

Interoperability in Toll Transactions – A New Tool

Electronic Payment Services National Interoperability Specification (EPSNIS)

We have the technology and the tools.

Electronic Payment Services National Interoperability Specification (EPSNIS)

Presented By:

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EPSNIS Mission Statement

The Electronic Payment Services National Interoperability Specification provides a non–proprietary, open standard technical specification for the control of a financial transaction network, primarily for the processing of toll transaction.

EPSNIS Application

- ▶ The three functional components of the EPSNIS financial transaction network are:
 - The **Toll Facility Operator**, a toll facility that is representative of the Point of Sale (POS), with the motorist being the user.
 - An **OBU Provisioner** who performs in a role similar to a credit card issuer.
 - A **Clearing Organization** with a Clearinghouse function to process financial transactions between the Provisioner and the Toll Facility Operator in a manner similar to that used for retail sales.

EPSNIS Objectives

- ▶ To provide a non–proprietary, open standard technical specification for the control of a financial transaction network.
- ▶ To provide for the processing of toll transactions primarily, but does not preclude other categories of payment.
- ▶ To facilitate a wide variety of requirements, without specifying business rules or system accountability.
- ▶ To standardize the interface between toll agencies and financial facilities, not the manner in which transactions are processed.

EPSNIS Objectives (continued)

- ▶ To support traditional and non-traditional OBU issuers and toll transaction processing.
 - An OBU (On-Board Unit) is defined as the means by which the vehicle is identified to the financial network and includes RFID/IR Transponder, License Plate, Barcode Sticker, and/or any other means of roadside-to-vehicle communication.
 - Allow for non-toll entities to participate as OBU issuers and to function as a clearinghouse facility.
 - Facilitate “outsourcing” of toll transaction processing.
 - Increase the potential for competition, thus favorably affecting cost.

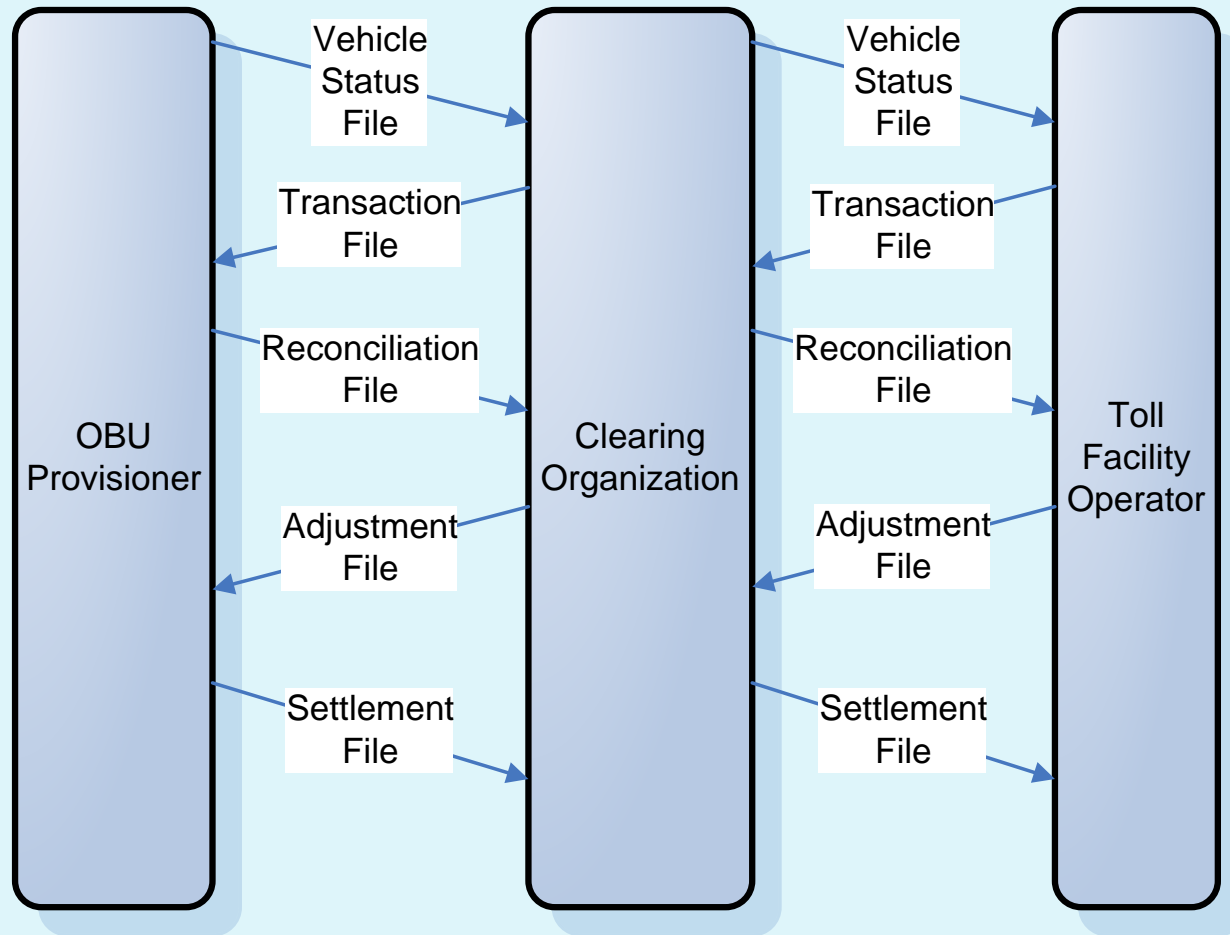
EPSNIS Objectives (continued)

- ▶ To define and control the process that checks files for compliance with the Clearing Organization's business rules and serializes the information in those files for transmission to and from the Clearing Organization.
- ▶ Serves to help provide a seamless, transparent toll processing service for the Toll Facility Operator's customers for potentially full North America interoperability.
- ▶ The vision is for Clearing Organizations to interoperate in a financial network to process transactions for their clients.
- ▶ Any organization can provide the services of an OBU Provisioner and a Clearing Organization, a Clearing Organization and Toll Facility Operator, or all three.

Document Background

- ▶ Employs a set of Extensible Markup Language (XML) file definitions for information exchange between a Toll Facility Operator and a Clearing Organization and between a Clearing Organization and an OBU Provisioner.
- ▶ Each entity is responsible for creating their own files using the XML schemas described by this Specification.
- ▶ The Specification was created by the OmniAir Consortium Electronic Payment Services Committee with funding from OmniAir and the I-95 Corridor Coalition and oversight by the Port Authority of New York & New Jersey.
- ▶ Southwest Research Institute is on contract to conduct independent test and certification.

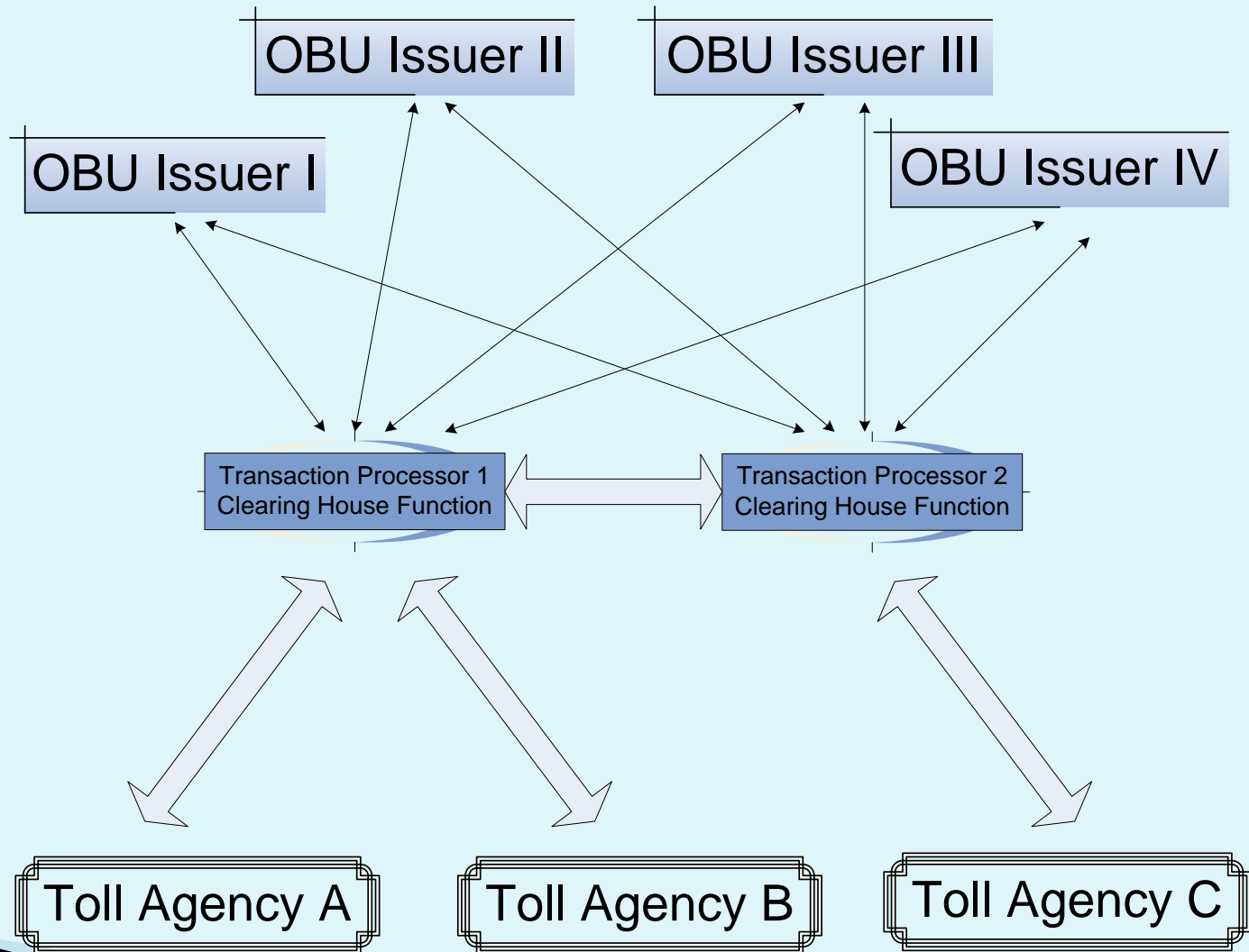
Topology



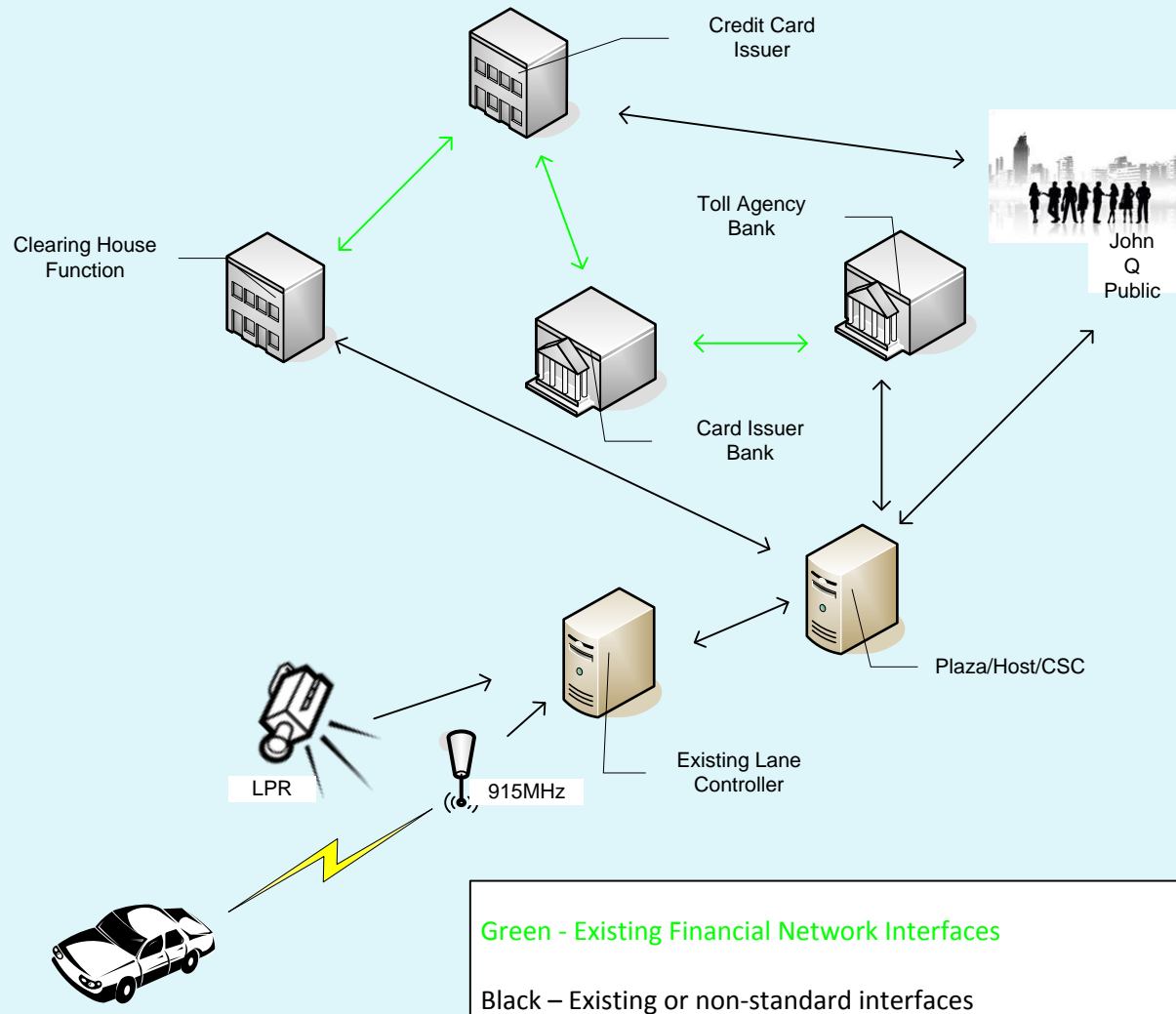
Topology

- ▶ **Vehicle Status Files** – Contains descriptive information of customer accounts, vehicles, tolling devices, payers, associated payment guarantees; as well as optional non-revenue details or discount plans.
- ▶ **Transaction File** – Describes transactions (effectively, an invoice for payment).
- ▶ **Reconciliation File** – The Toll Facilities’ reconciliation of all transactions subject to the OBU Provisioner’s acceptance, resolution, or dispute.
- ▶ **Adjustment File** – Adjustments or nullifications of transactions sent to the contracted Clearing Organization.
- ▶ **Settlement File** – Contains the details of transactions, disputes, and adjustments one network member’s bank deposit account has paid to another member’s bank deposit account.

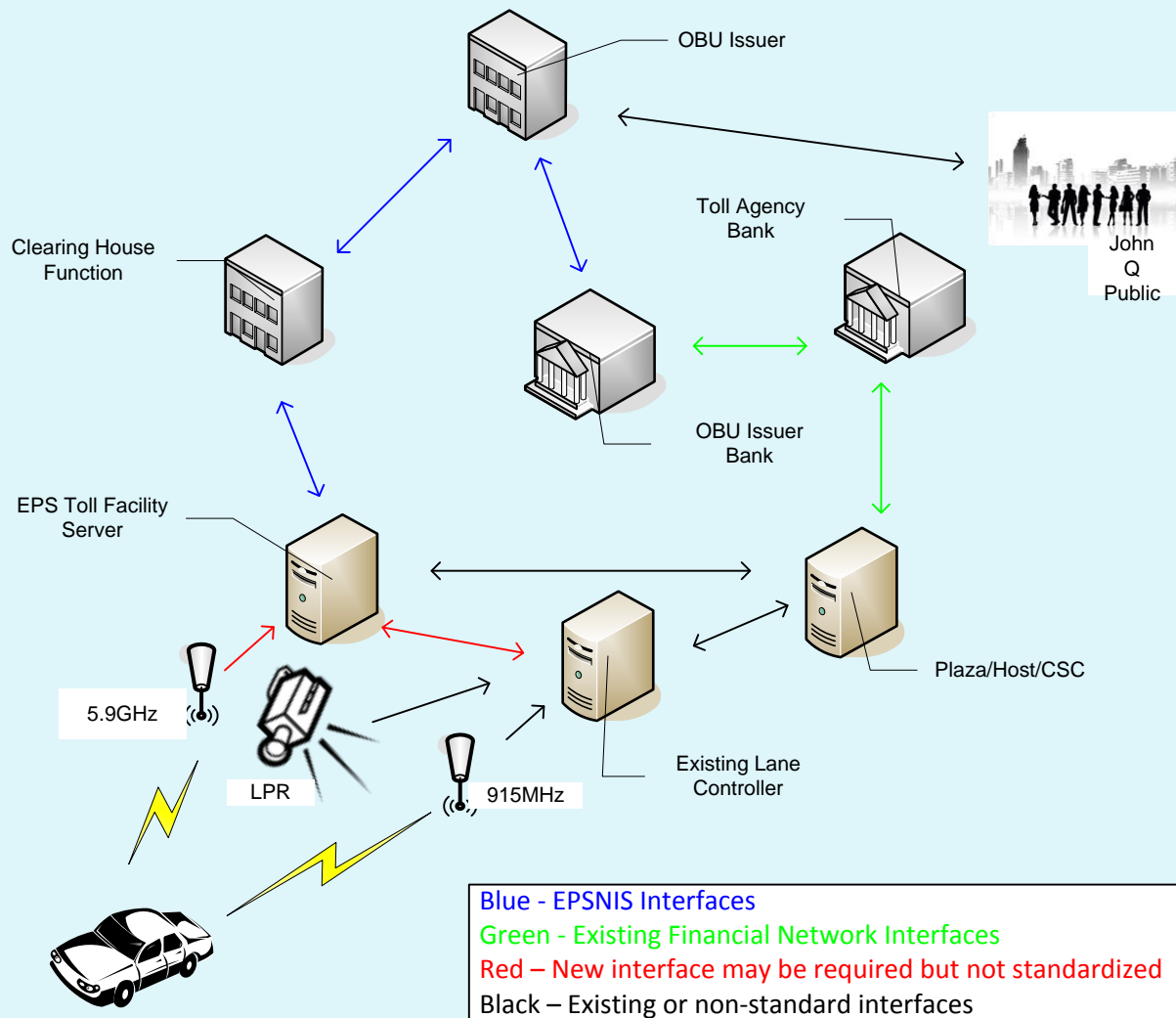
Topology



Possible Deployment Scenario



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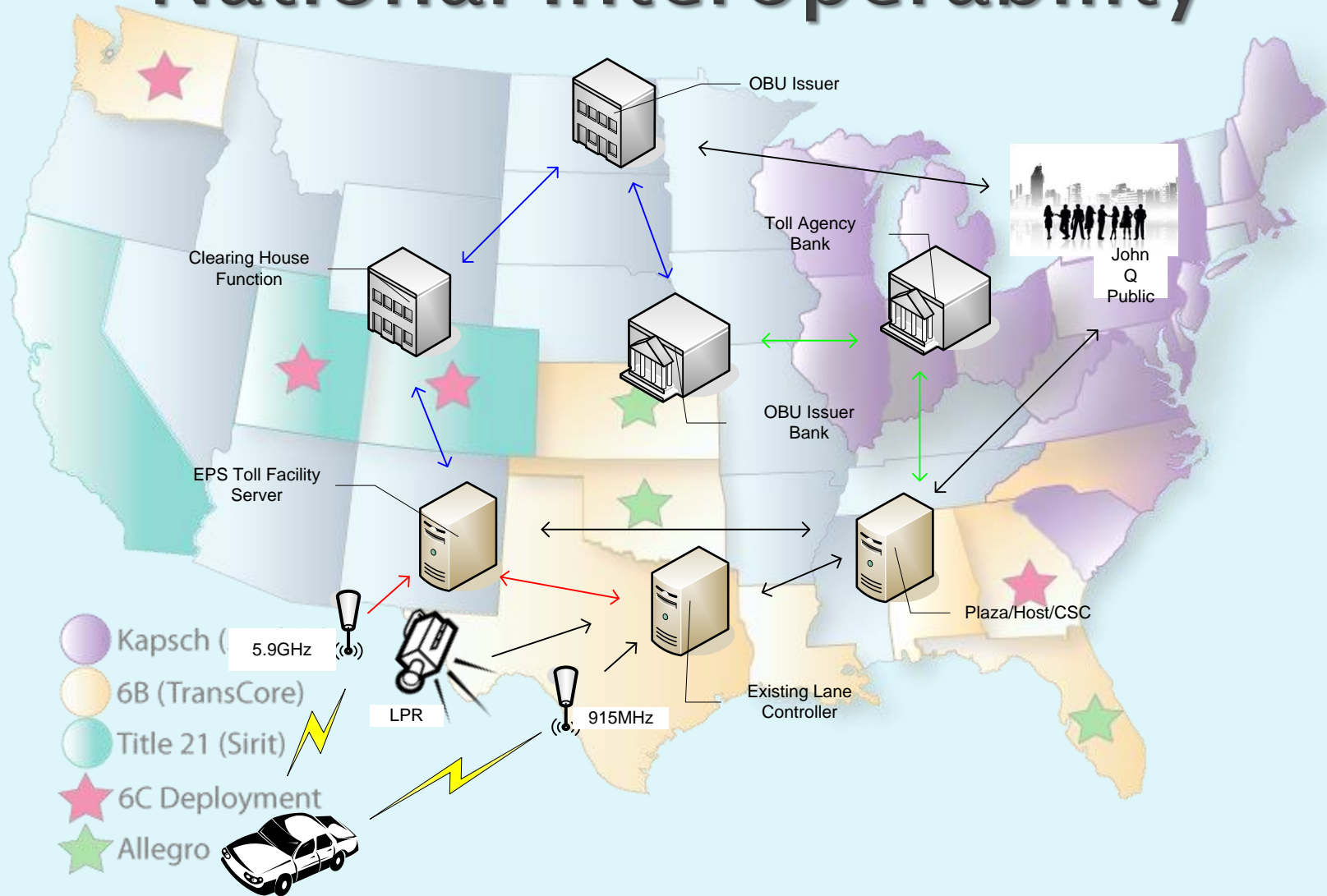
Possible Deployment Scenario

- ▶ ATI Interoperability HUB RFP
 - Similar to existing reciprocity processes.
 - Patron registers with “Home Toll Agency” and plate is passed to HUB.
 - Patron’s plate is captured at “Away Toll Agency” and passed to the HUB.
 - HUB routes transaction data to registered Home Toll Agency.
 - HUB manages financial reconciliation of toll amount to Away Agency.

Possible Deployment Scenario

- ▶ **ATI Interoperability HUB w/EPSNIS**
 - Patron registers and establishes account directly with HUB.
 - Patron's plate is captured at participating toll agency and passed to HUB/Clearing Entity.
 - Using the EPSNIS enabled network, the HUB processes financial transaction for remittance directly to agency where toll was incurred.
 - The open standard allows multiple transaction processing vendors to develop to the identical interface.

National Interoperability



Other Possible Deployment Scenarios

- ▶ Smart Phone Applications
- ▶ Temporary registration for infrequent travelers
 - Vacationers
 - Rental Car
- ▶ Non-toll applications
 - Parking, Fast Food Drive-thru, National Park Entry, Fuel, Car Wash, etc.
 - Important to toll agencies as the greater the number of transactions to process, the lower the cost per transaction.

Next Steps

- ▶ Complete Testing (anticipated this summer)
- ▶ Correct shortcomings (if any)
- ▶ Create Certification Tool
- ▶ Publish Specification

Summary

The EPSNIS is a tool that provides maximum flexibility to allow participating agencies to take advantage of the cost savings and efficiencies provided by a financial network that functions in much the same proven way as the credit card industry does today.

For more information, contact

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