November 14, 2017

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| In the Matter of  Inquiry Concerning 911 Access, Routing, and Location in Enterprise Communications Systems | **)**  **)**  **)**  **)** | PS Docket 17-239 |

ReSponse to NOTice of inquiry

Thank you for the opportunity to respond to the FCC inquiry regarding Enterprise Communications Systems (ECS) 9-1-1 calling capabilities and the State of the Industry. RedSky Technologies, Inc. (RedSky) located in Chicago, IL has been providing E911 software and cloud services to Enterprises that own ECS since 1999. We have over 500 Commercial and Government agencies using our software and services including over 50 Fortune 500 companies and ranging from universities, state and municipal agencies to small and large distributed companies. RedSky has witnessed firsthand the enterprise transition from digital TDM MLTS technology to IP based ECS systems. As a company, we have initiated several technology “firsts” in the industry including automated Layer 2 network discovery of IP phones in the enterprise, automated tracking of WiFi phones in the enterprise, and the introduction of a cloud based 9-1-1 call routing service that can reach any PSAP in the USA and Canada. We are the only provider that has developed a complete suite of Department of Defense JITC certified NG911 products. RedSky is intimately involved with the leading providers of ECS systems including Avaya, Cisco, Microsoft, BroadSoft, Mitel, and Shortel and we participate in their developer and certification programs. We know their E911 capabilities in detail.

RedSky would like to congratulate the FCC on their leadership in the E911. This is an important topic which has real life ramifications for US citizens. And it requires continuous focus in order to keep pace with the constant technology changes.

RedSky would like to begin by expressing our opinion on “the State of the State” regarding ECS E911 capabilities. First, state legislation has had an impact on the adoption of E911 by enterprises that own and run ECS in their own networks. Enterprises are keenly aware of E911 legislation. We know this because a) the legislation page on our website is consistently the highest trafficked page on our website and b) when a new state adopts legislation, as Michigan recently did, there is a flurry of activity on behalf of all companies and State agencies in the State to prepare themselves for compliance with the law.

That being said, there are way too many companies who own and run ECS that do not implement E911. The result is that millions of employees was well as contractors and visitors to these companies do not have E911 protection. If they dial 9-1-1, there is a high probability that PSAP will not know their location. The primary reason that this situation exists is because only 22 states have some kind of E911 regulations and most significantly, large states like California, New York and Texas, do not have any state wide E911 regulations. We would have to say that relying on the states to adopt E911 has been a failure.

RedSky deals with many Fortune 500 companies that have state-of-the-art ECS systems. These companies typically have operations in multiple States that have E911 laws. The typical behavior that we see from these companies is that they first implement E911 so that they are compliant with the laws in each State. However, almost uniformly, they take the next step, which is to provide E911 to all of their operations in all States, even those in States without E911 legislation. We believe that they do this so they are not discriminating between employees in one State versus another by providing E911 protection to some but not to others. So, even though all States have not passed E911 legislation, there are enough major states that have legislation to cause large companies that operate in one or more of the States that have legislation, to adopt E911 across their entire enterprise, even in those States that do not have legislation.

This, however, does not affect enterprises that have ECS which operate solely in a State that does not have legislation like California, New York or Texas. The FCC could make a substantial impact and protect hundreds of thousands of employees with E911 if it were able to convince California, New York and Texas to adopt the NENA model legislation.

RedSky would like to comment on the capabilities of the ECS OEMs themselves regarding the capabilities of their systems to provide E911. As previously mentioned, RedSky has been intimately involved since 1999 with OEM manufacturers of TDM MLTS and IP ECS systems. In our view, the OEMs have done a very credible job of implementing E911 capabilities in their software allowing their ECS customers to create emergency dialing patterns (9-1-1, 9-9-1-1, etc.), allowing the ECS to direct the emergency call out the proper trunk group or gateway, and allowing the ECS to group phones together in an “Emergency Response Location (ERL), a physical location designation (Building, Floor, Quadrant). ECS OEMS have also been diligent in providing 9-1-1 call back capability allowing the PSAP to call back if the 9-1-1 call drops in order to reach the person that dialed 9-1-1. In our view, all the major OEMs that provide ECS today have implemented the proper technology to provide robust E911 capacities that meet the most stringent E911 State laws. If ECS customers want even more granular location discovery capability beyond what any State law requires, there is a robust marketplace of 3rd party providers like RedSky to provide capabilities like Layer 2 network discovery down to the switch/port level, automated tracking of softphones on WiFi networks, 9-1-1 call notifications sent by email, SMS and screen pop and a variety of other advanced features.

RedSky would like to point out that ECS OEMs are hamstrung in their ability to provide a total E911 solution because they do not own the network. They don’t own the trunking, the selective routers and the PSAP equipment that is used to take the 9-1-1 call. Therefore, they are limited to providing capabilities that are within the enterprise. However, multiple providers like RedSky, West, Comtech Tel., and Bandwidth have stepped up to provide national 9-1-1 routing networks that can connect any 9-1-1 call to the right PSAP based on the location of the caller. Enterprises that have an ECS have multiple solutions available to them from multiple providers to meet their statutory and corporate E911 objectives.

Comparing the state of ECS E911 with the state of mobile carrier E911, RedSky would have to say that ECS E911 is at least on par with mobile carrier E911 in terms of availability and location accuracy. While we acknowledge the advancement to Phase II for wireless carriers, even the requirements of Phase II accuracy are not acceptable for most State E911 laws. Further, Phase II location accuracy is not effective for in-building location determination. We also note that PSAPs are having difficulty retrieving Lat/Long data provided by wireless carriers as part of the Phase II standards as evidenced by the fact that over 50% of the 9-1-1 calls in California are delivered without location information.2 In contrast, Enterprises that properly configure their ECS for E911 deliver ALI 100% of the time.

RedSky is well versed in Next Generation 9-1-1 having a full product suite of NG9-1-1 software and hardware. We are seeing the first commercial implementations of the NENA i3 standard with Microsoft’s Skype ECS and with BroadSoft’s BroadWorks® platform with Polycom and Yealink phones which have implemented the HELD standard for managing phone locations using PIDF-LO.

Based on our view of the industry, there are two areas that the FCC could have the greatest impact on E911. First, the FCC should concentrate on getting the PSAPs to upgrade their equipment so that they are capable of rapidly re-bidding for Phase II location data from carrier wireless network. This solves

1 *Phase II accuracy requirements - (i) For network-based technologies: 100 meters for 67 percent of calls, 300 meters for 95 percent of calls; (ii) For handset-based technologies: 50 meters for 67 percent of calls, 150 meters for 95 percent of calls.*

*2 http://www.fiercewireless.com/wireless/some-911-operators-aren-t-getting-cell-phone-location-data-who-to-blame*

the issue noted above where 50% of wireless calls are delivered without location. PSAP should also be encouraged to upgrade their equipment to accept NG9-1-1 calls that have embedded location objects. RedSky has low cost solutions to accomplish this. Second, the FCC should mandate that all cell phones make their GPS location available at the time of a 9-1-1 call. Mobile phones that use the Android OS provide this capability now. However, Apple iPhones do not. Apple blocks access to the 9-1-1 dial string and applications are prevented from sending the GPS location data at the time a 9-1-1 call.

RedSky has provided detailed responses to FCC questions in pages following this summary. In brief, again, here are our main points.

1. State legislation of E911 has had some success but national regulation is required. The national regulations should identify the end objectives of ECS E911, but allow the industry to meet these objectives.
2. The FCC could dramatically increase the number of enterprises adopting E911 by encouraging the passage of NENA model legislation in California, New York and Texas
3. Enterprise ECS OEMs have built in all the necessary features to do robust E911 inside the enterprise. ECS OEMs cannot, however, provide an end-to-end solution because they do not own the 9-1-1 network
4. There is a robust third party market for E911 network solutions for enterprise ECS. RedSky and others allow enterprises with an ECS to easily configure a cost-effective end-to-end nationwide E911 solution.
5. The FCC can significantly improve the accuracy of cell phone 9-1-1 by requiring phone manufacturers to make GPS data at the time of a 9-1-1 call.
6. The greatest leverage point to move the country to NG911 is at the PSAP level. The FCC should encourage PSAPs to adopt upgrades to accept SIP-based NG911 calls and upgrades to re-bid for Phase II location data from carrier networks.

Sincerely,



Nicholas Maier, SVP

RedSky Technologies, Inc.