
VDOT
Virginia Department of Transportation

REAL-TIME TRAFFIC INCIDENT MANAGEMENT INFORMATION SYSTEM (RTIMIS)

Scott Cowherd

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RTIMIS

- Objective
- Features
- How it works
- Program History
- Lessons Learned
- Future Directions

The Objective

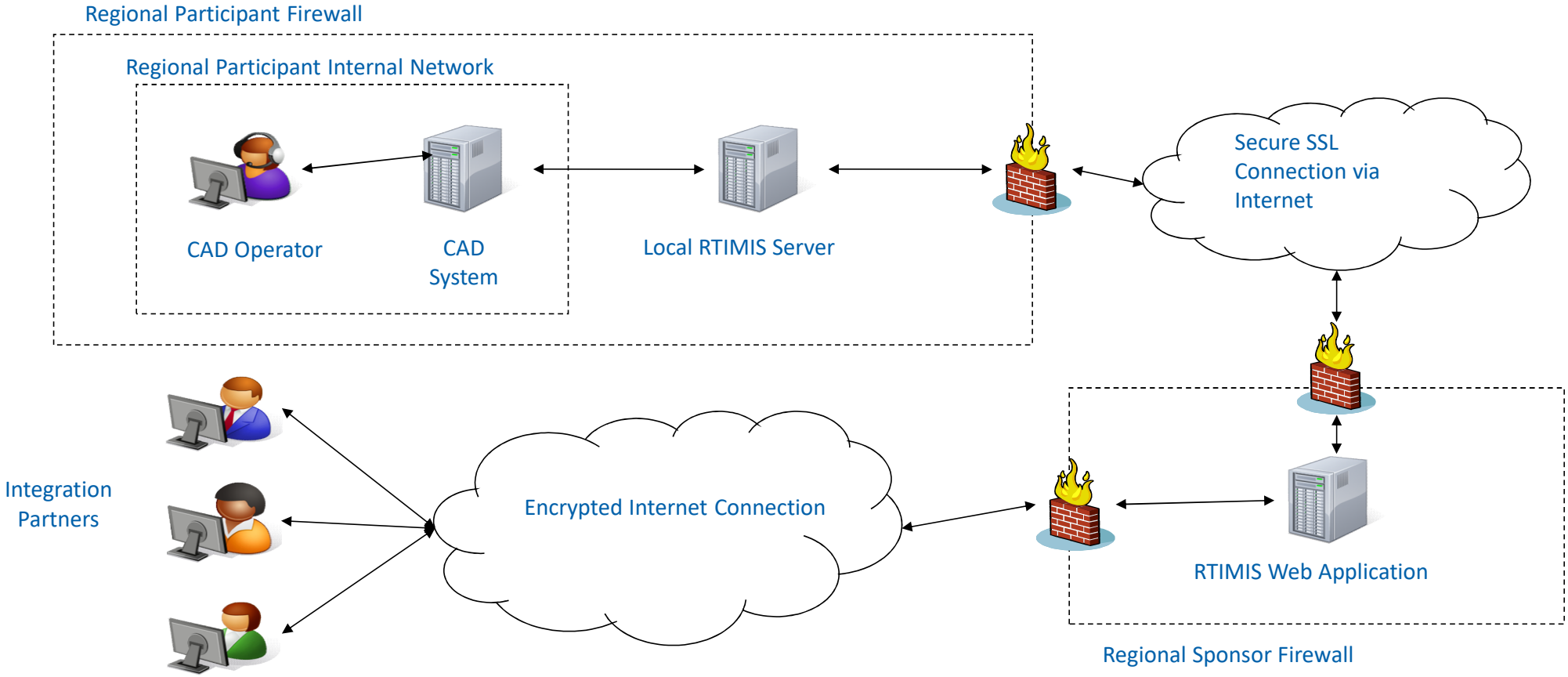
Improve safety
and mobility through
sharing *existing* information

Opportunity Statement: traffic incident management could be improved by automated sharing of available information

Features

- Real-time data sharing system
- Cross agency, cross jurisdictional
- 911 CAD systems, DOT ATMS, Signal system
- Secure, login protected access
- Automated Data Extraction (zero operator impact)
- Data Filtering
- Automated Data Injection
  - Not yet achieved for 911 participant
  - Web application available

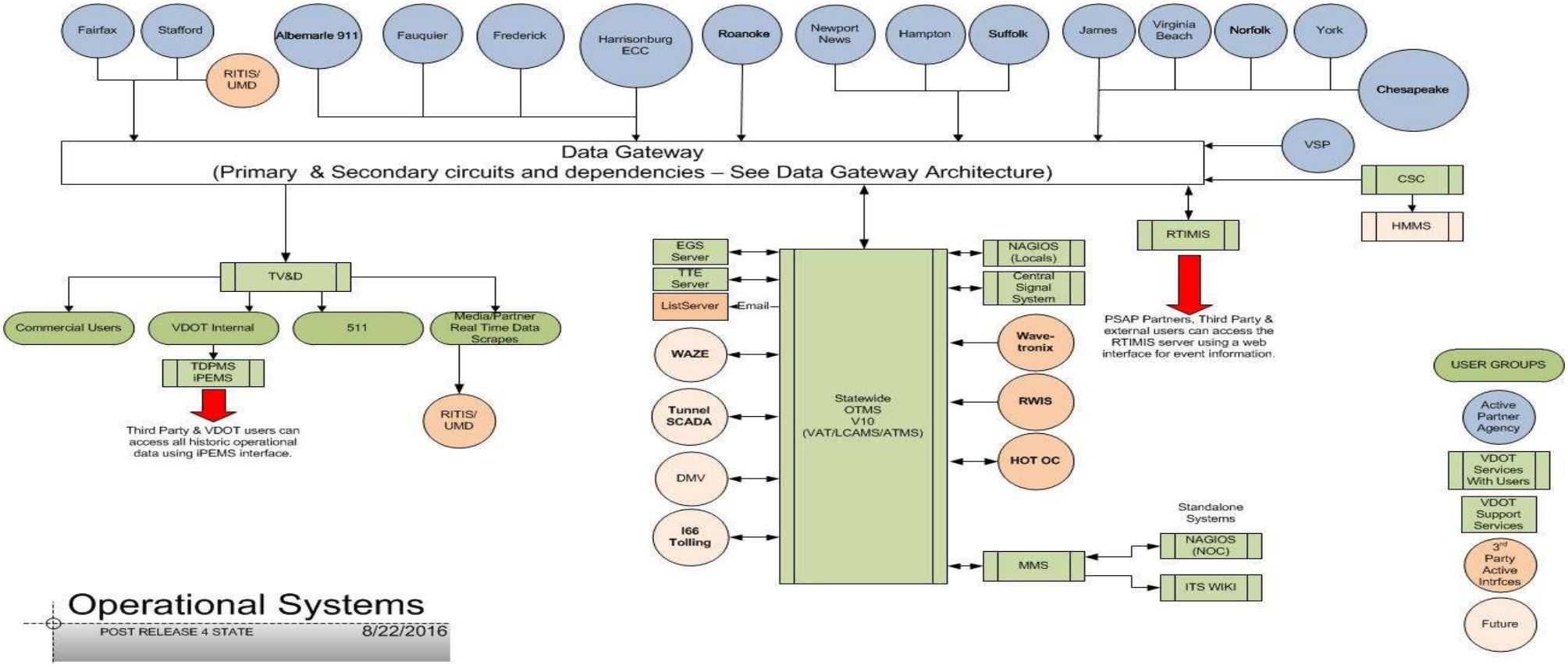
How it works


Regional Participant Firewall
Regional Participant Internal Network
CAD Operator
CAD System
Local RTIMIS Server
Secure SSL Connection via Internet
Integration Partners
Encrypted Internet Connection
RTIMIS Web Application
Regional Sponsor Firewall

Program History

- VSP Integration in 2004
- Albemarle integration 2005
- Hampton Roads Regional system launched 2007
- NOVA Regional system
- I-81 Regional system
- Statewide consolidation 2011

Existing Integrations



Lessons Learned

- **Immediate value to VDOT**
  - up to 88% of accident discovery was by VSP CAD
  - 34% reduction in clearance time across 67 miles of I-95
- **Additional value to integration partners**
  - Reduced communication workload (ROADI)
  - Improved situational awareness

Lessons Learned: Success Factors

- Integration into existing operational system vs. web client
  - VDOT regions other than one has ATMS integration
  - Lack of ATMS integration at one region reduces effectiveness
  - Integration partners only have access to web client
- Scope of Data Feed
  - CAD systems have varying integration capabilities
  - Different jurisdictions have different levels of comfort with information sharing
  - More data = more value
- Depth of Operational Integration
  - CAD operators and traffic operators have different goals
  - Frequency of interaction influences nature of operational relationship
  - Often an operational triangle: VDOT ↔ Local TMC ↔ PSAP
  - VSP ROADI tag

Lessons Learned: Implementation Factors

- **ANALYZE DATA**
  - Analyze data over a 6 month to a year period to determine its usefulness.
  - How many events are traffic related, would be managed by DOT, or would need to go to 511.
- **MOU APPROVAL**
  - Don't engage technical team until MOU has been signed by DOT and locality.
- **PROJECT TIMELINE**
  - Projects that should take less than ninety days can take up to a year due to municipality participation or beaurocracy.

Lessons Learned: Implementation Factors

- **FEED LIMITATIONS**
  - The feed is limited by how much "form fields" are available in CAD. The more free form text and lower identified data fields over complicates the integration and filtering.

“TOP TEN LIST”

1. **Incident Type**
2. **Incident Location;** route (number and/or name), nearest mile marker and/or cross street, special facility if applicable
3. **Incident Detection Source;** helps determine if incident confirmed from onset

Lessons Learned: Implementation Factors

4. PSAP Responder Status; waiting, dispatched, on scene, clear (distinguish between only PSAP clear or entire incident scene clear of incident and all responders), details or execution may change if multiple departments under one PSAP
5. Line Impact; reported, confirmed, projected, updated as conditions change
6. Injuries/Fatalities; reported, confirmed
7. Agency On Scene Status; Fire, Rescue, LPD; responding, on scene
8. Infrastructure Damage; bridge hit, guardrail damage, traffic signal damaged, etc.

Lessons Learned: Implementation Factors

9. Incident Details; tractor trailer, overturned, cargo spill, vehicle fluid spill or hazmat, etc. Helps give sense of potential lane impacts and incident duration

10. Traffic Delays

Lessons Learned: Implementation Factors

- "RoadI" –ROADWAY AND TRAFFIC INFORMATION
  - Although our goal is to have no impact on municipalities and their operations, consider the value of a "RoadI" type field to talk to DOT specifically.
- CAD to TOC IM CAPABILITY
  - It would be very valuable to have CAD to TOC IM capability.

Future Directions

- VDOT to move to statewide ATMS
  - Tighter integration statewide
- Potential enhancements
  - Two-way CAD integrations
  - Additional operational system integrations

Integration Information

- CAD Vendor/Administrator
  - CAD system
  - Preferred integration method
- CAD Administrator/Operations Manage
  - Call Types
  - Data Fields and Filters
- Network
  - Access for maintenance
  - Configuration for operations

Contact Information

Scott Cowherd: Scott.Cowherd@vdot.virginia.gov