



# APPLICATIONS AND DEVICES PROJECT

December 11, 2012

# The key success factors for an application ecosystems are clear

## Key success factors <sup>(1)</sup>

- ~ Addressable market
- ~ Ability to monetize apps
- ~ Developer mindshare and economics
- ~ Technical aspects of the platform



(1) Mobile Developer Economics – VisionMobile 2010

# FirstNet Service Categories

## Communication Services

- **Voice** – e.g. Interactive voice communication, non-interactive voice communication, Defined & ad hoc voice communication communities
- **Messaging** – e.g. SMS, email, blog
- **Video** – e.g. broadcast, peer-to-peer

## Applications

- **Communication services as an app** - e.g. Skype, Twitter
- **Public informational** – e.g. CPR instructions, news updates, logistics information
- **Internal department** - e.g. HR, scheduling
- **Department data** - e.g. crime records, medical records
- **Cross department data** – e.g. DMV, criminal records

# Applications ecosystem as model –

The Apple ecosystem highlights the need for a development environment, platform based solution, pervasive devices & real time access to relevant information

**Standard app environment for broad reach**



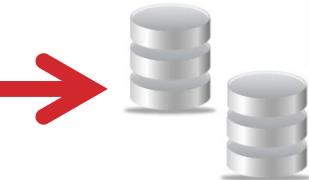
**Comprehensive platform for managing the entire ecosystem**



**Standards based device w constant app interaction**



**Carrier** – network access, voice, messaging, IP packet, and location based information

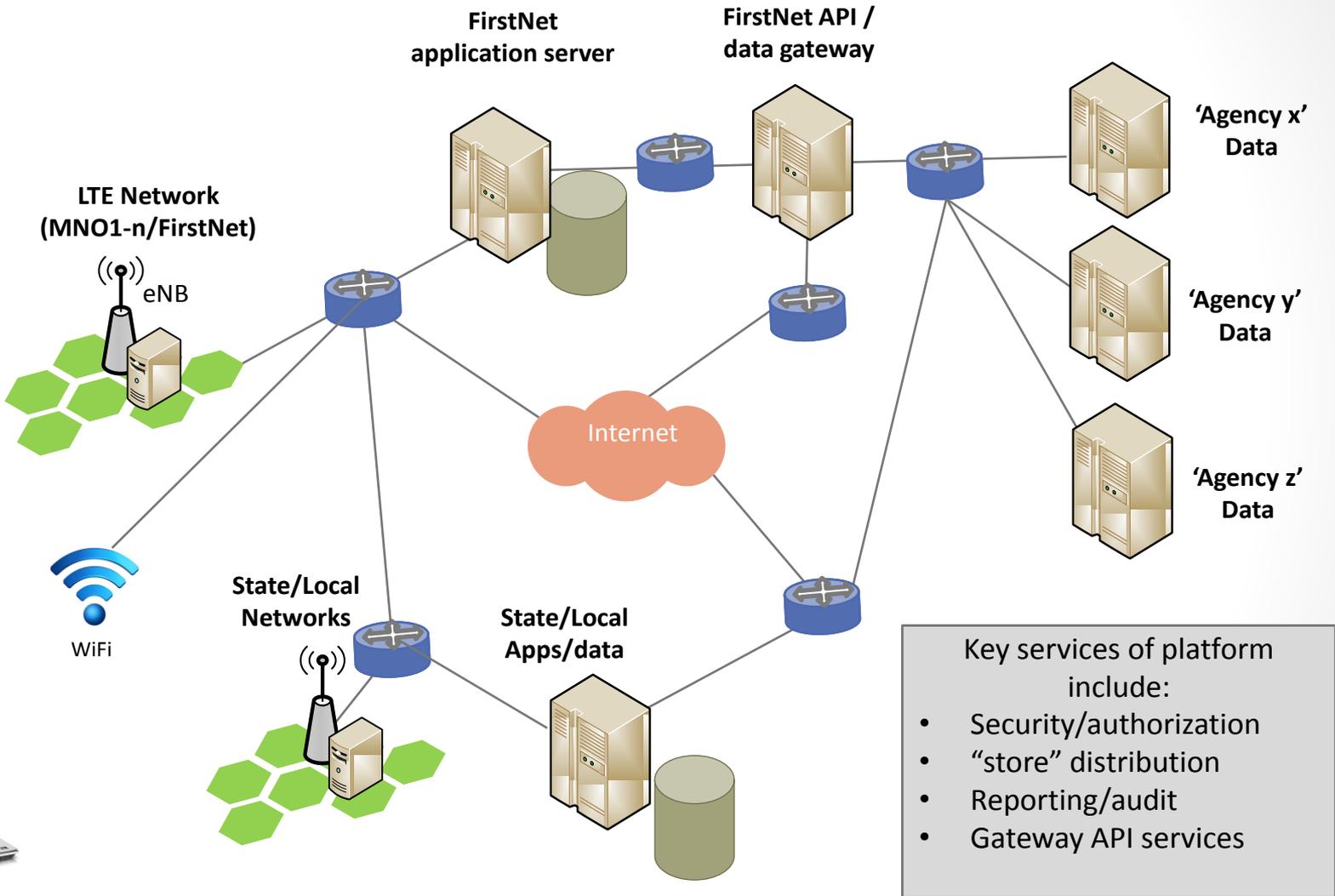


**Real time access** – applications are constantly accessing information from their own databases as well as data from other data sources

# High level application network architecture



Image courtesy of Apple Inc.

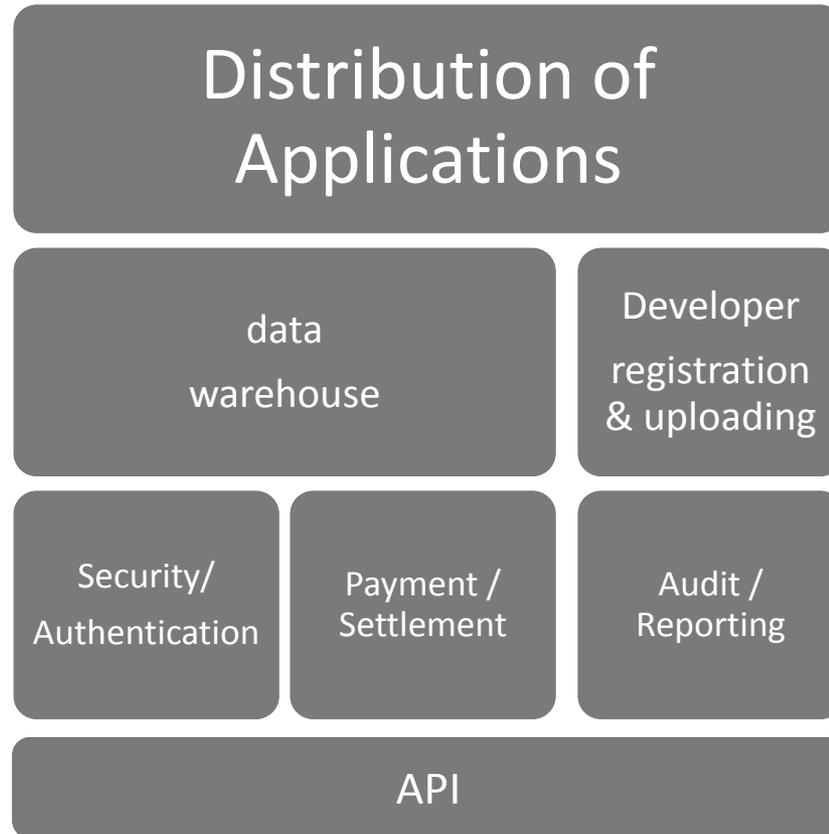


# Service Delivery Platform – Centralized design with local control of distribution and authentication

Users



Developers



# Complexity & availability of applications



# Device classification and roadmap

	Commercial	Mainstream (Portable)	Mainstream (In-Vehicle)	Specialized/ customized
Device Types				
Category Driver	<ul style="list-style-type: none"> <li>• Broadband access</li> </ul>	<ul style="list-style-type: none"> <li>• Mission critical</li> </ul>		<ul style="list-style-type: none"> <li>• Special operational needs e.g. in-building, rural</li> </ul>
Function	<ul style="list-style-type: none"> <li>• Smartphone</li> <li>• Tablets</li> </ul>	<ul style="list-style-type: none"> <li>• Smartphone</li> <li>• Tablets</li> <li>• Modems</li> </ul>	<ul style="list-style-type: none"> <li>• Routers</li> <li>• Hotspots</li> <li>• Laptops</li> </ul>	<ul style="list-style-type: none"> <li>• SOWS, COWS, COLTS</li> <li>• Low-profile sat. antennas</li> <li>• Portable repeaters</li> </ul>
Connectivity	<ul style="list-style-type: none"> <li>• LTE, CDMA, HSPA</li> <li>• Wi-Fi, Bluetooth</li> </ul>	<ul style="list-style-type: none"> <li>• LTE, CDMA, HSPA</li> <li>• Wi-Fi, Bluetooth</li> <li>• USB</li> <li>• Direct mode</li> </ul>	<ul style="list-style-type: none"> <li>• LTE, CDMA, HSPA</li> <li>• Wi-Fi</li> <li>• Ethernet</li> </ul>	<ul style="list-style-type: none"> <li>• LTE, CDMA, HSPA</li> <li>• LMR/ P25</li> <li>• Satellite</li> </ul>
Location	Yes	Yes	Yes	Yes
Band 14 Support	No	Some	Some	No

# Device & Applications will target to meet or exceed SoR



NPSTC Requirements	Number of them
User Services	312
Network Services	209
Transport Requirements	154
System Design	66
User Equipment	60
Local Operations Support	157
Migration and Evolution	60
Governance	10
Policies and Procedures	94

FCC Minimum Interoperability Specifications	Number of them
Requirements (Must)	46
Considerations (Should)	55
Interfaces (Architectural)	11
Recommended Interfaces Requirements	9

- **Leverage all the good work already done in these areas by the relevant P/S groups**
  - **Start from a baseline of 1300 requirements and then add the full FNN specific suite**
- **Seek vendors who will meet or exceed the key P/S needs, but broaden the set so as to increase flexibility and decrease costs**



# Next Steps

1. Complete local application inventory and detailed user requirements
2. Develop application platform architecture and roadmap
3. Develop detailed user device specifications and roadmap
4. Application 'store' distribution business model
5. Complete security architecture and roadmap
6. Develop support & operations processes

Each step assumes consulting with key stakeholders & users to eliminate the re-creation of existing solutions and to capture feedback and requirements