

# Application Development Using APTA TCIP

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# Outline

- What Is APTA TCIP?
- Application Development & Interfacing Models
- Example Applications

# What is APTA TCIP?

- APTA Transit Communications Interface Profiles (TCIP)
- Standard for providing data interfaces between transit components and systems.
- Balloted in 2006
- Interfaces may use compressed binary or XML



# What is APTA TCIP?

- Scales up and down to support large and small agencies
- Allows a-la-carte implementation.
- Interfaces may use compressed binary or XML
- Interfaces may be direct application-to-application or file transfers



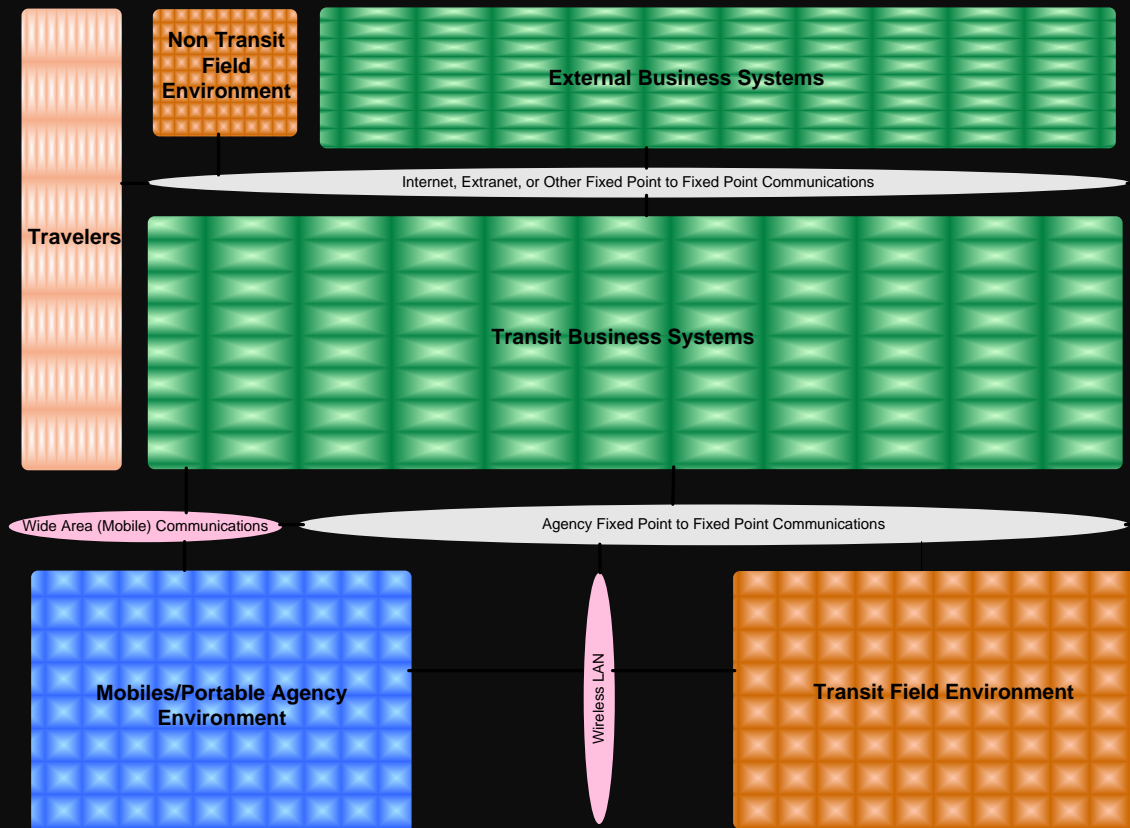
# What is APTA TCIP?

- TCIP Covers 9 Business Areas:
  - Common Public Transport
  - Control Center
  - Fare Collection
  - Incident Management
  - Onboard Systems
  - Passenger Information
  - Scheduling
  - Spatial Data
  - Transit Signal Priority



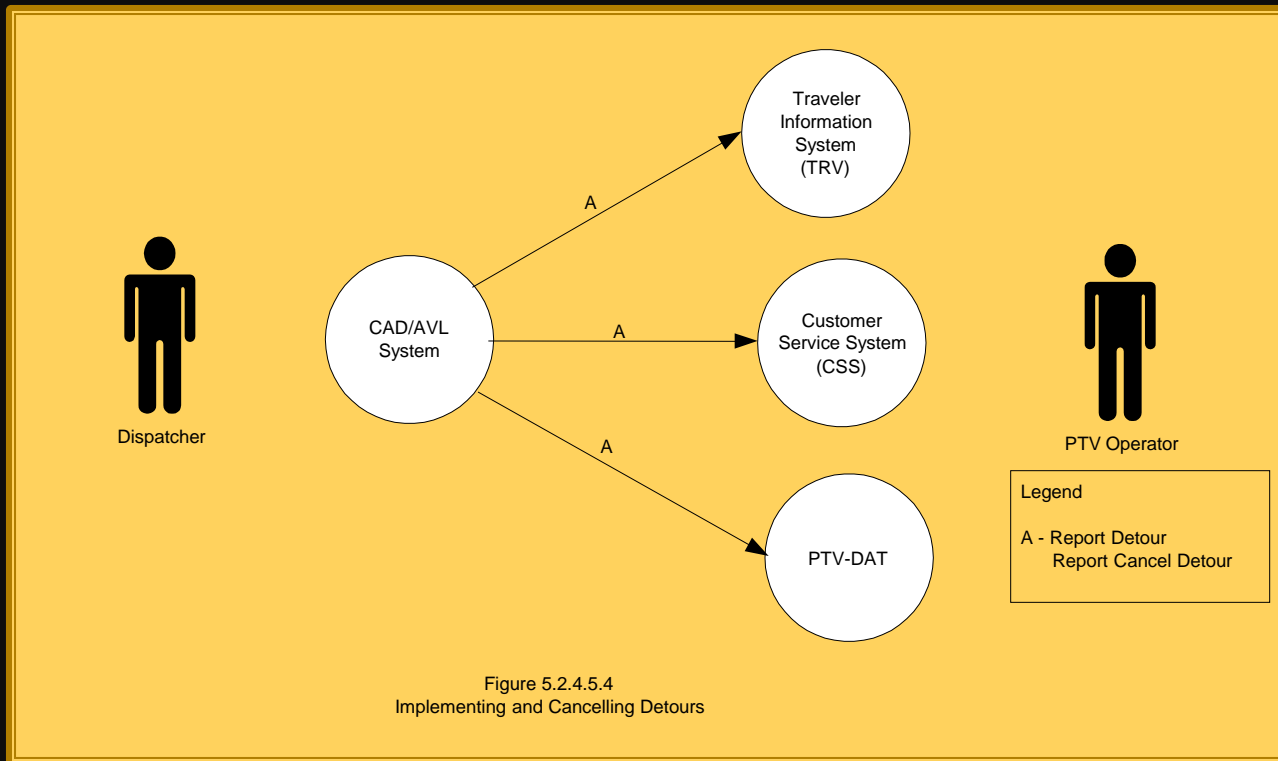
# What is APTA TCIP?

- TCIP includes a Model Architecture:



# What is APTA TCIP?

- TCIP includes a Concept Of Operations:



# What is APTA TCIP?

- APTA provides tool support for TCIP:
  - TIRCE
    - Requirements & Capabilities Editor
  - Message Builder
    - Create Test Data
  - Interrogator/Responder
    - Exchange Test Data with Implementation



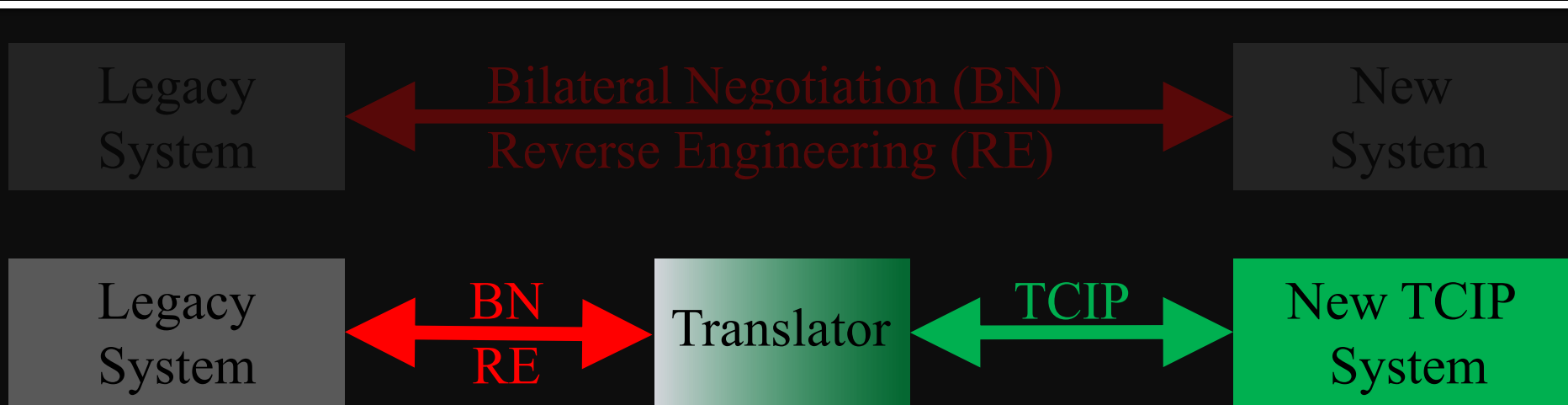
# Application Interface Models

Legacy  
System

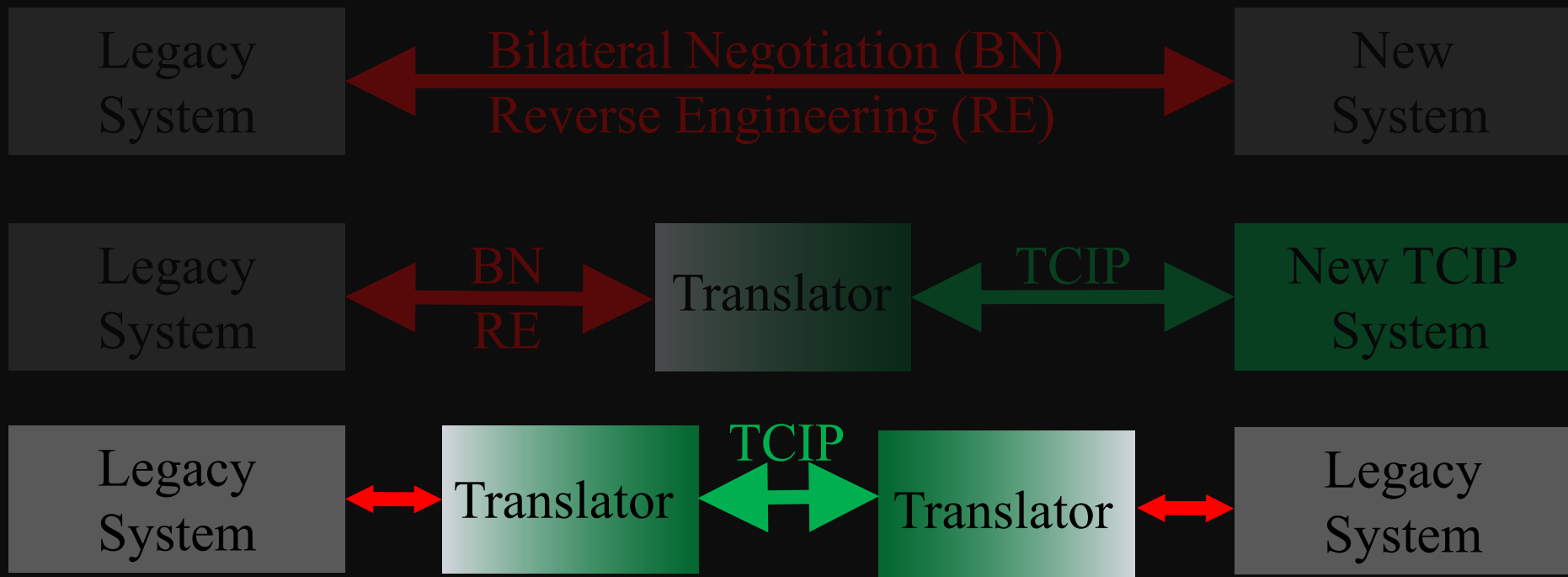
Bilateral Negotiation (BN)  
Reverse Engineering (RE)

New  
System

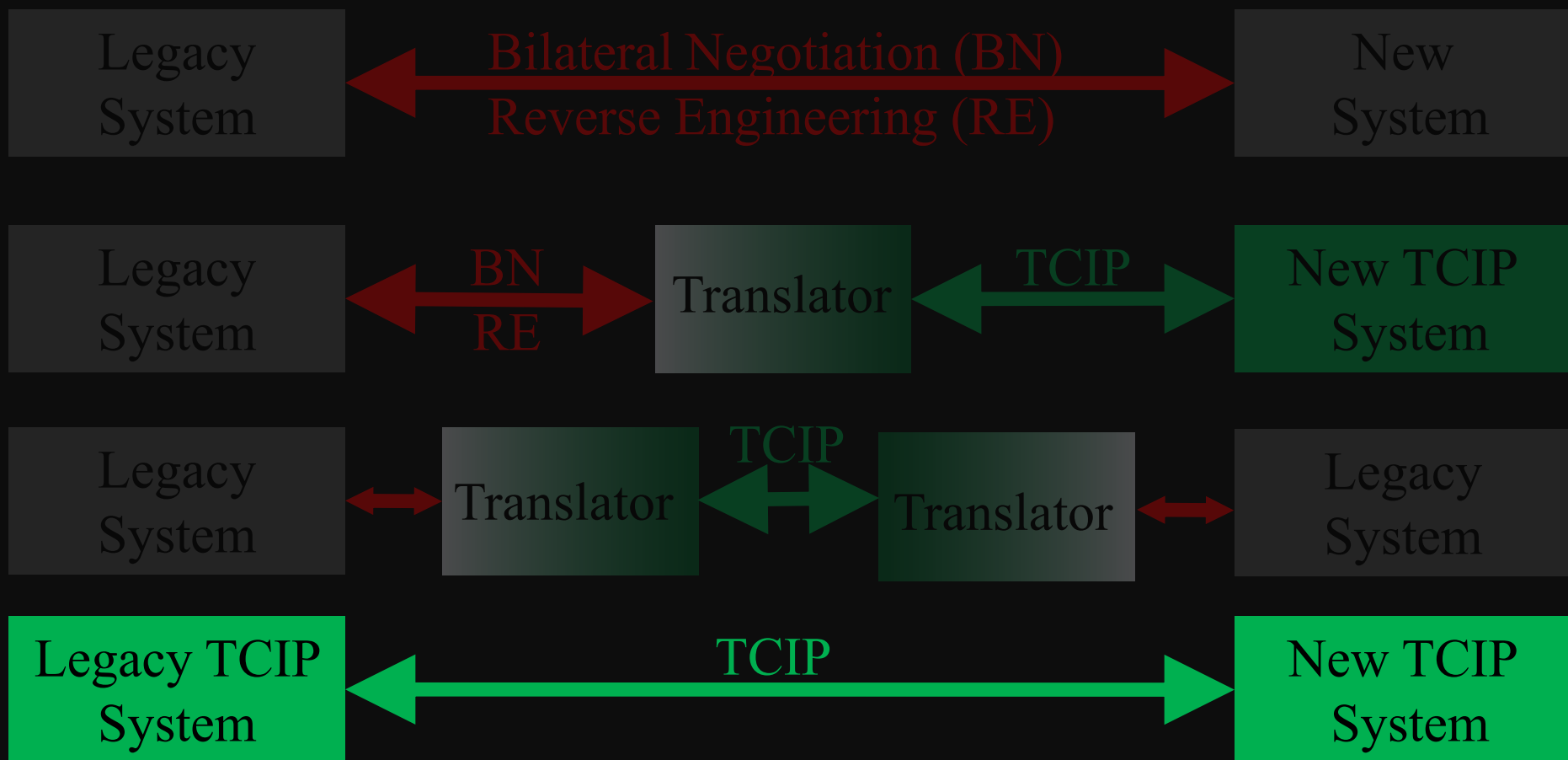
# Application Interface Models



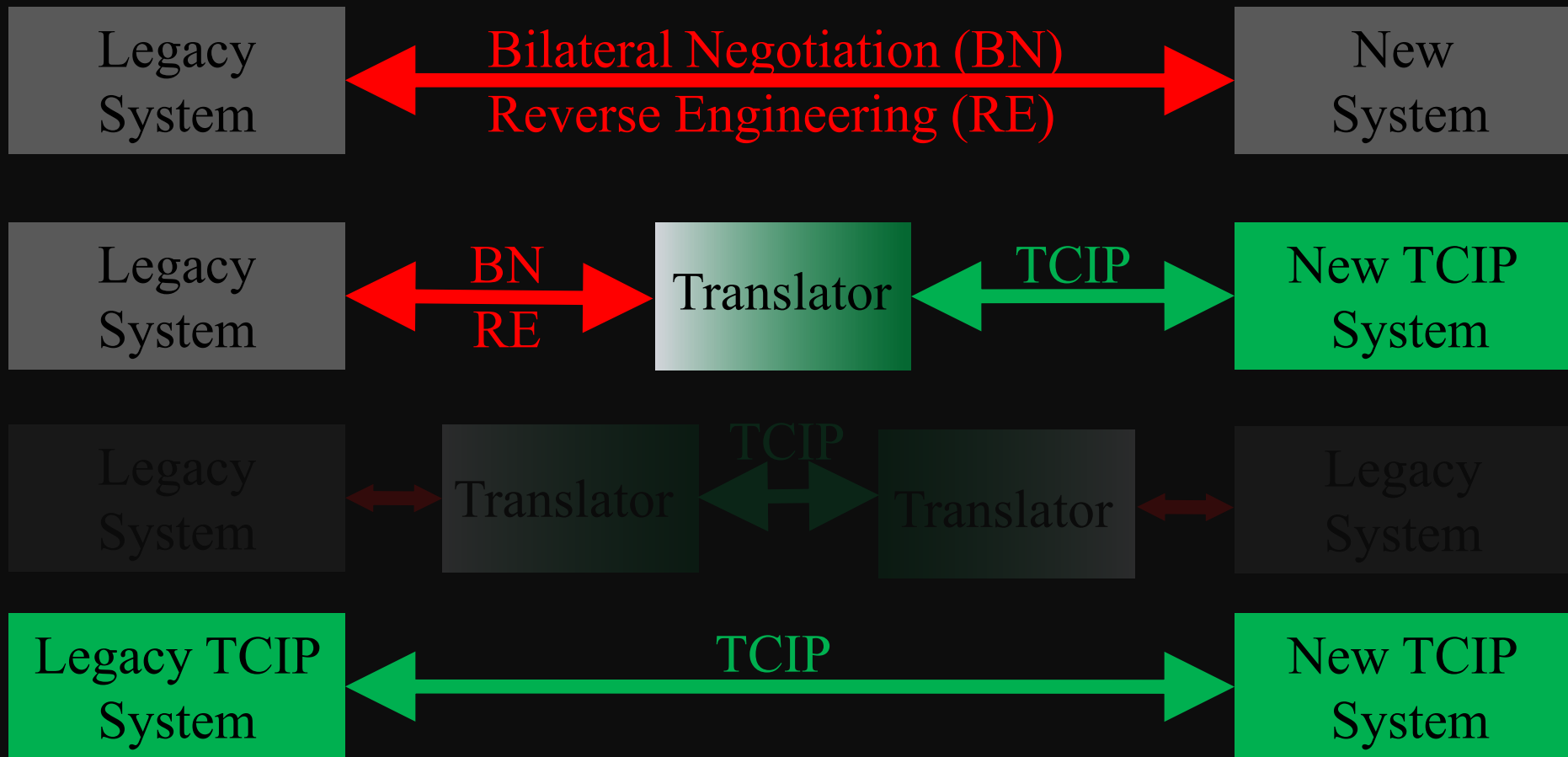
# Application Interface Models



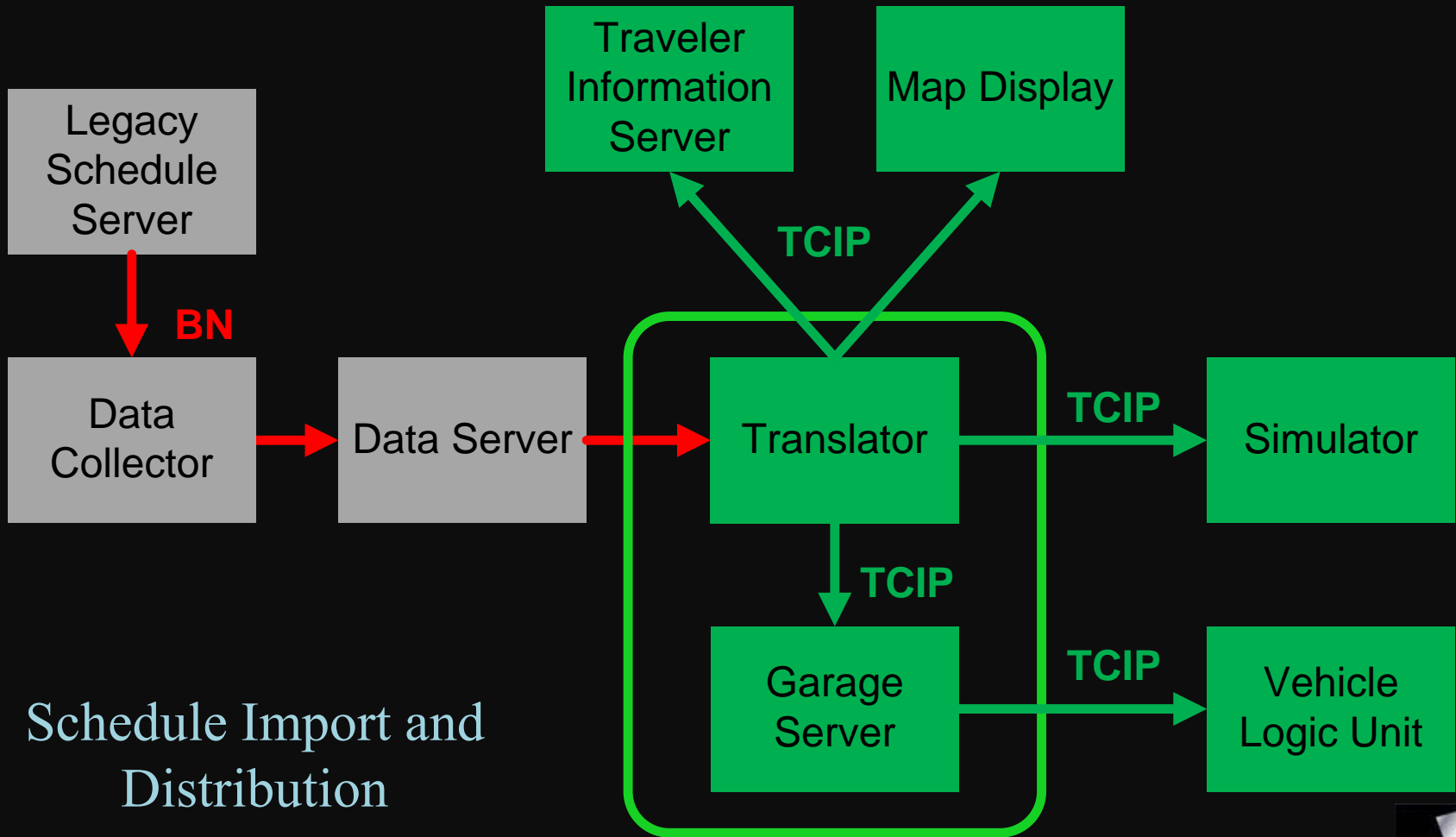
# Application Interface Models



# Application Interface Models We Have Implemented With TCIP

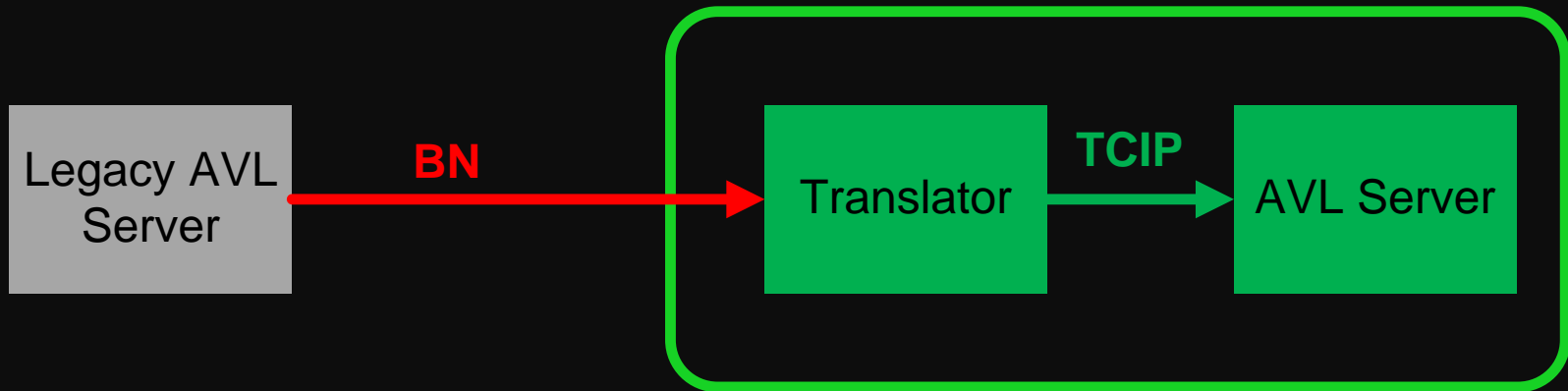


# Implemented Applications & Interfaces



Schedule Import and  
Distribution

# Implemented Applications & Interfaces



Real-Time AVL Import

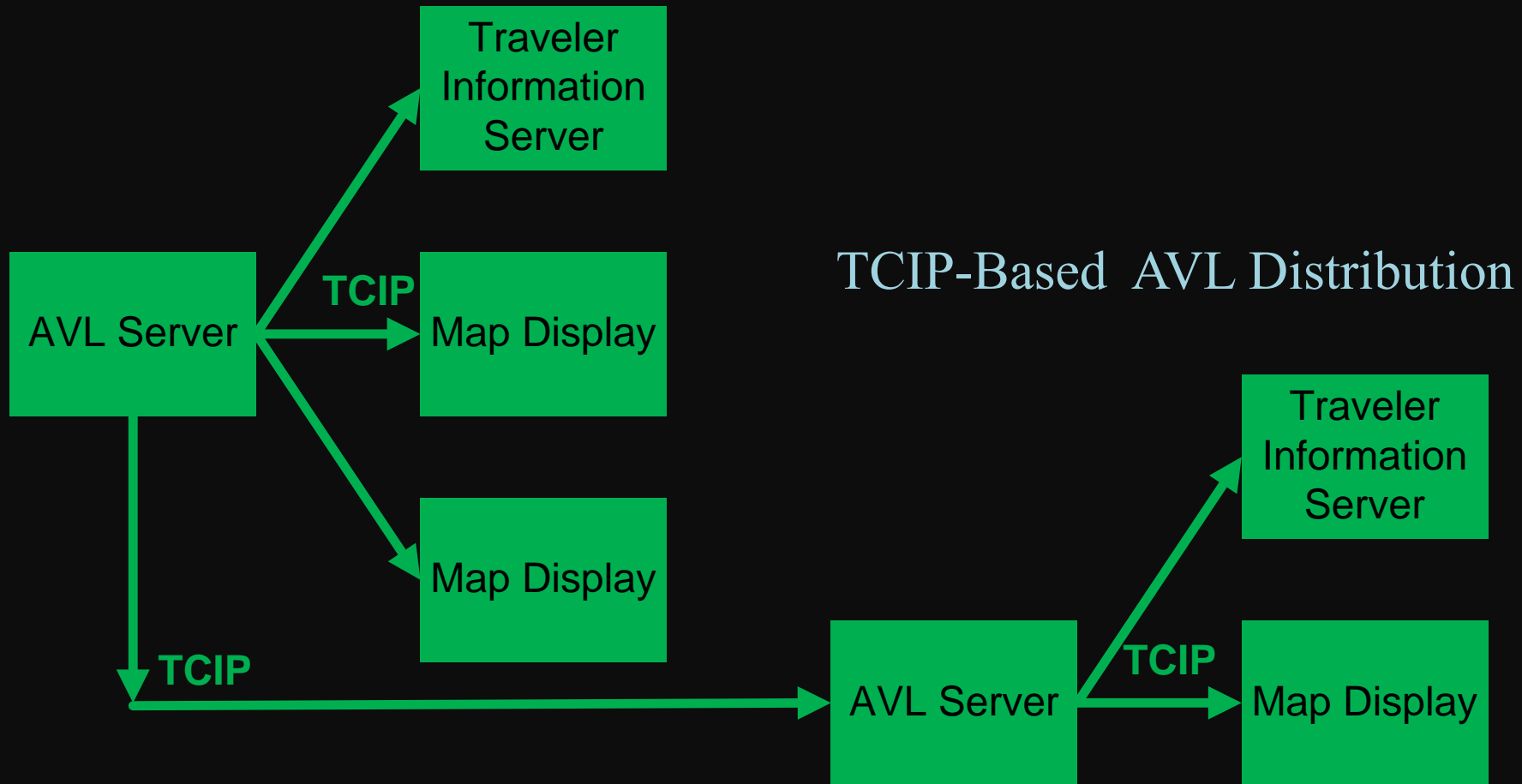
# Implemented Applications & Interfaces



TCIP-Based AVL

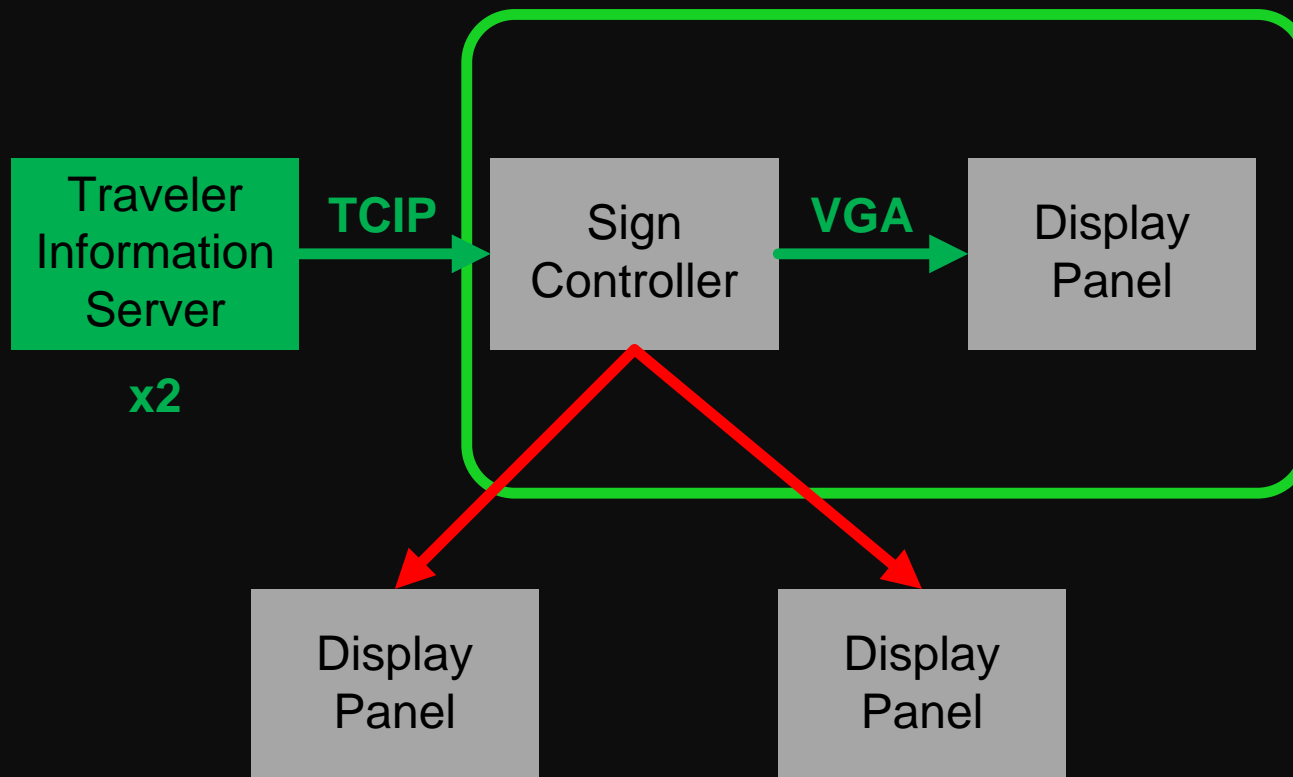


# Implemented Applications & Interfaces



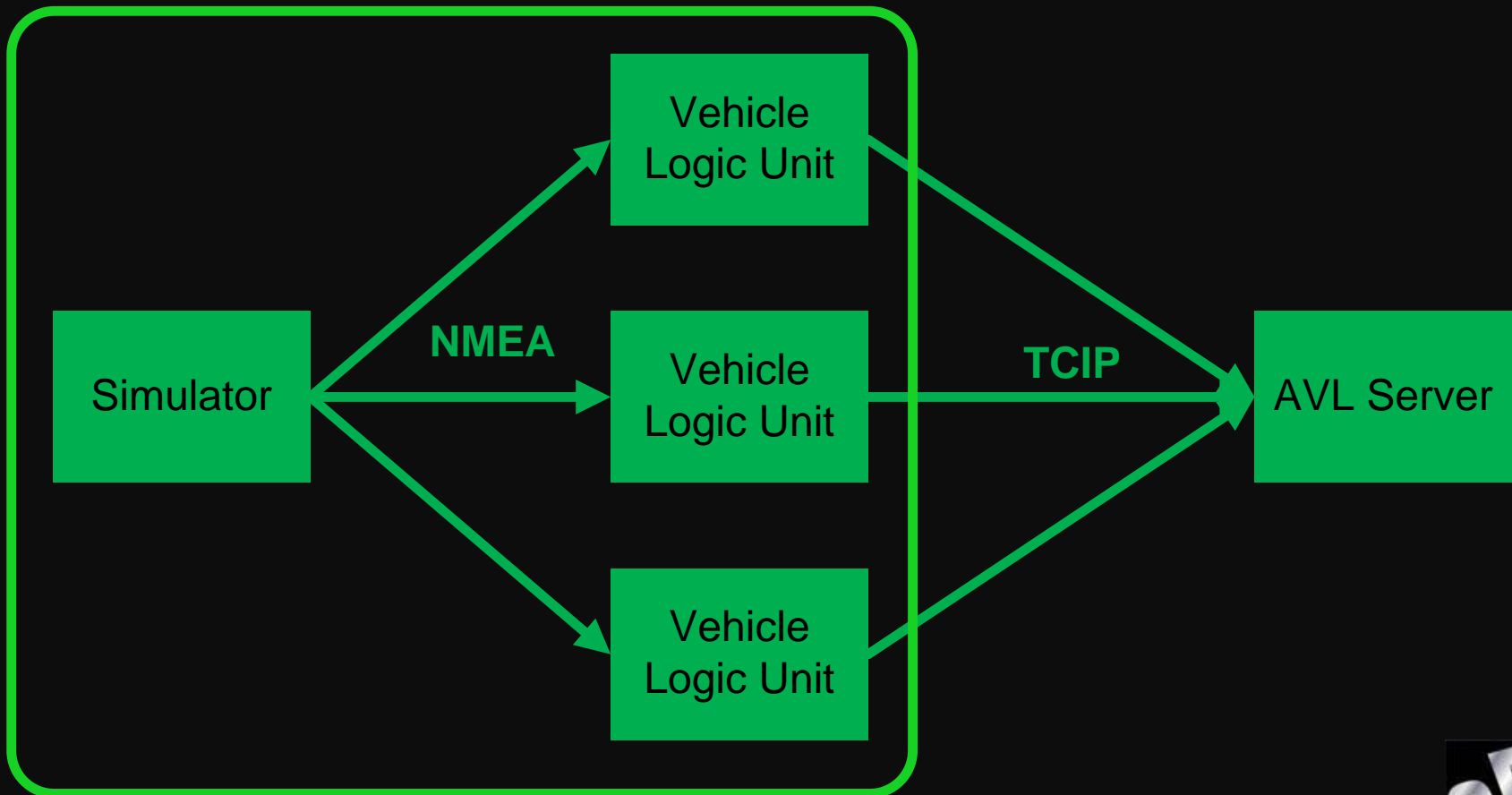
# Implemented Applications & Interfaces

## Passenger Information Signs



# Implemented Applications & Interfaces

Lab Simulation



# Summary

- APTA TCIP is an information exchange standard for transit, covering 9 business areas.
- APTA TCIP is supported by a free toolset available from the [www.aptatcip.com](http://www.aptatcip.com) website.
- TCIP Applications have been successfully developed and deployed.

