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IoT Racing – Oracle Cloud in Action

The Story behind

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Agenda

- 1 Story
- 2 Architecture
- 3 The Development: Challenges & Issues
- 4 Demo

Story behind *IoT Racing – Oracle Cloud in Action*

(a.k.a. Anki Overdrive – *Spanish Flavour*)

- *Wow Demo request* to local presales team by top management, for the main Oracle Spain annual event
- Initially thought in doing the original Anki Overdrive demo from AU folks, but...
 - Not all elements showed in the video were *real*
 - Some Cloud environments (such as PCS) were not available at that time
 - We wanted to leverage SaaS and PaaS4SaaS
- So we decided to start from original demo (sniffing part) and do the rest from scratch
 - Python, NodeJS, Android, PCS, ICS, SB, BPEL, BAM, BICS, MCS, MAX, DB & APEX, DOCS, Service Cloud, OPACS, Field Service Cloud...

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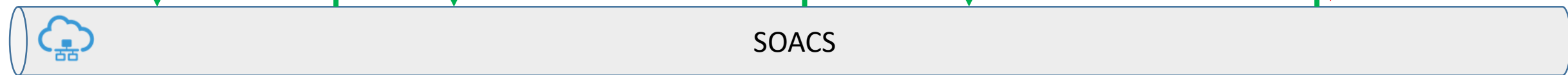
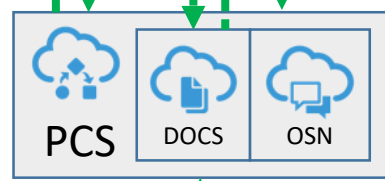
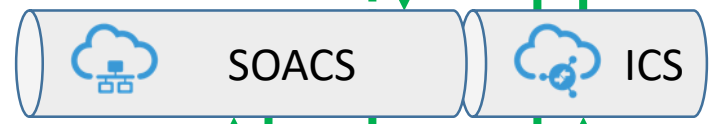
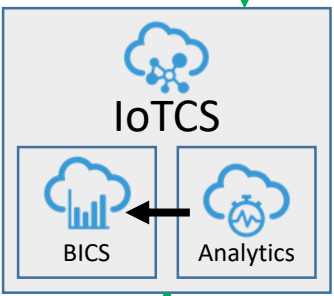
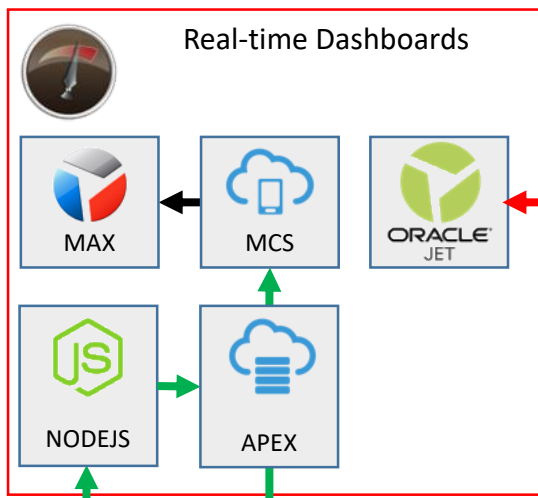
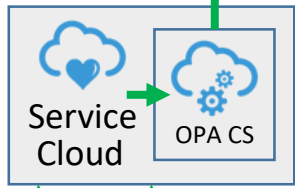
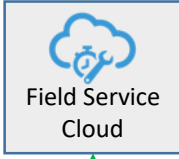
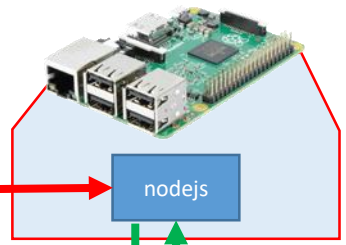
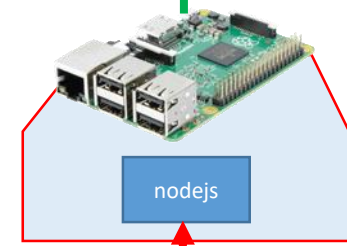
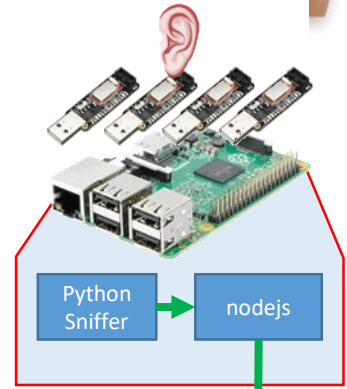
IoT RACING



Custom Extensions



→ HTTP REST/SOAP
→ WebSockets



Off-track event

IoT Cloud Service specific stuff

- All sniffed events are sent to IoTCS through NodeJS code and JavaScript Client libraries from the Raspberry Pi 3
- One Virtual Device (*Car*), three Device Models (*Lap, Speed, Transition*)
- One Application
- Three input Streams, three Explorations to filter out unwanted events
- Eight integrations
 - BICS (automatic sync request through API after a race is just over)
 - Enterprise Application ones, to spread events through SOACS to external components (PCS, DB, BAM...)

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Development

Challenges and issues

- Get all PaaS environments on time
 - Achieved by Jesús Guerra, MW Presales Manager
 - Self-signed certificates
- Sniffers engagement and parse BLE packets have been very challenging
 - Not very accurate and error prone
 - Offtrack event missed sometimes
 - Track segment positioning
- Network / Internet issues
 - Deal with 3G/4G WIFI modems. All demo relies on a good internet access
 - Try to lock each component with its own modem/network
 - WebSocket code not very reliable – room for improvement
- Drone handling and positioning
 - Beware of airflows!!!

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<https://youtu.be/uP7nQ9YOl1k>
<https://youtu.be/nAPeaDiOUBc>

Integrated Cloud

Applications & Platform Services

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