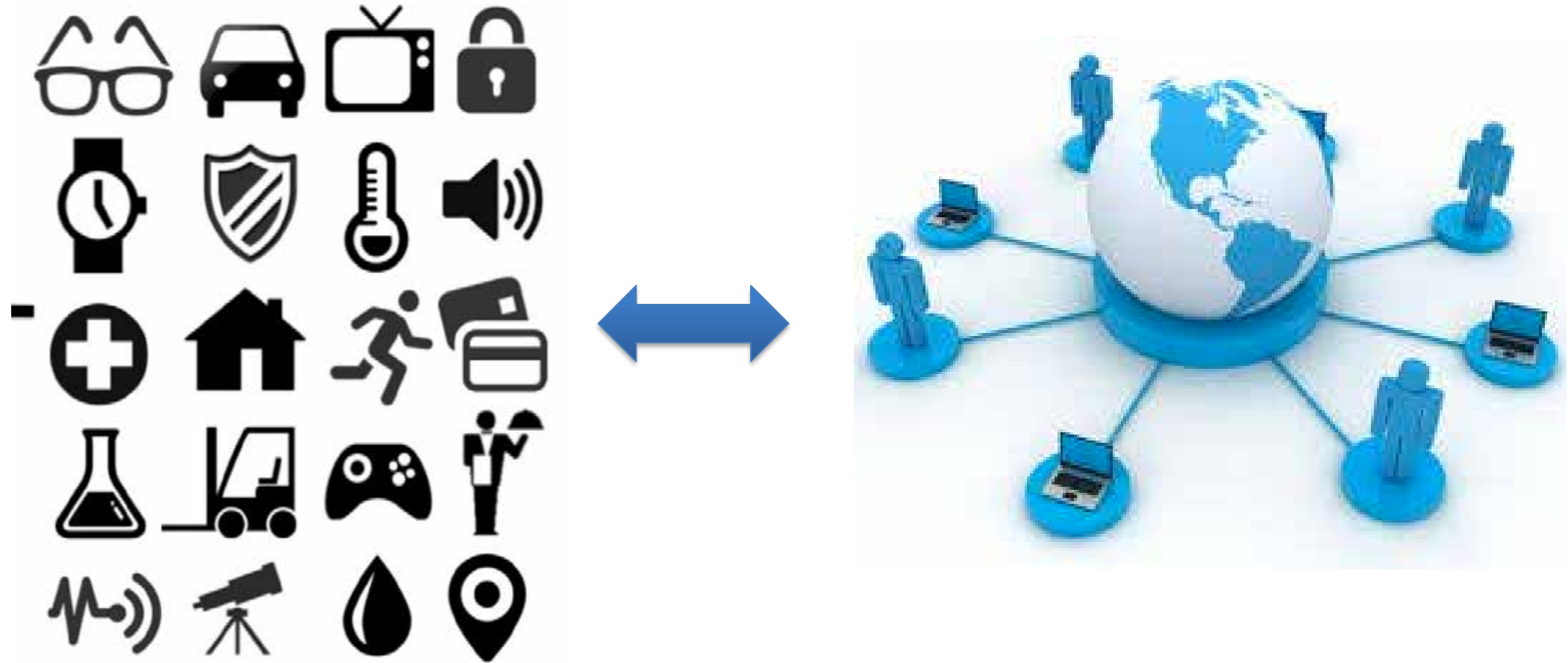
What do these have in common?



APIs to Talk to Them



Things + Internet



Multi-Device Development for the IoT Generation

RAD STUDIO MULTI-DEVICE DEVELOPMENT

Mobile is Everywhere



Mobile Apps Are Everywhere



本文書の一部または全部の転載を禁止します。本文書の著作権は、著作者に帰属します。

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



Multi-Device and IoT

- Native code on all platforms and great platforms integration for IoT support
- Add application logic “near” the device
 - Rather than push any data to the cloud

Multi-Device Development for the IoT Generation

IOT CONNECTIVITY IN RAD STUDIO

Connecting with Devices

- Wifi and REST
 - Connect with devices that expose an HTTP API
- Classic Bluetooth and Bluetooth LE
 - Limited Windows support for LE
 - Most gadgets support Bluetooth
- Custom APIs
 - Require use of specific SDKs
 - RAD Studio can interface native libraries on all platforms

If IoT Data is in Cloud... Connect with Cloud

- Plain Indy client components
- HTTP Client Library (new in XE8)
- REST Client Library
 - Debugger and components
- Ready-to-use BaaS components (Parse and Kinvey)
- Ready to use Cloud components (Amazon and Azure)

Multi-Device Development for the IoT Generation

APPTETHERING

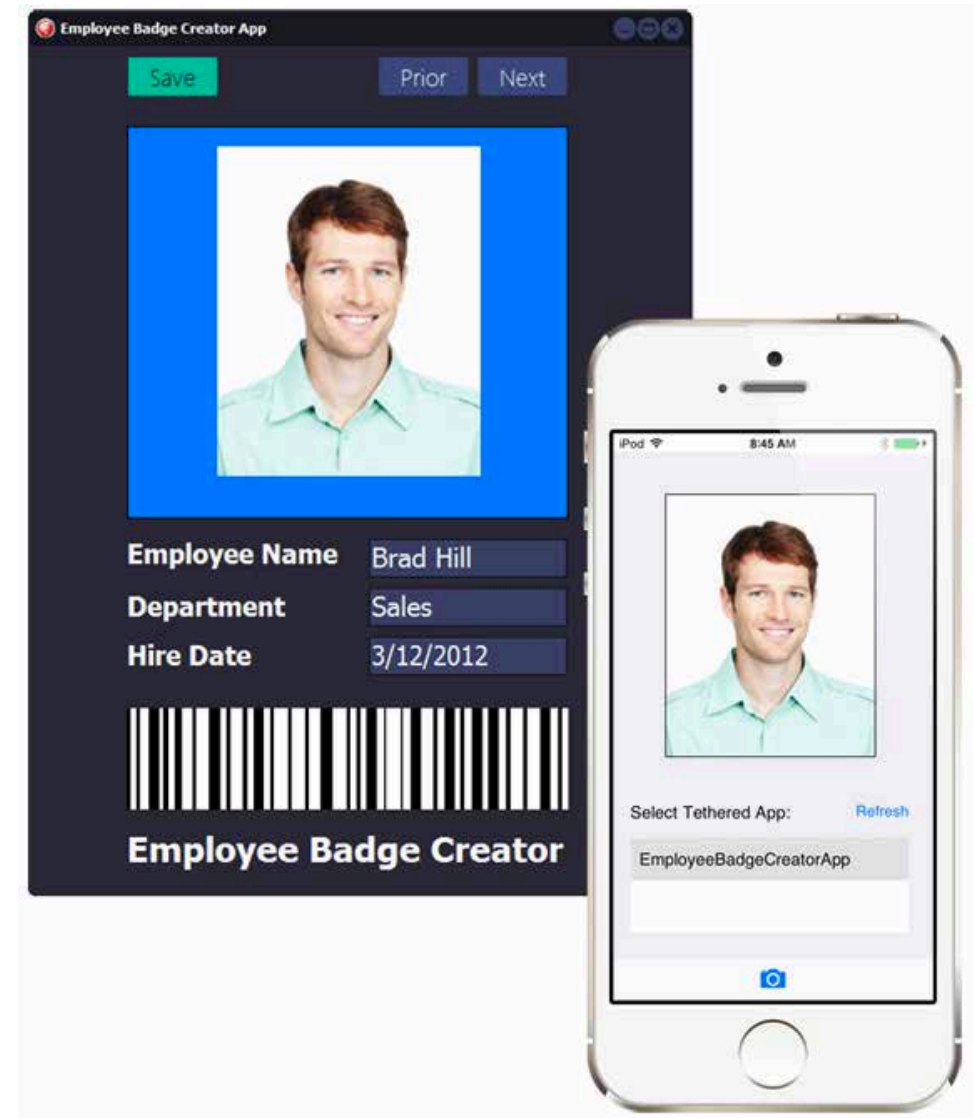
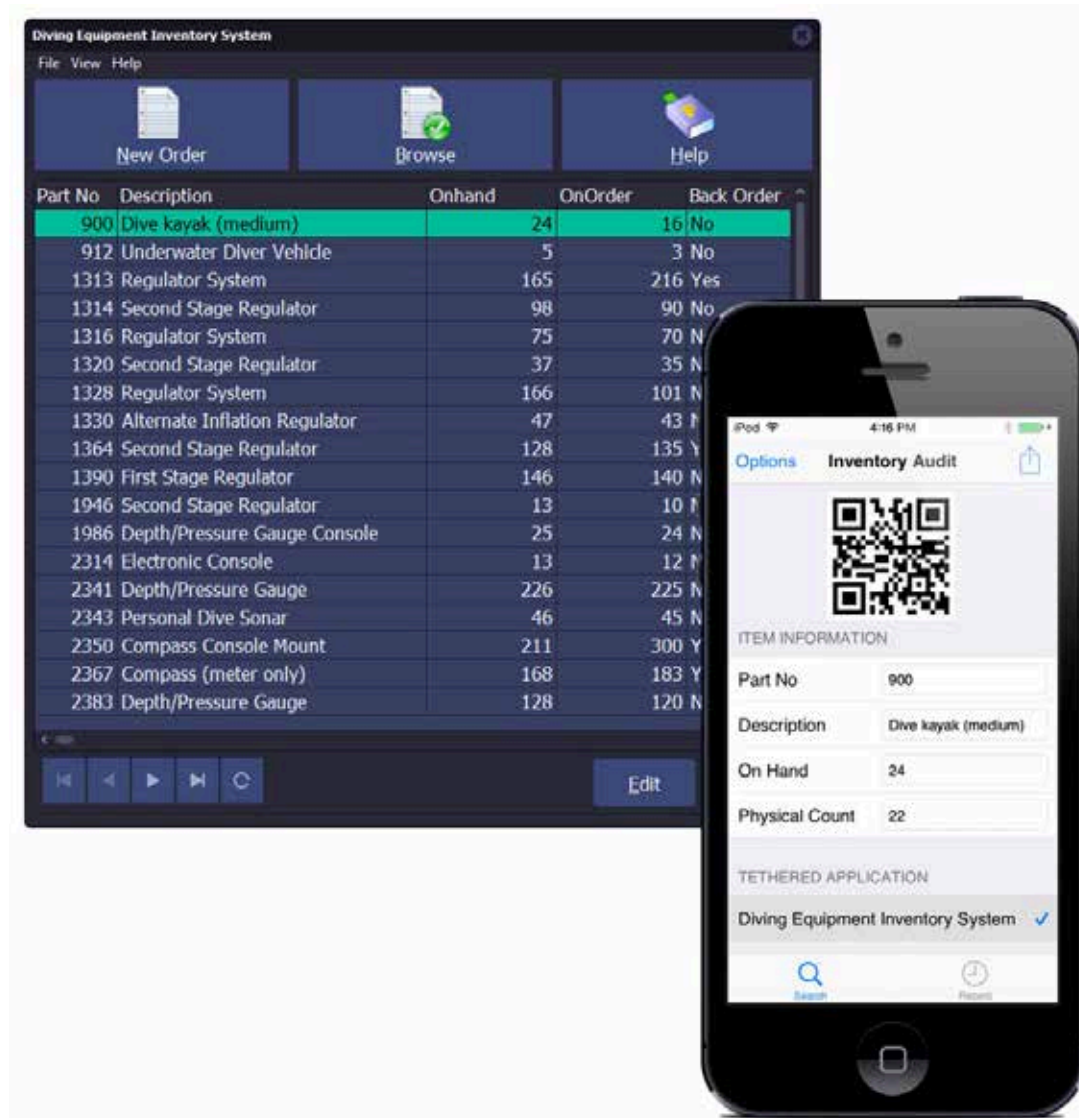
App Tethering



embarcadero



AppTethering: Bridge VCL and Mobile



Why AppTethering?

- Build companion mobile apps
 - Mobile enable desktop applications 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

What is App Tethering?

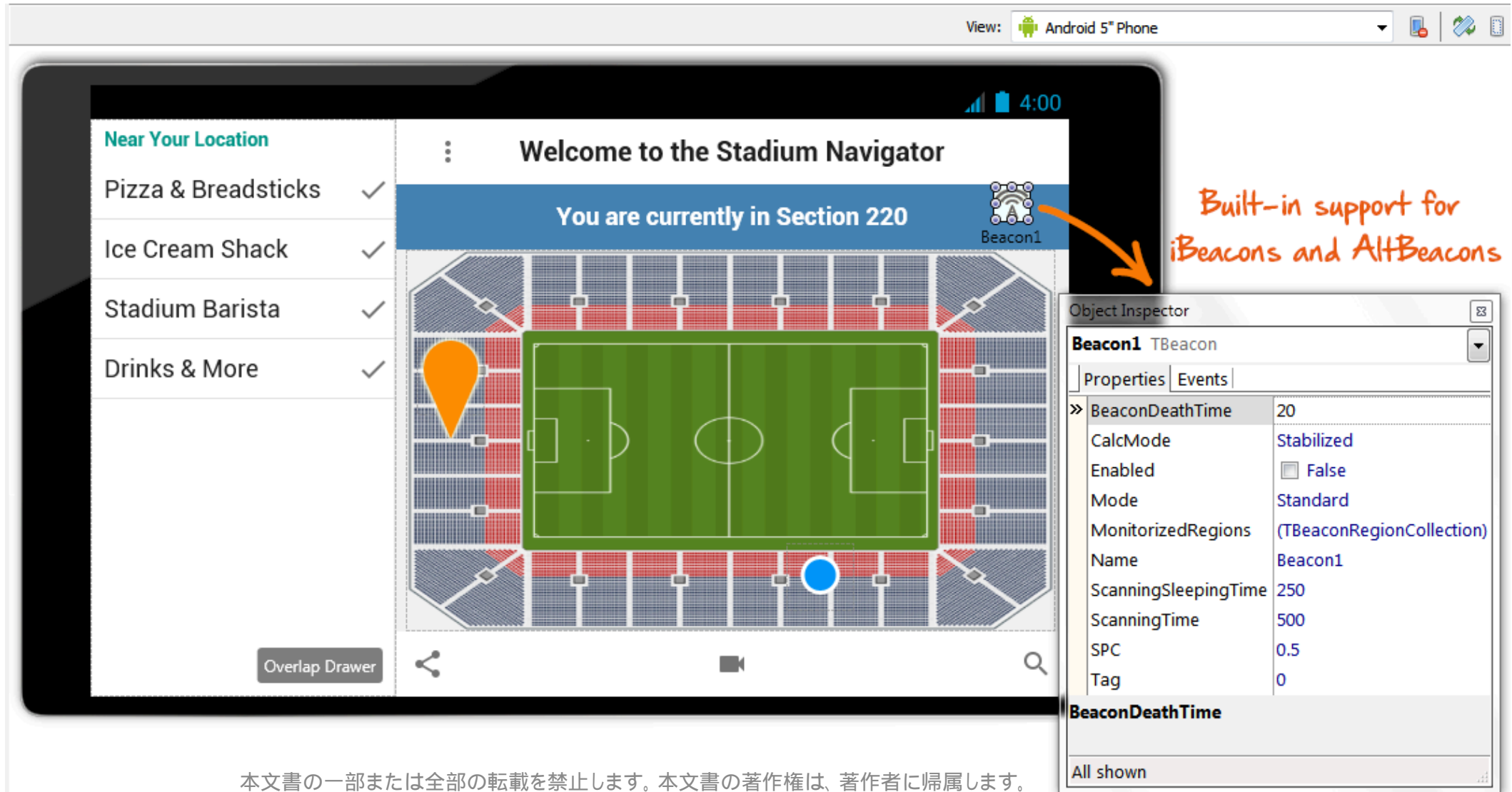
- Introduced in XE6
- Easily expand your existing Windows apps to mobile devices
- Simple communication components on each side
 - Execute actions
 - Exchange data
- Demo from XE7 Samples: PhotoWall



Multi-Device Development for the IoT Generation

BEACONS

New: Proximity with Beacons



The screenshot shows an Android app interface for a stadium navigator. The top bar displays "View: Android 5\" Phone". The main content area is titled "Welcome to the Stadium Navigator" and "You are currently in Section 220". A map of the stadium is shown with a green field and red seating areas. A blue dot indicates the current location. An orange arrow points from the "Beacon1" label on the map to the "Object Inspector" window.

Object Inspector

Beacon1 TBeacon	
Properties	
BeaconDeathTime	20
CalcMode	Stabilized
Enabled	<input type="checkbox"/> False
Mode	Standard
MonitorizedRegions	(TBeaconRegionCollection)
Name	Beacon1
ScanningSleepingTime	250
ScanningTime	500
SPC	0.5
Tag	0

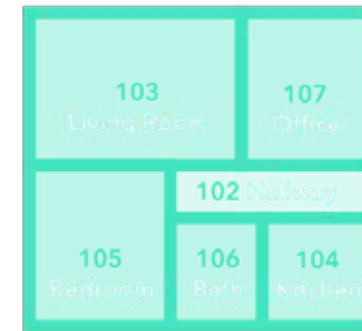
BeaconDeathTime

All shown

Built-in support for iBeacons and AltBeacons

What Do Beacons Do?

- A Beacon provides proximity and identification information
 - Informs a mobile app how close it is (signal strength)
 - Provides identification information (UUID, Major ID, & Minor ID)
- Two main standards
 - iBeacons (Apple)
 - AltBeacons



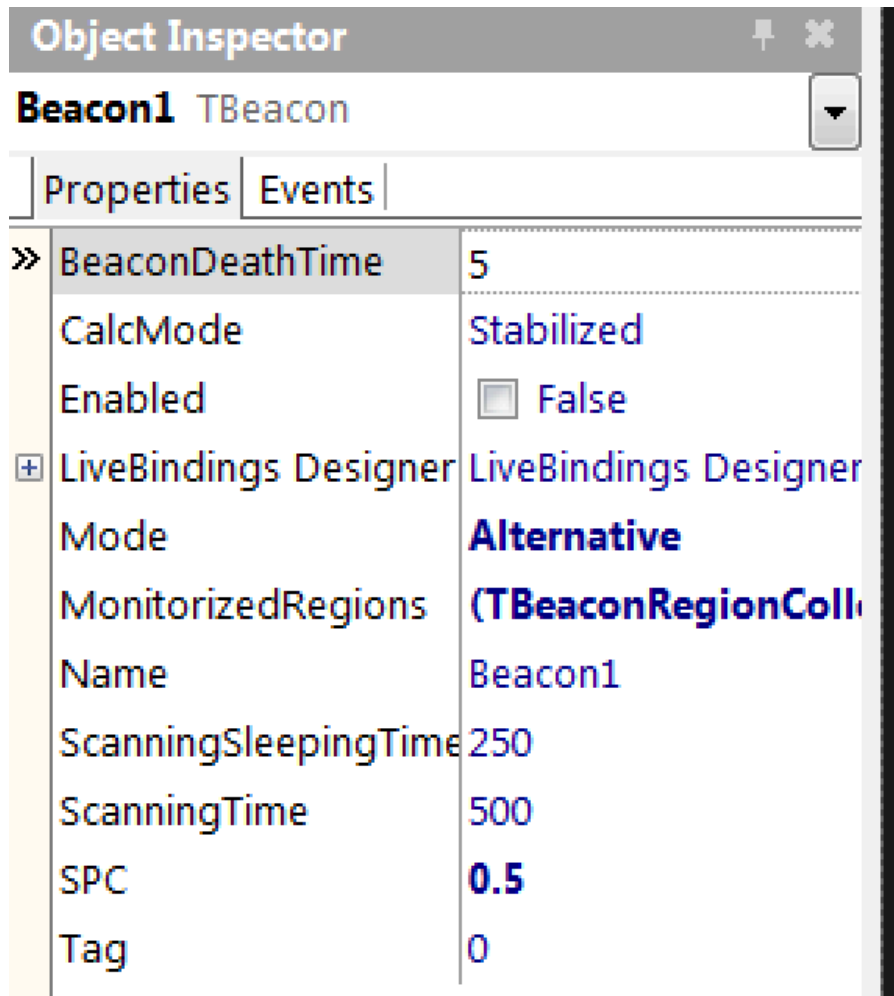
UUID Major ID Minor ID
AA6062F0-98CA-4211-8EC4-193EB73CEBE6

What Can You Do with Beacons?

- Your “proximity” app can:
 - Find nearby beacons
 - Determine how close it is to a beacon
 - Know the identity of the beacon
 - UUID, Major, Minor
 - Enter/exit a beacon range
 - Limited to BLE signal distance
 - Take some action based on “seeing” the beacon



The TBeacon Component



- Supports iOS, Android, and OS X
- iBeacons and AltBeacons standards
- Use events to receive information

Multi-Device Development for the IoT Generation

MOBILE NOTIFICATIONS WITH EMS AND PUSH NOTIFICATIONS

What is EMS?

Enterprise Mobility Services

A turnkey middleware server enabling:

- User management and authentication
- Loadable modules for custom APIs over REST
- Enterprise SQL database access through
- Mobile embedded and server-side SQL data storage
- Web console for user, device, and API analytics



Why EMS?

- Mobile solutions require strong backend for enterprise focus
- Advantage of turn-key, cloud-ready solution, fast and easy deployment
- Critical for enterprise acceptance
 - Shared customers backed for a VAR

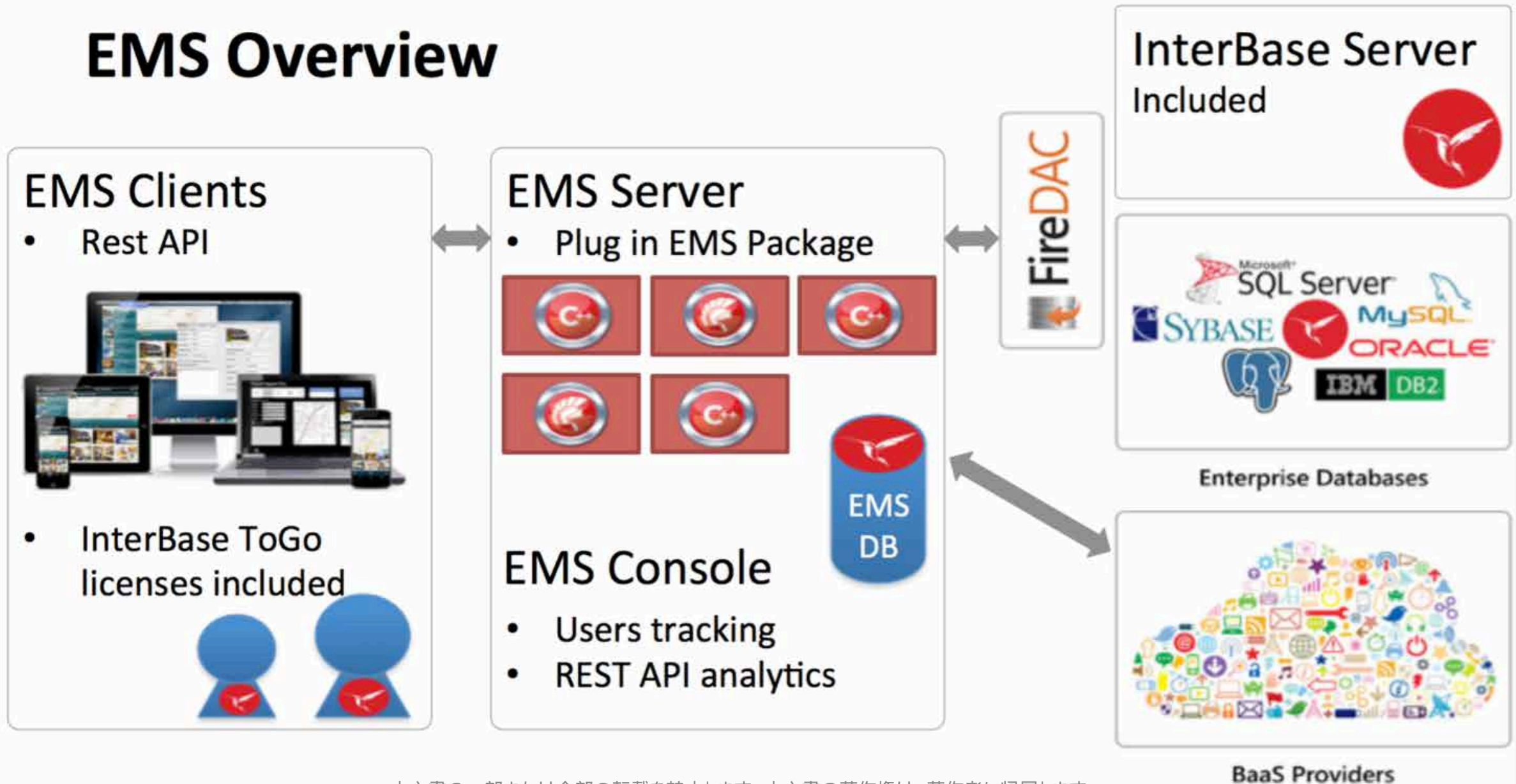


EMS as Enterprise Private Cloud




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EMS Overview



EMS in Practice

- Use RAD Studio to build
 - server modules
 - mobile/desktop clients
 - Self Hosted
 - Personal cloud or traditional server
 - Licences
 - Per user fee, unlimited apps and calls (and push...)
- 

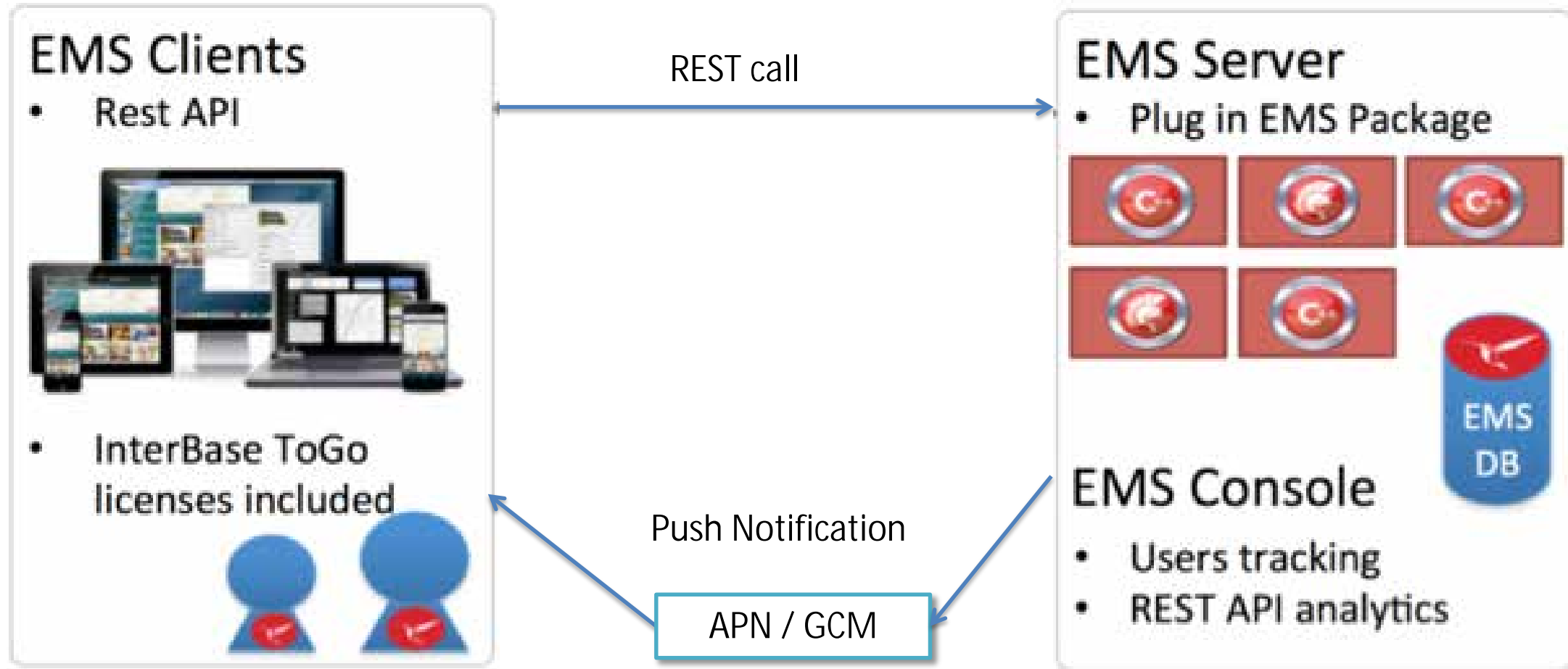
What are Push Notifications

- Mechanism to send notifications to (mobile) devices
 - App on mobile needs to signup and authorize
 - Can receive notifications while app is not running
- Core providers
 - Android: Google Cloud Messaging (GCM)
 - iOS: Apple Push Notification (APN)

Push in RAD Studio

- Permissions to receive Push Notifications
 - Android: App permission
 - iOS: Entitlement file
- BaaS
 - Parse, Kinvey, (App42)
- EMS
 - Direct support (no intermediary)

EMS and Push



EMS Push

Manage EMS Users and Groups data and
send push notifications to registered
devices on your EMS Server

The screenshot displays the EMS Push application interface, which is divided into several sections:

- Top Section:** Contains a menu bar (File, Profile, Help) and a 'Profiles' dropdown menu set to 'MyEMSPromie'. Below this are tabs for 'Connection', 'Proxy', 'Keys', and 'Authenticate'. The 'Connection' tab is active, showing fields for 'Host' (localhost), 'Port' (8080), and a checkbox for 'HTTPS'. A 'URL Path' field is also present. A 'Test Connection' button is located below these fields.
- Users Section:** A table with columns 'username' and '_id'. It lists several users: Michael Miller, Lisa Smithson, Timothy Clarks, Brian Anderson, and Frank Mitchell. The 'Michael Miller' row is selected.
- Push Section:** Contains a 'Data' field with a JSON message:

```
{ "message": "Push Message sent via EMS" }
```

. A 'Target' field shows a JSON object with 'where' and 'deviceToken' (APA91bEy0l3sTP77ovs). A 'Send History' section at the bottom shows a log entry: '1:31:32 PM, Message: " - Message: "Push Message sent via EMS" - APS.Alert: " - GCM.Message: "Push Message sent via EMS", Queued: 1 Android, 0 iOS'.
- Tool Palette:** A floating window on the right side of the screen, titled 'Tool Palette', containing a search bar and a list of tools: TBackendStorage, TBackendQuery, TBackendPush, TPushEvents, TBackendUsers, TBackendFiles, TBackendEndpoint, TBackendAuth, TBackendGroups, and TEMSProvider. The 'TEMSProvider' tool is highlighted.

An arrow points from the 'Tool Palette' to the 'Test Connection' button in the 'Connection' tab.

Multi-Device Development for the IoT Generation

THE NURSE STATION DEMO

IoT for Enterprise

Things near a
computer

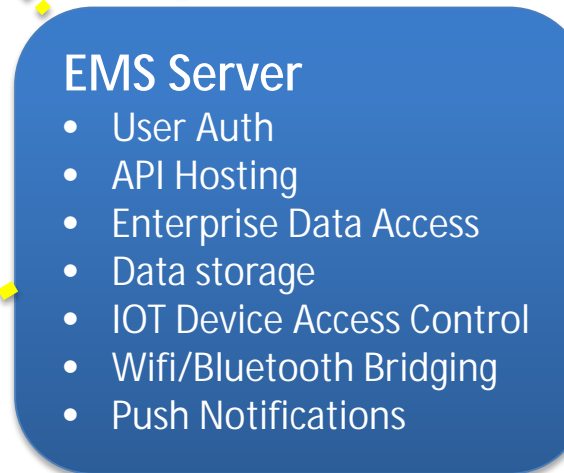


Things near
your user



Any Cloud service
Or API

Any Enterprise
Data or Service

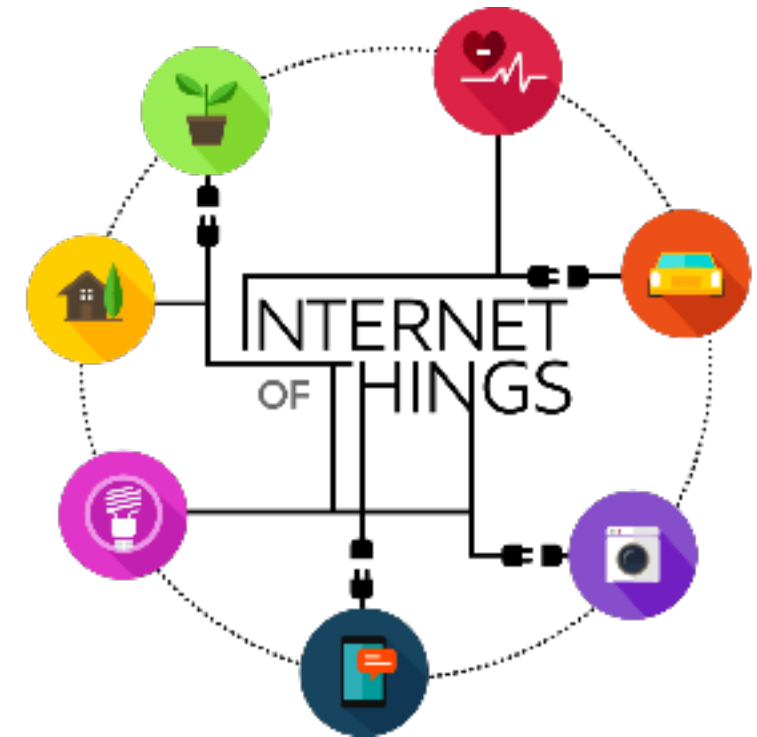


Things near your
EMS Server

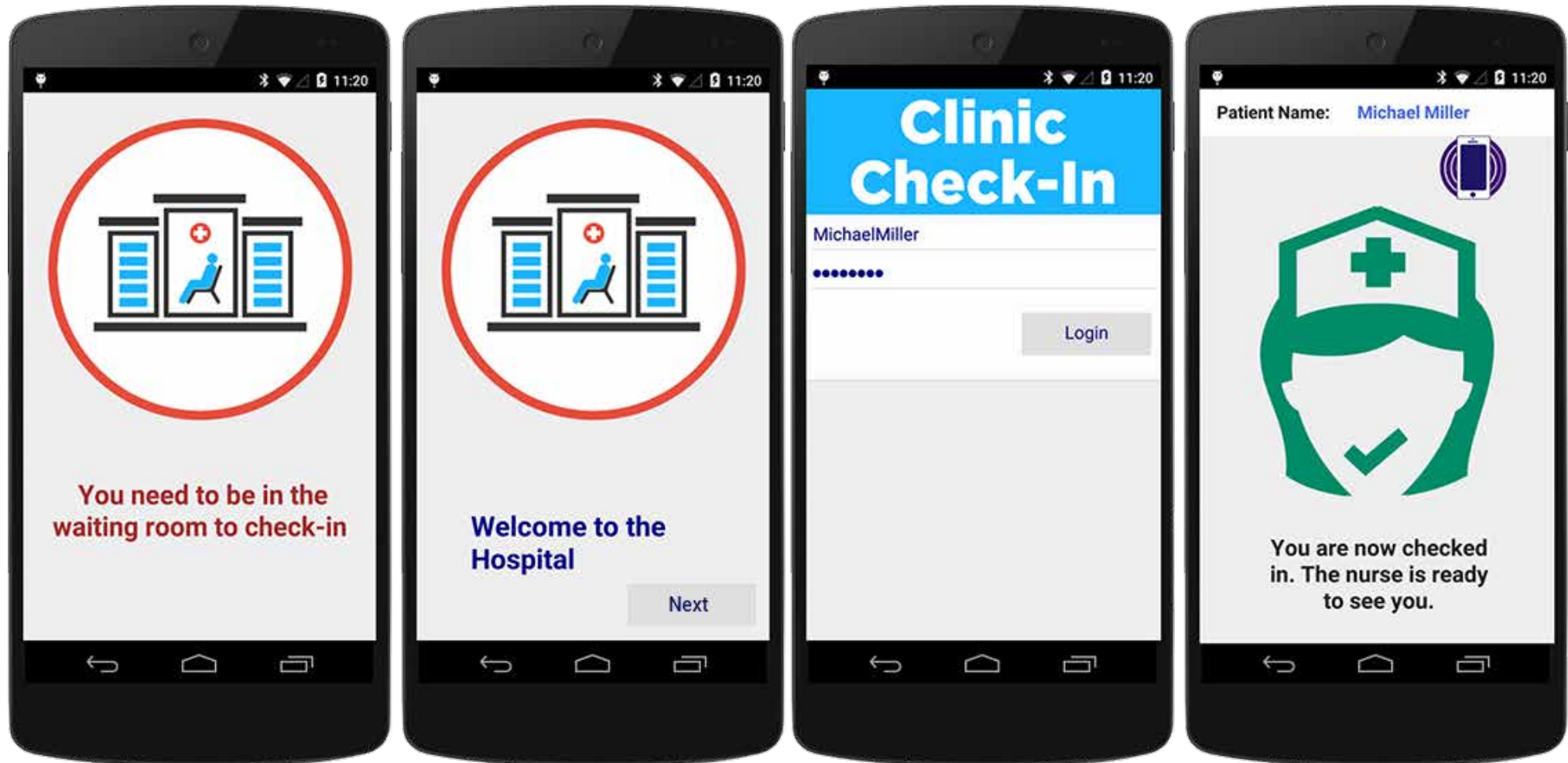


The Nurse Station Demo

- A patient walks into a doctor's office...
- A real world scenario showcasing
 - Apps integration via EMS
 - FireMonkey, mobile, VCL
 - Push notifications, AppAnalytics
 - Internet of Things
 - Device integration via Bluetooth
 - Beacons



Nurse Station: Patient App



Nurse Station: Nurse App





RAD Studio

The Connected App Platform
for Windows and Beyond

RAD Studio XE8: Ready for You

RAD Studio XE8

Versions:

- Starter
 - Delphi and C++Builder
- Professional
- Enterprise
- Ultimate
- Architect

Includes:

- C++Builder
- Delphi
- HTML5 Builder
- InterBase XE7
- A rich set of third party tools



Update Subscription Advantages

- Includes updates and fixes
 - Only way to get updates from now on
 - Also fixes for recent, past releases (*new*)
- Includes support incidents
- Includes exclusive content (*new*)
- Extends Maintenance and Support
 - Same price point and model, automatic migration

Primary Benefits of RAD Studio XE8

The Connected App Platform for Windows and Beyond



The best tool for multi-device development for Windows, OS X, iOS, Android



Bluetooth, App Tethering, Beacons for the Internet of Things



Turn-key services: AppAnalytics and Enterprise Mobility Services

Multi-Device Development for the IoT Generation

QUESTIONS?





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Thank you!