Testimony of David Billstrom
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Mr Chairman, Mr Vice Chairman, and members of the Committee…
Thank you very much for the opportunity to speak today.

My name is David Billstrom, and I am a public safety communications consultant with a long background in radio communications, the computer industry and in venture capital. I've also been a first responder for over 25 years. First as an EMT, then sheriff's search & rescue for many years, and one of 27,000 volunteer firefighters in the Pacific Northwest.

I want to give you just a few high-level observations on public safety communications – from my somewhat unusual position of being both part of the problem, and I hope, part of the solution.

I'm going to talk about three things: why interoperability is expensive, what's wrong with the plans underway in almost every state in this country, and why Google provides the key to effective public safety communications.

Why Is Interoperability Expensive?

If we continue on the current path to interoperability solutions, I can guarantee you that five years from today, if you invite me back, we will still be talking about the problems with interoperability.

That is because both historically and currently, questions of interoperability assume that we have an equipment problem that calls for completely new radio systems and new radios. I believe this is because we're relying upon the same equipment suppliers that we have used for years.

And these equipment suppliers have a vested interest in "solving the problem" with more radio equipment.

The focus on new equipment is understandable. Equipment is tangible, it's concrete, you can touch it. And of course we always need better equipment, and more of it.

But an equipment-centric approach is very, very expensive. Which means it will take years.

Statewide Interoperability Systems

The good news is that in the last several years, hard-working committees called "SIECs", or State Interoperability Executive Committees -- in more than half of all the states have analyzed the needs of public safety and proposed new statewide systems that provide interoperability.

These new statewide systems will be state-of-the-art, best-of-breed, and very effective.

The problem is, they are also the most expensive radio systems ever devised when calculated on a per-user basis.

In one state, the cost was approximately $65,000 per radio user to build the proprietary system. Additionally, it will cost more every year to operate it. With 14,000 users in this system, it is quite lucrative for equipment suppliers.

Why does this matter to this Committee? Because most of the states I have met with plan to ask you, the federal government, to pay for most if not all of their new system.

How much are we talking about?

In Washington State, we have an initial estimate of $600M. Our Governor in Oregon has just proposed $561M for the *first phase* of the system there, which is likely to run past $1B when complete.

Florida already has a $900M system and New York has started on their $2B system.

The math is fairly easy – if we continue in this direction there is a $50 to $100 billion dollar funding requirement for interoperability for state agencies.

But the news gets worse.

The problem is, these statewide systems are designed for, and provided to, state agencies – not local public safety agencies.

And, as you may know, 72% of the one million-plus firefighters in the United States are volunteers. About 79% of all 800,000 law enforcement officers in the nation work for local police departments. Nearly all EMTs are with local agencies. In fact, only 20% of the nation's first responders work for state or federal agencies. All of the others are with local agencies.

And in general, local public safety agencies do not have the funds for new radios compatible with these new statewide proprietary systems. I know my fire department does not.

So what we have are new statewide radio systems that most of our firefighters, EMTs, and police officers will not be able to afford to use.

The approach is upside down. We should be building public safety communication systems that first accommodate the 1.8 million local first responders, and then the 200,000 state and federal first responders, rather than the other way around.

Open and Closed Systems

You may be wondering how we can accomplish this. This is where Google comes in…

It is a simple issue – open versus closed systems. Imagine if you could only access Google if you were on a Dell laptop, because IBM laptops didn't work with Google.

That might sound absurd, but that's exactly the current state of first responders in the Pacific Northwest – a police radio from Seattle, Washington does not work on the Portland, Oregon system – that is the world that proprietary systems create.

The more proprietary – the less interoperable.

Google and Yahoo and all internet businesses thrive because the services they provide run on every type of computer made, world-wide.

The same idea – indeed, the same technology – is going to solve the problem of public safety communications.

I can make this prediction because I can simply look at how the U.S. Military has addressed this very same issue.

Starting more than four years ago the military has been deploying a technology called IP Radio to allow field radios, fixed telephones, encrypted command radios, laptops, and satellite radios to all interconnect. From the battlefield across the seas to the command centers right here.

And, this is a technology, not a single product from a single equipment vendor.

Like Google and Yahoo, this technology is absolutely independent of the hardware used.

"IP Radio" means sending and receiving radio traffic on internet hardware. It works by connecting together existing radio systems. Users on one system can talk to users on another system.

I will even go this far: if the public safety community operated with the command structure of the U.S. Military, we wouldn't be having this discussion today because firefighters, EMTs and police officers throughout the U.S. would already be interoperable using IP Radio.

Now you can see why it is not radical for me to predict that open, standards-based software will revolutionize public safety communications.

And, this technology can dramatically cut the cost of those $1B statewide radio systems.

To put it simply, this means our first responders will be able to use any radio they can afford – even the radios they already have -- and be interoperable with all of their state and federal colleagues.

I respectfully submit that this Committee can make interoperability more effective, immediately, by mandating the use of open standards, software-based radio systems.

And where proprietary, hardware-centric systems are already in place, you could mandate full and open connectivity from those proprietary systems to the new open standards, software-based radio systems.

Finally, I want to applaud Chairman Martin of the F.C.C. for his comments on last week to this Committee. He suggested that if sufficient funds were made available now for fixed and portable IP Radio networks, then interoperability could be functional throughout most of the nation within four years. I agree with him whole-heartedly.

If I could leave you with a central message today, it would be this:

First, let's not assume that the traditional suppliers of radio systems with proprietary technology will offer the most desirable solutions.

Second, if we want true interoperability, we need to move to an open, device-independent, standards-based, software so that the majority of our first responders can be included.

Third, IP Radio, already embraced elsewhere, will meet several of our most critical needs immediately. And save lives. And we may actually be able to afford it.

Thank you. I welcome your questions.