

Hamilton County 9-1-1 Emergency Communications District

Case Study



Intelligent Audio and Console Screen Recording,
CAD Data Capture and Quality Assurance

“We couldn’t be more pleased with VPI. We used to struggle to perform 90 QA checks per month. Now we are at 1,680 QA evaluations per month, and keep increasing. Our staff loves it.”

Tami Chamberlain
Training and QA Supervisor, Hamilton County

About Hamilton County 9-1-1

Hamilton County 9-1-1 Unified Emergency Communications District in Chattanooga, Tennessee proudly provides emergency and administrative support for thousands of residents, visitors and first responders. Through the use of state-of-the-art technology and a highly trained staff, the District works to exceed the expectations of its community.

The District employs more than 130 telecommunicators who answer an approximate average of 2,000 to 2,500 calls for service each day from residents and visitors in Hamilton County. Telecommunicators also dispatch responders for all public safety response disciplines – law enforcement, fire and EMS – across 26 various agencies.

Between 1995 and 2011, the District built and renovated a 25,000 square foot 9-1-1 Center to add capacity and accommodate the latest technology available to 9-1-1 telecommunicators.

Needs & Challenges

- Quality Assurance (QA) and Training process needed to be enhanced, especially for mission critical functions of providing professional and consistent emergency services
- Robust QA software had to be an integral part of the overall recorder solution
- Fast, automated notification of call takers and dispatchers about their QA scores as soon as the evaluation is completed
- Assignment and tracking of E-learning sessions to employees based on their QA scores

Solution

VPI EMPOWER 911™ suite of software applications implemented and maintained by Replay Systems:

- Fully integrated voice and console screen recording with Mobile Live Monitoring and Instant Recall, Quality Assurance, E-learning and performance metrics, implemented at primary and backup sites
- Integration with CAD system, NG911 VoIP based telephone system, P25 Motorola radio system
- Unified collection and access to all data, with central administration to manage access security

Benefits and Results

- Doubled efficiency with reporting and process automation
- Fast and easy insights into important information
- Enhanced QA consistency and employee accountability
- Improved service quality

The Quest for Smarter Way to Record and Evaluate

Once Hamilton County's legacy recording system neared its end of useful life, it was time to look for alternatives. The existing system was originally purchased due to its "exclusive" integration with Motorola radio system, but options for recorders with this integration expanded in the meantime. IT and management staff grew weary in putting up with the system's underperformance, excessive maintenance fees, and laborious QA evaluation process using spreadsheets. There was no way to link the completed evaluation forms and their results to an employee, so record-keeping of QA scores and remedial actions required a great deal of manual effort. Options for the CAD data integration were very limited. Integrated E-learning was not possible. With all these shortcomings, console screen recording was not even pursued. The time was ripe for all of this to change.

"It was determined that the majority of recorder systems offer basic functions such as dynamic retrieval of calls, logging by user, conversion to common audio file types, editing, etc," said John Stuermer, Executive Director at Hamilton County Emergency Communications District. "Therefore, the district considered these functions to be standard to all solutions. The district narrowed its focus on the ability of a recorder system to enhance the Quality Assurance (QA) and Training process, as these are considered mission critical functions by the district in providing professional and consistent emergency services."

Solution: VPI Next-Gen Technology with Replay Support Services

VPI EMPOWER 911 was found to be the best match for the District's needs. "The VPI solution included the QA work process that fit the needs of the district," said Stuermer. "This included QA tasks loaded and ready when a QA reviewer logged into the system, the required QA forms, automated notification back to the reviewed employee and the ability for the QA reviewer to force training or coaching module to the reviewed employee based upon their performance on the QA call. VPI was the only vendor who could accomplish these processes

in the manner required by the district for an efficient and effective QA system."

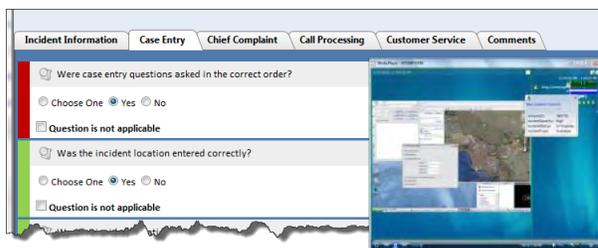
Since long-term commitment to the new technology was envisioned, Stuermer and his team were meticulous in researching and comparing many recording systems prior to committing to their new solution. "Further research into VPI found no negative reviews from PSAPs currently utilizing this solution and in fact found that VPI was considered by many to be the leader in QA focused recording solutions," concluded Stuermer. "VPI system fully integrated with our CAD system, our NG9-1-1 telephone system and the regional P25 800 MHz radio system." The reputation of Replay Systems, VPI's experienced reseller and service provider, sealed the District's decision to proceed.

VPI Makes Everyone's Job Easier

District users access and utilize many components of VPI systems daily. All users can now draw from the same, unified source of all data using the same Web browser-based interface, though individual users can personalize a variety of elements in their views and add shortcuts to favorite searches, reports, data visualizations, and more.

Supervisors on the floor, shift supervisors, directors and training supervisors use audio and console screen video recording search and playback for complaint investigation. Records specialists create redacted interactions for public release of information. Training specialists select best-practice calls for training purposes – they can be saved as components of E-learning modules in VPI's training library, and sent to dispatchers as their E-learning assignments or played back in a classroom setting.

The QA software module is used daily by members of the training staff and communications training officers (CTOs) who conduct quality assurance audits.



Web browser-based QA interface combines evaluation form and media player with voice and screen recordings

Training specialists perform a secondary quality evaluation review when warranted, such as due to call taker or dispatcher disputes. They also arrange monthly QA calibration meetings.

The training supervisor uses VPI's quality searches and analysis grid tool to view and assess search results, such as to confirm that required percentages of recordings have been evaluated for each of the three categories of calls – EMS, Fire and Law Enforcement. Another daily tool for this role is VPI's Instant Analyzer, used for ad-hoc reporting, charting, slicing and dicing the data on completed evaluations. The training supervisor also runs, exports and internally publishes monthly, quarterly and annual QA evaluation reports.

Call takers are provided with VPI desktop tickers to monitor their QA ratings and access completed evaluations and associated recordings for review and either acceptance or dispute. They are notified by this tool as soon as each QA evaluation is completed, so there are no end-of-month surprises. The District believes in speed and transparency of feedback to its staff, which supports true teamwork-based progress to excellence.

Improved Efficiency of QA Process

The District's call evaluation follows a rigorous practice of pulling prescribed number of calls for evaluation on a regular basis, promptly informing evaluated employees of results, and addressing any knowledge gaps, followed by periodic reporting to monitor the progress and trends in QA ratings.

“Usually we get about 1,200 calls a month overall,” explains Chamberlain. “We then evaluate about 5 to 12 calls per dispatcher per month. We pull the calls for review based on the response types that are recorded in our Tiburon CAD system. We require the review of 7% of our EMS calls, 7% of Fire Dispatch calls, and 3% of all our Law Enforcement calls.”

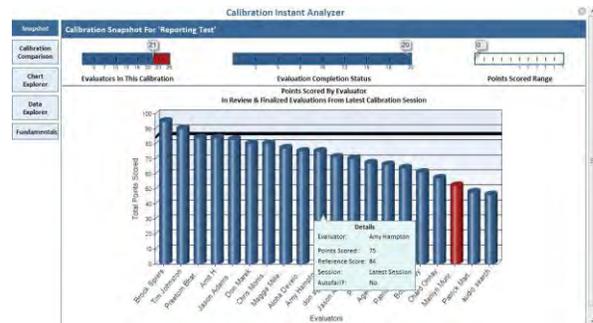
Collected CAD data is used to determine how long it takes call takers to create the CAD data entry, as this timeframe should not exceed 3 minutes. “We also record dispatcher screens to see how they interact with the CAD system while they are on a call – we visualize this with our video playback synchronized with voice recording,” said Chamberlain.

Call Takers earn one of the five grades for their quality evaluations, based on the following scale:

- **5 = > 97%**
- **4 = 92 to 97%**
- **3 = 86 to 91%**
- **2 = 80 to 85%**
- **1 = < 80% Below Acceptable, Remedial Training Needed**

QA Calibration and Reporting

The QA team runs periodic calibrations of their quality evaluators, using VPI's built-in mechanism. “Calibration provides a more consistent quality evaluation and scores, regardless of who is doing the evaluation,” explains Chamberlain. “It allows evaluators to review results and discuss any differences in scoring. And it compares the scores from different evaluators using the same recording and the same evaluation template.”



Instant Analyzer for Calibrations pinpoints discrepancies in QA ratings among evaluators

Calls		Inbound Interactions		Outbound Interactions		Total Interactions		Calls	
Totals	1,433	410	24,217	227	11,933	637	55,105	Quality	Coach...
MFC	6/8/16								
Total Evaluations		Any Due Score		Quality		Coach...		Calls	
WFO	0	0.00%							
MFC	2	0.24%							
My Assigned Coaching		Coaching Completed		Calls		Quality		Coach...	
WFO	0	0							
MFC	0	0							
Adam Biggs									

The District has implemented three types of desktop tickers – QA Evaluation scores and assigned coaching for call takers and contact center statistics for supervisors.

The district is very pleased with VPI reporting, especially for monitoring QA – these reports draw from both data sources combined, recordings and evaluations.

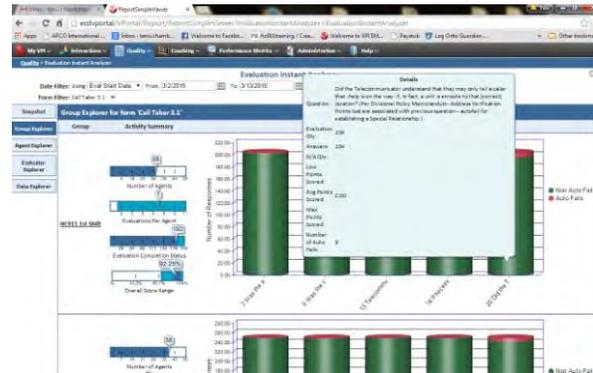
- **Evaluation Details Report** – used monthly to aid in remediation meetings
- **Evaluation Summary Report** – Monthly, Quarterly and Annually
- **Evaluation Questions Report** – Monthly
- **Instant Analyzer** – visual interface for ad-hoc data analysis, used daily to check progress of reviews and to explore shift data
- **Call Taker & Dispatcher Desktop Tickers** – real-time updates on QA scores and completed evaluations
- **Supervisor Desktop Ticker** – group quality and performance metrics

“I love the reporting in VPI, couldn’t be happier with it!” said Chamberlain. “As a Training and QA Supervisor, my favorite feature is the Evaluation Instant Analyzer. It is easy to use and perfect for keeping me up to date on the status of our organization. It is easy to see trends as they are occurring by question and it helps me identify top performers and those that might be struggling. We are now able to give recognition to top performers monthly, usually top three per shift.”

“From the time we implemented the VPI system, the efficiency of our evaluation process has doubled,” remarked Chamberlain. “I would recommend to other PSAPs to not be afraid to use the latest technology like VPI’s software. I think a lot of people are afraid of new technology. We really embrace it here and are glad to see what it can do for us.”

“The quality of support provided by Replay Systems is outstanding,” concluded Chamberlain.

“Their service team has been very responsive, which made a great difference with our ramp-up and use of VPI technology.”



Instant Analyzer is used daily for team QA exploration

Next Steps

The District is adding rules-driven automation to further improve the QA process. Over 150 different call types, as defined in the CAD system, will be automatically sorted into EMS, Fire, and Law Enforcement categories. This will enable automated linking of EMS, Fire and Law Enforcement QA forms to pre-defined percentages of calls that will be automatically drawn from these categories.

The District’s remedial training will get a boost with automated E-learning. Modularized learning content will be loaded into VPI Learning Management System, which will then automatically match training modules to appropriate evaluation questions in QA rating forms. As soon as a specific knowledge gap is identified during QA evaluation, the system will assign the correct learning module to the correct employee. This automation will expedite the District’s progress from Quality Assurance to Quality Improvement.

About VPI

Founded in 1994, VPI is the world's leading provider of mission-critical communications recording, speech analytics and quality assurance systems. VPI EMPOWER 911™, VPI's intuitive Web-based software, is Next Generation 9-1-1 ready, supports digital, IP and P25 recording, and is fully open standards for hardware platform flexibility and ease of integrations. For more information, visit www.VPI-corp.com/Public-Safety or call 1-800-200-5430.



About Replay Systems

Founded in 1996, Replay Systems is one of the nation's largest distributors of call recording, quality assurance, speech and screen analytics, and Next Gen 9-1-1 solutions, including project managed implementation, maintenance services up to 24/7/365 coverage, and professional services. For more information, visit www.replaysystems.com or call us at 800-722-3472.

