Game Changing Analytics to the Explosion of Video

- What is the next level of Video and Data Analytics?

- Smarter Safer Communities

- Impact of Social Media

- End-to End Solution

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Objective: Safer, Smarter, More Efficient Communities

TRANSIT
- INTELLIGENT RAIL AND TRANSIT SOLUTIONS
- FLEET MANAGEMENT
- ASSET TRACKING
- MOBILE PAYMENTS
- SMART ROADS

INTEGRATED REPORTING AND ANALYTICS: ACTIONABLE INSIGHT
CITY INTELLIGENCE | SMART OPERATIONS | CITIZEN RELATIONSHIP MANAGEMENT

ENERGY
- SMART BUILDINGS
- CONDITION BASED MAINTENANCE
- REMOTE OUTAGE NOTIFICATION
- SMART WASTE MANAGEMENT

UTILITY
- WATER TREATMENT
- WATER MANAGEMENT
- EQUIPMENT MONITORING/ CONTROL
- HAZARDOUS MATERIALS EMERGENCY RESPONSE

VEHICLE
- SMART PARKING
- PARKING ENFORCEMENT
- VEHICLE DETECTION
- MOBILE PAYMENTS
- EV CHARGING

TRANSIT
- INTELLIGENT RAIL AND TRANSIT SOLUTIONS
- FLEET MANAGEMENT
- ASSET TRACKING
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- SMART ROADS

PUBLIC SAFETY
- VIDEO SURVEILLANCE
- REMOTE SECURITY MONITORING
- EMERGENCY RESPONSE
- SMART STREET LIGHTS
- MASS NOTIFICATIONS

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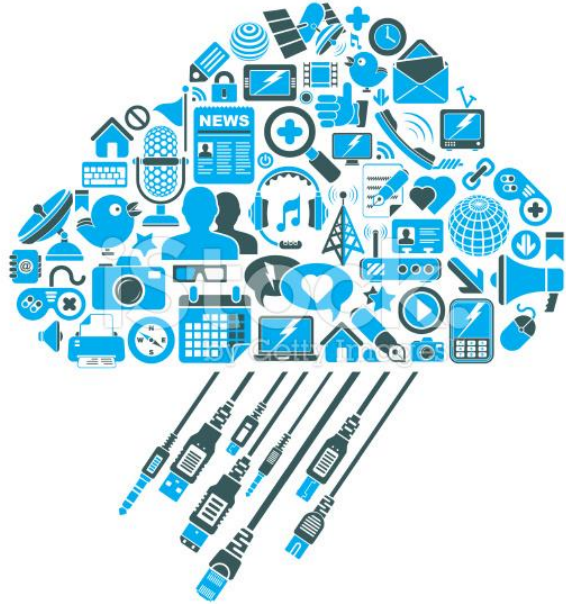# Challenges within the Current Environment

Disparate Systems Without Integration

- Multiple manufacturers of existing gear
- Different standards and specifications
- Lack of interoperability across enterprise because of stovepipes
- Islands of information restricts understanding and sharing
- Costly management of IT resources
- Decisions made without access to all the information
- Minimal Situational Awareness

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Technology Advances Make Video Accessible

Technology = Accessibility

- Migration from analog to IP cameras
- High-definition cameras are becoming more affordable
- Ability to correlate data from multiple sensors
- Cloud based apps and data for access anywhere
- Improved analytics for better decision making and better outcomes
- Predictive analytics to help prevent or deter future incidents
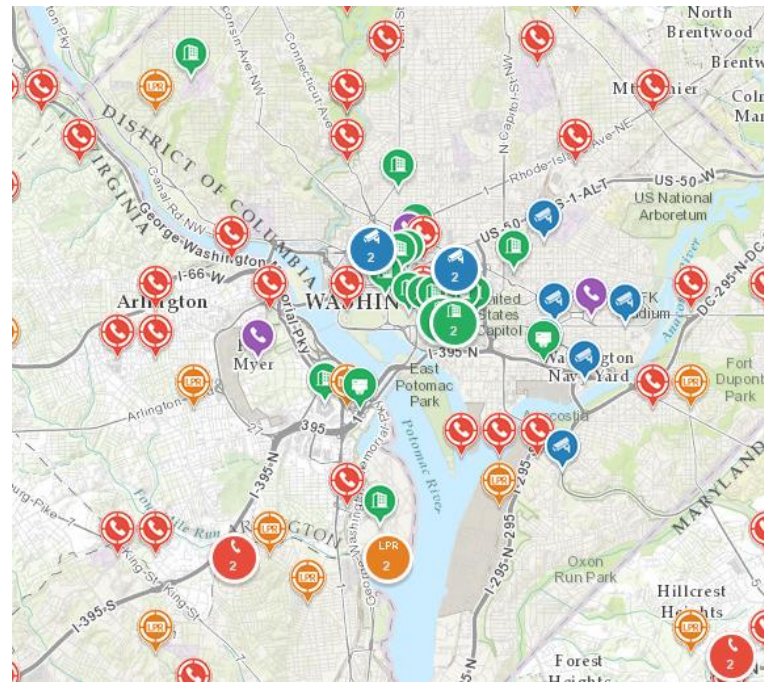- Multiple map layers for better insights

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Value in Visualization: Use Case

A Train Derailment occurs in a major city

- The Rail company needs to initiate emergency procedures
- First responders need to understand depth and degree of injuries
- Public Safety needs to cordon off the area and re-route traffic
- Public Transportation needs to divert buses and or trains
- Fire and rescue for type/amount of equipment to the scene
- Public/Private Partnership enables access to cameras on site
- Everyone requires Situational Awareness

End to End "Visualization" Solution

- **Capture** all sensors and event data
- **Transmit** relevant data
- **Correlate** and **visualize** on a single map
- **Process** via integrated workflow
- **Store** data where it can be accessed quickly
- **Analyze** data and video associated with incidents
- **Share** information

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Intelligence Gathered Right From the Scene

Emergency Management Operations can now Effectively Monitor Online Social Media

- Agency can define parameters using keywords and geographic boundaries to create specific alarms
- Alarms are automatically integrated into the mapping interface to create situational awareness

Some statistics

- In 20 minutes, 2,716,000 messages are sent on Facebook
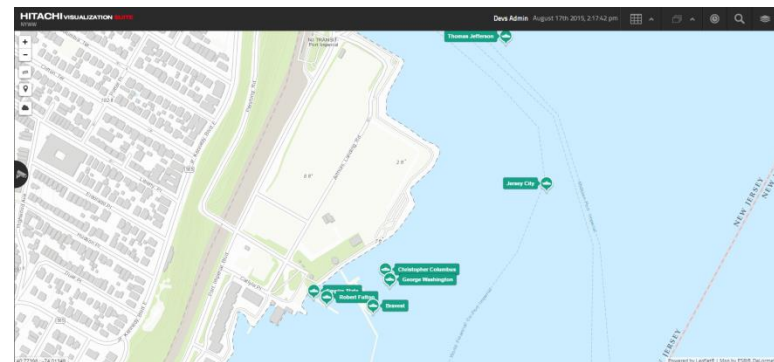- 400 million Tweets are sent every day

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Data and Challenges in Transportation

Case Study: NY Waterways

- NYWATERWAY the largest privately owned commuter ferry in the US chose (HVS) to manage their security assets (terminals and ferries).

    – The Problem:
        - Lack of awareness of what is happening on the ferries and terminals. Multiple dashboards to manage security assets.

    – The Solution:
        - HVS allows NYWATERWAY to manage video from disparate systems on a unified web-based platform. HVS provides the integration with VOIP phones, PA, AIS data and other sensors (vessels telemetry).

    – The Results:
        - NYWW is now more prepared to control any type of crisis. From a single dashboard, NYWW can now monitor and share their assets in real time with NYPD, NJ/NY Port Authorities and other federal agencies.
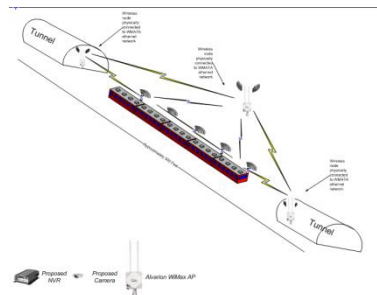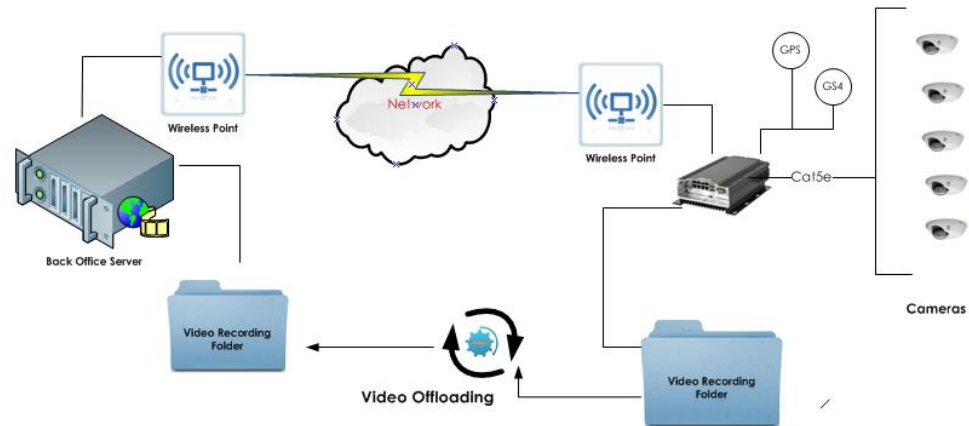
Transportation

Telemetry | Video | GPS | WiFi | Cellular

Track mobile assets in real time | *On-demand streaming of live video* | *Ruggedized NVR for recording* | *Gateway software only transmits relevant data to save bandwidth and transmission costs*

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Use Case - Big Data and Video Rapid Offloading for Transportation
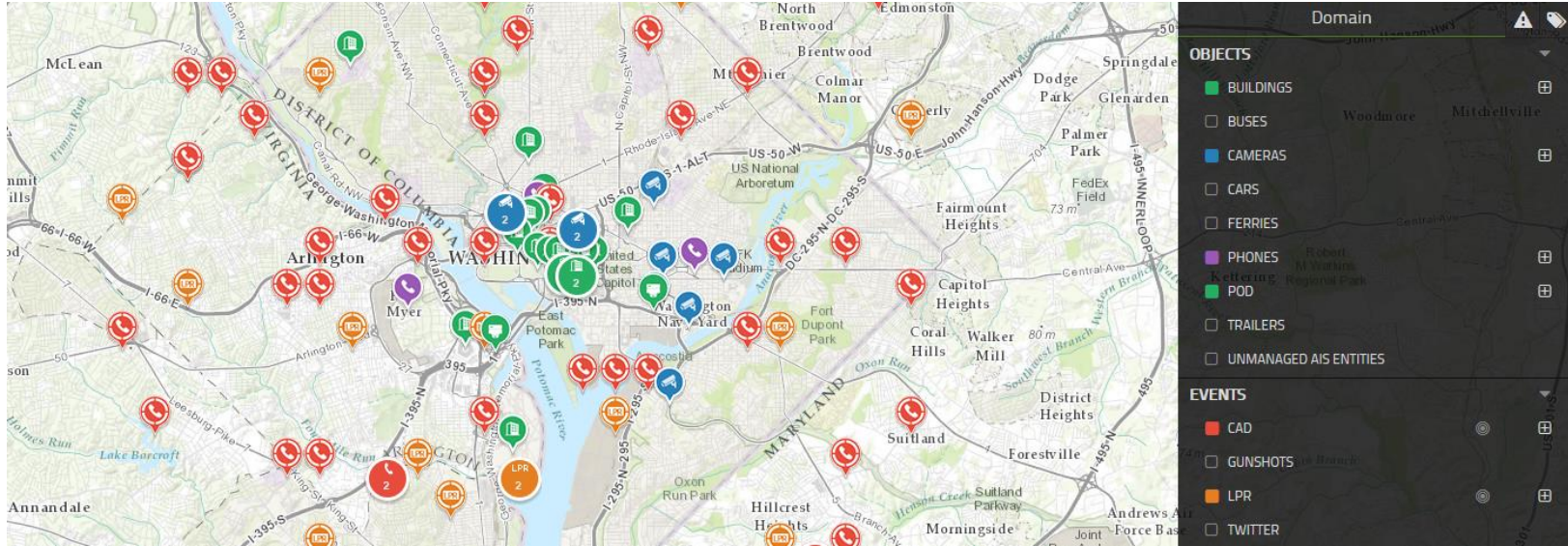
FLUIDITY: BUS DEPOT NETWORK TOPOLOGY

Fiber/Copper
(DSL/Internet
L2TP Tunnel
Wireless

Coverage Radio
FM3200-BASE

Backhaul Radio
FM3200-ENDO

Vehicle Radio
FM3200E-DEP

Vehicle Radio
+ Omni Antenna

Wireless Point

Back Office Server

Network

Wireless Point

GPS

GS4

Cat5e

Cameras

Video Recording
Folder

Video Offloading

Video Recording
Folder

Tunnel

Tunnel

Proposed NVR   Proposed Camera   Alvarion WiMax AP
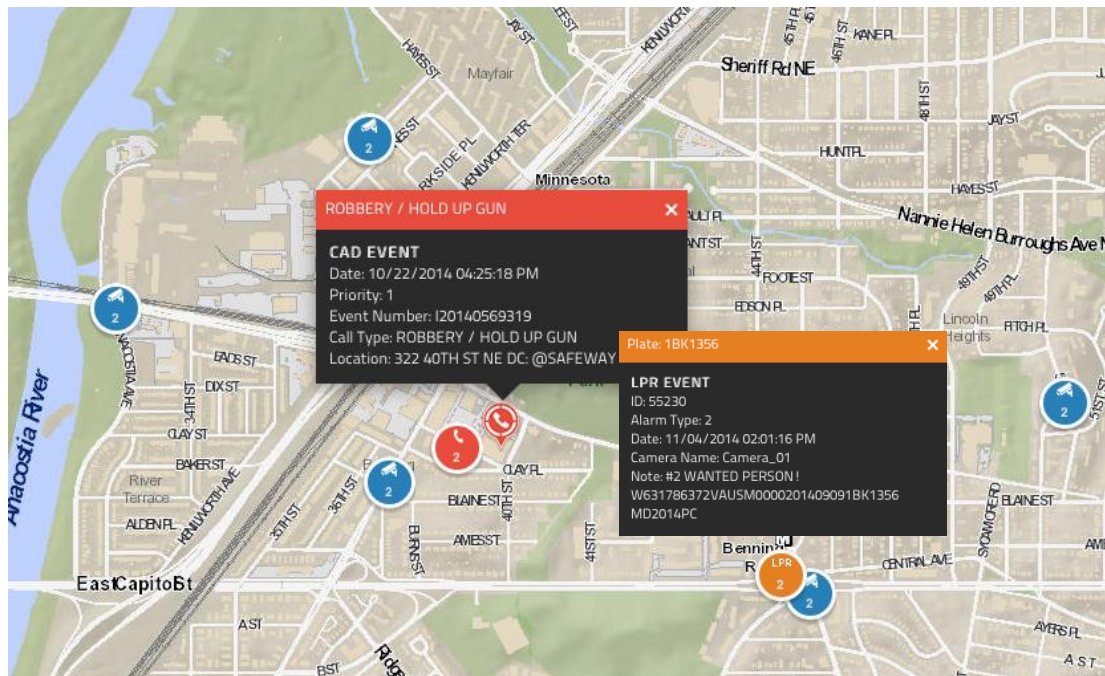
Analytics:

911 Calls, Cameras, Phones, License Plate
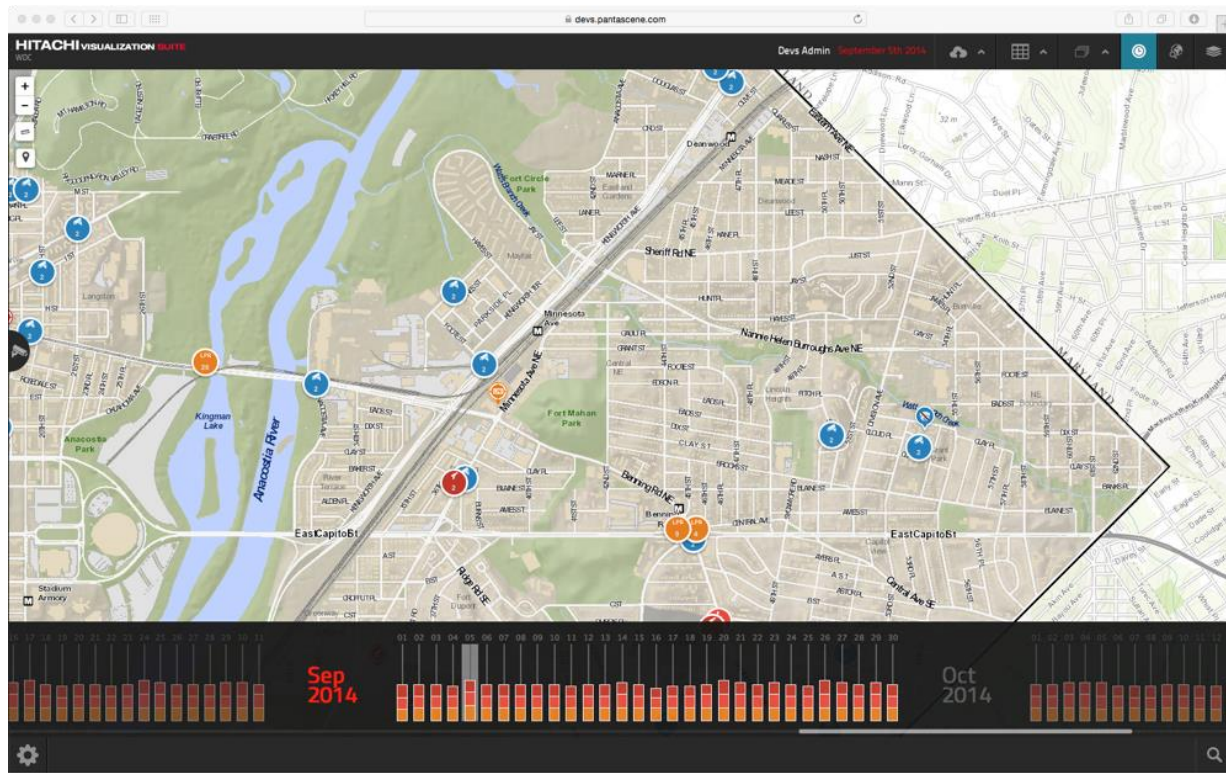Readers, Environmental Sensors, Social Media

Disparate Data

- Visually link data from disparate systems
- Search on nearby video recordings based on date and time of events
- Integrate any type of event sources

Timelines

- Visual history of events displayed in an intuitive timeline
- Quick access to historical event data including video

Moving Objects

- Track moving objects in real-time using over/covert GPS integration
- Support for custom attributes and floor plans
  - Buses, trains, buildings, schools, etc.