IMPROVING THE FIRE STATION RESPONSE

MACH ALERT™ FIRE STATION ALERTING HELPS MEET YOUR RESPONSE GOALS

BECAUSE SECONDS COUNT

When the call for help is made, responders cannot arrive soon enough and the stakes couldn't be higher as lives and property depend on a fast and effective response. The challenge to reduce the time to mobilization involves both dispatch and station operations. NFPA sets the standard for alarm handling time at dispatch to be 64 seconds. The NFPA standard for station turnout times is 60 seconds for EMS and 80 seconds for fire and special operations.

Call takers and dispatchers are charged with collecting input, processing it and then alerting the appropriate responders. And when multiple stations are needed, dispatchers need to alert each station. Responders stop whatever they are doing, collect as much information they can as they quickly put on their gear and get wheels rolling.

64 SECONDS
RECOMMENDED ALARM HANDLING TIME[1]

60 SECONDS
RECOMMENDED EMS TURNOUT TIME[2]

80 SECONDS
RECOMMENDED FIRE TURNOUT TIME[2]

IMPROVE YOUR RESPONSE THROUGH AUTOMATION

Automation is the key to improving the overall response and meeting your performance objectives. MACH Alert Fire Station Alerting and Automation integrates into existing systems at the dispatch centers and at the fire stations, reducing and eliminating manual tasks. This allows dispatchers to rapidly get the alert and relevant information out and allows responders to focus on getting the wheels rolling.

FASTER RESPONSE TIMES

Integration with dispatch systems dramatically reduces steps to initiate an alert. When integrated with a Computer Aided Dispatch (CAD) system, MACH Alert processes the incident data and simultaneously alerts all stations identified by CAD, eliminating the need to manually alert each station individually. Automation with voice announcements allows the dispatcher to get the information out and move on to the next call more quickly. MACH Alert integrates with dispatch radio systems simplifying the steps to send voice announcements over the dispatch radio while text-to-speech technology reads CAD text information and plays it over the station PA system or the radio channel, eliminating the dispatcher's time to voice alert the stations.

RELIABILITY

To ensure an alert reaches the station, MACH Alert has a number of available redundancies and safeguards. Dual communication data links using both radio and wired networks means that the alert will get through even if one link is down. Redundant servers can be geographically separated and shared between cooperating dispatch centers. Automatic monitoring and notification of system health gives you the confidence that the system is ready to perform when called upon.

PREPAREDNESS

Getting the alert out is not enough. You need to provide the responders with the critical information they need to be fully aware of the scope of the alert. High-definition incident display boards, custom tones, bunkroom specific LED ramped lighting and mapping data gives them the information they need. Responders see and hear incident details as they gear up and head out the door.

INTEROPERABILITY AND MULTI-AGENCY OPERATION

When the alert requires a mutual-aid or multi-agency response, MACH Alert can interface with multiple CAD systems, CAD vendors and dispatch centers allowing you to alert other agency stations and vice versa. This means you no longer have to manually reach out to other agency dispatch centers to get additional resources.
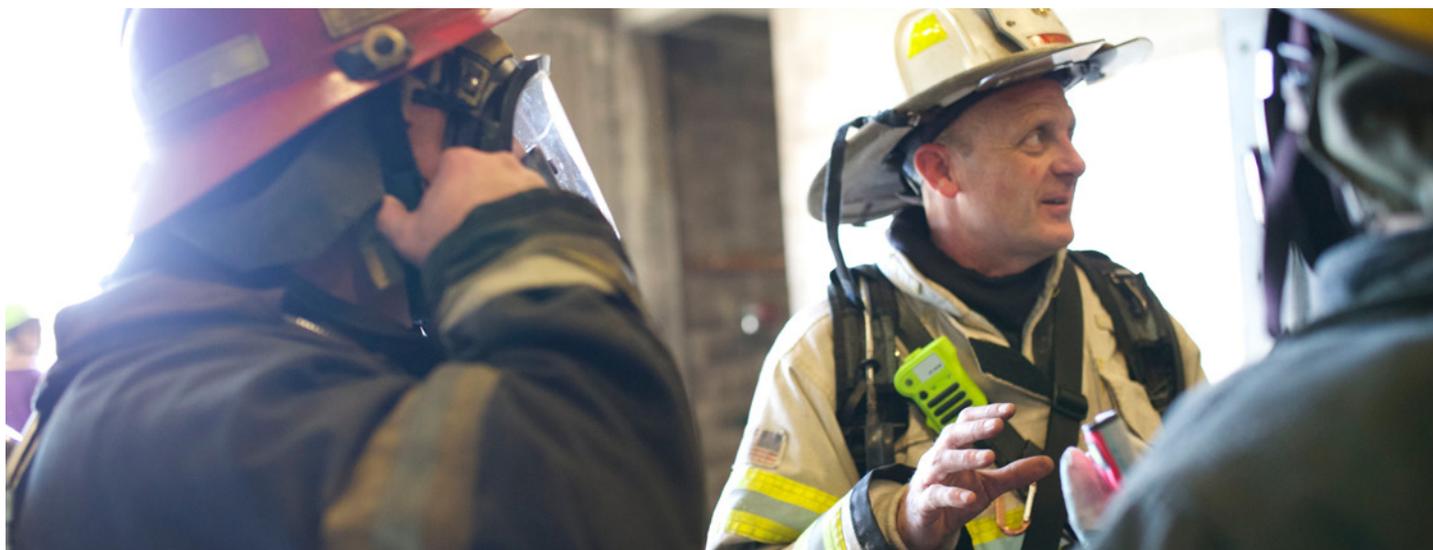
BUILDING THE AUTOMATED FIRE ALERTING SYSTEM

Fire station alerting begins at your dispatch center and this is also where MACH Alert Fire Station Alerting and Automation begins. The FSAA Server interfaces with your existing dispatch systems and disseminates alert information to each of your fire stations. But it does not end there. MACH Alert continuously monitors all the stations, keeping CAD updated, which means your system is constantly ready for the next alert.

FSAA SERVER

The FSAA server hosts the MACH Alert software and processes the data to be sent to the fire stations. It also provides the user interface, performs system monitoring and interfaces with CAD.

ALERTING INTERFACE CONTROLLER (AIC)

The AIC interfaces with the radio system and wired IP networks to send the alerting data to the Station Controllers (SC) located at the fire stations.

STATION CONTROLLER (SC)

The all in one Station Controller is located at each fire station and controls the various lights, horns and other accessories at the station. It communicates with the AIC over radio or wired IP networks to receive instructions and to keep the FSAA server aware of the station status.

NETWORK DIAGRAM (SINGLE AGENCY)

AIC

CAD

RADIO CONSOLE

FSAA Server

RADIO

WIRED

STATION CONTROLLER

DISPATCH CENTER
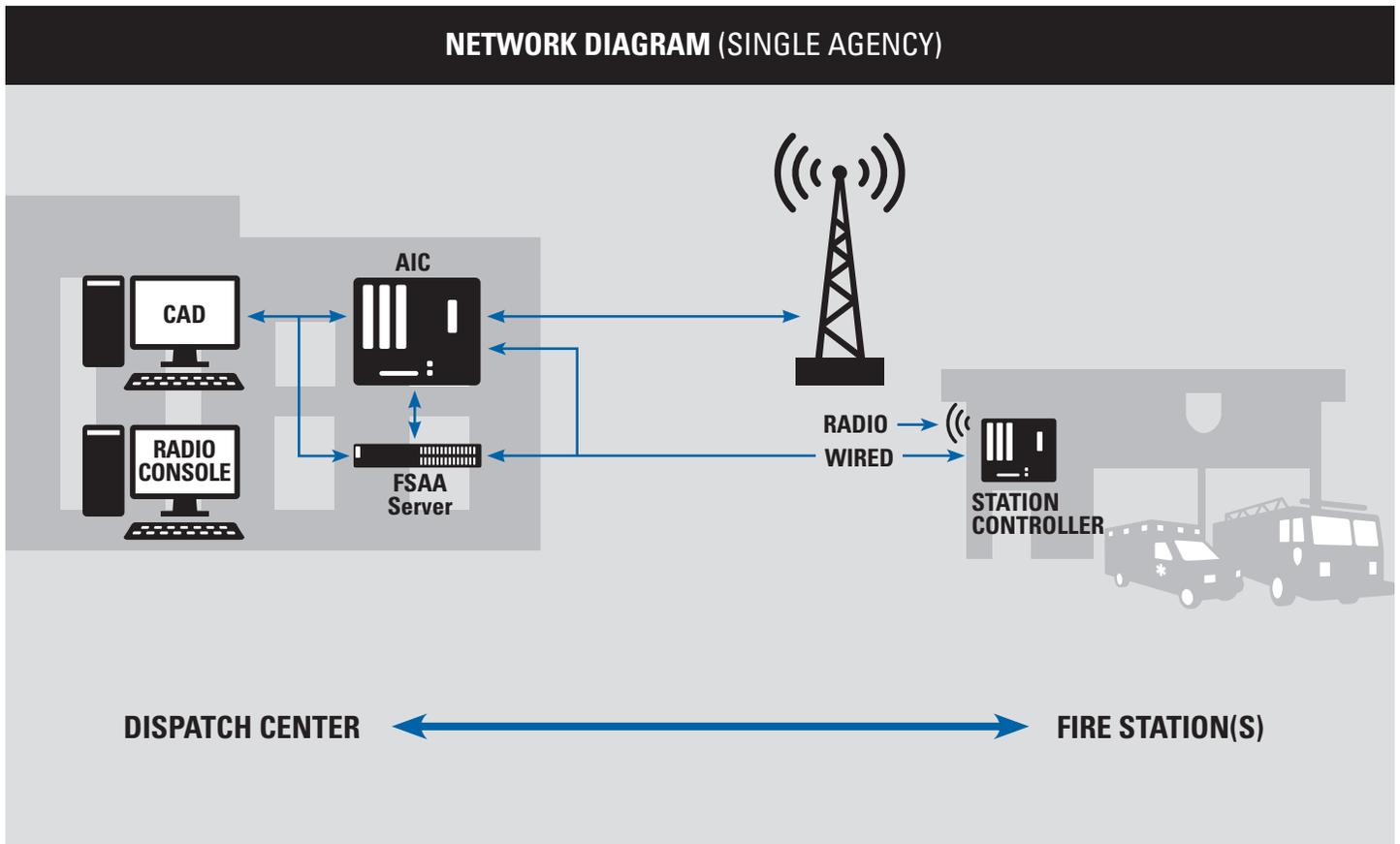
FIRE STATION(S)

FIRE STATION ALERTING TIMELINES

12:31:02 PM

9-1-1 CALL COMES IN
A 9-1-1 call reports smoke coming out of a 2-story apartment building.

12:31:45 PM

FIRE STATION ALERTED
Dispatch enters key information into CAD and alerts fire stations. Three fire stations are alerted to meet the resource requirements for this incident type.

12:31:46 PM

ALERTING SEQUENCE STARTED
Alert sequences begin at each station

- LED lighting signifies a fire response
- Text to Speech reads the CAD information over the PA system and the radios
- Bay doors open
- Incident Display boards show the incident details, location and turnout timer

12:32:50 PM

TURNOUT COMPLETE
As the units roll off their mats, Dispatch receives an acknowledgement that resources are en route.

FEATURES

CAD TEXT-TO-SPEECH
Turn text into human-like voice announcements over fire station's audio system and the dispatch radio channel.

MULTI-CAD SUPPORT
Receive input from multiple CAD systems simultaneously.

DISPATCH CO-HABITATION
Reduce hardware at the dispatch station with co-habitation on dispatch radio consoles.

DUAL LINK CONNECTION
Sending alerts over both wireless and wired links simultaneously significantly improves the reliability of the alerting system.

MULTIPLE LEVELS OF SYSTEM REDUNDANCY
Provide mission-critical reliability with local or geographically separated redundant servers.

ACKNOWLEDGEMENT
Receive a positive acknowledgment at dispatch that the alert was successful.

ACCOUNTABILITY
Automatically log and time stamp all system events, alarms and dispatch operator actions for post analysis.

SYSTEM HEALTH MONITORING
Know the status of bay doors and the health of the station alerting equipment.

FIRE STATION AUTOMATION AND CONTROL
Automatically open bay doors, turn off appliances, control traffic lights, and activate exhaust systems.

STATION CONTROLLER INTRUSION DETECTION
Receive an alert when the Station Controller is accessed.

REMOTE MONITORING
Monitor and control the fire station security from the dispatch center while the station is empty.

INCIDENT DISPLAY BOARD
See critical incident information as you gear up.

LED LIGHTING
Ramp lighting and change colors to alert types.

RAMPED ALERT TONES
Reduce firefighter and EMT stress.

BUNKROOM ZONE ALERTING
Activate lights and tones in select areas to alert only those required for the response.

CUSTOM ALERT TONES
Set custom alert tones by type of alert.

TURNOUT TIMER
Show seconds remaining with a wall-mounted count-down timer.

STANDARDS AND COMPLIANCES

NFPA 1221

Compliant for Emergency Services
Communication Systems:

- Redundant communication links
- Independent backup power sources
- Unique alarms
- Integrity monitoring
- Designed to improve turnout times
- Independent dispatch voice circuit

INFORMATION ASSURANCE (IA)

Complies with US Federal Government regulation for
hardened systems, including those for military bases.

CAPACITIES

MULTI-AGENCY SUPPORT	20 agencies
CAD CONNECTIONS	10 per server
DISPATCH POSITIONS	60 simultaneous
STATIONS	127
BUNK ROOMS	24 per station

SOURCES:

1. 2016 NFPA 1221: Standard for the installation, maintenance, and use of emergency services communications systems.

2. 2016 NPFA 1710: Standard for the organization and deployment of fire suppression operations, emergency medical operations, and special operations to the public by career fire departments.

To learn more about MACH Alert™ Fire Station Alerting and
Automation, visit **motorolasolutions.com/machalert**.

MOTOROLA SOLUTIONS

MACH ALERT