From Data to Intelligence
MOTOROLA SOLUTIONS

FROM DATA TO INTELLIGENCE

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MATT BUSA
SENIOR ACCOUNT MANAGER
PROSPERITY BEGINS WITH SAFETY

CRIME DRIVES POPULATION DECLINE

FOR EVERY TEN CRIMES, 12 PEOPLE WILL LEAVE THE CITY

 Especially…

HIGH SCHOOL GRADUATES (4% MORE LIKELY)
UNIVERSITY GRADUATES (28% MORE LIKELY)
FAMILIES WITH CHILDREN (56% MORE LIKELY)

PUBLIC SAFETY IS AN INVESTMENT

$1 SPENT ON PUBLIC SAFETY
DELIVERS $5 IN BENEFITS TO CITY
TURNING DATA INTO SAFETY

DETOUR POLICE DEPARTMENT: PROJECT GREENLIGHT

- Public video feeds
- Private video feeds
- Dispatch incident data
- Officer (radio) locations

50% DROP

In violent crime in Project Greenlight areas
DATA COSTS CONTINUE TO DROP

MEMORY AND STORAGE

STORING 1 GB

1993: $1000
2000: $10
2005: $1
2010: $0.10
2015: $0.01

WIRELESS DATA

1 GB WIRELESS DATA (U.S. MARKET)

2005: $1000
2010: $100
2015: $10
DATA FROM EVERYWHERE

PATROL CARS
- GPS
- TELEMATICS
- CAMERAS
- PLATE READERS
- OFFICER STATUS

POLICE OFFICERS
- LOCATION
- STATUS
- VIDEO
- BIO-SENSORS
- HOLSTER SENSORS

CITY INFRASTRUCTURE
- STREET CAMERAS
- GUNSHOT DETECTION
- SMART METERS
- PUBLIC TRANSPORTATION
- SERVICE VEHICLES

CITIZENS
- EMERGENCY CALLS
- SERVICE CALLS
- SOCIAL MEDIA POSTS
THE CHALLENGE OF DATA
THE CHALLENGE OF DATA

IN THE FIELD
• HANDS FREE, EYES UP
• DATA CRITICAL IN INCIDENT
• WHEN YOU CAN'T PROCESS IT

AT THE COMMAND CENTER
• DATA GROWING EXPONENTIALLY
• THREATENS TO OVERWHELM
• GAINING INSIGHTS DIFFICULT
COMMUNICATIONS + ANALYTICS = INTELLIGENCE

COMMUNICATIONS

CITIZEN DATA

PUBLIC SAFETY DATA

ANALYTICS

INTELLIGENCE

COMMAND CENTER

STREET PERSONNEL

DATA

TURN THE FLOOD OF DATA INTO MOBILE INTELLIGENCE
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“FirstNet solves interoperable communications. NG911 solves interoperable emergency calls. Who solves interoperable apps?”

Steve Souder
Co-Chair, FCC Task Force on PSAP Architecture
Director, Public Safety Communications
Fairfax County, Virginia
THOUSANDS OF HOURS WITH PUBLIC SAFETY PERSONNEL

INTERVIEWS
RIDE-ALONGS
ETHNOGRAPHIC RESEARCH

START OF SHIFT
ON PATROL
END OF SHIFT
A DAY ON THE JOB

TEAM COMMUNICATION AND COLLABORATION

SITUATIONAL AWARENESS

PRODUCTIVITY

START OF SHIFT

ON PATROL

END OF SHIFT
INTEROPERABLE APPLICATIONS
REINVENTING PUBLIC SAFETY SOFTWARE

IN DAILY ACTIVITIES, A VIRTUAL PARTNER
COMMUNICATE AND COLLABORATE
PROVIDE SITUATIONAL AWARENESS
IMPROVE PRODUCTIVITY

IN EMERGENCY, TRUSTED BACKUP
DELIVER ONE-TOUCH COMMUNICATIONS
ADVISE THE BEST TACTICAL ROUTE
NOTIFY BACKUP WHEN IN DANGER
INTEROPERABLE APPLICATIONS

APPLICATIONS ARE TASK-SPECIFIC VIEWS OF ONE POOL OF DATA

IN THE FIELD

FIELD APPS

IN THE COMMAND CENTER

NG9-1-1

CAD

RECORDS

ANALYTICS
COMMUNICATION AND COLLABORATION

WORKFLOW DESIGNED FOR PUBLIC SAFETY

INTEROPERABLE APPLICATIONS

MULTIMEDIA MESSAGING

AD-HOC TALK GROUPS

WAVE 7000 PUSH-TO-TALK
INTEROPERABLE APPLICATIONS
SITUATIONAL AWARENESS

HOME EXPERIENCE

MAPPING

VIRTUAL ASSISTANT

TIMELINE
INTEROPERABLE APPLICATIONS

SITUATIONAL AWARENESS: MAPPING

- Mapping
- Tactical Routing
- Directed Patrol
- Dynamic Search Area
INTEROPERABLE APPLICATIONS

PRODUCTIVITY: TIMELINE

NOTES
SENSOR DATA
LOCATION
...

OFFICER SMITH

OFFICER RAMIREZ
TURN THE FLOOD OF DATA INTO MOBILE INTELLIGENCE
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DEVICES DESIGNED AROUND YOU
BUILT FOR THE CHALLENGES AND CONDITIONS OF FIELD WORK

VOICE IS STILL CRITICAL
CONTEXT-DRIVEN COLLABORATION

NETWORK OF DEVICES

FLEXIBLE, SCALABLE USER INTERFACES

CONSISTENT ACROSS APPLICATIONS
FROM AUDIO-ONLY, TO FULL DISPLAY
DEVICES DESIGNED AROUND YOU

STANDALONE

COLLABORATIVE

EDGE INTELLIGENCE
DEVICES DESIGNED AROUND YOU

CONTEXT ENGINE: OFFICER IN DANGER

DANGER RECOGNIZED, INFORMATION SHARED AUTOMATICALLY

STATUS
TRAFFIC STOP

GUN OUT
OF HOLSTER

BODY
CAMERA
ACTIVATED

EMERGENCY

MIC ON

LOCATION
DEVICES DESIGNED AROUND YOU

FLEXIBLE, SCALABLE USER INTERFACES

SIMPLE TOUCH
SMALL, VOICE CENTRIC, FIELD USE

FULL TOUCH
SMART PHONES AND TABLETS IN THE FIELD

COMMAND CENTRAL
TABLETS AND PCs AT THE COMMAND CENTER

CONSISTENT USER EXPERIENCE ACROSS ALL DEVICES

Bob Anderson is 0.5 miles away
TURN THE FLOOD OF DATA INTO MOBILE INTELLIGENCE
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COMPLEMENTARY NETWORKS
COMBINING REACH OF LMR WITH VERSATILITY OF LTE

NETWORK-AGNOSTIC APPLICATIONS

CRITICAL DATA ACROSS NETWORKS

A PATH TO PUBLIC SAFETY PTT ON LTE

REDEFINING INFRASTRUCTURE

ULTRA-PORTABLES: CAR, SUITCASE, DRONE

CHOICE OF DEPLOYMENT AND SUPPORT MODELS
INTELLIGENT MIDDLEWARE OPTIMIZES NETWORK PERFORMANCE

INFORMATION DELIVERED OVER THE BEST AVAILABLE NETWORK

COMPLEMENTARY NETWORKS

LMR

LTE
COMPLEMENTARY NETWORKS

PUBLIC SAFETY VOICE INTEROPERABILITY BETWEEN LMR AND LTE

PTT ON ANY NETWORK, ON ANY DEVICE

PATH TO PUBLIC SAFETY PTT

- Emergency and broadcast call preemption
- Public safety grade encryption
- Location, status integration
- Open to third-party apps

LMR

LTE

PTT ON ANY NETWORK, ON ANY DEVICE
COMPLEMENTARY NETWORKS
DEPLOYABLE AND ULTRA-PORTABLE SYSTEMS

BECAUSE YOU DON'T GET TO CHOOSE WHERE THE NEXT EMERGENCY TAKES PLACE

TRAILER  VEHICULAR  BACKPACK  DRONE-BASED  SUITCASE

GAP COVERAGE  MAJOR EVENT  DISASTER  EXTRA ALARM
NEXT STEP?