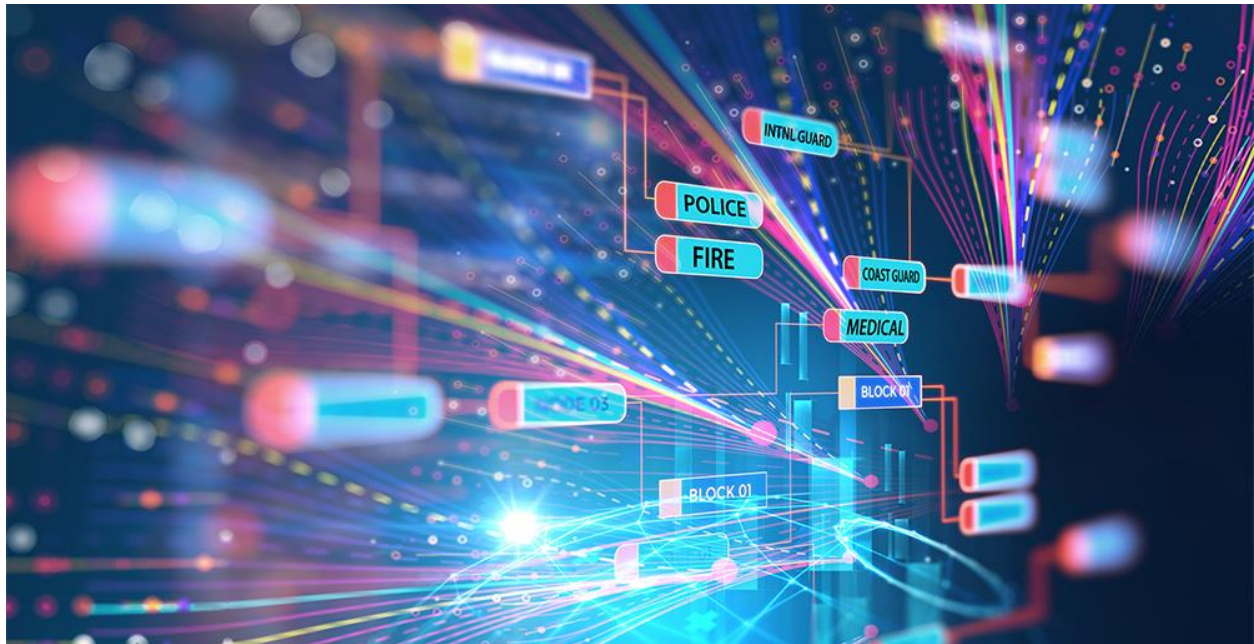


FIRSTNET CHALLENGES

By Tom Goodwin | September 25, 2017



HigherGround and a representative from FirstNet recently exchanged ideas regarding the details of capture and processing Big Data for the PSAP industry. We initially discussed the fact that building the RAN (Radio Access Network) is the first step in a rollout of multiple processes, and that the subsequent steps, while considered small in comparison, will be crucial to success of FirstNet.

While most of the current headline news is about which U.S. states are “opting-in”, or RFPs for an alternative RAN, it seems likely that a broadband network will be placed into service, and new apps will be utilized by First Responders to handle data beyond mission critical voice. These new apps and capabilities will generate an exponential increase in the volume and speed of data streaming into PSAPs and other information collection points. With this in mind, HigherGround and FirstNet began to explore the ramifications of this data growth.

Among industries in which Big Data and Analytics are the norm, it is well-known that the ability to filter out noise is a crucial factor to obtain relevant data efficiently. This issue formed the crux of our discussion regarding the next steps for FirstNet and the Nationwide Public Safety Broadband Network (NPSBN).

1. Organization

Organization of the data that are collected is crucial for determining context, as well as for providing “good data” for analytics engines. Information on how and where data were collected resides in the metadata, and properly structuring the presentation of these data can control the use of convenience sets or subsets, preventing bias in the data. Organization can also take place at the level of file naming conventions and administrative procedures. These features all contribute to weeding out of noise and enhancing ability to find the “good data”.

2. Validity

Algorithms for analytics are only as good as the data that are entered; there was always a concern about GIGO – garbage in, garbage out. As the quantity of data collected increases, controls must be in place to ensure that the data are valid and not subject to collection gaps or other bias towards a conclusion. Validated analysis of all the data is the ideal procedure.

3. Proper use/security

Proper use of data is of utmost importance for FirstNet, First Responders, and support teams. Data security, as well as maintaining a chain of custody for captured data is imperative to ensure non-repudiation, integrity, authenticity, and confidentiality. Since the data will be investigated for evidentiary purposes, any analytic conclusions must adhere to this type of secure and proper use.

4. Analysis with context

With larger quantities of data and faster analytic engines, it becomes easy to reach the wrong conclusion quickly and disseminate it just as fast. Care must be taken to address qualitative as well as quantitative analysis. Understanding the “why” and “how” along with the “what” allows for deeper understanding of what the analysis is reporting. More specifically, examining analyses in the context of experience is essential for reaching accurate and logical conclusions.

5. Healthy skepticism

Big data collection and analytic algorithms are tools for gaining better insight, not the answer to better insight. With all the capabilities of FirstNet, NPSBN and the apps that could be available, it is important to remember that humans, not machines or artificial intelligence, have the ability to find relevant information and make sense of these captured data.

There may be other factors that should be considered regarding handling and analysis of Big Data in the PSAP world.

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