Baltimore County Seamlessly Transitions to NG9-1-1 with Omni911

Background

Baltimore County is the third-most populous county in Maryland with a population of over 830,000, projected to grow to 847,000 by 2020. The population and geography are wide spread and diverse. Baltimore County's 9-1-1 Communications Center is the vital first step in handling emergency calls from Baltimore County citizens. The Center operates as the focal point for 53 fire stations, over 1,900 officers at 10 police precincts, and answers over 850,000 9-1-1 emergency, alarm, and non-emergency calls from residents and visitors every year.

The County maintains a primary center in Towson, Maryland (25 positions) and a backup center in Gilroy, Maryland (22 positions). Both facilities are operational 24 hours a day, 365 days a year.

Upon receiving communication regarding potential emergencies, it is urgent that call takers provide first responders with accurate and complete information to ensure swift response for all emergency situations.

Challenge: Flexibility and Scalability

With such a large and diverse population quickly adapting to new communication technologies, Baltimore County recognized a need to upgrade its existing 9-1-1 infrastructure to support the latest Next Generation 9-1-1 standards. Specifically, the County wanted to:

- Support next generation multimedia communications
- Improve call taker response times
- Integrate disparate communications technologies and systems into an easy-to-use and intuitive interface
- Eliminate redundant data entry
- Reduce overall operating costs
- Provide call takers with the exact caller location
- Establish a geographically diverse, redundant environment for disaster recovery
- Integrate with custom applications developed for the County

In 2011 Baltimore County transitioned to NG9-1-1 by implementing VoIP across the communication center. The County still needed a solution that could seamlessly support new communication methods such as text messaging in the same way they were supporting emergency voice calls. However, since a Next Generation 9-1-1 network has not yet been implemented in the State of Maryland, the solution needed to support a legacy 9-1-1 environment Baltimore County operated within. Most importantly, the solution needed to be easy-to-use and intuitive to support the stringent training requirements for the center and accommodate the large employee turnover typically present in high-stress environments.

Solution

MicroAutomation partnered with Unify (formerly Siemens Communications) to provide Baltimore County with the ability to seamlessly introduce NG9-1-1 functionality into the Baltimore County Communications Center with minimal impact to ongoing operations. MicroAutomation's proven track record in system integration along with Omni911's flexibility, features and functions, and compliance and compatibility made for a solid plan and smooth implementation.

MicroAutomation's Omni911 is a software-based solution that closely aligns with the National Emergency Number Association (NENA) i3 architecture. Omni911 is designed with the ability to operate with the legacy communications (CAMA, T1/PRI, POTS) and with NG9-1-1 communications (VoIP, SIP) in the future. Coupled with Unify's IP PBX (OpenScape Voice), the solution elevated the Baltimore County 9-1-1 infrastructure to support NG9-1-1 functionality. OpenScape Voice (OSV) is a carrier-grade IP PBX system based upon Session Initiation Protocol (SIP), the communications protocol for signaling and controlling multimedia communication sessions which serves as the basis of the NG9-1-1 i3 architecture. The IP PBX was deployed in a geo-diverse, redundant, active-active configuration across the Towson and Gilroy PSAP sites allowing call takers to take calls at both sites simultaneously.

MicroAutomation's Omni911 product (offered by Unify as OpenScape First Response (OSFR)) provides the Next Generation 9-1-1 features for the County. Omni911 includes flexibility and scalability across

features and functions including integrated voice, text messaging, video, telematics, TDD, and Instant Recall Recording (IRR) capabilities in addition to support for legacy 9-1-1 functions such as Automatic Location Identification (ALI), Centralized Automatic Message Accounting (CAMA) Gateways, and standard interfaces to Computer Aided Dispatching and Mapping.

Baltimore County chose to leverage the Automatic Call Distribution flexible features of the Omni911 product to allow the switching platform to determine and route calls to available call takers. Call takers log in to the system and are able to receive non-emergency, emergency, and alarms through the easy-to-use Omni911 interface. Incoming calls are automatically prioritized by the system and routed to available call takers. Supervisors are able to monitor the operation of the center, silently monitor conversations, and discretely instruct call takers using a whisper feature.

To ease the transition to the new system, MicroAutomation conducted a series of workshops with the customer to familiarize them with the workflows allowing the Baltimore County team to focus on what they do best – delivering critical 9-1-1 services. This allowed the team to work through any kinks in the system before the transition took place.

Results

Today, Baltimore County boasts one of the few NENA i3-compliant Next Generation 9-1-1 solutions in the State of Maryland. The geographically diverse communication centers are redundant, scalable, and uniquely positioned to support NG9-1-1 features when available from the carrier network.

Call delivery has been simplified through the use of SIP allowing emergency and non-emergency calls to be handled seamlessly at either the primary or backup site. The solution has also been implemented with several levels of redundancy offering the County maximum flexibility in handling virtually any disaster scenario. More importantly, standardizing on SIP communications allows the County to adopt new media communications such as text messaging and video when available.

Comprehensive call management reporting software available with the system allows Baltimore County to generate daily, weekly, monthly, and annual standard reports for the center. In addition, custom reports were created to meet the unique needs of the 9-1-1 center. Every call is digitally recorded and tracked in detail, including which party disconnected the call. Real-time displays of call activity and agent performance are available to Supervisors for increased visibility into the 9-1-1 center operations.

Baltimore County also opted to implement an operational Training Center which doubles as an overflow center during extreme situations. The Training Center allows trainers and trainees to simulate live emergency calls to accelerate the call taker training process and allow trainees to experience real-life calls with real data.
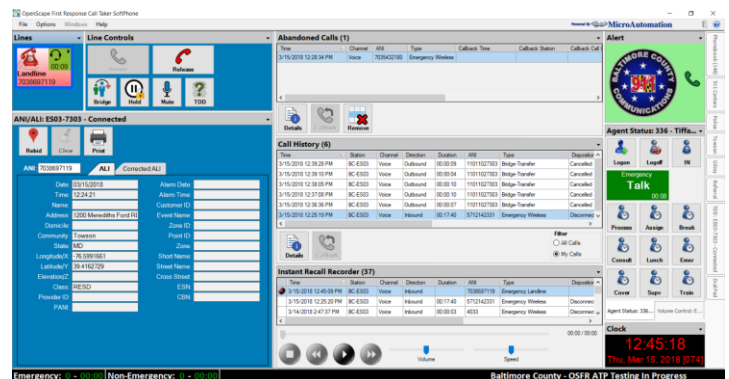
> "We have worked with MicroAutomation for more than fifteen years. In that time, they have fulfilled every requirement, hit every deadline, and their implemented solution has had no downtime, ever. MicroAutomation is completely professional. Their integrated solutions not only out-perform the competition in our estimation, but their costs are significantly lower for building the initial solution and for enhancing it over-time."
>
> - Ray Windisch, Baltimore County IT Project Manager

About MicroAutomation

MicroAutomation's legacy and Next Generation 9-1-1 PSAP solutions are proven, powerful and reliable. Developed to be effortless and intuitive when every second counts, MicroAutomation's emergency response solutions expertly accommodate expanding communities, changing technologies and evolving 9-1-1 standards. MicroAutomation's purpose-built Next Generation solutions adapt seamlessly to all PSAP requirements and call-taker needs while adhering to NENA i3 specifications to meet the 9-1-1 technologies of today – and tomorrow. MicroAutomation also offers Emergency Operations Center products and professional services including:

- Omni911 Next Generation 9-1-1
- Complete PSAP and ESInet architecture and design
- Configurable, custom application development
- Turnkey implementation
- Comprehensive 24-hour/7-day customer support
- NENA i3 standards compliance
- NENA Interoperability Collaboration Event (ICE) product validation

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