# Security Challenges in Vehicular Cloud Computing

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Motivation

Vehicular Cloud Computing is a new hybrid technology that has a remarkable impact in traffic management and road safety by using vehicular and cloud resources such as computing ,storage and internet for decision making.

Wireless Sensor Network

Vehicular ad-hoc network

Wireless Communication Channel

Cloud Computing
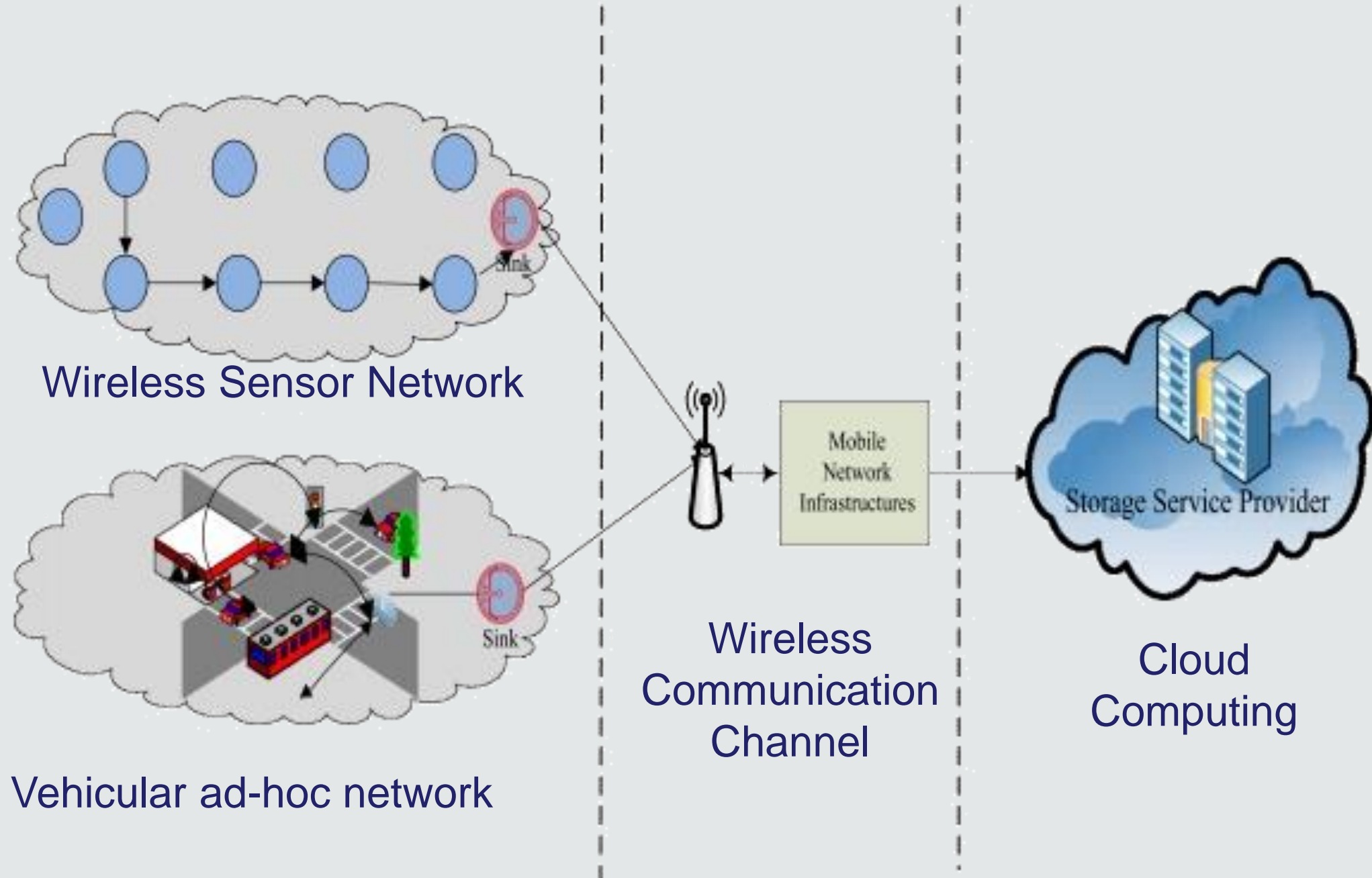
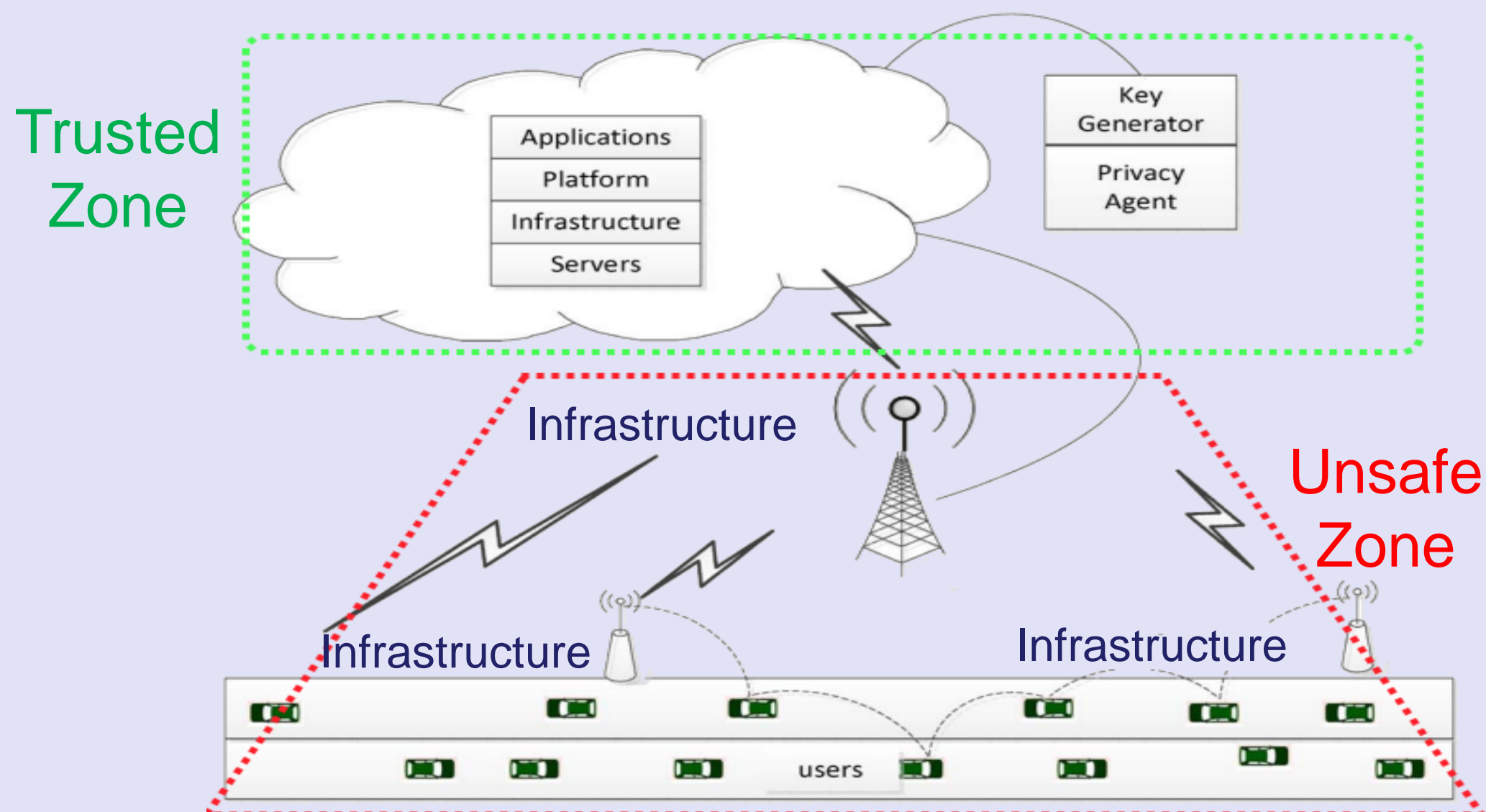This technology is based on **Vehicular ad hoc Network** System.

Mission and Vision

Ensuring Security in **Vehicular Cloud** is more difficult than other network due to high mobility and wide range of vehicle. Our mission is ensuring authentication and confidentiality in a more secured way.
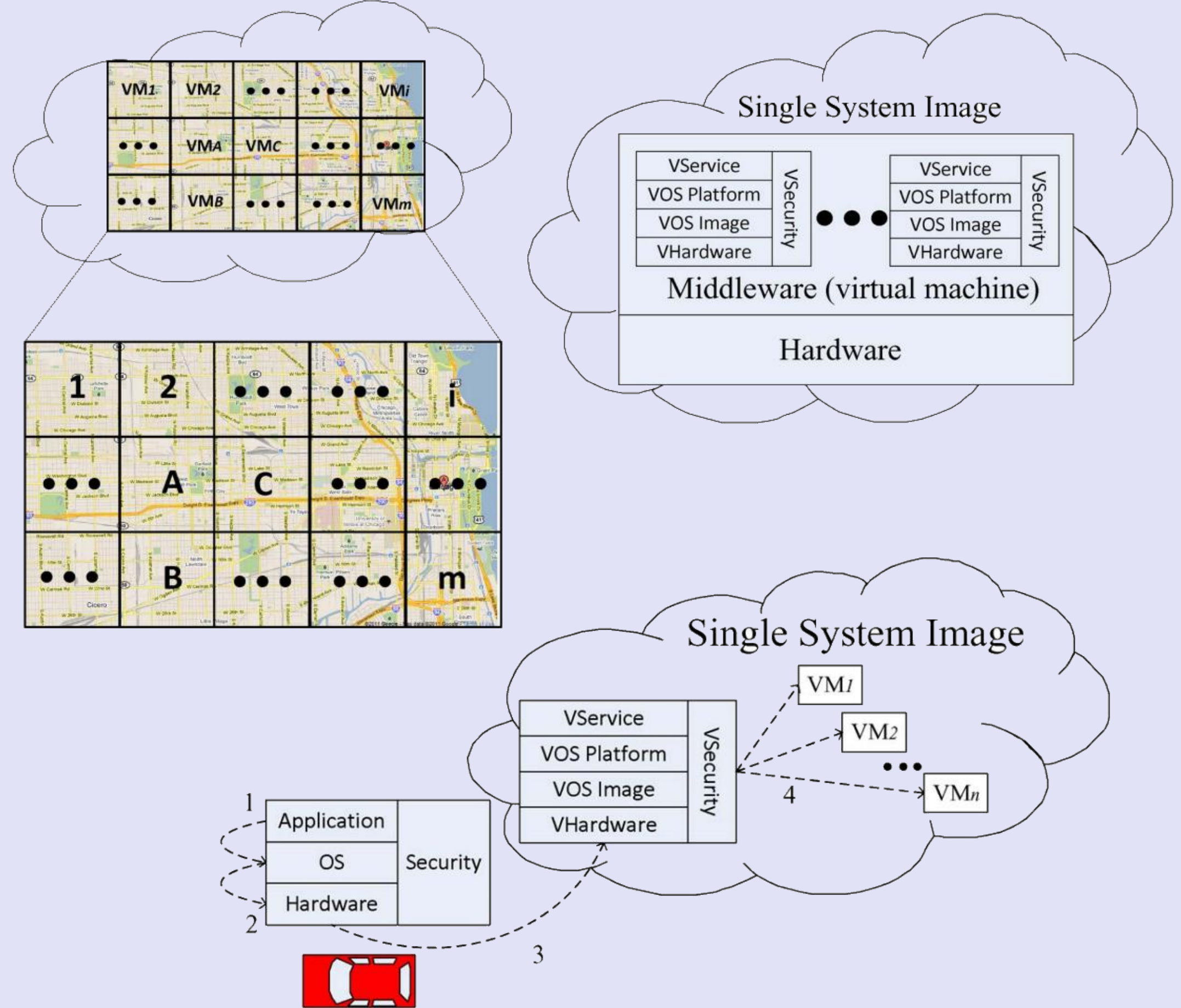
Literature Review

❖ Group Communication is established based on the geographical location of vehicles and a node is automatically selected as a group leader to generate and distributed symmetric public key (Huang et al.,2010)
❖ A symmetric public key for encrypting the communications between vehicles for a period of time (Reya et al. , 2006a)
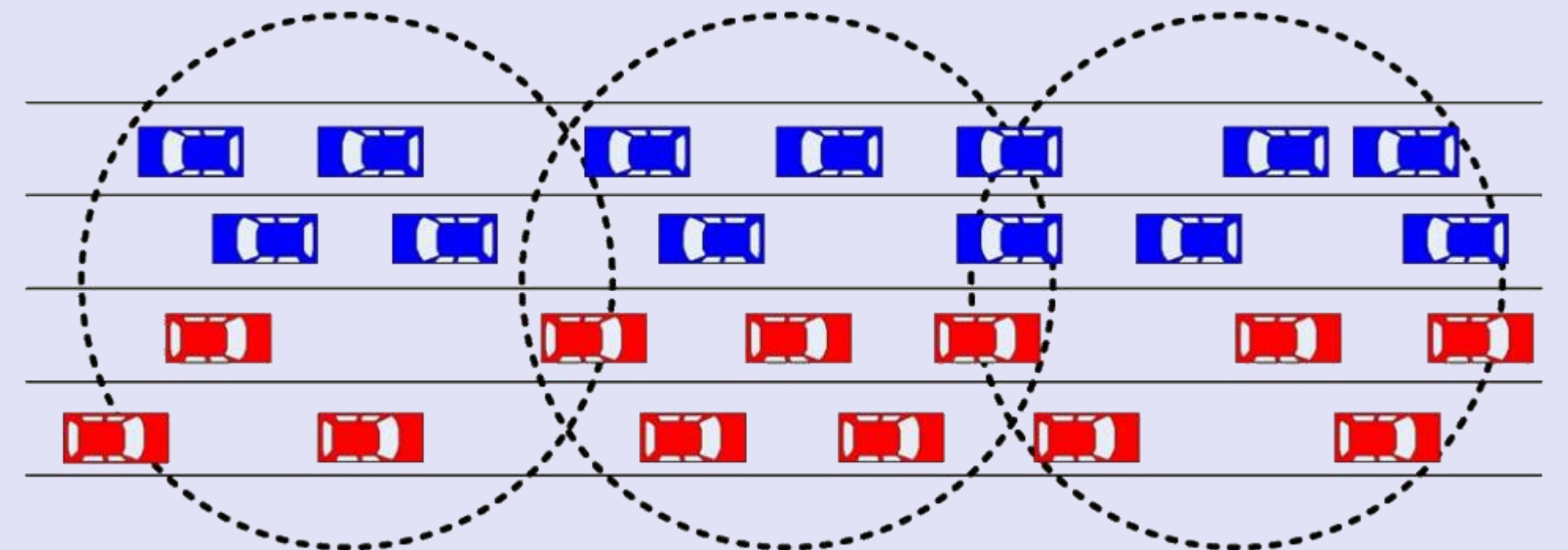❖ Security challenges in vehicular cloud computing (Yan et. al., 2014)

Proposal

Trusted Zone

Key Generator

Privacy Agent

Applications
Platform
Infrastructure
Servers

Infrastructure

Unsafe Zone

Infrastructure

Infrastructure

users

❑ Cloud Model-

Single System Image

VService
VOS Platform
VOS Image
VHardware

Middleware (virtual machine)

Hardware

Single System Image

VService
VOS Platform
VOS Image
VHardware

Application
OS   Security
Hardware

❑ Trust relationship in AVC-

Trust relationship can be established by electing a cell leader who represent members in the cell who communicate with other cells.

❑ Authentication and Confidentiality -

To provide authentication and confidentiality, messages are encrypted with vehicular identity and geographic location.

Concluding Remarks

We are trying to implement a geographical based encryption and a cloud model for enhancing security in vehicular cloud. In future, we will work on privacy issue in vehicular Cloud and also establish a system to prevent data tempering.

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