

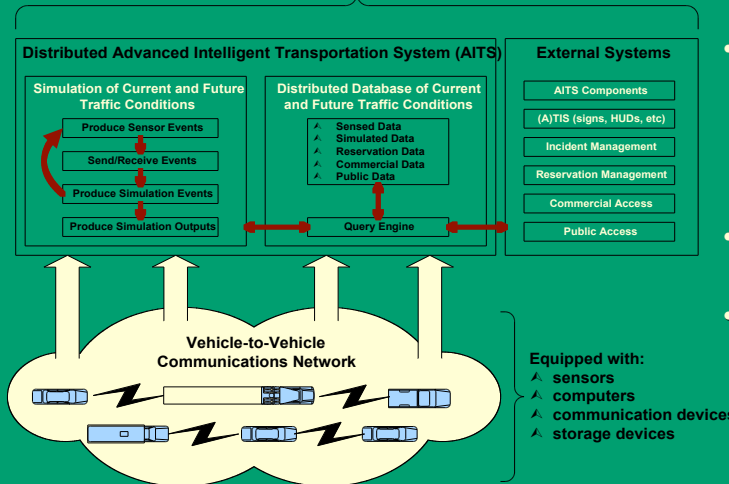
Simulation-based Operations Planning for Regional Transportation Systems

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Vehicle-based Advanced Intelligent Transportation System (AITS)

Exploit onboard sensing and computing resources in vehicles to provide new technologies to augment and enhance existing AITS and other systems.

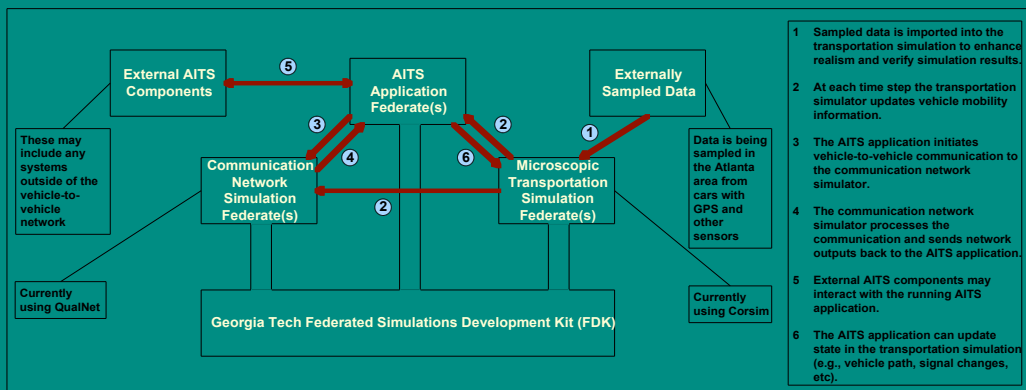


Goals

- Simulation of current and future traffic conditions
- Well-known interfaces for integration purposes
 - Data sources
 - Complimentary systems
 - Client systems
- Data-based QoS
 - Timeliness, fidelity
- Reservation systems
 - End-to-end
 - Per-Link
 - Public transportation

Test Bed for Integrated Transportation and Communication Simulation

(support for simulating vehicle-based AITS)



Research Issues

- Reservation system methods
 - Using simulation to support reservations
- Vehicle-to-vehicle network architectures and protocols
 - Ad-hoc, cell-based, or hybrid
- Updateable simulations
- Distributed, time-managed simulation in unstable networks
 - e.g., wireless ad-hoc networks
- Integration services
 - e.g., web services, grid computing
- Fault Tolerance