

MAX-Solution Overview



10 June 2019

Critical Command & Control

Communications & Information Services



The Power to Respond

Product Overview

The Power to Respond



= Integrated Product Solutions!





Product Brief:

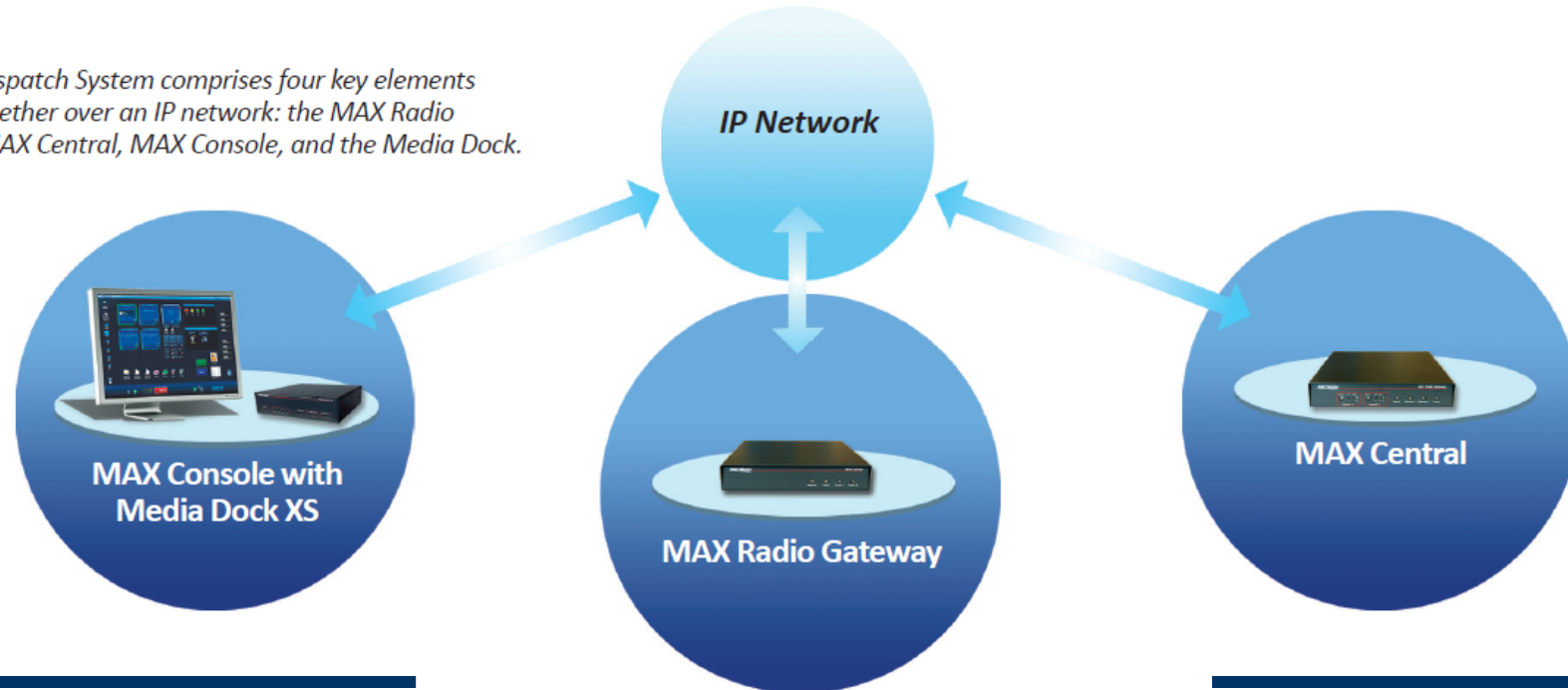
MAX Dispatch is a IP-based dispatch console system designed to manage a range of operations from routine to mission critical supporting mobile, remote, and geographically diverse operations.

- **Streamlined User Interface** – designed to reduce screen clutter, response times, and user stress. Requires minimal training & fewer steps to perform tasks and access information.
- **Location Services** – enables tracking and visual display of radio units on a map.
- **Map-based Dispatching** – enables radio communications with units from a graphical display.
- **High Reliability** – end-to-end network redundancy keeps the system up and running even if the IP network goes down.
- **Minimize Maintenance Time & Cost** – configure, troubleshoot and maintain the system from the convenience of the office.
- **Scalable Operations** – architecture provides scalability for system designs ranging from dedicated LAN network to multi-node, geographically diverse WAN applications.
- **Interoperability** - MAX Dispatch is highly interoperable and uses over-the-air and Fixed Station Interface (FSI) protocols to support both legacy and emerging radio technologies.
- **Reduced Time and Cost** - Maintenance personnel can configure, troubleshoot and maintain most of MAX Dispatch from the convenience of their office.
- **Low-cost expansion and upgrades** - MAX Dispatch is built to adapt as customer's operations change over time. Customers can easily add channels and consoles to MAX Dispatch. The MAX hardware and software architecture also provides an easy upgrade path that keeps technology current.



Architecture Overview:

The MAX Dispatch System comprises four key elements working together over an IP network: the MAX Radio Gateway, MAX Central, MAX Console, and the Media Dock.



Console consists of a Windows based client running the MAX Dispatch application software and a Media Dock. The Media Dock provides the audio interface and connection point for accessories.

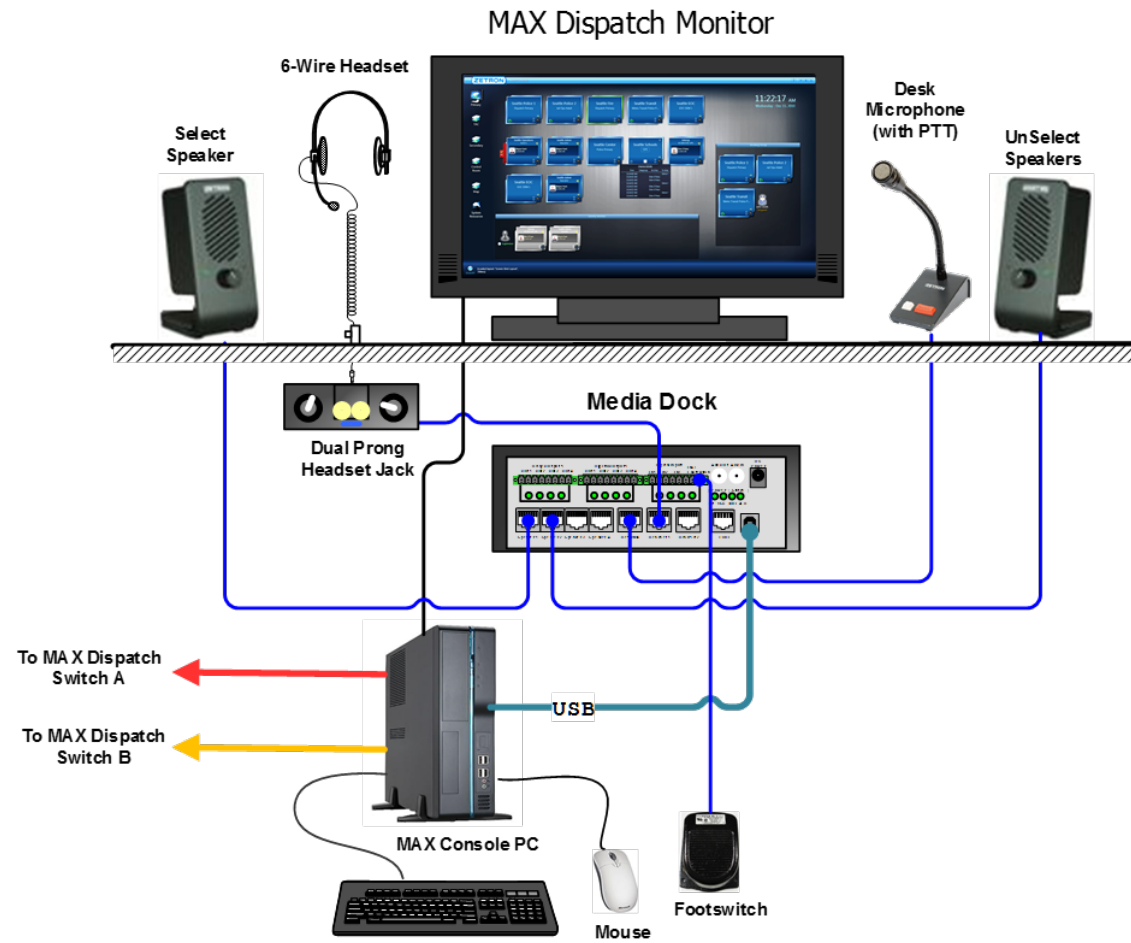
Radio & Infrastructure Gateways serves as the interface point between a radio or base station and the rest of the MAX Dispatch system.

Central hosts and serves as the control point for a variety of centralized system functions, such as voice-logging services and administrative telephone lines.



User Components:

- Intelligent Intuitive User Interface
 - Windows PC, 64-bit OS
 - Runs on laptop and tablet
 - Dual network connections
- Media Dock
 - Audio routing device
 - USB connection to PC
 - Up to 8 Speakers
 - 4-Wire or 6-Wire Headset jackbox
 - TRHI Functionality
 - Desk Microphone
 - Foot switch
 - 4 binary inputs and output
 - 4 relay contact closure outputs





Product Value:

MAX Dispatch provides businesses & agencies a highly centralized way to coordinate and control their operations. It enables communications with workers in the field as well as work groups that are dispersed. It can be used to send pages, interconnect to the public telephone network, share resources among operators, and retrieve and vital information to the field.

- **Easy Install and Administration (packaged deployment & support)**
- **Information Rich, Easy-to-Use Interface**
- **Interoperability across Multiple Radio Interfaces**
- **Adaptability and Local Customization**
- **Support for geo-diverse implementations**
- **Competitively Priced**

Implementations:

- **380+ Customers**
 - Domestic and Overseas
- **Public Safety Core Market**



Product Brief:

MAX Call Taking is a Next-Generation 9-1-1 IP based telecommunications system that offers a full range of features and functionality optimized for 911 call center operations.

- **Next-Generation 9-1-1** – SIP-based meets existing and emerging NENA NG9-1-1 i3 functional and interface standards, compatible with ESInets, supports hosted solutions and “virtual PSAPs”.
- **Intelligent User Interface** – Selective display of information pertinent to the task, one click operation, and designed for i3 & future requirements
- **Advanced Call Handling** – flexible call routing for single or multiple PSAPs.
 - **Automatic Call Distribution** – skills based call distribution, auto answer call distribution (ACD), ring groups, and ring all.
 - **Queue Management** – queue prioritization, configurable queue assignments to accommodate predictive volumes, dedicated queues for special call types.
 - **Configurable Call Policies** – ensures effective and efficient call disposition.
 - **Dial Services** – supports multiple direct-inward dial (DID) and dialed-number identification service (DNIS).
 - **PBX** – feature-rich call taking & PBX functionality in one system
 - **Mid-Call Recovery** – resilient call connection, service that helps prevent the loss of answered calls (fault or failure).
- **MIS Reporting** - Standard, Management, & Adhoc Call Reports generated from Call Data Records



MAX Call-Taking

Intelligent User Interface:

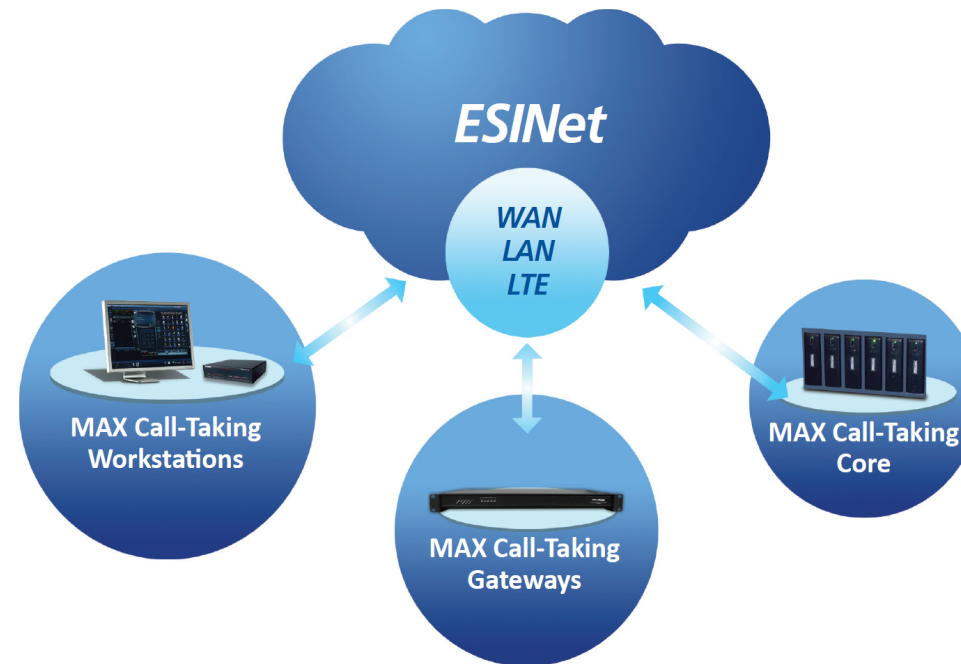
- ✓ **True Next Generation Look & Feel**
- ✓ **No feature access overload**
- ✓ **Takes advantage of 1920 X 1080 display**
- ✓ **Designed to reduce distractions & fatigue**
- ✓ **Selective display based on current relevance**





Architecture Overview:

Emergency Service IP Network



Workstations consists of a Windows based client running the MAX CT application software and a Media Dock. The Media Dock provides the audio interface and connection point for accessories.

Core consists of 6 servers in a distributed design to meet NENA standards.

The servers are compact, high performance computers built with solid state drives and few moving parts.

Gateways consist of CAMA (911) and FXO/PRI (admin). CAMA gateways are a licensed solution developed in partnership with Patton. This solution is available only thru Zetron.



Product Value:

MAX Call-Taking provides the solid reliability for which Zetron is known in an end-to end IP Next-Generation 9-1-1 telecommunications system. It also employs the latest standards-based IP protocols and IT best practices to offer the highest levels of scalability, usability, adaptability and availability.

- **Easy Administration**
- **Information Rich, Easy-to-Use Interface**
- **Adaptability and Local Customization**
- **Support for geo-diverse implementations**
- **Competitively Priced**

Implementations:

- **150+ Customers**
 - Domestic and Overseas
- **Systems on Emergency Service IP Networks (ESInet) in multiple states**
 - Text to 9-1-1 in over 20 PSAP's across the state of Iowa to be deployed this year
 - With our ESInet partner Comtech



Product Brief:



Incident management and computer aided dispatch system with integrated administrative controls and reporting tools. The user interface efficiently balances the need for quick navigation with the ability to display detailed incident data. The flexible Microsoft-based architecture reduces administrative burden while facilitating multi-jurisdictional and multi-agency deployments.



Esri based GIS and AVL system operates as a stand alone module or integrates with CAD. Provides map display of incident locations, responder locations, and nearby available resources.



Brings a full-function CAD and GIS suite into a vehicle via Windows mobile device. First responders can work CAD incidents, search maps and perform NCIC, DMV and other queries from the mobile platform.



Product Value:

MAX CAD greatly simplifies incident tracking, management, and data based dispatching.

MAX GIS enables dispatchers to provide incident location, important landmark information, and automates display of specific E-911 information.

MAX CAD Mobile extends these capabilities to the field.

MAX CAD Family Benefits

- Improves Situational Awareness
- Reduces Incident Response Times
- Enhances Operational Efficiency
- Flexible Operation over Multiple Agencies or Jurisdictions
- Configurable GUI Provides an Easy-to-Use Interface
- Built on Standards based Microsoft ecosystem
- Very Competitively Priced
- Available as an On-Premise or Hosted Solution offering

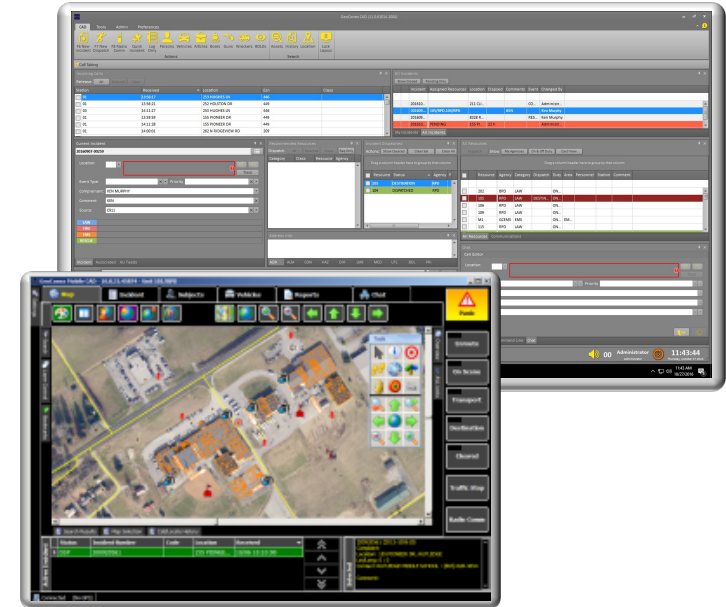
Implementations:

- 200+ Customers
- Growth rate of 37% Annually



Key Advantages:

- Smart Workflow Management
 - Customized Workspace based on operator preferences
 - Provides for assignment of multiple roles and responsibilities
- Advanced Incident Management
 - Open, close, reopen, void, merge, and clone incidents
 - Shared incident information with Mobile CAD users
 - Automatically recommends resources based on location, capabilities, and status
 - Manage incidents from multiple data types, user name, address,
 - Search closed and historical incidents
- Integrated Operation
 - Automatically populates incoming E911 information
 - Preforms NCIC queries and searches
 - Integrated Operation with MAX-CT and MAX-D
 - Interfaces with
 - Records Management
 - Standard Operating Procedures





Default left to right, top to bottom workflow

Information screens organize related data within a defined window.

Different information, can be brought forward by clicking a tab

The screenshot displays the MAX CAD software interface with the following components:

- Call Taking / NCIC Log:** A table showing incoming calls with columns for Station, Received, Location, Esn, and Class.
- Current Incident:** A detailed view for incident 20160907-00263, including location (8328 RUTLEDGE PIKE), event type (RES ST FIRE), and complainant (PEPPER BOWSER ATTORNEY).
- Recommended Resources:** A table listing resources by category (LAW, FIRE, EMS), class (ENGINE, M1), resource (ENG 501, ENG 502, M1), and agency (GCSD, GFD, GCEMS).
- All Incidents:** A table showing incident details including incident number, location, status (CLOSED, PENDING), and comments.
- All Resources:** A table showing resource details including resource number, agency, category, dispatch, duty, area, personnel, station, and communication.
- Incident Narrative:** A section for entering incident details, including dispatcher, date/time, category, and narrative.

Interact with application multiple ways to allow different operator workflow styles:

1. Keyboard commands
2. Shortcut keys
3. Menu
4. Right click mouse



Call List: Displayed incoming ANI/ALI data from call handling console's NENA standard CAD spill. Dispatcher have discretion which calls to open as incidents.

Icon Menu Bar: Easy to recognize icons help with selection and search tasks

Incident Queue: Allows dispatchers to view and manage all or assigned active incidents based on administrator assigned permission. A dispatcher may work any incident visible in the incident in the queue.

Unit Roster: Shows the status and availability of units. Units may be organized by status, unit type or agency and are searchable by agency, availability or status.

Resource Box: Drag and drop dispatch to the resource box provides dispatchers with unit ID and status of units dispatched to an incident.

Chat Box: Allows direct texting between dispatcher and mobile CAD users.

Incident Box: displays parsed ALI/ANI data of selected incident, including wireless location information. Dispatchers are alerted to prior incident relevant information such as known onsite hazards, BOLO and vehicles and subjects associated with the location.

Notation Field: Allows any dispatcher authorized to work the incident to make time stamped notations which are visible in real time to other dispatchers and Mobile CAD users.

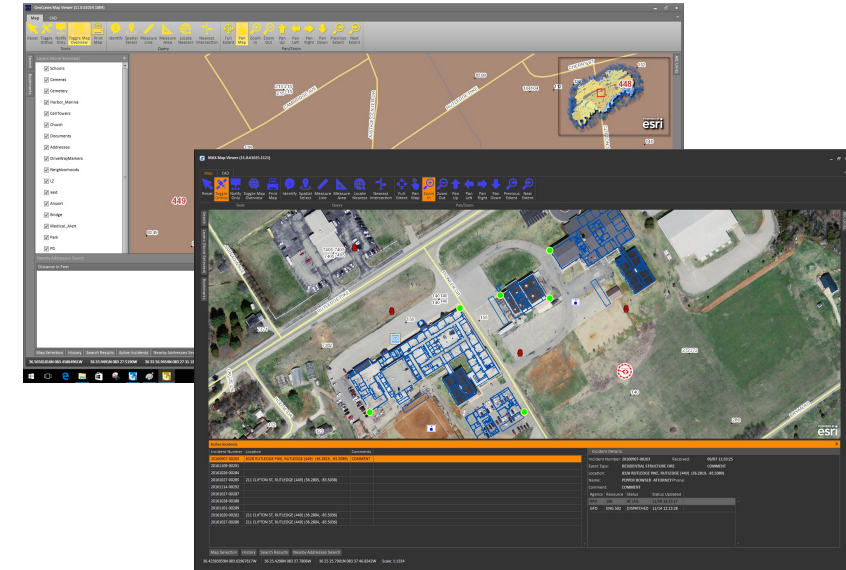
Station	Time	Address	Priority
01	13:58:11	252 HESTON DR	449
03	14:11:27	253 HUGHES LN	446
01	13:59:59	155 PIONEER DR	449
01	14:11:28	155 PIONEER DR	449
01	14:00:01	262 N RIDGEVIEW RD	209

Resource	Agency	Category	Dispatch	Duty	Area	Per	Station	Comment
202	BPD	LAW		ON...				
105	RPD	LAW	DESTIN...	ON...				
106	RPD	LAW		ON...				
109	RPD	LAW		ON...				
M1	GCMS	EMS		ON...	EM...			
115	RPD	LAW		ON...				



Key Advantages:

- Standalone or Integrated Operation
 - Integrated with MAX CAD or MAX CT
 - Track and display resources with AVL
 - Display with ANI/ALI location information
 - Display Video, Alarms, and Sensors
 - NG 911 call locations
- Intuitive Operator Interface
 - Fast refresh and panning with local map caching
 - Zoom In, Zoom Out, Pan, Layer Selection to ensure desired map and map details are presented
 - Lookup locations by lat/long, address, name, phone number
- Industry Standard Map Format
 - Multi-layer display, allows selection and display of critical resources, fire hydrants, building blue prints
 - Ariel or standard map display format
 - Display by Emergency Service Number boundaries
 - Auto scrolling to selected incident
- Map Management Tools and Capabilities
 - Import and convert other map data formats
 - Integrate and synchronize with other map data bases
 - Manage and edit your maps





The screenshot displays the MAX Map Viewer (11.0.61025.1121) interface. The main map area shows an aerial view with several incident markers (red dots with labels like 7405, 140, 150, 155, 272, 140, 260). A toolbar at the top includes icons for Map, CAD, Tools, and Query. On the left, there are panels for Layers (None Selected) and Bookmarks. At the bottom, there are two data panels: 'Active Incidents' and 'Incident Details'.

Active Incidents Table:

Incident Number	Location
20160907-00263	8328 RUTLEDGE PIKE, RUTLEDGE
20161109-00291	
20161026-00284	
20161027-00285	211 CLIFTON ST, RUTLEDGE [44]
20161114-00292	
20161027-00287	
20161028-00288	
20161101-00289	
20161020-00282	211 CLIFTON ST, RUTLEDGE [44]
20161027-00286	211 CLIFTON ST, RUTLEDGE [44]

Incident Details Table:

Agency	Resource	Status	Status Updated
RPD	106	AT JAIL	11/09 16:13:17
GFD	ENG 502	DISPATCHED	11/14 12:13:28

Map Selection Table:

Map Selection	History	Search Results	Nearby Addresses Search
36.42383059N 083.62967617W	36.25.4298N 083.37.7806W	36.25.25.7901N 083.37.46.8342W	Scale: 1:1334

Callouts:

- Mapping includes unlimited map layers to show additional features such as fire hydrants, helicopter landing zones, building blueprints, local landmarks and other information useful to dispatchers**
- Local PSAPs may update and modify GIS data through a mapping editor application**
- Map can show all active incidents. Selecting incident moves map to incident location**
- Incident details presented for selected incident**
- Map automatically tracks to ALI/ANI spill or XY coordinates to provide dispatcher with additional situational awareness**



Key Advantages:

- Increases In-field Efficiencies
 - Increased data to first responders allows quicker response times and situational awareness
- Integrated with CAD and GIS
 - Self Managing incident status
 - View the same incident details as CAD operator
 - Provides the same mapping information available to dispatchers
- Enhanced In-field Capabilities
 - Perform NCIC queries
 - Self tracking location information
 - AVL display of other local responders
- Hardware Flexibility
 - Operates on tablet or laptops
 - Secure IP links back to CAD/GIS system





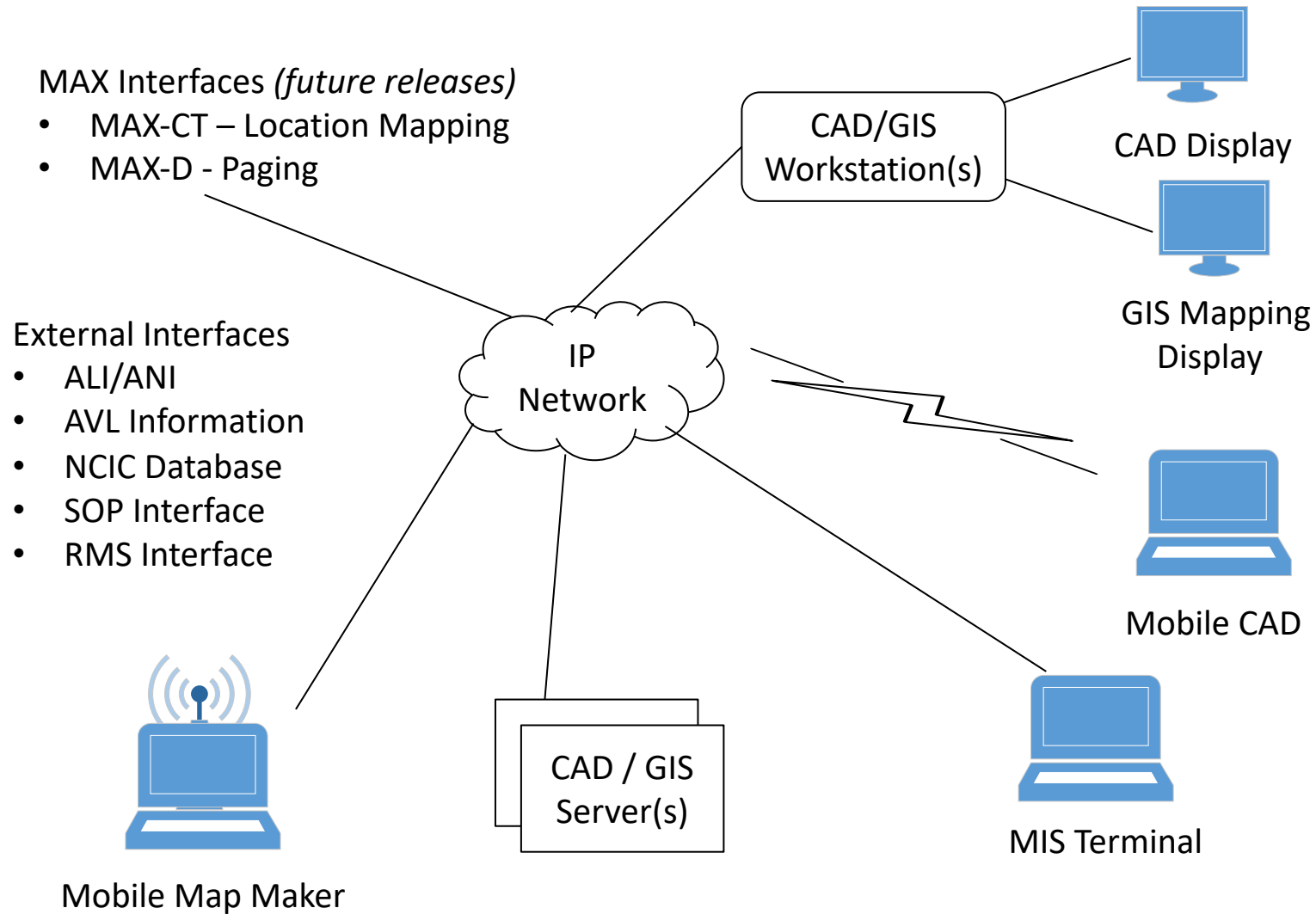
All narrative and in depth situational awareness data displayed in Mobile CAD interface

Mobile CAD map matches map seen by dispatcher, including multiple layers

Unit can self dispatch and provide remote status updates



Architecture Overview





Architecture Overview

- Support configurations and topologies
 - Hosted
 - Self Managed
 - Non-redundant
 - Redundant
 - Local and geographic redundancy
- Platform built around Microsoft software technology
 - Windows Server 2012
 - Windows 7 / 10
 - Microsoft SQL 2016
- Operates on COTs Hardware
 - Servers
 - Workstations
 - Laptops / Tablets



ZETRON®



The Power to Respond