MAX Call-Taking

Spec Sheet

INTRODUCTION

Zetron's SIP-based MAX Call-Taking system is designed provide the solid reliability for which Zetron is known in an end-to-end IP, Next-Generation 9-1-1 telecommunications system. One of Zetron's MAX Solutions family of products, MAX Call-Taking offers a full range of features and functionality that are important to 9-1-1 centers. It also employs the latest standards-based IP protocols and IT best practices to offer the highest levels of scalability, usability, adaptability and availability. The MAX Call-Taking system's intelligent user interface (UI) is expressly designed to streamline and simplify operators' tasks, reduce distractions and fatigue, and improve operator efficiency. MAX Call-Taking is designed to evolve to meet NENA standards as they are finalized.

KEY FEATURES AND FUNCTIONALITY

Intelligent and intuitive user interface (UI)

- Selective display of information pertinent to the task allows operators to focus on the incident at hand. Reduces information overload.
- "One-click" operation for common tasks improves response times and reduces operator fatigue.
- Designed with i3 in mind and ready for support of future requirements.

Advanced Call Handling

- Provides advanced, flexible call routing for single or multiple PSAPs.
- Support of geographically diverse sites.
- Skills based Automatic Call Distribution (ACD).
- Supports auto answer call distribution, queue prioritization, ring groups and ring all.
- Configurable call policies to ensure effective and efficient call disposition.
- Allows queue assignments to be configured to accommodate predicted call volumes.
- Supports multiple direct-inward dial (DID) and dialed-number identification service (DNIS).
- Provides advanced dedicated queues for special call types.
- Feature-rich call taking and PBX functionality in one system.

Next-Generation 9-1-1 capabilities

- SIP-based and ready to meet existing and emerging NENA NG9-1-1 i3 functional and interface standards.
- Compatible with Emergency Services IP Networks (ESInets).
- Supports hosted solutions and "virtual PSAPs."
- Supports the use of softphones and SIP phones.

High reliability and cost-effective scalability

- Able to meet the needs of a single PSAP or multiple PSAPs in a regional or statewide deployment.
- Multiple redundant and remote options, with Geo-Diverse configurations.

Low power consumption

- Core Call-Taking Servers consume approximately one-tenth the power of comparable servers, which reduces heat and operating costs.

Mid-Call recovery

- Patented design provides a resilient call connection.
- If an outage or human error occurs, the MCR service helps prevent the loss of answered calls in the case of a fault or failure.

Digital, end-to-end IP

- When MAX Call-Taking is deployed in a high-grade IP infrastructure, its self-healing protocols and redundant architecture provide high availability.

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KEY FEATURES AND FUNCTIONALITY

Utilizes standards-based IP protocols

- This ensures the system's compatibility with commercial, off-the-shelf (COTS) IP network devices.

Remote access and maintenance

- Allows system to be monitored and maintained remotely. All electronic functions that can be performed locally can be performed remotely.

Management Information System

- MAX Call-Taking Management Information System (MIS) augments the MAX Call-Taking platform by providing a means for doing call analysis and producing reports based on Call Data Records (CDRs) passed to the MAX Call-Taking MIS logger by the Call-Taking Core and stored in the MAX Call-Taking MIS Database. MAX Call-Taking MIS allows you to run canned reports, create ad-hoc reports, and export and share reports.

SYSTEM COMPONENTS

ESINet

WAN LAN LTE

MAX Call-Taking Workstations

MAX Call-Taking Gateways

MAX Call-Taking Core
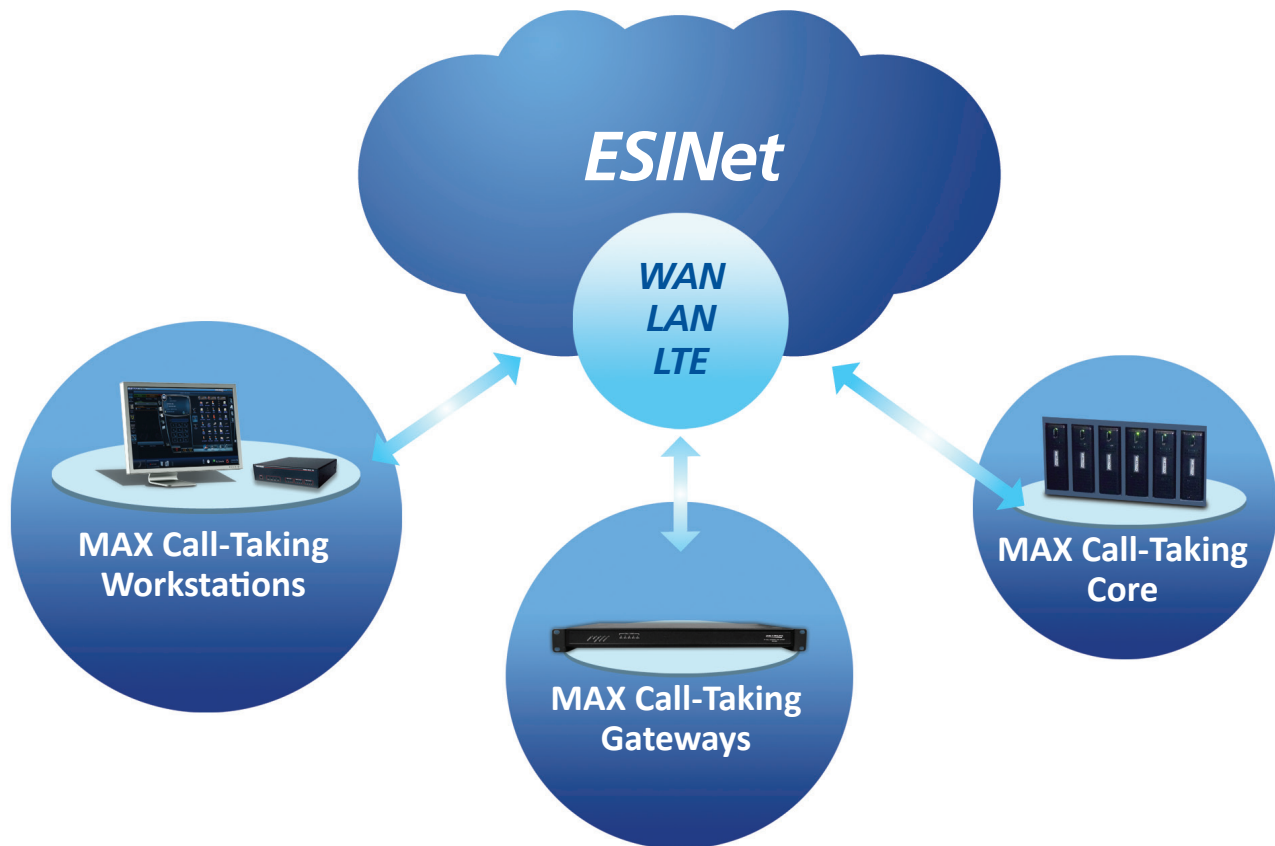
The main components of the MAX Call-Taking System are: the MAX Call-Taking Workstation, MAX Call-Taking Core, MAX Call-Taking Network Switches, and the MAX Call-Taking Telephony Gateways.

MAX Call-Taking Workstation

The MAX Call-Taking workstation software was designed to be intuitive and selectively present information and functions to the call-taker when it's needed. The UI selectively displays information to the workstation operator that is most pertinent to a given activity or task. This helps the operator remain focused on the immediate incident or job function. It also makes it easy for the workstation operator to

contact a group or person rather than requiring the operator to know which specific system resource or circuit is needed to make that contact. This improves the operator's ability to respond quickly, effectively and efficiently to incidents.

Each workstation consists of a Windows based client running the MAX Call-Taking application software and a Media Dock. The Media Dock provides the audio interface and connection point for accessories.

The MAX Call-Taking platform can also be deployed in a mobile configuration without the need of a Media Dock. This allows for remote call-taking resources, or the rapid deployment of additional in-house or on-scene call-taking resources.

MAX Call-Taking Core

The MAX Call-Taking 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 as few moving parts as possible for a high mean-time-between-failure (MTBF) and ultra-low power consumption to increase resiliency and reduce operational costs. An N+1 power supply provides distributed redundant power to the server array.

Software services are distributed across the server cluster, with root services being distributed to server pairs so that there are two separate instances of each service running on different servers at any given time. A distributed monitoring and recovery software component continuously monitors the system for any failure and redirects services as needed and provides alarming and notification in the event of a failure.

MAX Call-Taking Network Switches

The MAX Call-Taking system uses dual commercial-off-the-shelf (COTS) switches to provide a fault-tolerant redundant IP backbone. The network switches route all call-taking traffic and data within the system and provide easy scaling as your system grows. The switches also provide port-by-port control of Quality of Service (QoS), security for the system, and optional power-over-ethernet (POE).

MAX Call-Taking Telephony Gateways

The MAX Call-Taking system supports and can use a variety of gateways. Zetron uses commercial-off-the-shelf (COTS) gateways that accommodate a wide array of telephony protocols and systems, including CAMA, PRI, FXS, and FXO. Optional dual gateway configurations and power supplies provide continued system functionality even in the event of a failure.

WHY ZETRON?

Zetron Service and Support

Your MAX Call-Taking system comes with a standard 12-month hardware warranty. Zetron also offers a range of optional support services to ensure that your system is installed and configured to run optimally. These services include: 24/7 telephone support, software maintenance, hardware replacement and repair, remote and on-site configuration assistance, system re-optimization, and technical and operational training. Many of these options are available as standalone services. For more information, see Services at www.zetron.com.

Help with Financing

Looking for alternate ways to fund your new call-taking system? Zetron is partnering with a leader in public finance to offer tax-exempt financing to help public-safety agencies purchase new equipment. The program not only applies to a full range of public-safety products, but can be "bundled" to include installation and dispatch furniture as well as other equipment.

Performance You Can Count On

Zetron has a reputation for the reliability and robustness of its products. They are specifically designed to meet the needs of mission-critical operations that must stay up and running 24/7, 365 days. Zetron solutions are also known for their longevity. Not only do they continue to deliver a rock-solid performance over time, but they have the flexibility to keep pace with emerging technologies and changing operational requirements.

About Zetron

Founded in 1980, Zetron manufactures and provides communications systems designed to equip the entire mission-critical control room. Its integrated solutions include IP-based dispatch, NG9-1-1 call-taking, voice logging, IP fire station alerting, CAD, mapping, and automatic vehicle location (AVL) systems. Zetron has offices in the United States, the United Kingdom, Australia, and numerous field locations; and a worldwide network of resellers, system integrators and distributors. Zetron is a wholly owned subsidiary of JVC Kenwood Corporation. For more information, visit www.zetron.com.

SPECIFICATIONS

STANDARD SYSTEM CAPACITY

24 Positions with secondary phones, 48 Admininistrative lines, 8 Hosted sites

Contact the Zetron Sales Department for larger systems

MAX CALL-TAKING CONSOLE

Operating System:	Windows 7 x 64 Professional
Video Monitor(s):	1920 x 1080 required

DirectX 10-compatible graphics processor with a Windows Display Drive
Model (WDDM) 1.1 driver, pixel shader 3.0 in hardware, and a minimum of 1GB of video RAM

Processor:	Dual Core i3/i5 3.0 GHz or better
Memory:	8GB
Drive:	80GB or larger
Network:	100/1000 Ethernet Connection

ADMINISTRATIVE AND EMERGENCY LINE INTERFACE

Analog:	RJ-21, FXO 2-wire loopstart, ring and tone detection, disconnect supervision, Caller ID detection
Digital T1:	RJ-48c, CAS Robbed bit loop and ground start, E&M, immediate, wink, double wink
Digital PRI:	RJ-48c, ISDN DSS-1, NI-2, Q.SIG
E9-1-1 Trunk:	RJ-21, 2-wire, reverse battery, 900 ohm, accepting MF (R1) signaling, Direct CO, Tandem CO, Enhanced MF
i3:	Contact for more information

SECONDARY AND ADMINISTRATIVE PHONE

IETF SIP (RFC3261) and associated RFC's

ALI INTERFACE

NENA Compliant EIA RS232 to IP interface

CAD INTERFACE

NENA Compliant EIA RS232 to IP interface

MAP INTERFACE

Integrated Map:	Supports ESRI map version 10 or above for mapping of X/Y coordinates
External Map:	NENA Compliant EIA RS232 output

CDR PRINTER INTERFACE

EIA RS232 to IP interface

TDD/TTY COMMUNICATIONS

5-bit Baudot at 45.45 baud

MASTER CLOCK

NTP server over IP required

AUDIO LOGGING

Analog console output available.
Analog and digital line recording available

EXTERNAL ALARMS

Light tree interface for visual notification of alarms.
Auxiliary I/O outputs for monitoring or notification of alarms
SMTP notification

TELEPHONE RADIO HEADSET INTERFACE (TRHI)

Support of Zetron's TRHI for interfacing a radio dispatch console

NETWORK REQUIREMENTS

Console Workstation Payload:

	175 kbps maximum for each audio traffic channel; Tx or Rx; 5 kbps average for non-audio traffic
Packet Loss:	< 0.1% (< 1% for non-mission critical)
Packet Delay:	< 40 ms for LAN environments; up to 2 seconds for longhaul (long delay) environments
Packet Jitter:	< 20 ms (< 40 ms for non-mission critical)
Network Infrastructure:	100 Mbps minimum, full-duplex Ethernet. This mission-critical application is intended for use with a dedicated network. The highest levels of availability require fault-tolerant network components certified to work with the MAX Call-Taking system

ENVIRONMENTAL

Operating Temp.:	0 to 40C (32 to 104F)
Operating Humidity:	5-80%, non-condensing

STANDARD SYSTEM SIZE

Network Switches (2):	1 U (1.75") H, 19" W, 15" D, 10 lbs
Cable Manager:	1 U (1.75") H, 19" W, 8.6" D, 2 lbs
Server Rack:	6 U (10.5") H, 19" W, 8.5" D, 25.6 lbs
Fuse Panel:	1 U (1.75") H, 19" W, 2.5" D, 1.5 lbs
Power Supply:	3 U (5.25") H, 19" W, 8" D, 14.1 lbs
Power Strips(2):	1 U (1.75") H, 19" W, 4.5" D, 4.6 lbs
Telco Gateways*:	1 U (1.75") H, 19" W, 12" D, 9 lbs

* Quantity of telco gateways varies depending on needs

POWER

100-240 VAC (50/60Hz), 285W dissipation

COMPLIANCE

EMC Compliance Standards:

FCC Part 15- Radiated & Conducted Emissions (USA)
ICES-003- Radiated and Conducted Emissions (Canada)
EN 55022 Radiated & Conducted Emissions (Europe)
EN 5024- Immunity (Europe)

Telecommunications Compliance Standards:

FCC Part 68 (USA)
CS-03 (Canada)

Regulatory Compliance Markings:

FCC Part 15 (USA)
FCC Part 68 (USA)
CS-03 (Canada)
CE (Europe)

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