OtterBox Products Response to:

Department of Commerce

**National Telecommunications and
Information Administration**

Notice of Inquiry

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Development of the Nationwide Interoperable Public Safety Broadband Network

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OtterBox products would like to thank the National Telecommunications Information

Administration (NTIA) for the opportunity to respond to the initial presentation of the FirstNet

Nationwide Network (FNN).

Purpose

The presentation by FirstNet board member Craig Farrill provides an outstanding high level vision of the

future of a nationwide interoperable Pubic Safety Broadband Network (PSBN), and the concept

of leveraging existing commercial infrastructure and Mobile Network Operators (MNO) to help

bring FNN to reality by realizing substantial cost savings. The purpose of this document is to

provide comments regarding the use of Commercial Off The Shelf (COTS) smartphones as

subscriber units from MNO's and the feasibility of protecting these products with ruggedized

OtterBox cases as a viable tool and cost effective solution for public safety and First responders

as an alternative to, or in replacement of, expensive and specially designed hardened

subscriber units. The objective is not to comment on all details for the proposed infrastructure

of the FNN, but to comment on select points of the presentation as related to funding and

expense reduction for subscriber unit devices.

Background

OtterBox (www.otterbox.com) is known as the innovator of protective solutions for mobile

technology by which all others are measured for ruggedized protection in the Government and

Commercial markets. Founded in 1998 and headquartered in Fort Collins, Colorado, OtterBox

builds protection for leading global handheld manufacturers and provides (both historically and presently) protection for Local, State, Federal and DoD agencies for their mobile devices. Some of the agencies successfully using OtterBox products to protect their smart phones and mobile devices include U.S. Air Force (recently deployed 18,000 OtterBox Defender Series cases for the new iPad), U.S. Army, U.S. Marines, U.S. Navy, U.S. Immigration and Customs Enforcement, U.S. Customs and Border Patrol, U.S. Department of Justice, Federal Bureau of Investigation, U.S Marshalls Service and the U.S. Transportation Security Administration, to name a few.
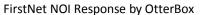
Comments Regarding FNN Presentation

FirstNet Assets (slide 4)
- $2B of current funding; potential for $5B of additional funding

A finalized business plan is yet to be submitted but it is apparent the leveraging of existing infrastructure and technology will be critical to the successful funding of this project. Attempting to develop or utilize non-MNO hardened devices could exceed the existing assets **alone** even before placing a hardened device in the hands of all first responders and public safety officials. MNO OEM devices with ruggedized OtterBox cases and existing multi-carrier NMO infrastructure should be utilized for the economic scalability. The expense of building an internal standalone network would far exceed the cost of current assets; therefore the existing assets must be utilized with the most efficiency possible. The PSBN must be three things; Reliable, Ubiquitous and Secure. Savings, in the form of both capital and time, must be realized where possible based on existing assets to ensure these three priorities are met to protect our own national security, as well as ensure seamless interoperability between our first responders.

FirstNet Rolls and Responsibilities (slide 6)

- Aggregate purchasing for devices and services on behalf of the public safety agencies and other first responder users.
- Define and implement the operations, administration and maintenance (OA&M) plan for the nationwide network that fulfills federal, state, tribal and local requirements.
- Implement the user pricing and billing plan for all network users and stakeholder organizations.
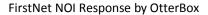
All three points from slide six encompass the daunting task of funding in one way or another.

DHS has specified public safety and first responders as the users in the first point which provides a scope of the magnitude of devices and services necessary for a FNN. This magnitude is also reflected in the other two points.

DHS defines front line first responders as Fire, Police EMT and Bomb Disposal and puts the count at more than 2.3 million in the United States in 2008. The total number of first responder support personnel is greater the 23 million and includes Port Security, Public Health, Hospitals, Transportation, Emergency Management, Clinics, Venue Security, Public Works/Utilities, School Security, and Response Volunteers.[1]

Hardened aftermarket devices and tablets (subscriber units) or multi-band digital LMR radios for VHF, UHF, 700MHz and 800MHz bands can range from $2,500 to $4,500 each. Putting one of these units in the hand of every first line responder as defined by DHS, all 2.3 million of them, could cost between $5.75 billion and $10.35 billion alone for subscriber units. This is only for the first line responders and does not begin to address the 23 million first responder support personnel as defined by DHS.

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[1] Thomas A. Cellucci, Ph.D., MBA; Commercialization: The First Responders' Best Friend, 2009
http://www.dhs.gov/xlibrary/assets/st_first_responder_commercialization_article.pdf accessed 11/04/2012

Putting this technology in the hands of only sworn law enforcement personnel still far exceeds the funding feasibility for the project. *"State and local law enforcement agencies employed about 1,133,000 persons on a full-time basis in 2008, including 765,000 sworn personnel".*[2] When you include Federal law enforcement officers the number still approaches close to one million people. *"In September 2008, federal agencies employed approximately 120,000 full-time law enforcement officers who were authorized to make arrests and carry firearms in the United States."*[3] The cost of providing 885,000 sworn law enforcement officers, state local and federal with a hardened subscriber unit would cost between $2.2 billion and $3.98 billon.

One argument is the FirstNet Board is only overseeing the adoption of standards while the purchase of the devices would be deferred to the state level. States are already running under strained budgets. Having this additional burden for a standardized program would delay implementation and more than likely revert back to responsibility of the Federal Government through federal funded grants such as BTOP or PSIC to support the states funding requirements. These funds should be allocated toward the build of infrastructure, to fund operations, administration and maintenance (OA&M) as well as funding for additional security measures. The implementation for the user pricing and billing plans for the network should be used to fund the ongoing OA&M and ensure a robust, reliable, ubiquitous network and not be tasked with overcoming initial capital expenditures for devices.

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[2] Brian A. Reaves, Ph.D., Census of State and Local Law Enforcement Agencies 2008, Bureau of Justice Statistics, http://bjs.ojp.usdoj.gov/index.cfm?ty=pbdetail&iid=2216 accessed 11/04/2012
[3] Brian A. Reaves, Ph.D., Federal Law Enforcement Officers, 2008 http://bjs.ojp.usdoj.gov/index.cfm?ty=pbdetail&iid=4372 accessed 11/04/2012

Devices offered by OEM's such as Apple, BlackBerry, Motorola, and Samsung offer operating Systems (OS) capable of running applications to meet the needs of FNN at a much more economical cost. As an example, a $300 smart phone protected with a $50 OtterBox Defender Series case to provide ruggedized device protection will significantly reduce the expected capital expenditures for subscriber devices. The same 2.3 million first responders as defined by DHS now have an initial device cost of $805 million as opposed to between $5.75 billion and $10.35 billion for a hardened non-MNO solution. This is potentially reducing the implementation cost by $9.5 billion which can support infrastructure, security and OA&M expenses. Simply adding an OtterBox unit to the smart phone platform creates a rugged device and ensures the public safety responders have the necessary durability to always have their device available and realize a savings of more than 92% on device expenditure. Even greater savings could be realized after carrier subsidies for the smart phone devices and still have the ruggedized protection provided by OtterBox to ensure the device is durable enough to live up to the abusive atmosphere of a disaster response.

Further, utilizing OEM devices will also provide carrier agnostic solutions for roaming to areas of various coverage regions allowing the potential for the device from Apple, BlackBerry, Motorola, Samsung (or other manufacturers) to be recognized on the FNN regardless of the issuing agency.

Focusing the applications development on Smartphone platforms and operating systems for the FirstNet project would allow the emergency responder to utilize one device as a multitasking extension of the network. Public safety is already using smart phones for applications such as PocketCop and e-ticketing. Push to Talk (PTT) functions are also being used in a smartphone platform as well as Radio over Internet Protocol (RoIP) technologies. Agencies are starting to realize the benefits of Land Mobile Radio (LMR) two way radio communications through their smartphone devices courtesy of RoIP technology which is also eliminating the need for carrying multiple devices. RoIP on smartphones allows the administrator to have the ability to set up talk groups the same as with LMR communications, prioritize service and also white list devices to allow only those necessary onto the network to maximize network throughput efficiency. Application development is also utilizing AES 256 security standards for voice encryption. The smartphone technology is providing platforms for video streaming from accident scenes as demonstrated as recently as Hurricane Sandy by first responders. This allowed information to be relayed instantly to an emergency operations center providing immediate feedback for assessing damage and shortening response times. These are all key features in affordable smartphone technology; however, the device must be ruggedized in an affordable manor to ensure it functions and is available regardless the environment it is being used. This ruggedized protection can be accomplished with affordable device protection from OtterBox.

FirstNet Rolls and Responsibilities (slide 6)

- Network & handset suppliers - have the opportunity to participate; serve a critical US nationwide need; and increase their network & handset product lines, sales volumes and revenues

FNN Solves Several Critical Issues (slide 20)

- Lower cost subscriber equipment based on LTE and other international standards

The points above from slide six and slide 20 are not only a benefit to the MNO and handset suppliers, but also allow the FNN to benefit from the aforementioned economies of scale regarding the device savings and ability to leverage COTS solutions, and still realize the benefits of a rugged device.

Michael McCarthy, Director of Operation at the Army Brigade Modernization Command, has been responsible for putting smartphones through rigorous testing over the last two years to ensure they are combat-ready. Mr. McCarthy has been quoted as saying "We don't have to spend a couple thousand dollars to harden a $200 smart phone."[4] This is an example of Government leveraging the commercial market to produce desired results at an affordable price while maximizing precious tax payer dollars. Utilizing MNO products from commercial handset manufacturers provides the opportunity to focus funding on critical areas of infrastructure and security without having to re-invent what has been created by commercial industry.
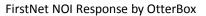
Conclusion

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[4] S. William Matthews, Touchscreen Troops, http://www.thedaily.com/page/2012/06/04/060412-news-battlefield-ipads-1-4/ June 2012 accessed 11/05/2012

FirstNet is faced with the massive task of deploying a complex nationwide interoperable Public Safety Broadband Network. Commercial industry has already developed and is using much of the technology, products, and infrastructure to make this a robust durable, ubiquitous network that can be utilized by all individuals tasked with the responsibility of responding to internal or external threats and/or natural disasters.   It is going to be critical to leverage the experience and products of the commercial market place and existing infrastructure to meet the funding requirements of the FirstNet Nationwide Network. Adopting cost effective solutions such as COTS smartphone technology with a ruggedized case, instead of purchasing uneconomical hardened solutions, will allow funds to be allocated in the most responsible manner.

For further discussion, OtterBox has the knowledge and interest to include additional technology and chipsets (including soft certification for user authentication), integrate CAC reader technology or extended range antennas, as well as innovative power management solutions and LMR functionality within the case itself. All of these can be expanded upon along with other OtterBox innovative solutions which may be of interest to FirstNet. Leveraging commercial enterprise technology in this way can keep the costs to a relative minimum.

This same approach should be taken with the evaluation of all key products, keeping in mind the security of the United States comes first, and should not be sacrificed for a lower cost item to meet budgetary numbers. The numbers presented in this response have shown how an educated choice such as OtterBox and COTS smartphone technology can save billions of dollars

in unnecessary capital expenditures, thereby directing the funds to other key areas of the

FirstNet project.

Please send questions or responses to:

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