

オートモーティブ サミット  
ジャパン2011



AUTO SUMMIT  
JAPAN 2011

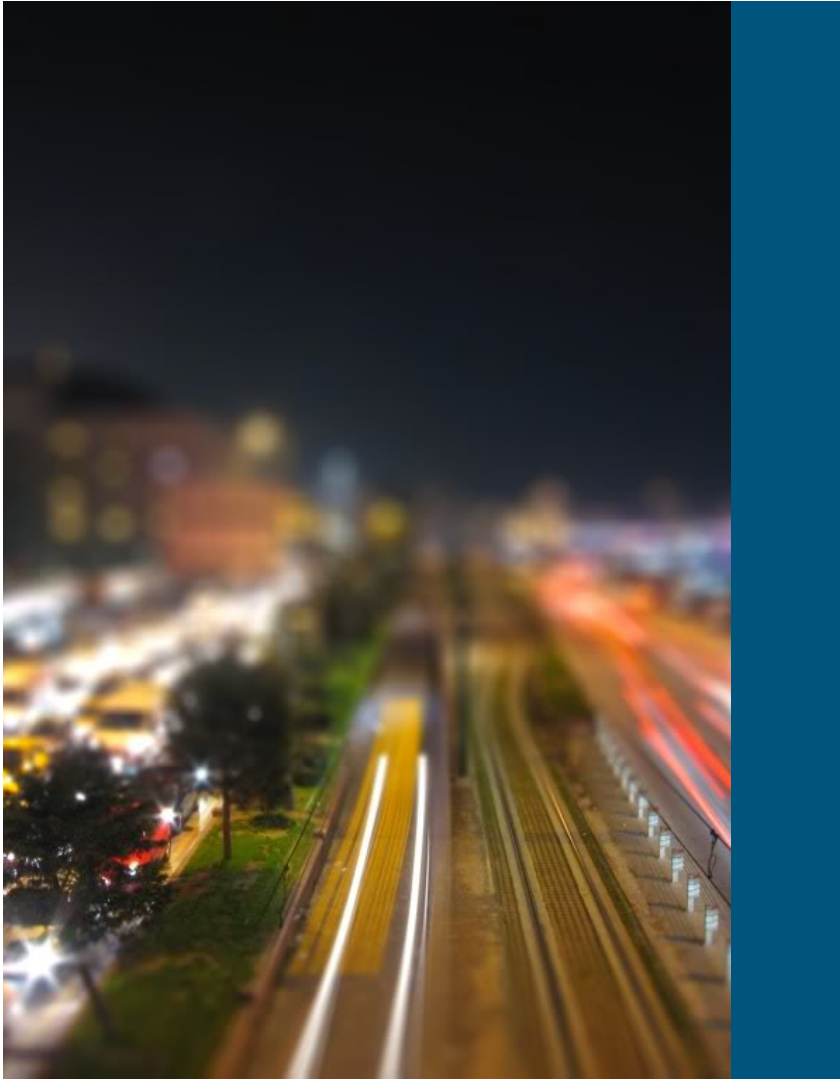
## Connectivity in Automotive

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## Agenda

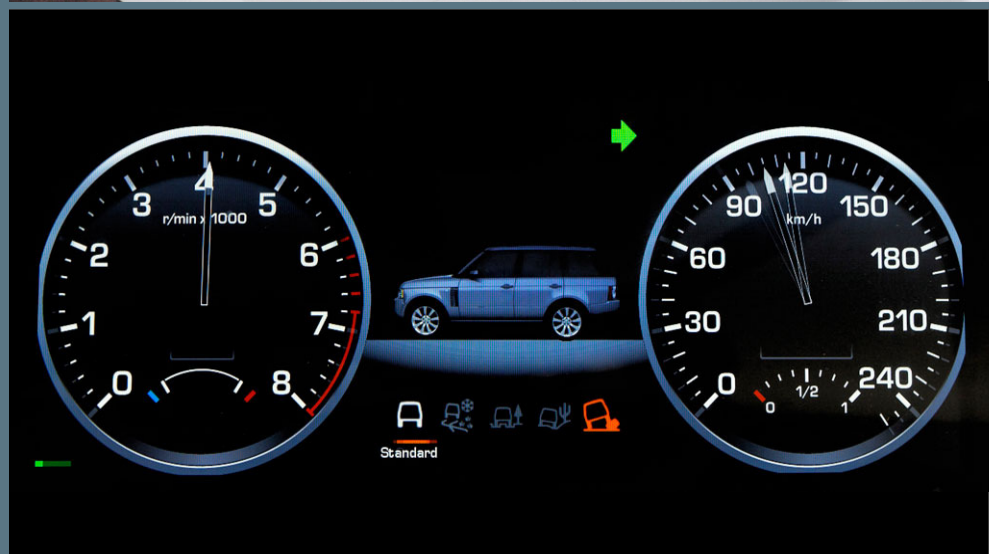
- Background – QNX Pedigree
- Connectivity
  - Connectivity to consumer devices
  - Connectivity to cloud
- Future connectivity solutions



## Customer pedigree

Deployed by over 40 OEMs in 275 vehicle models and 25 million vehicles throughout North America, Europe, and Asia





# QNX CAR Application Platform Providing Connectivity:



Around the car

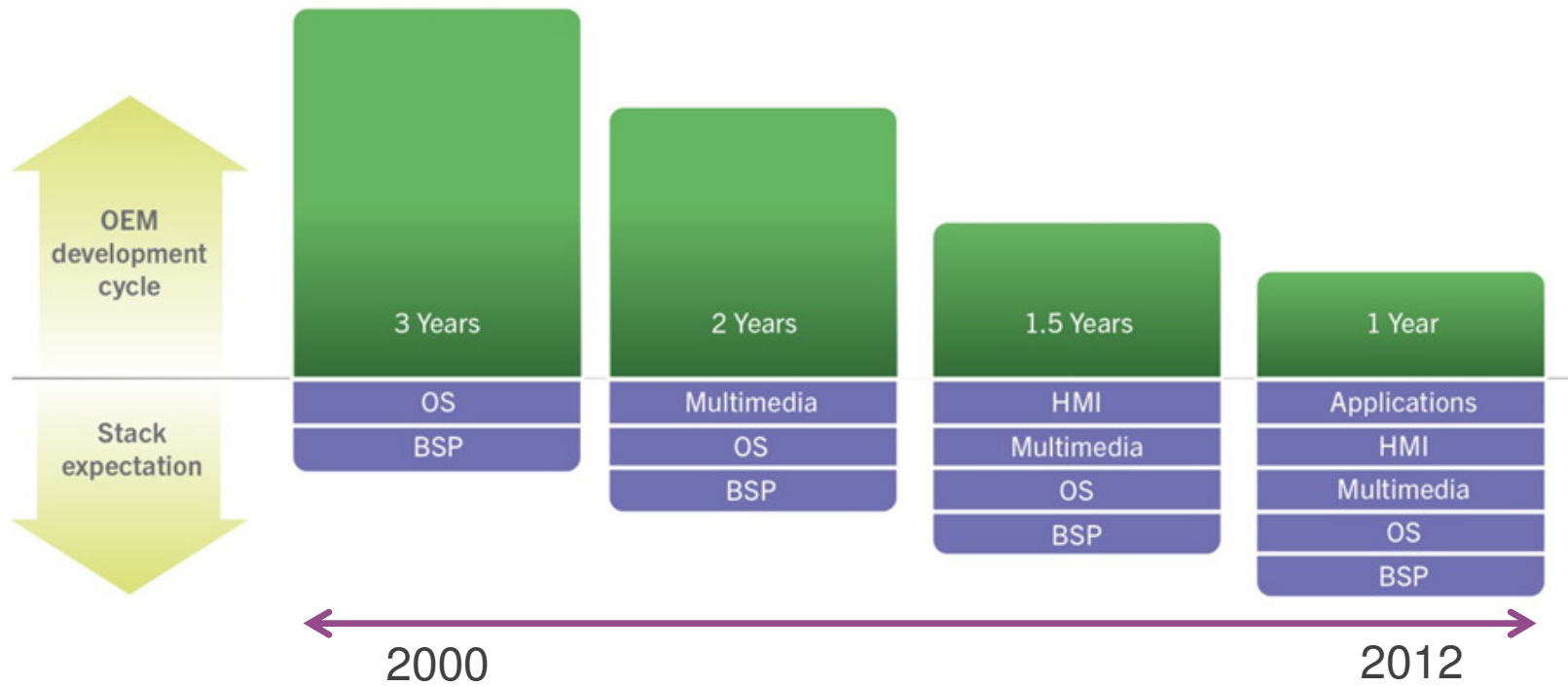
Within the vehicle

To handheld devices

To the cloud



Trend:  
Development Cycles ↓  
Software Platform ↑



# Current State of Device Connectivity

## VNC (MirrorLink)



- Devices:**
- BlackBerry
  - Android
  - Nokia

## Remote Skin (Pandora Link)



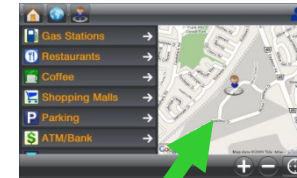
- Devices:**
- BlackBerry
  - Android
  - iPhone

## Video / Remote (iPod Out)



- Devices:**
- iPhone
  - iPod
  - iPad

## Hybrid Application (Hybrid Nav)



- Devices:**
- BlackBerry
  - Android
  - iPhone

**Pros**

- Many Apps
- No changes to car necessary
- Apps work "out of the box"
- Many Developers
- Refresh Car Post Sale
- Uses Consumers Data Plan

- Many Developers
- Keeps OEM Brand
- Uses Consumers Data Plan
- Uses existing Auto tech
- OEM controls distraction

- Many Apps / Developers
- Apps work "out of box"
- Refresh Car Post Sale
- Great performance
- Consumers mobile Data

- Many Developers
- Refresh Car Post Sale
- Consumers mobile Data
- Keep OEM Brand
- Uses existing Auto Tech

**Cons**

- Poor Performance
- OEM loses Brand
- Distraction risks
- Apps made for 0 MPH
- Apps made for small screen

- Apps do not work "out of box"
- Require close cooperation with Phone / App makers

- Distraction risks
- OEM loses brand
- UI simplified for distraction
- Expensive hardware / video

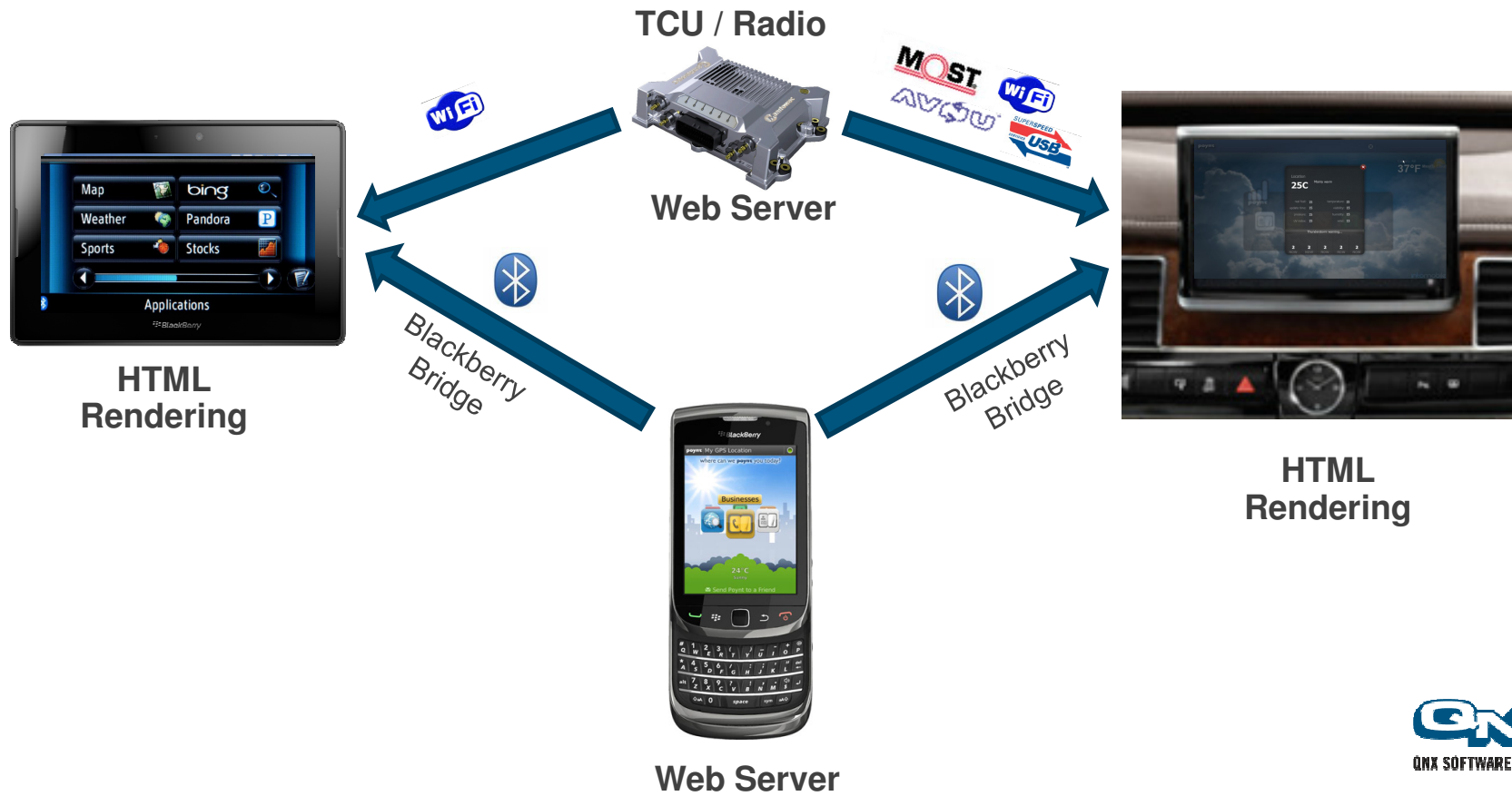
- Apps do not work out of box
- Require close cooperation with Phone / App makers

## Next Generation Device Connectivity

- HTML
- HDMI
- NFC



# Next Generation Device Connectivity - HTML



## Next Generation Device Connectivity – HDMI / USB



 **MHL** ?  
Mobile High-Definition Link

NFC Personalization:  
Seat Settings  
Custom Stations  
Vehicle Performance  
Payment

...





**Toyota and Microsoft Azure Announcement**

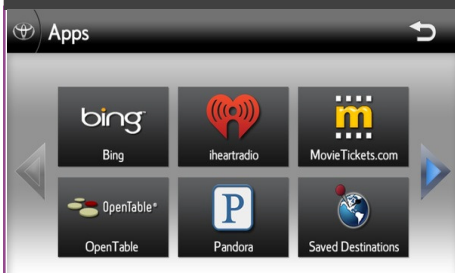
**Cloud based music platforms**

**Hybrid and off-board speech**

**Off-board Maps, Points Of Interest and Search**

**Trend: The Cloud is here**

# Connecting to the Cloud



Tethered



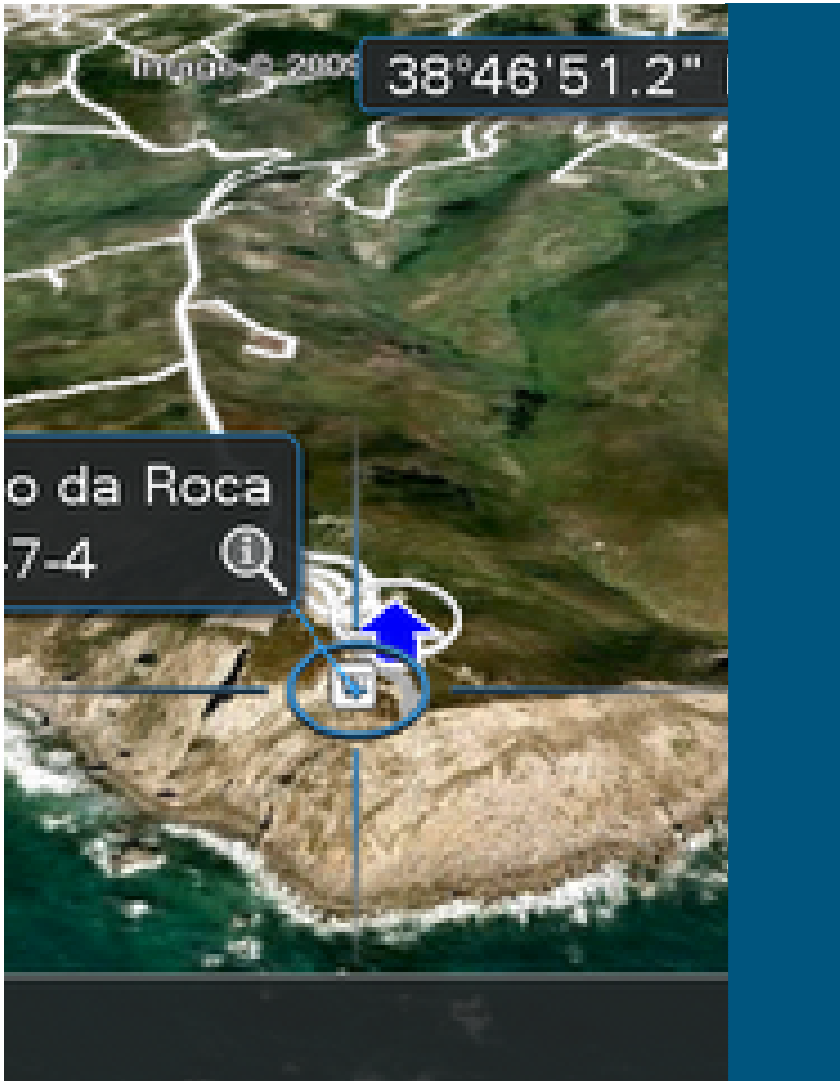
Remote skin



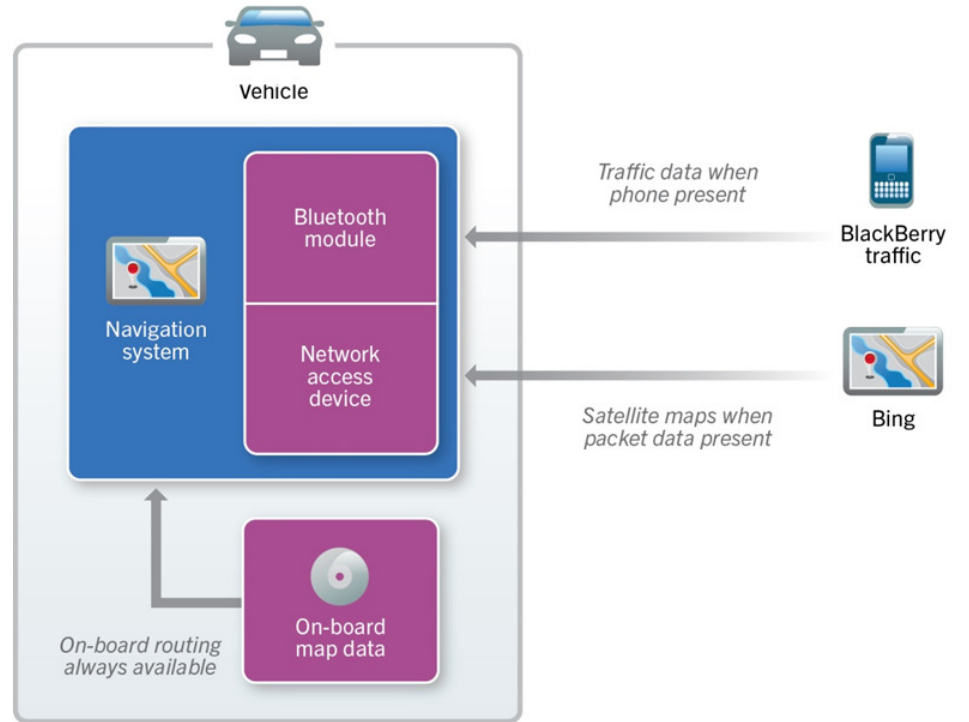
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Remote terminal



# Hybrid Navigation



## Future Connectivity Solutions

- MHL
  - Provides HD Video / HD Audio / Remote Control
  - Allows for charging of device and back channel
  - Uses existing physical connector but extra HW required
  - Will it be adopted by the ecosystem?
- USB 3.0
  - Provides bandwidth to do HD Video / Audio / IP control
  - Well understood technology and used throughout ecosystem
  - Definition of good IP based Video / Audio standards required



## Parting thoughts

Embracing portables...

- Expands your options (more developers, apps and app stores)
- Leverages cutting edge hardware / performance
- Refreshes car post sale

Look for solutions that match your goals

- Do you want your brand or a phone manufacturer's?
- Are you concerned about distraction ?
- What will you run in the car vs device?





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Thank you

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