

The Connected Command Center

Improving Situational Awareness With Data in the PSAP

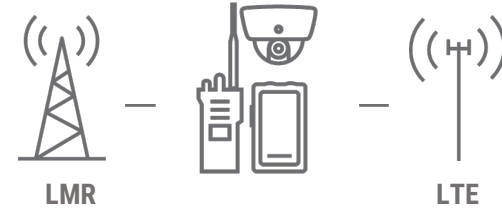
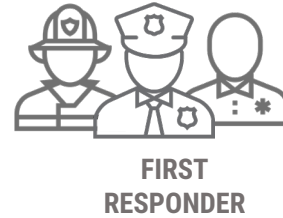


Steve Alvey
Public Safety Software Solution
Specialist



COMMANDCENTRAL

SAVE CLICKS. SAVE SECONDS. SAVES LIVES.



COMMUNITY ENGAGEMENT

EMERGENCY CALL MANAGEMENT

COMMAND & CONTROL

RECORDS & EVIDENCE



CITIZEN



SENSOR NETWORKS



CALL ROUTING



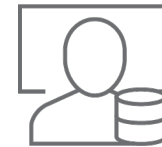
CALL TAKER



DISPATCHER



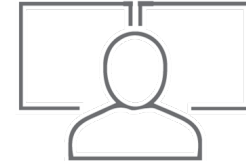
INTEL ANALYST



RECORDS SPECIALIST



DETECTIVE



CRIME ANALYST



CORRECTIONS OFFICER



PUBLIC SAFETY BIG DATA PLATFORM



THE GOAL OF SITUATIONAL AWARENESS

IMPROVING OFFICER SAFETY

Getting data to/from the officer without human intervention

IMPROVING INCIDENT MANAGEMENT

Customized data enables command to respond effectively

IMPROVING SERVICE DELIVERY EFFECTIVENESS

Caller-specific information allows for more focused action by first responder

IMPROVING TRANSPARENCY

More data allows for better post-incident analysis

INCREASE OPERATIONAL EFFICIENCY



■ “SITUATIONAL AWARENESS DILEMMA”THE DATA EXPLOSION



Sensors

27 billion devices will be IP connected by 2021.



Open-Source Data

3.2 billion people are publicly present online.



Video

90% of agencies are using video in some way.

The Zettabyte Era: Trends & Analysis. Cisco. 2017. // How Much Data Is Generated Every Minute On Social Media. George Carey-Simos. WERSM. 2015. // 2016 Law Enforcement Survey Report. Motorola Solutions. 2017.

MORE DATA MEANS MORE INFORMATION





■ NG9-1-1

Additional Data Repositories

- Enhanced Location
- Personal Data Clearinghouse
- Sensors (Gunshots, Alarms)
- Telematics
- Traffic
- Personal Protection/Alerts



RAPIDSOS



Enhanced Wireless Access



CHALLENGES

Defining Context – ‘Context’ is a vast concept that encompasses all possible parameters identifying a situation. The applications and frameworks must define context and identify relevant parameters limited by their scope.

It's one thing to define 'context' in the area of location-based services. It's quite another to define context in the realm of mission-critical, life-critical situations.

Data 'Context'

Data's relevance is defined by:

- Role
- Time/Environment
- Device
- Current Status/Task

The application **MUST** understand these variables when presenting data to the viewer/user

WHAT ARE CONTEXT-ENRICHED SERVICES?

Context-enriched services:

Combine situational and environmental information with other information to proactively offer enriched, situation-aware and usable content, functions and experiences.

Services and APIs that use information about the user to fine-tune the software action with better situational awareness and push content to the user *at the moment of need...*

CONTEXT AWARE

Person (RESPONDER). Object (VEHICLE). Logical Entity (INCIDENT).

CONTEXTUAL INFORMATION FOR A RESPONDER:



Overall Mobility State



Weapon Status



Responder Location



Health



Threat Near the Officer

SAFER OFFICER

Technology that **automatically** informs the Command Center that a situation has escalated **without further action** taken by officer

TYPE OF DEVICES PROVIDING CONTEXT:



BIOMETRIC SENSOR



GUN HOLSTER SENSOR



RADIO

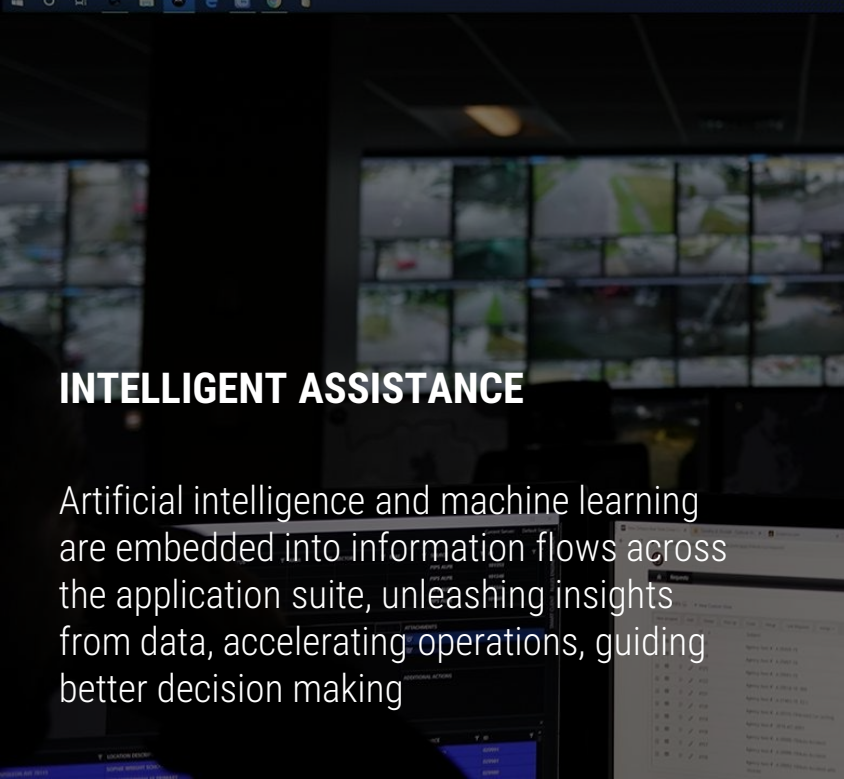


BODY-WORN CAMERA



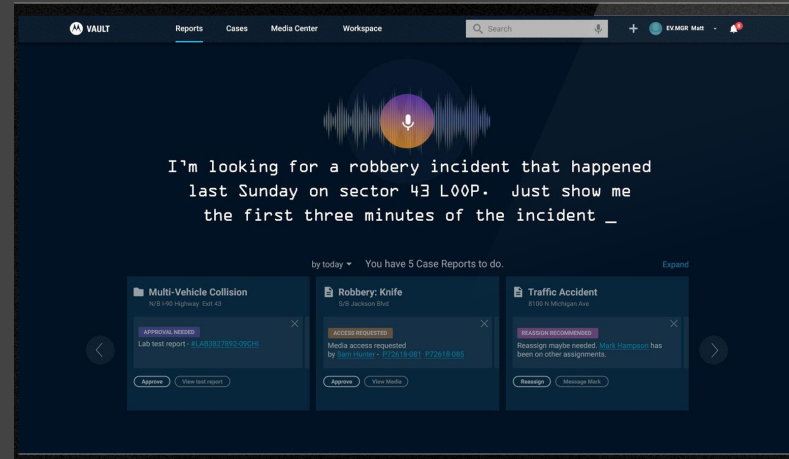


UNIFIED DATA



INTELLIGENT ASSISTANCE

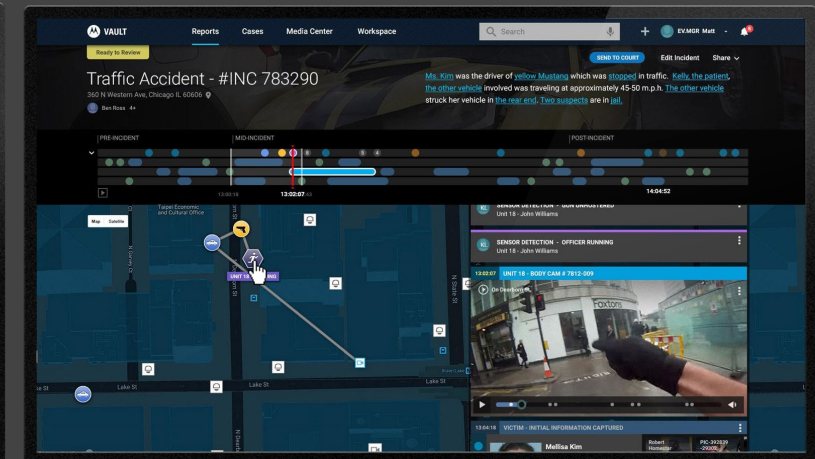
Artificial intelligence and machine learning are embedded into information flows across the application suite, unleashing insights from data, accelerating operations, guiding better decision making



SEARCH, LINK, AUTOMATE

Query across the entire public safety knowledge base, uncover non-obvious connections, engage with natural language assistants

- UNIVERSAL SEARCH
- LINK ANALYSIS
- DIGITAL ASSISTANT
- AUDIO TRANSCRIPTION
- WORKFLOW AUTOMATION



DETECT, VERIFY, ACT

Deep learning AI detects unusual activity without any predefined rules, locates people or vehicles of interest, auto-redacts to expedite FOIA requests

- APPEARANCE SEARCH
- LICENSE PLATE RECOGNITION
- UNUSUAL MOTION DETECTION
- VIDEO REDACTION
- COMPLEX EVENT PROCESSING



UNIFIED DATA INTELLIGENT ASSISTANCE

SEARCH, LINK, AUTOMATE

COMMON QUERY

Enterprise-wide search links agency data, multimedia evidence, public records in a single search result,

LINK ANALYSIS

Single-search visualization surfaces non-obvious connections between people, places, objects and events

DIGITAL ASSISTANT

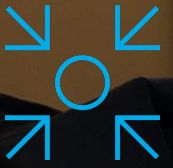
Natural language processing trained on a public safety ontology enables voice activated queries and hands-free commands

AUDIO TRANSCRIPTION

Real-time speech-to-text engine transcribes audio, identifies keywords, auto-populates records and forms.

WORKFLOW AUTOMATION

Suite-wide workflows are automated and optimized with machine learning to anticipate and accelerate digital interactions



UNIFIED DATA

INTELLIGENT ASSISTANCE

DETECT, VERIFY, ACT

APPEARANCE SEARCH

Deep learning AI locates specific persons or vehicles of interest, directed through simple physical descriptions

LICENCE PLATE RECOGNITION

LPR analytics automatically reads license plates and links to live and recorded video

UNUSUAL MOTION DETECTION

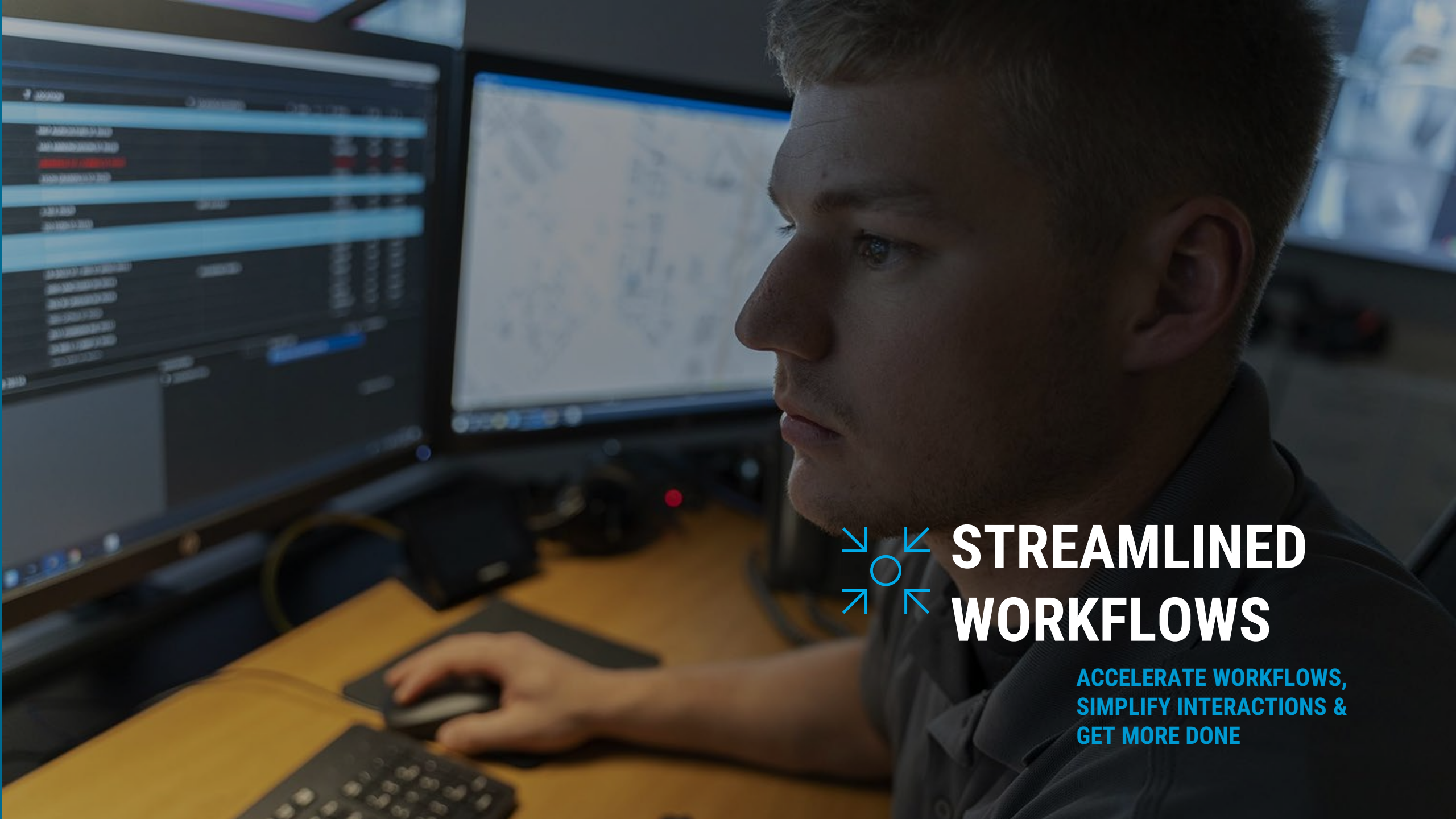
AI learns typical activity in a scene, detects and flags unusual motion without any predefined rules or setup

VIDEO REDACTION

Facial or object-based video redaction auto-detects and tracks occurrences in each frame to blur from every angle

COMPLEX EVENT PROCESSING

Suite, video, cloud, access control all integrated with AI to uncover unexpected insights, augment decision making



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STREAMLINED WORKFLOWS

ACCELERATE WORKFLOWS,
SIMPLIFY INTERACTIONS &
GET MORE DONE

Callworks

Sofphone(s) | Abandoned (5) | Line Organizer | Directory | Call Logs

MY CALLS

User ID	Status	Duration	Type	Name	Callback	Pin ALI
Admin	Connected	37:03	4911	Singapore	750-5180	Cairnhill Circle
Admin	On hold	40:44	Inbound	Singapore	943-7457	Cairnhill Circle
Admin	Abandoned	00:46	SMS	n/a	244-5465	n/a

GROUP CALLS

User ID	Status	Duration	Type	Name	Callback	Pin ALI
Admin	Connected	12:01	4911	Singapore	750-5180	Cairnhill Circle
Admin	On hold	20:22	Inbound	n/a	943-7457	Cairnhill Circle
Admin	Abandoned	10:42	SMS	n/a	244-5465	n/a
Admin	Ringing	00:36	Inbound	n/a	244-5465	n/a

Call Request Dial

ALL RESULTS | ANI Info | Knowledge (6) | CALL HISTORY (6) | LOC HISTORY

Name: Joseph Tan
Address: 31 Cairnhill Circle
City: Singapore
Country: Republic of Singapore

CAD

Name and Address

Number: 65 828 4567 | First: Joseph | Middle: | Last: | Suffix: | Title: | Gender: Male

Address: 31 Cairnhill Circle | Address: 100 ALABAMA ST | SPRINGFIELD, ND, 57134

City: Singapore | State: | Zip: 229667

Zone: | Area: | Total Assets: 2 (see Involvements)

Personal Identification

DL Number: 229843390356 | SSN: 223-02-2222 | State ID: 22144344

DL Book: OK | Check: OFF | PIN: F896872234 | License ID: QP | 98812345

Home Tel: (408) 789-0123 | Other Tel: | Work Tel: (456) 987-5432 | E-mail: jstang80@gmail.com

Physical Description

DOB: 12/15/60 | 66 yrs | Eyes: BRN | Brown | Complex: FAR | Fair

Race: W | W White, Non-Hispanic | Height: 5'10" | No Glasses/Contact | Hair: BRN | Brown | Teeth: STR | Straight

Mapping

Show Zoom | Show Outline | Zoom To | Rotate

Aware

Tab 1

Search Layers | Weather - Warnings | Weather - Conditions | Traffic | Hydrants | Fire Department Area

Event Monitor

Unit	Agency	Last Updated	Address	Priority	Status
10	Fire	23 min ago - 12:30 2018			
12	EMS	24 min ago - 12:29 2018			
4	Police	25 min ago - 12:28 2018			
17	Police	25 min ago - 12:25 2018			
19	Police	25 min ago - 12:24 2018			
7	Police	25 min ago - 12:24 2018			

Identifier: 4872947620442324-8286-7132
Occurred on: 8/31/2017 - 4:02:35 PM
Narrative: Damage to property was observed by responding officers. Officer says someone on the right side of the property opened a backdoor and damaged the driveway.

Aware

Video x

Video Layout | Rear Alley | Rear Alley: South Camera | Rear Alley: North Camera | Officer Wilson

Camera Groups | All Sources

CommandCentral

Assault with weapon | #156-335-7453 | Open in FLEX

Overview | Incidents | Evidence | Vehicle | Property & Evidence | Radio Logs

Address: 123 Main Street
Reported by: Marcus, Daniel
Responding Officer: Kay, Stephen

Narratives (3)

- Original Narrative: Maggie Wang (02/18/2019 1:38 (EST))
Ms. Wang stated that Joseph Tan was the driver in a car which was stopped on traffic. According to the patient, the other vehicle involved was traveling at approximately 65-70mph. She stated she was afraid.
- Sup. Narrative: Tanya Gustaf (02/18/2019 1:42 (EST))
- Sup. Narrative: Benjamin Zaslav (02/18/2019 1:49 (EST))

Digital evident & other materials (3)

Sort by: Name

- Arrest | Officer Marcus | Square
- 1:38, 02/18/2019 | 1:38, 02/18/2019 | 1:38, 02/18/2019
- Citizen Camera | x000 | City Camera

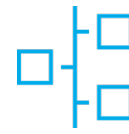


The world's only unified, proven, end-to-end public safety applications suite.



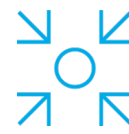
SINGLE PANE OF GLASS

One view to essential information, intuitively rendered for focused decision-making



INTEGRATED WORKFLOWS

Coordinated, suite-wide workflows deliver the right information to the right participants



UNIFIED DATA PLATFORM

Public safety big data provides the knowledge base for intelligence-led operations



FLEXIBLE, EXTENSIBLE

As operations evolve, accommodate new collaborations, capabilities and applications



TRUSTED AND PROVEN

Unmatched experience in the most secured, large-scale and nationwide implementations



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