IP FSA

Fire Station Alerting System

Features

- Supports up to 255 stations per system.
- Supports up to 24 dispatch positions.
- Station transponder includes flexible alerting, control and status capabilities.
- Near instantaneous alert times achieved with independent voice and data channels reducing overall dispatch time to a minimum.
- Dispatcher announcement via Voice over Internet Protocol (VoIP) or radio.
- Dedicated console client application makes it easy to implement multiple operator positions, each able to initiate dispatch commands and receive alerts from any fire station.
- Integrates easily with radio dispatch consoles.
- Provides computer aided dispatch (CAD) integration capabilities.
- NFPA 1221-compliant for dispatch systems.
- Console Application can alarm when station transponder senses an external alarm input.

Introduction

Zetron's IP Fire Station Alerting (IP FSA) system is ideal for any municipality that has IP links between its central communications center and its fire stations. IP FSA moves fire dispatch into the IP world without sacrificing features that have worked so well for countless fire departments.

Converting to IP between the central site and the fire station increases the alerting speed and broadens connectivity options.

The graphical user interface on the workstation at the console position gives dispatchers an intuitive, space-saving way to view status and control the PA, tones, and relays at the station. The server architecture allows dispatchers at remote locations to interact with the system over an IP connection.

With the IP FSA system, data commands and voice announcements are sent independently. Any IP link can be used to deliver the alert commands. Voice can be configured to go over either IP or radio.

Because voice can be sent over either IP or radio, the IP FSA system can be used in a wide variety of circumstances. The voice over IP mode is suitable for applications with broadband IP networks. The radio mode is useful when a dispatcher's announcement must be sent simultaneously to mobile units and stations.

Server-based control allows fire station alerting console applications to operate with a full awareness of the actions of the other positions.

The console application runs on a workstation and includes an intuitive user interface with a "quick-look" status layout. It also provides tools for filtering, selecting, and controlling stations or individual apparatus. In addition, the system can be controlled entirely through a CAD interface. CAD can take priority over units allocated to FSA consoles.

The station transponder can be configured to activate the PA automatically, play unique tones, display apparatus status, open bay doors, or control station lights. The station transponder can also alarm with external input such as intrusion smoke or power failure. The IP station transponder includes a response button that can be used for manual acknowledgements or to reach the communications center.

IP FSA is designed to be an easy replacement for older Model 6/26 fire-station alerting systems. The existing Model 6 station transponders can be upgraded or replaced with current Model 6203/6204 transponders. The Model 26 is replaced by the IP FSA Server and Console.

System Operation

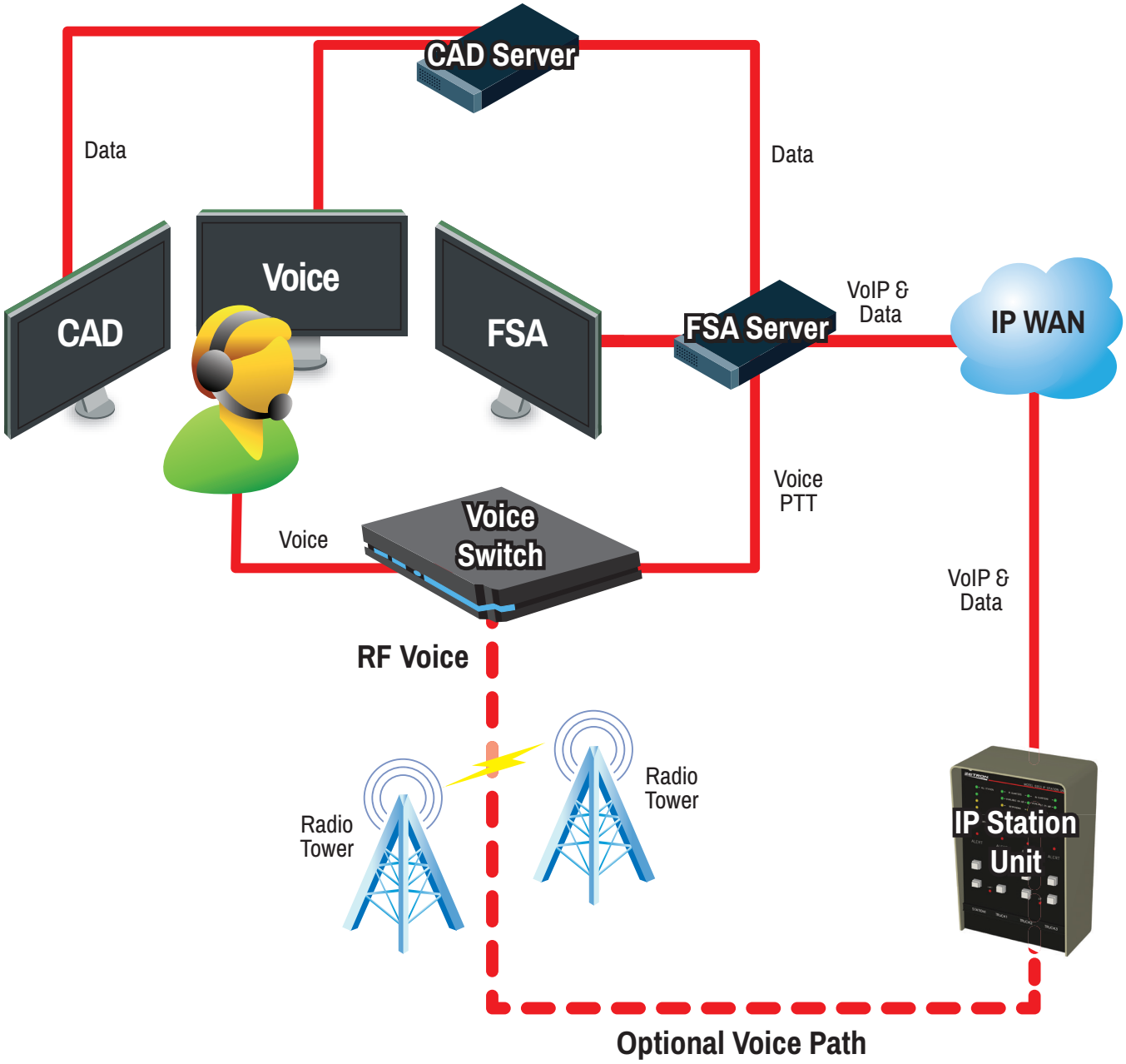
The IP FSA system uses a client-server architecture to receive commands and then directs them to the appropriate fire stations.

The system consists of the IP FSA Server application, the IP FSA Console application, and, at each fire station, one or two IP Station Transponders (Model 6203/6204).

This architecture allows for easy integration to CAD and radio dispatch consoles. If CAD is present, it can serve as the primary user interface by communicating to the IP FSA Server via XML protocol.

Once the user inputs are received, the IP FSA Server then manages the communications between the individual fire stations to ensure that messages are successfully sent and received.

The IP FSA Server includes circuit monitoring for integrity with indications of failure. This makes it NFPA 1221 compliant. The IP FSA Server can notify and be acknowledged by up to 255 IP sta-

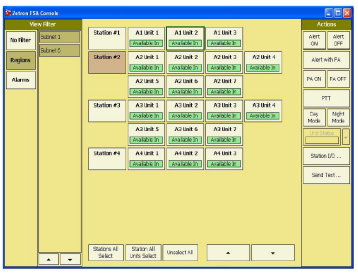


tion transponders almost simultaneously. The IP FSA Server then waits for the "OK to Talk" message from the IP Station Transponder. This message is presented to the dispatcher when the alert tones at the station are complete.

Depending on the system setup, the dispatcher is then able to announce the incident by using either VoIP or the radio channel. Because the dispatch interface is either CAD or the IP FSA Console, there is no need for additional hardware at the position.

The dispatcher can control the IP Station Transponder for station alerting or individual apparatus alerts. The IP Station Transponder activates the station PA and initiates an incident tone that can be programmed with seven different tones and various ramp-up rates. It can also control low-voltage relays that turn on lights, open doors, turn galley ranges off, or perform other actions for zoned alerting. IP FSA then displays the status of the apparatus on the dispatcher screen or the CAD screen, and on the IP Station Transponder. The station transponder can also receive inputs for acknowledgements or emergency conditions for indication alarm on the CAD or console screen.

IP FSA Console



The IP FSA Console is a console application that resides at each dispatch position. It can be used either as a CAD backup or as the primary dispatch interface.

The IP FSA Console is designed to be highly functional and easy to use. The stations (or stations plus apparatus) are displayed prominently in the center of the screen as buttons.

To initiate an action, the dispatcher simply selects the appropriate buttons, then selects the appropriate action, such as: ALERT ON/OFF, PA ON/OFF, STATUS CHANGE, RELAY CONTROL, or SEND TEXT.

In larger systems, the entire list of stations might not fit on a screen. For these systems, filter buttons can be used to reduce the number of stations or stations plus apparatus that appear.

IP Station Transponder

There are two station transponders: the Model 6203 IP Station Transponder, and an optional Model 6204 IP Station Transponder.

The Model 6203 is installed at each station and supports one station and three apparatus (emergency vehicles).

The Model 6204 is an expansion that can be used to support four apparatus in addition to the three supported by the Model 6203. With the addition of a Model 6204 IP Station Transponder, four more apparatus can be added to a fire station.

The IP FSA Server continuously monitors its network of IP Station Transponders to ensure system integrity. It is self-healing: if any Transponder disconnects, the Server alerts the operator immediately. When the connection is restored, the Transponder automatically resumes normal operation.

During the alert sequence, the IP Station Transponder automatically responds to the IP FSA Server by acknowledging its receipt of the alert command. It then initiates the actions for which it has been programmed.

Typically, the IP Station Transponder connects to the station PA and plays the tone associated with the apparatus or station that is under alert. The IP Station Transponder can also activate any of the relays for zoned alerting or other functions within the station. Each station transponder includes four relays and four opto-isolated inputs for status monitoring.

The IP Station Transponder keeps the PA open for dispatcher announcements and shuts the PA down after a configurable period of no audio. Visual indicators on the IP Station Transponder display the status of the station or apparatus. Buttons allow station personnel to change the status manually. The station transponder includes a printer port for "rip and run" incident information.

An optional handset is available for conducting station communications back to dispatchers at the communications center. This half-duplex, talk-back feature is useful for administrative conversations.

Communications

Zetron's IP Fire Station Alerting system sends all data messages over TCP/IP. The data can easily be supported by a simple IP network. Dispatcher voice announcements can be sent via VoIP or over the radio channel the dispatcher uses for mobile communications. The voice communication path is a configuration choice that is specified during system set-up.

If using VoIP, the VoIP Gateway option provides the communication path between the FSA Server and all Station Transponders. The system does not support simultaneous voice announcements made from multiple consoles.

Model 6204
IP Station Transponder

Model 6203
IP Station Transponder

Specifications

IP Station Transponder

Controls:	Eight push buttons to change and acknowledge status–two for each apparatus.
Indicators:	30 LEDs, including: Seven LEDs per apparatus for status. Two LEDs to indicate transmit and PA activity.
External Inputs:	Four opto-isolated inputs for monitoring status or initiating alarms. Inputs may be configured to detect contact closure or voltage level.
Control Relays:	Four undedicated, independently controlled DPDT relays. Contacts rated at: 30 VDC 2A (resistive) 110 VDC .6A (resistive) 120 VAC .5A (resistive)
Data:	10/100BaseT TCP/IP Bandwidth: 1 Kbps per station and console Real Time Delay: < 2000mS Jitter: < 2000mS
Voice over IP:	10/100BaseT UDP/IP & TCP/IP Bandwidth: 8 Kbps per station Real Time Delay: < 250mS Jitter: < 225mS
Voice over Radio:	10K ohm or 600 ohm balanced, DC blocking audio input, -40dBm sensitivity.
PA Interface:	600 ohm balanced audio output at –45 to 0 dBm. DPDT audio switching relay, DPDT PTT relay
Printer Interface:	DB-9 female wired as DCE, RS-232 9600 baud, abbreviated ASCII text.
Power Requirements:	Transponder requires 12 to 15 VDC (unregulated), 1 A typical, 1.5 A maximum. An AC/DC switching power supply and mounting bracket is included. Input: 120/240 VAC, 50/60 Hz, 1.5 A nominal. Output: 13.5 VDC, 4.4A, 60 W.
Operating Temp.:	0- to +65 degrees Celsius.
FCC Compliance:	Complies with Part 15 of FCC rules.
Handset/ Hook Switch:	Half duplex .

FSA Server and Console

Computer OS:	Windows 7 Professional (32- or 64-bit) with Service Pack 1 or Windows XP Professional with Service Pack 3 (32 bit). Services for FSA will run under Windows Server 2003 or Windows Server 2008R2 with Service Pack 1. FSA Server requires a dedicated PC. FSA Console software may be run on an operator dispatch console PC.
IP FSA System Architecture:	The IP Fire Station Alerting system consists of a single, central server with one or more client dispatch consoles and one or more Station Transponders connected via IP network. A VoIP Gateway server option provides end-to-end VoIP communication from the dispatch operator to the fire stations. The primary transponder at each station must be equipped with a VoIP Module option.

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The Power to Respond

See Zetron price list for option pricing.
Specifications subject to change without notice.

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