

## **Technology Corner: NENA and the National Mayday Readiness Initiative**

*By S. Robert Miller, NENA Technical Issues Director*

Do you remember when...

...automobiles were sold in the '50s without factory-installed radios? If you do, you are probably one of our distinguished senior citizens. But even our youngest and brightest computer-minded 9-1-1 wizards remember when automobiles were not equipped with air bags. And some day, in the very near future, we will be telling our children and our grandchildren about automobiles in the 20th century that did not have car phones. Can you imagine that—a car without a phone?

As I see the wireless and automotive markets shaping up, within a few years every vehicle manufactured for sale in this country, as well as many foreign countries, will be equipped with a hands-free and voice-activated wireless *safety* phone (a.k.a. car phone). And with that, motorists will have the opportunity to take advantage of the new life-saving technology referred to as Automatic Collision Notification (ACN) or Automatic Crash Notification. ACN is coming down the pike at a high rate of speed. Will we be ready to get the most out of this technology? Will these private “Mayday” centers, or ACN answering points, perform in a way that is acceptable to public safety?

The United States Department of Transportation (USDOT) and the private sector have significantly invested in the deployment of commercial Mayday systems and development of sophisticated ACN technologies in vehicles. As these devices become more widely available to consumers, we need to ensure that the operations of private-sector Mayday call centers and the Nation’s 6,000-plus Public Safety Answering Points (PSAPs) are properly integrated. The number of automobiles with such devices is expected to increase from just over 100,000 today to several million in the next five years.

### **National Mayday Readiness Initiative (NMRI)**

Already, a series of critical integration issues have surfaced for the public and private sectors to address so that a crash victim or person in an emergency situation can receive the appropriate assistance in a timely manner. To date, there have *not* been high-level discussions about these issues, nor has there been an agreement on the expectations of the key parties. What is expected of the private sector entities that offer Mayday services? What is expected of the public sector agencies that ultimately receive and respond to these calls? The National Mayday Readiness Initiative (NMRI) is a public-private effort to encourage seamless integration between private Mayday service providers and the nation’s public 9-1-1, EMS, and emergency response networks. Without this project, the opportunity to save more lives through faster emergency notification from vehicles—now, and in the future—will be significantly diminished.

The USDOT has provided significant resources in the form of grants to field-test and evaluate the usefulness of Mayday or ACN systems. The National Transportation Safety Board (NTSB) has also made installation of crash data recorders one of its top priorities for vehicle safety this year.

In addition, multiple automobile manufacturers, telematics suppliers, and private emergency providers are currently marketing commercial Mayday systems that are automatically activated when a vehicle airbag is deployed (or at the push of a button). Several automotive companies are also collecting enhanced crash data from vehicle sensors, and are examining the possibilities for immediately delivering this information to emergency entities that respond to these crashes and are involved in the care of crash victims. Recent industry estimates predict that up to 4 million vehicles in the US will be equipped with some form of telematics or Mayday devices by 2003. Beyond the automotive and trucking industries, the rail industry and consumer marketers are also developing emergency notification systems and products that rely on the efficient use of private call centers.

### **NENA Critical Issues Forum**

In May 1999, under the leadership of NENA, the National Highway Traffic Safety Administration, the US Department of Transportation, the ComCARE Alliance (Communications for Coordinated Assistance and Response to Emergencies) and ITS America co-sponsored a 9-1-1 Critical Issues Forum entitled “Integrating Transportation, EMS, and 9-1-1: A Vision for the Future.” The event was also co-sponsored by various automotive, wireless and 9-1-1 companies. In addition to DOT officials and various ComCARE members, several companies (OnStar, ATX Technologies, Veridian Engineering, etc.) that are currently providing ACN and emergency services via automotive technologies made presentations to public safety leaders from across the country.

Following these presentations, breakout sessions held at this conference highlighted the importance of closely coordinating the growth of private, or third party, Mayday call centers with our PSAPs. It quickly became apparent that there have *not* been high-level discussions to work out the necessary integration issues that exist between private call centers and the agencies that must ultimately respond with emergency assistance to these calls. Many EMS and 9-1-1 leaders across the country are not aware of all the specific private Mayday providers that are in operation today, how they operate (e.g., their protocol for handling emergency calls), or even how to contact them when they have a concern, redraw emergency jurisdictional boundaries, change a phone number, etc. In turn, private Mayday providers are very interested in providing additional information to 9-1-1 leaders and in seeking their assistance in how they can improve communications with them and overall operations for their customers.

In addition, many of the informal discussions that have taken place thus far have focused almost exclusively on simple voice communication (from a Mayday center to a PSAP) about a crash that occurred. Additional data elements (i.e., delta velocity, principal direction of force, vehicle rollover, restraint use, number of occupants, etc.) that may be captured with sophisticated Mayday or ACN and placed into a triage or urgency algorithm useful to trauma facilities and emergency responders have only been minimally debated.

Participants in the Critical Issues Forum agreed that more needed to be done to elevate these issues among senior levels of government and business leaders across the country. Ongoing discussions subsequent to this conference laid the groundwork for the launch of a National Mayday Readiness Initiative, with USDOT and the ComCARE Alliance serving in leadership roles.

## **Oregon DOT and OEM**

On a parallel track with the work of NHTSA and ComCARE, the Oregon Department of Transportation (ODOT) and Oregon Office of Emergency Management (OEM), under the leadership of NENA member and Oregon State 9-1-1 Director Ken Keim, took the first steps in laying out a set of concerns from their own experience and from the work of the Multi-Jurisdictional Mayday (MJM) group. At the May forum, after consultations with interested members, ComCARE decided to take on the project. Drafts of a plan were developed and circulated among ComCARE members, Oregon 9-1-1 and USDOT officials and the final version of the proposal was posted on the ComCARE web site in autumn 1999. Oregon subsequently provided ComCARE with a summary document (“Making Mayday a Reality—Issues in Mayday System Deployment”) that examined multiple policy and technical issues regarding public-private integration of Mayday systems. The paper stated that the goal of this effort was to improve the service Oregon residents receive from for-profit Mayday systems. Leaders from Oregon then approached the ComCARE Alliance about working with them to resolve these concerns.

As ComCARE’s membership includes leaders of all the affected stakeholders, including NENA, this was an obvious area for ComCARE to address. Subsequently, ComCARE led a delegation of private Mayday providers to meet with Oregon officials in Salem, Oregon in July 1999. Each of the issues raised in the Oregon document was discussed in greater detail. To move forward, it was agreed that the ComCARE Alliance—working with the USDOT and leadership in Oregon—should pursue the organization of a National Mayday Readiness Initiative to encourage seamless integration between private Mayday service providers and the Nation’s public 9-1-1, EMS, and emergency response networks. Readiness refers to both private sector improvements as well as public planning for the growth of private Mayday service providers.

The NMRI will build upon the experiences identified during the Critical Issues Forum and in Oregon, but will also be national in scope (as many private call centers operate on a national, rather than localized, basis). This process will be designed to examine both immediate and future Mayday issues. For example, the NMRI will address current standards and protocols for the transfer of voice and data to PSAPs from private call centers, as well as begin planning for future data elements such as sophisticated ACN data from vehicles and mobile medical information. NENA has a Non-traditional Communications Joint Study Group, chaired by Tony Busam, reviewing the communications issues and data flow.

## **NMRI Objectives**

Several key objectives have already been identified for a successful National Mayday Readiness Initiative. By the time this article is published, others may well be added as a result of discussions at the NENA 2000 Technical Development Conference. Key objectives:

- (1) Improve communications between public and private Mayday entities; educate and raise awareness among emergency leaders, 9-1-1 officials, and EMS representatives about the emerging Mayday industry and prominent private call-center operations that exist today.
- (2) While there are legitimate local and state concerns, work toward a national agreement on integration solutions, avoiding 51-plus sets (for each state and DC) of different technical standards or Mayday protocols that would discourage investment in and deployment of life-saving Mayday technologies and services.
- (3) Expand participation in the National Mayday Readiness Initiative to representatives of all links in the chain of survival—beyond just the 9-1-1 community and industry vendors; in Oregon and elsewhere, transportation and medical entities have shown strong interest in participating in these discussions.
- (4) Compile complete set of critical issues for successful integration of Mayday systems; provide suggested answers to these challenges, reach consensus solutions, and communicate those broadly (particularly in the large PSAP community).
- (5) Identify best practices discovered in previous Mayday deployments throughout the country.
- (6) Ensure that PSAPs who will be investing in upgrades to utilize wireless E9-1-1 location information will contemplate architectures that allow for integration of Mayday information and sophisticated ACN data in the near future.
- (7) Increase public (media and consumer) education about Mayday systems and their lifesaving potential.
- (8) Conclude NMRI with a comprehensive public/private supported *Integration Report* that can be disseminated and widely distributed to public safety leaders, EMS entities, transportation officials, Mayday providers, and decision makers throughout the country.

An important building block in finding solutions to each of these objectives is an initial agreement by all parties on the “expectations.” A) What should be reasonably expected of the private sector to effectively provide Mayday services to the public and information to PSAPs? B) What should be expected of PSAPs in answering Mayday calls and dispatching the appropriate response?

### **Development Process and Integration Report**

The USDOT and ComCARE Alliance will coordinate and staff all functions of the NMRI, and appoint five co-chairpersons to lead policy formulation—one representative each from: US Department of Transportation; Oregon Mayday Steering Committee; the ComCARE Alliance; the Nation’s PSAP

community; and a private sector Mayday provider. The NMRI will also develop a committee structure to perform outreach activities to groups such as automotive OEMs, telematics suppliers, standards organizations, and other public-safety working bodies.

The National Mayday Readiness Initiative will be launched in first quarter 2000 in Washington, DC with a high-level demonstration of commercially available Mayday systems. The NMRI participants will meet immediately following the demonstration in Washington to outline the goals of the project and assign project responsibilities. Going forward, the NMRI will meet approximately once every month through May 2000.

The goal of the NMRI will be to develop a comprehensive, public/private *Integration Report* that is accepted and used by PSAPs, governments, EMS, Mayday providers, transportation officials, and vendors across the country. The first report of the NMRI will be issued to the public and outside groups on or before June 30, 2000.

We live in exciting times and this is exciting technology. However, the NMRI will only succeed with full representation from public safety representatives, state and federal government officials, and private industry. We need to do our part independently and through our NENA committees to make this initiative the best it can be. This is high technology and yet another opportunity where we in NENA can help make a difference.