

NG9-1-1 CHANGES EVERYTHING: WILL YOU LEAD, FOLLOW OR BE LEFT BEHIND?

NEXT GENERATION COMMUNICATIONS WILL TRANSFORM THE WAY YOU WORK AND BETTER CONNECT YOU TO THE COMMUNITIES YOU SERVE...NG9-1-1 PAVES THE WAY

Your journey is about to begin. An inevitable communications transformation led by Next Generation 9-1-1 (NG9-1-1) that will fundamentally change both command center and Public Safety Answering Point (PSAP) operations. New capabilities will operationalize data and make it actionable. Stronger connections to communities, first responders and neighboring jurisdictions will improve safety. And greater efficiencies and streamlined workflows will allow you to do more with less.

To put next generation technologies to work takes thoughtful planning, carefully weighing how you do things today and determining the best path forward. Many factors need to be considered. You can no longer afford to think about your PSAP as a singular, standalone operation. You need to assess how all your sources of data – radio systems, private and public data networks, video surveillance and 3-1-1 city services – work together.

Integration and interoperability define NG9-1-1 capabilities and taking a holistic approach now will help you achieve future operational goals and maximize the investments you make today.

MAKING THE MOST OF NEXT GENERATION INVESTMENTS

NG9-1-1 is a standards initiative driven by a broad spectrum of industry participants. It's designed to enhance emergency response communications by providing dispatchers and first responders with immediate access to both internal PSAP information as well as external sources of data. NG9-1-1 fulfills the promise of next generation communications by intelligently supporting both voice and multimedia, including text messaging, photos, video, environmental sensors and telematics data. .

As you prepare for this important transition, you need to think about the dynamics of your current operation. Added functionality brings added responsibility so investments must be weighed carefully. To plan the right solution for your operation, you'll need to consider some key questions:

HOW DO YOU TRANSFER PSAP CALLS?

An emergency call comes into your PSAP; the wrong PSAP. Transferring the caller to the correct location seems like the most efficient option. Sadly, due to current system limitations, it can't be done easily or effectively. Instead the caller is directed to dial 9-1-1 again. This not only leads to caller frustration, but also the loss of valuable time.

As you consider system upgrades, you need to assess the infrastructure that supports your operations, as well as the internal process and procedures that drive workflows. When misrouted calls are received, how quickly are they rerouted? How much time is spent managing this activity? Does your current system even allow for this problem to be solved?

Today, most of the nation's PSAP's are connected via a specialized switch – a selective router – provided by local 9-1-1 service provider. This configuration makes it challenging to transfer calls to the right location if a misrouted call occurs, particularly if the PSAP to which the call was inadvertently sent and the one to which it must be

transferred to are not connected to the same selective router. The way switches use telephone number type data to route 9-1-1 calls today, the potential for misrouting wireless calls is high, generating considerable operational inefficiencies. Antiquated service provider technology makes this a tough problem to solve.

NG9-1-1 changes the call management landscape. PSAPs connected by an IP backbone can send calls within or outside of PSAP boundaries quickly and efficiently to any location connected to the network. No switch reprogramming or redefined routing paths are required. Next generation technology also allows you to own and operate your own infrastructure, opening the door to better solution choices from more service providers. Now you can add capabilities and system functionality on your timeframe, not theirs. And once the transition to all IP networks is complete, you'll enjoy a lower total cost of ownership on top of more efficient operations.

HOW OFTEN ARE WIRELESS CALLS MISROUTED?

The bigger question here involves how you currently manage unavoidable misrouted wireless calls and how many occur daily or weekly. This can be a big source of inefficiency for a PSAP. Identifying the location of a caller – and where to dispatch emergency responders – used to be fairly straightforward when the call originated from a landline and the geographic area could be identified by telephone number.

When wireless 9-1-1 became a regulatory reality, the addition of wireless calls complicated the call routing process. The National Emergency Number Association (NENA) created a phased approach to lead the evolution to IP-based NG 9-1-1, but due to current voice-oriented, circuit switched network infrastructures and the inability for agencies to influence carrier migration paths, the margin of error for misrouted calls remains high. Today, call routing in most cities and counties continues to be managed via tower and cell sector location.

Next generation IP-based solutions change everything. The performance and return on investment (ROI) of your entire 9-1-1 solution is directly tied to the ability of your IP networks to support efficient call handling, with accurate location information provided to speed dispatched resources. They will be built on Emergency Services Internet Protocol networks (ESInets) that have a regional or even broader geographic focus. These networks will help eliminate misrouted calls by using location-based call routing, where real-time caller location data is provided with the call. This “in-band” caller location data is supported by sophisticated Geographic Information Systems (GIS) that capture, manage and analyze geographic data. GIS provides more accurate, in-depth location information to dispatchers and first responders.

Migrating to IP-enabled emergency networks delivers better connectivity for all – citizens, government agencies, and public safety – without relying on a local service provider’s investment strategy. Next generation technologies allow you to bring control back to the command center and PSAP. NG9-1-1 will help you answer the new call for help from any communication device – wireless or wired – in any mode (e.g., voice, text, video or sensor/telematics data) and intelligently route those calls to the right PSAP based on real-time location information. Misrouted calls eliminated. Numerous operational efficiencies gained.

HOW ARE YOU MANAGING THE DEMANDS OF MULTIMEDIA?

According to Boston Consulting Group, mobile devices will account for 80 percent of all broadband connections by 2016. And more mobility means greater opportunities

to text, Tweet, take pictures, record and upload videos; in short, more data. Your ability to collect, intelligently assess and deliver the right information to the right responders at the right time requires new thinking and tools. Tools that only integrated command and control solutions can deliver.

Today, PSAP and command center operations can’t receive and operationalize this new multimedia data effectively. It poses great complexities and requires thoughtful planning and technology investments. NG9-1-1 multimedia call management solutions will allow your system to receive, manage and interact with voice, text, multimedia and sensor inputs from various sources. By providing a unified operational view, workflows can be streamlined for greater efficiencies. You need a future-proof platform to support a new incident management engine, as well as the integration services to connect the vast ecosystem of applications that will continue to transform command center and PSAP operations. Measured investments now will allow you to operationalize the data that surrounds you so you can deliver a faster, safer and more effective response.

WHAT SYSTEM BACK-UP AND REDUNDANCY PLANS DO YOU HAVE IN PLACE?

What happens to your system if connectivity fails due to a natural disaster or major incident? How will hand-offs to neighboring PSAPs occur? What is your disaster recovery plan? Current plans need to accommodate existing technology and processes, as well as any switch programming work required by service providers if a call center goes down. You also need to ensure multiple trunks will be available to reroute inbound emergency calls and that more than one PSAP can handle back-up operations if needed.

And that is not an easy or efficient process to manage in the quiet of the planning process or in the eye of a storm. NG9-1-1 ESInets eliminate many of your back-up challenges. With built-in policy and routing functions, a database of call routing rules and the convenience of managing the system via a web portal, PSAPs can set up their own routing rules based on time of day, emergency, partnership agreements established, etc. New IP-based systems provide a level of flexibility that current systems can’t provide.

In the past, to be proactive, you needed to guess right. Going forward, NG9-1-1 solutions and the services built around them will allow you plan and design right, with the flexibility to make changes on the fly. Look for a partner who offers proven services that cover the full spectrum of next generation solutions and can help you implement, monitor and support your operation no matter where you are in the communications evolution process.

WHITE PAPER

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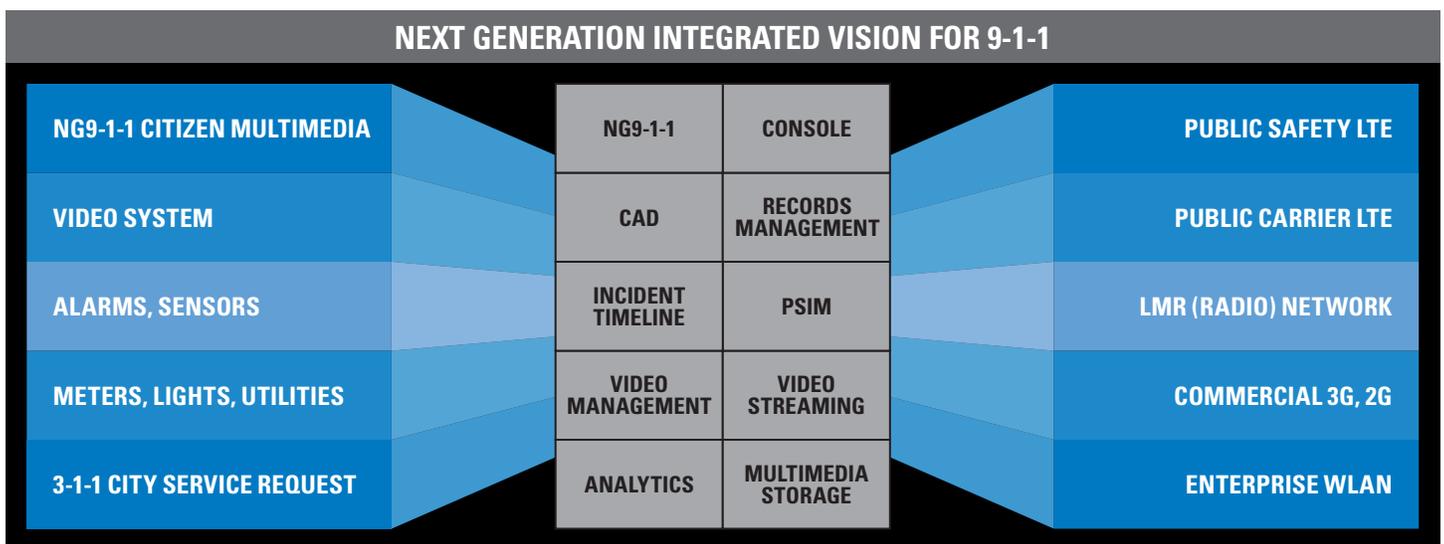
HOW WILL YOU ENSURE REGIONAL NETWORK INTEROPERABILITY?

Interoperability defines next generation communications capabilities. But if you are a small rural PSAP, funding may pose a significant threat to achieving the full promise of NG9-1-1. The key to success lies in collaboration. Working together with neighboring communities to build a shared network allows you to leverage economies of scale and put new communications initiatives and investments within reach. Not only will regional interoperability and emergency response be improved, but new operational models enabled.

The realities of public funding have already put most public safety agencies in the position of having to do more with

less. Economics are also driving other major changes such as the growing trend of PSAP consolidation. One of the best ways of doing more with less is maximizing the utilization of advanced IP-based communications technology.

IP-based network solutions allow you to optimize and streamline processes, better use resources and give local counties a voice. By combining infrastructures, local call positions and system monitoring can happen anywhere – no more brick and mortar requirements. A shared network model with common applications, like CAD, makes it easier and cost-effective to plan for and link common communications needs. And while it certainly adds complexity, if done right, it will help keep participating communities safer.



CONNECTING THE NG9-1-1 DOTS

Without proper planning and the expertise of a partner you can trust, evolving the capabilities of current PSAP and command center operations can quickly overwhelm resources and budgets. The questions outlined above are simply a logical starting point to much deeper NG9-1-1 discussions. The investment decision process is complex and requires thoughtful planning. Here’s some additional food for thought:

- What surrounding agencies do you share data with today?
- What other agencies might you share data with in the future?
- Does your GIS database support geo-spatial routing of calls?
- What does your region or state require for interoperability, NG9-1-1 functionality and broadband deployment?
- Will your NG9-1-1 vision and plans align with regional or state funding models?
- How will you effectively integrate NG9-1-1 solutions with legacy systems to create better connections to the communities you serve?

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THE NEXT GENERATION STARTS NOW

NG9-1-1 is coming soon to a county near you. And its arrival comes with considerable change and complexity. The days of stand-alone 9-1-1 systems are coming to an end, as are the burdens and inefficiencies that go along with managing them. Next generation solutions require a holistic approach and fundamental transformation in your operations in order to support multimedia communications and IP network convergence.

The good news is that integrated command and control technologies deliver the very capabilities that make it easier to streamline workflows, enhance interoperability and support rapidly evolving applications and services. To keep pace and take control of the complexity that surrounds you takes new thinking. With planning, the right technology partner and ongoing support you can lead the NG9-1-1 transition – and not be left behind.

For more information on how we can serve the needs of your community with our Next Generation Public Safety solutions, please contact your Motorola Solutions representative or visit motorolasolutions.com/nextgen.

Motorola Solutions, Inc. 1301 E. Algonquin Road, Schaumburg, Illinois 60196 U.S.A. motorolasolutions.com

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