DATA ANALYTICS AND REAL TIME CRIME TOOLS

INTELLIGENCE LED POLICING

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MOTOROLA SOLUTIONS
NOVEMBER 4, 2014
TRENDS IN PUBLIC SAFETY

HOW THE PUBLIC SAFETY LANDSCAPE IS CHANGING

- Interoperability needs
- Rapid multi-agency response
- Power of real-time data
- NG9-1-1 requirements
- Multimedia adoption
- Proliferation of applications
- Cloud based services
INFORMATION IS EVERYWHERE
Analytics continuum

<table>
<thead>
<tr>
<th>Level of Business Impact</th>
<th>Information Patterns</th>
<th>Descriptive</th>
<th>Diagnostic</th>
<th>Predictive</th>
<th>Prescriptive</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Reports, Dashboards</td>
<td>WHAT HAPPENED?</td>
<td>WHY DID IT HAPPEN?</td>
<td>WHAT WILL HAPPEN?</td>
<td>WHAT SHOULD WE DO?</td>
</tr>
</tbody>
</table>

- **MORE TACTICAL**
- **MORE STRATEGIC**

**Skill Levels Required**

- **LEVEL OF BUSINESS IMPACT**
  - More Tactical
  - More Strategic

- **Gartner**
The Evolvement of Analytics

A brief history and key highlights

Analysis has been a part of American policing for more than a century. Evolving from pin mapping to comparative data tables; from simple patterns analysis and batch processing on mainframe computers to user interface with real-time analysis.
Around 1980, a significant conceptual shift toward community-based policing. Emerging from this era of scientific policing was CompStat, led by former New York Police Commissioner (and former Los Angeles Police Chief) William Bratton.

CompStat integrated many of the lessons learned from previous experimentation: a scientific analysis of crime problems, an emphasis on creative and sustained approaches to solving the crime problems, and strict management accountability.

In many ways, CompStat introduced the era of smart policing.
WHAT IT IS

Leverages existing data from an agency’s CAD/RMS and displays activity and trends on a map layer

Set of analytics tools that allow agency personnel to create, access and share real-time graphical reports and dashboards

HOW IT WORKS

Data sources are extracted, transformed and loaded into a database

Graphically displayed reports to identify trends, metrics, and historical performance

Personnel can perform quick searches, what-if analysis, and set alerts on certain criteria

Information can be accessed immediately – not just every couple of days
VENTURA PD USING ANALYTICS

Ventura police use new software to better map, prevent crimes
By Cindy Von Quednow
Posted December 6, 2013 at 4:09 p.m.

Ken Corney
Police Chief, Ventura Police Department

HOTSPOT POLICING – RESOURCE ALLOCATION
Motorola Solutions Intelligent Resource Deployment

Part 1 Crimes CFS in the last 3 Days.

Ventura

Priority 1 Response Times in the last 24 hours:
- Less than 5 minutes = 3
- More than 5 minutes = 1
- Average Time = 4.0 minutes
- Total Responses = 4
INTELLIGENT DATA PORTAL

CORE SITUATIONAL AWARENESS VIA WEB CLIENT

- ESRI Basemaps (Streets and Satellite)
- Real Time Traffic (Worldwide)
- AccuWeather Static Hi-Res Radar Image
- NWS Weather Warnings
- Current Weather Conditions

- Exec. Reporting Dashboard
- 24/7 Call Support
- Cloud Hosting Fees
- 3rd party Solutions integration
OPERATIONAL USE OF AN INTELLIGENT DATA PORTAL

**IDP CORE**
- ESRI Basemaps (Streets and Satellite)
- Real Time Traffic (Worldwide)
- AccuWeather Static Hi-Res Radar Image
- NWS Weather Warnings
- Current Weather Conditions
- Publish 2 On-Prem Data Sources
- Exec. Reporting Dashboard
- 24/7 Call Support
- Cloud Hosting Fees
- Solution Maintenance Fees

**BEYOND THE CORE SOLUTIONS**

**OPERATIONS**
- Current CAD Incidents Layer
- Radio / Vehicle GPS Tracking
- AIS Ship / Vessel Tracking

**TACTICAL**
- Collaboration Whiteboard
- Real Time Staging
- Picture / Video Viewing Layer

**WEATHER**
- Local Storm Reports
- Animated Radar Loop
- Lightning Strike Layer

**ENVIRONMENT**
- Earthquake Reporting
- Wildfire Perimeter Layer
- Hurricane Tracker
- Flooding Impact Zones

**ANALYTICS PACKAGE**
- Patrol Efficiency
- Calls For Service
- Predictive Unit Monitor
- Crime Heatmaps
- Response Time Metrics

**SENSOR**
- Radiological, Biological, Environmental Sensor
- Zephyr Bio-Monitor
- Bio monitoring
VIDEO STREAMING
REAL-TIME VIDEO STREAMING

LIVE VIDEO OVER MOBILE BROADBAND

- Truly live, real-time video, without buffering
- Unified User Interface - Any source, any client

INTELLIGENT VIDEO DISTRIBUTION

- Measures bandwidth and adapts
- Optimized with Public Safety LTE prioritization
- Retrieve once, send anywhere

DESIGNED FOR PUBLIC SAFETY

- Intuitive user interface
- Presence-based video sharing model
- Security features to prevent video leaks
REALTIME VIDEO INTELLIGENCE
WIRELESS VIDEO SHARING AND ACCESS SYSTEM

Utilizes QOS to deliver reliable video experience
Data rate adapts to client and available bandwidth
Accepts video from public and private sources
Enables live video from in-car DVR

Select camera views by name or from a map

Fixed cameras & In-Car Video
INTELLIGENCE LED POLICING

REAL TIME CRIME CENTER
INTELLIGENCE-LED POLICING

RTCC & INTELLIGENCE LED POLICING

- Integration of multi-media and data into operational workflows is becoming the norm and expected form of policing
- Agencies are adopting the ILP model for their build-outs
- ILP enables crime reduction, disruption and prevention through both tactical and strategic data and information analysis.
- RTCC is key to deliver on the MSI ‘Safer Cities, Thriving Communities’ value proposition

Intelligence led policing is a business model and managerial philosophy where data analysis and crime intelligence are pivotal to an objective, decision making framework that facilitates crime and problem reduction, disruption and prevention through both strategic management and effective enforcement strategies...

(Ratcliffe, 2008)
REAL TIME CRIME CENTER

OFF THE SHELF APPLICATIONS BRING TREMENDOUS POWER TO THE SOLUTION

THE RIC PUTS THOSE APPLICATIONS INTO ONE COMMON USER INTERFACE

REAL TIME INTELLIGENCE CONSOLE (RIC)

UNIFIED DATA SOURCES

ONE, REAL-TIME OPERATIONAL VIEW

- CAD
- CRIME MAPPING
- RECORDS & QUERY
- RADIO CONSOLE
- PSIM
- VIDEO STREAMING

CCTV VIDEO SYSTEMS
SENSORS & ALARM SYSTEMS
ANALYTICS
LOCATION & PRESENCE
**WHAT IS A REAL TIME CRIME CENTER?**

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<th>REAL TIME CRIME CENTER</th>
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<tr>
<td>CALL TAKING</td>
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<td>DISPATCH</td>
</tr>
<tr>
<td>EMERGENCY OPERATION CENTER (EOC)</td>
</tr>
<tr>
<td>FUSION CENTER (FC)</td>
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- Converges multiple data sources to aid in the decision-making process
- Staffed by Crime Analysts and Criminal Investigators to handle real-time incidents
- Provides data analysis for instantaneous access to required information
- Enables data merging to identify patterns and trends in criminal activity
- Includes the “data wall” that allows officers simultaneous incident monitoring convergence
Enhanced Incident Response Workflow

**CITIZENS**
Witnesses at the mall make calls to 911

**911 CALL TAKER**
Answers calls, enters incident in CAD

**DISPATCHER**
Manages field resources, dispatches nearby units

**REAL-TIME CRIME CENTER PERSONNEL**

**OFFICER**
Dispatched to an incident, receives valuable information before arriving on-scene

**OFFICER**
Dispatched to an incident, receives limited additional information

Utilizes historical data to identify information relevant to the incident

Find information on social media sites

Distribute relevant information directly to first responders

Single Unified Operational View

3:00 – 5:00

Pulls video feeds based on incident information

Provides tactical support to officer in the field via radio console
A Real Time Intelligence Console should unify multiple applications (CAD/RMS, Video, Mapping, ALPR, Radio), on one screen and enable intelligence sharing.
REAL-TIME INTELLIGENCE CONSOLE

VIDEO AGGREGATION

POLICE VIDEO MGMT
PRIVATE BUSINESS VIDEO MGMT
SCHOOL VIDEO MGMT

CAD
VOICE CONSOLE
RECORDS, SOCIAL MEDIA & OTHER DATABASES

ANALYTICS & EVENT SENSOR INTEGRATION

SHARE RELEVANT INFORMATION FOR MID-INCIDENT RESPONSE

FIRST RESPONDERS
INCIDENT COMMAND
EQUIPPING FIRST RESPONDERS WITH INTELLIGENCE ON THE GO
QUESTIONS?