



Public Safety Convergence: NG911—FirstNet—Internet of Things

In 2017 it is well established that NG9-1-1 is a network that enhances 9-1-1 systems, and that FirstNet is a interoperable wireless broadband network that enhances communication with first responders. The natural connection between NG9-1-1 and FirstNet is the employment of innovative communications and networking technologies to improve communications during all emergencies. NG9-1-1 and FirstNet will work in conjunction to bring actionable information to first responders to greatly enhance public safety.

According to Stratus Technologies, in 2017 about 76 percent of public safety agencies in North America will complete implementation of NG9-1-1 technologies in their respective PSAPs. This means that the majority of 911 center PSAPs will receive incoming calls for help via text message, voice call, or other messaging format which may include attached data such as pictures or video, which often must first be processed. In some cases, all of the data received will be transmitted to the first responder without any review or analysis by the PSAP. This may include data bursts from sensor-based alarms (smoke/CO and intrusion alarms,), ACNs, one or more

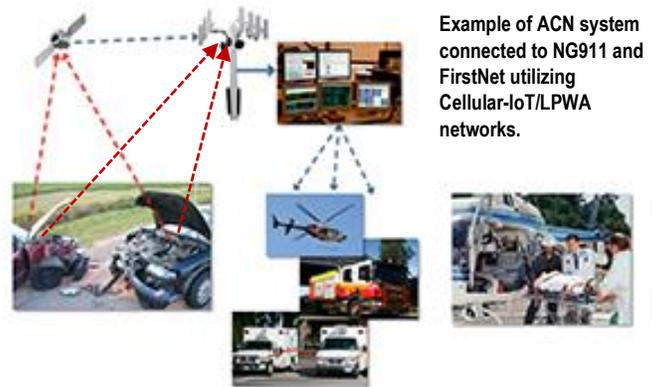
Data calls directly to the PSAP will also be generated from machines and sensor systems including automatic crash notification (ACN), break-in alarms, smoke or carbon monoxide alarms, and body health monitors.

FirstNet and NG9-1-1: High-Level Overview of Systems and Functionality

images of a vehicle crash or house fire, or images of a robbery suspect.



A subcategory of IOT is the Internet of First Responder Things. The FirstNet network stands to link more first responder data sources, such as their gear, smartphones, tablets, emergency vehicles, and fingerprint scanners and databases. This includes sensors embedded into a firefighter's protective gear to measure vital signs, and track their location within a burning structure. A connected ambulance could provide a paramedic with realtime information on traffic conditions to ensure the fastest route to an emergency scene with wireless location information sent from the PSAP.



Example of ACN system connected to NG911 and FirstNet utilizing Cellular-IoT/LPWA networks.

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