

Distributed vs Centralized

Railroad and Highways

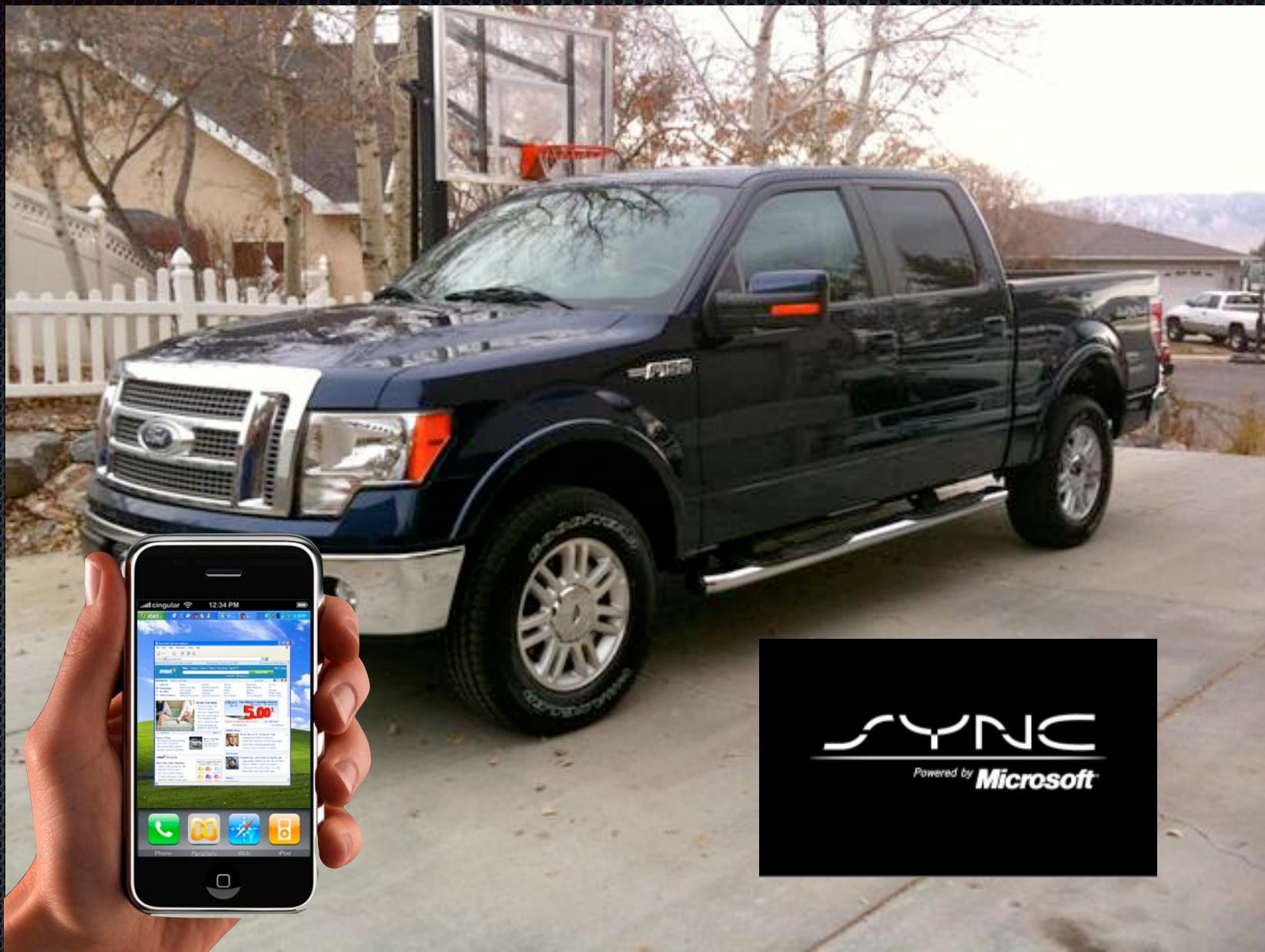




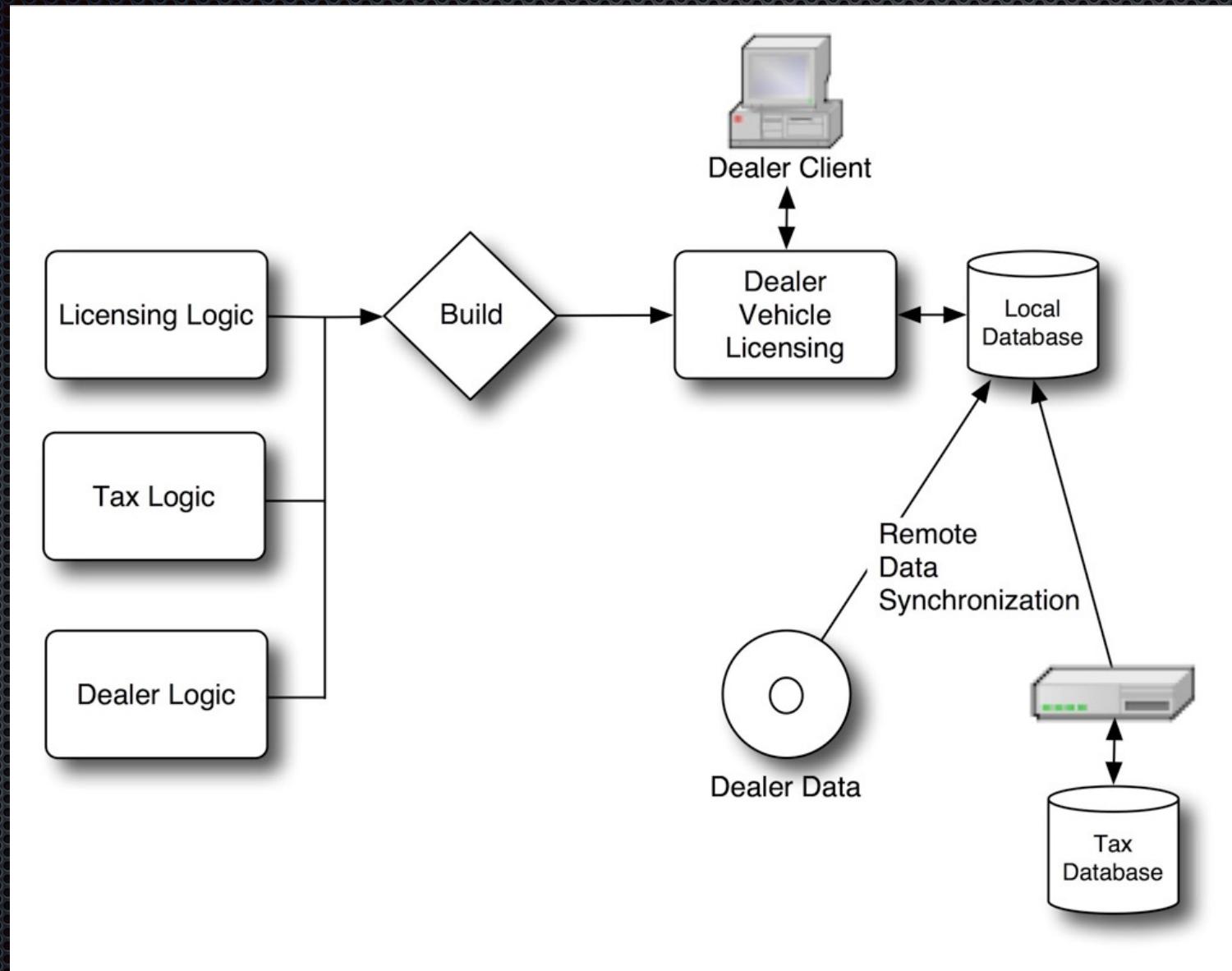
The Williams Family - Moving

- Change of address
- Register car
- Register to vote
- Enroll child in school
- Busing
- City services
- Child safety
- Check the commute
- Tax information
- Utilities
- Housing
- Banking
- Healthcare

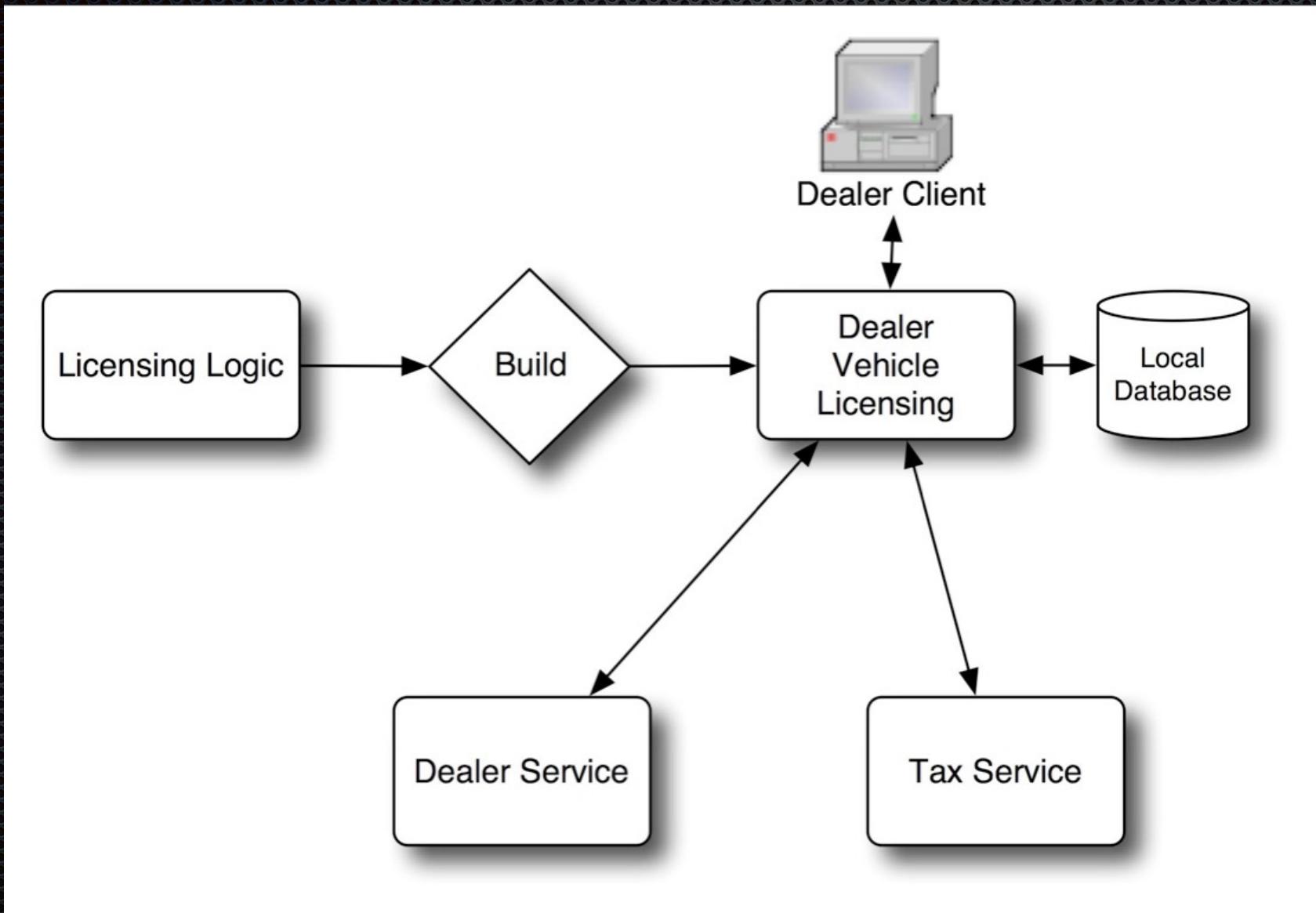




Traditional Architecture



Loosely Coupled Architecture





Distributed Applications

- Creating applications by
 - integrating network services
 - that are very far away
 - and owned by strangers
- Network services not subroutines or objects

Architectural Properties

- Discoverable and dynamic
- Loosely coupled
- Locationally transparent
- Diversely owned
- Interoperable
- Composable
- Network addressable
- Self healing

Tight & Loose Coupling

	Tight Coupling	Loose Coupling
Interface	RPC/Req-Resp	Declarative
Binding	Early, static	Late, dynamic
References	Named	Pattern-based, semantic
Ontology	By prior agreement	Encapsulated
Communications	Point to point	Pub/Sub
Interaction	Direct	Brokered
Evaluation	Explicit	Emergent
Motivation	Efficiency, performance	Interoperability, flexibility
Behavior	Planned	Reactive
Coordination	Centralized	Distributed
Contracts	Implicit	Explicit