WIRELESS FOUNDERS COALITION FOR INNOVATION
265 MADISON AVENUE, 4TH FL, NEW YORK, NY 10016

June 22, 2007

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th St., SW
Washington, DC 20554

Re: WT Docket Nos. 96-86, 06-150; PS Docket No. 06-229

Dear Ms. Dortch:

On behalf of the Wireless Founders Coalition for Innovation, I am enclosing a copy of my recent testimony before the Committee on Commerce, Science and Transportation of the U.S. Senate.

As explained in the testimony, the Coalition believes that the FCC could open the wireless market to competition and innovation by licensing one nationwide slice of the 700 MHz spectrum (referred to as the "E Block") subject to Open Access principles.

Respectfully submitted,

/s/ Amol Sarva

Amol Sarva, Ph.D.

Written Statement of

Amol R. Sarva
The Wireless Founders Coalition for Innovation

SUMMARY

I am here today as a leader of the Wireless Founders Coalition for Innovation, which is a group of seasoned wireless industry entrepreneurs who have founded many cutting-edge wireless companies. We continue to seek new applications for wireless technology and to push the envelope to help Americans be more productive, save money, feel more secure, and in general get more out of their wireless services. For that reason, we've urged the FCC to license one slice of the 700 MHz spectrum (referred to as the "E Block") subject to Open Access principles, as proposed by Frontline Wireless and backed by others including the public interest community. This slice of spectrum could be a sandbox for entrepreneurs and innovators. Those innovations matter because they help consumers with lower prices and better service, and they will help restore America's leadership in the wireless industry.

The wireless industry is ripe with opportunities for innovation and economic growth, but the large wireless carriers and their closed networks act as gatekeepers to block or deter many of these opportunities. From firsthand experience we know that negotiating with the large carriers for access to their networks can be difficult and time-consuming. Indeed, the wireless venture I helped form, Virgin Mobile, nearly didn't get off the ground because of these obstacles. And many ventures don't exist today because of them.

The wireless market of 2007 bears too much resemblance to old Ma Bell's wireline market, with carriers exerting absolute say over the services and devices (think black rotary phones) consumers can use under the guise of "protecting the network." When you hear

these claims from the big wireless carriers today, remember that we heard the same tune for decades until, in 1968, the FCC had enough and said that so long as a manufacturer shows that its device won't harm the network, there's no reason consumers cannot use it. As a result of that important decision, consumers benefited from innovations such as the fax machine, the answering machine, the modem, and billions upon billions of dollars of new economic productivity. Carving out just a small slice of spectrum, the E Block, for a similarly open network can unlock a wave of entrepreneurial energy for wireless and broadband users.

What would an E Block licensed according to Open Access principles look like? In our view, it has three parts:

- *Open Devices*. Allow any device to connect to the network as long as it meets published "do no harm" requirements. Entrepreneurs would be free to bring new devices to market, gauge customer reaction, and evolve the product all in the time that it otherwise would have spent languishing in a big carrier's lab somewhere.

- *Open Services*. Allow customers to access any lawful content or service of their choosing – such as VoIP, webcams, and streaming media – that ride "over-the-top" of the network. The only limits on new service ideas would be the entrepreneur's imagination, not the wireless operator's Terms of Service.

- *Open Auction*. Allow parties to purchase a portion of network capacity from the E Block licensee via an open and transparent auction mechanism. This will ensure a range of new commercial opportunities at fair and transparent market-clearing prices.

We applaud this Committee, other Members of Congress and the Commission for paving the way for the DTV transition and freeing the valuable 700 MHz spectrum for new and exciting services. But we think this effort will have been wasted if it does not create opportunities for entrepreneurs to freely explore new ideas, services, and business models. As entrepreneurs, we subscribe to the old maxim, "nothing ventured, nothing gained." In our opinion, an Open Access E Block is important and vital because the gains to the American economy and consumer are potentially enormous.

Written Statement of

Amol R. Sarva

on behalf of

The Wireless Founders Coalition for Innovation

Before the

COMMITTEE ON COMMERCE, SCIENCE AND TRANSPORTATION

UNITED STATES SENATE

JUNE 14, 2007

I. BACKGROUND

Thank you Chairman Inouye, Vice Chairman Stevens, and distinguished members of the Committee for the opportunity to address the Committee on a topic that I see as critically important to the future of the wireless industry in America. I am here today as a leader of the Wireless Founders Coalition for Innovation, which is a group of seasoned wireless industry entrepreneurs who have founded wireless companies that now generate billions of dollars of revenue and have created thousands of jobs. We have brought innovation to the wireless industry by creating new business models, launching new services, and addressing pressing consumer needs that were previously overlooked by the large wireless carriers.

I am what is sometimes referred to as a serial entrepreneur. Currently I am co-founder and CEO of Txtbl, a startup wireless company based in New York which is just leaving the "garage stage" and closing its first round of venture financing. I would like to say more about Txtbl, but the United States Senate is no place for free advertising and besides we are still in "stealth mode." Let's just say for now that we have ambitious plans to change the way millions

of Americans communicate. This is my third wireless startup. In 2000, I was among the first four team members of Virgin Mobile USA, my first wireless venture. The first and most successful mobile virtual network operator (MVNO) in the United States, Virgin Mobile pioneered pre-paid calling plans and has made wireless service accessible to millions of customers – especially younger people, lower income and low-credit people and ethnic minorities – who were previously underserved by the major operators. In just the five years since our launch, Virgin Mobile has gone from zero to nearly 5 million customers and achieved over $1 billion in revenues. It recently filed for its initial public offering. In addition to my entrepreneurial experience, I was also a management consultant with McKinsey & Company, where I provided strategic advice to large telecommunications companies. I attended New York City public schools including Stuyvesant High School, received my B.A. in Economics and Philosophy from Columbia University and my Ph.D. from Stanford University in Cognitive Science.

Other members of our Coalition are also responsible for a number of "firsts" in the U.S. wireless market. For example:

- Fabrice Grinda founded Zingy, one of the first mobile content companies, which built the market for ringtones and mobile entertainment in the United States. Zingy grew from $0 to over $50 million in revenue in 4 years.
- John Tantum, mentioned above, co-founded Virgin Mobile USA as its first President and has been my partner in subsequent ventures.
- Jason Devitt was the founder of Vindigo, which publishes more than twenty different applications for mobile phones including its famous city guide.
- Pat McVeigh was CEO of Omnisky, one of the first service providers to market a national wireless data product. He was CEO of PalmSource, the company that created the revolutionary Palm operating system.
- Sam Leinhardt founded Penthera, which has created one of the world's first software platforms for mobile television broadcasting, as well as founding three prior technology

companies and having served as CEO of a mobile email software maker acquired by Nokia.

- Alex Asseily founded Aliph, which created revolutionary, military-grade audio technology for wireless phones and the Jawbone wireless headset.
- Martin Frid-Nielsen founded Soonr, a novel service that very flexibly gives consumers access to their PC data from any mobile device or network, and holds four patents in wireless data synchronization.

These are just a few examples: the full group of 15 founders is listed in Appendix A. Most of us are now working on our second, third, or fourth wireless startups, many of which are still in the "garage stage." We continue to seek new applications for wireless technology and to push the envelope to help Americans be more productive, save money, feel more secure, and – not to be ignored – have more fun by using wireless services.

Additionally, I want to emphasize that several other very successful and ambitious entrepreneurs have shared their support for this approach with us in private as colleagues, but are stifled from articulating these views publicly for fear of reprisals by the large carriers who control access to national wireless networks today. I can sympathize with their position. I've been there too.

II. EXECUTIVE SUMMARY

Last week the Wireless Founders Coalition for Innovation wrote a letter to FCC Chairman Martin in support of an Open Access E Block, as described in Frontline's proposal. We believe the wireless industry is ripe with opportunities for innovation and economic growth, but the large wireless carriers currently act as gatekeepers to block or deter many of these opportunities. From firsthand experience we know that negotiating with the large carriers for access to their networks can be a difficult and time-consuming process that can add months if not years to the launch of a new venture and hinder the "trial-and-error" process intrinsic to the

entrepreneurial process. An Open Access framework, by contrast, would enable innovation at "Internet speed."

My personal experience working with the large carriers as an MVNO is instructive on these points. Virgin Mobile USA was successful *in spite* of a huge number of hurdles raised by the wireless incumbents. We almost failed to get a network deal with any carrier. We almost failed to navigate the arduous device certification process. Who knows how many other ventures have failed to pass through the "star chamber" of the wireless incumbents' technical and business requirements processes?

As entrepreneurs we are not only visionaries, we are pragmatists. We know it is difficult to for the FCC to force the large carriers to open up their existing networks retroactively. Nor do we ask the FCC to apply Open Access rules to the entire 700 MHz band. However, we think it is eminently reasonable for the FCC to designate a single 10 MHz block in the upcoming auction – a small fraction of the 700 MHz spectrum allocated to commercial use – as a sandbox for entrepreneurs or an incubation tank where young, fragile ideas have a chance to live. We applaud the Commission for paving the way for the DTV transition and freeing this valuable spectrum for new and exciting services. We believe, however, that this effort will have been wasted if it does not create opportunities for entrepreneurs to freely explore new ideas, services, and business models.

The 700 MHz auction could prove to be a pivotal event in the history of the wireless industry, marking the transition to the age of the "wireless Internet". But this will only happen if the FCC makes the right decisions, if it seizes the entrepreneurial opportunity and gives the American people a chance to participate in the upside from a new and improved approach to wireless policy.

III. PROTECTING NETWORK HARM VS. PROHIBITING NETWORK USES

For decades prior to the FCC's seminal *Carterfone* decision, consumers were prohibited from attaching *any* device to the telephone network unless it was expressly sanctioned (and sold) by Ma' Bell. Basically, the phone company kept competition at bay by arguing that it couldn't keep phone service running without "absolute control" over the network. Finally, in 1968, the FCC called their bluff, and said that so long as a manufacturer shows that its device won't harm the network, there's no reason to keep it out of the hands of the public. As a result, we got the fax machine, the answering machine, the modem, and billions upon billions of dollars of new economic productivity.

Yet today, wireless carriers control subscribers' wireless devices much as AT&T once controlled the wireline experience. One can get a sense of the operators' proprietary control over the networks by looking at the restrictions they place on their retail customers. By way of example, here is an excerpt from the Terms of Service that currently apply to Verizon Wireless's data services (emphasis included in the original):

> **DATA PLANS AND FEATURES**
> Data Plans and Features (such as NationalAccess, BroadbandAccess, GlobalAccess, Push to Talk, and certain VZEmail services) may ONLY be used with wireless devices for the following purposes: (i) Internet browsing; (ii) email; and (iii) intranet access (including access to corporate intranets, email, and individual productivity applications like customer relationship management, sales force, and field service automation). **The Data Plans and Features MAY NOT be used for any other purpose. Examples of prohibited uses include, without limitation, the following: (i) continuous uploading, downloading or streaming of audio or video programming or games; (ii) server devices or host computer applications, including, but not limited to, Web camera posts or broadcasts, automatic data feeds, automated machine-to-machine connections or peer-to-peer (P2P) file sharing; or (iii) as a substitute or backup for private lines or dedicated data connections. This means, by way of example only, that checking email, surfing the Internet, downloading legally acquired songs, and/or visiting corporate intranets is permitted, but downloading movies using P2P file sharing services and/or redirecting television signals for viewing on laptops is prohibited. A person engaged in prohibited uses, continuously for one hour, could typically use 100 to 200 MBs, or, if engaged in prohibited uses for 10 hours a day, 7 days a week, could use more than 5 GBs in a month.**

As you can see, Verizon spills quite a bit of ink telling users what they are *not* allowed to do using their wireless data connections. You may use your wireless connection for simple e-mail or web browsing, or corporate applications but *not* for "any other purpose." Not for instant messaging. Not for voice over IP. Not for Internet video. Not for downloading games. Not for any other lawful consumer Internet application invented in the past 15 years, really. Customers are on notice that using the network in lawful but non-approved ways puts them at risk of having their service terminated.

Like the old AT&T monopoly, wireless carriers argue that unless they dictate exactly *how* and *with what device* a consumer uses the wireless network, it will all come tumbling down. Indeed, in response to the Coalition's call for an open access network on the E Block, one of the incumbent carriers responded that just four Slingboxes can take down a cell site. But is a Slingbox, or any other device designed to allow consumers to remotely watch video, inherently "unsafe"? And are other prohibited services – like VoIP or free text-messaging services – inherently harmful to the network? Of course not.

Instead, like any use of the network, some applications may make more use of the network than others, and regardless of the use, some consumers will use the network more intensively than others. This is not a new problem. Carriers deal with the issue of voice capacity by charging for minutes of use on the network. Customers who use lots of minutes pay more than those who do not, and the price mechanism gives customers an incentive to ration their usage. Equally important, the pricing mechanism gives carriers an incentive to increase capacity so that they can generate more minutes and hence more revenue. What if carriers simply charged data users for the amount of capacity they use, just as they charge voice users for minutes of use?

In that case, streaming video users would pay more for using more network capacity and, if the price was too high, they might reduce their use of streaming video applications.

Carriers also argue that they need absolute control over the consumer experience, lest the consumer should stumble upon a device or use that provides a lesser quality or otherwise different experience than that offered by the carrier. But if a consumer wishes to use a free instant messaging service, instead of the carrier's own paid messaging service, how is that a "harm" to the network? It simply means that the consumer is free to make their own decision as to a tradeoff between price, quality and a host of other variables. Maybe the consumer is an "early adopter" who is willing to try out a new product on the leading edge of technology. Early adopters are notoriously willing to accept tradeoffs in product quality in order to have the "newest thing". Fortunately for the rest of us, it is these early users who allow innovative products to "cross the chasm" from laboratory to the mass market.

Simply put, there is no reason, apart from commercial self-interest, why a carrier needs to ban streaming video devices, webcams, voice over IP, or any other such application. These prohibitions are akin to telling subscribers what conversations they can or cannot have on their mobile phones (*e.g.*, quick chats about what to pick up for dinner are ok, long conversations with old friends are not). The only devices and uses that shouldn't be allowed are those that would actually harm the network. For example, a device that would operate above acceptable power limits would cause interference to other users, and certainly it is reasonable for a carrier to ban it. But particularly as we move to an all-IP wireless world, there is no inherent reason that one byte of traffic should be allowed while another byte is deemed "harmful". Similarly, if a device meets a published technical specification of acceptable "behavior" (or, for that matter, if it is

type approved by the FCC), there is no reason to require special permission from the carrier before it can connect to the network.

IV. OBSTACLES TO INNOVATION IN WIRELESS

Wireless entrepreneurship is not for the faint of heart. The wireless industry is dominated by four large nationwide carriers: Verizon, AT&T, Sprint, and T-Mobile, *a.k.a.*, "The Big 4." Members of our Coalition have dealt extensively with the Big 4, as partners, suppliers, customers, and competitors. We have developed business relationships at all levels of management and some of these relationships have even grown into friendships. The Big 4 counts among its ranks many bright and talented people, including more than a few visionaries and technical wizards. Dealing with these people is often a pleasure; dealing with their organizations is more difficult. The Big 4 are large, generally risk-averse companies which exercise very tight control over their networks.

An entrepreneur looking to create a new device or service that somehow touches one of these networks typically has to get some measure of approval from the carrier. For a new device this might involve waiting six months or longer while it undergoes "device certification," even when the device is merely a cosmetically-altered variant of some previously tested device. For a new software application this might involve lengthy negotiations over "deck placement" of the software, which may compete with an inferior product offered directly by the carrier itself. For an MVNO, the approval often requires convincing the carrier's wholesale arm that a new retail service targets an under-served market niche and will not compete for customers with the carrier's retail arm. And as discussed above, the carriers' Terms of Service also prohibit many cutting edge applications that involve passing data traffic "over the top" of carrier networks.

Each of these barriers significantly raises the cost and risk of bringing a mobile product or service to market.

My own experience starting Virgin Mobile USA is instructive. Virgin Mobile is a success story, but one whose fate was by no means assured. While any new venture must confront the slings and arrows of outrageous fortune, we faced the additional risk of having to find a Big 4 carrier that would support, if not endorse, our business plan. We started in late 1999 with the idea for a product that addressed youth and other segments of the market that the incumbents saw as "unattractive" because they were too poor, too low credit, and too hard to serve with existing models. We spent nearly two years traveling around to all the carriers to see if anyone would deal with us. In general, the answer was "no" and for a long time we were uncertain whether anyone would let us get off the ground. By far the scarcest commodity in this process was network access – it was far easier to raise capital (Virgin invested millions) – and once the network deal was complete we had offers for additional investment from outside investors for hundreds of millions more. In the end, only one of the weakest large players was willing to deal with us: Verizon and Cingular were dominant, T-Mobile had a powerful corporate parent, but Sprint was a lagging #3 player.

We had to compromise away many degrees of freedom to get a deal done with the network partner, Sprint. We agreed to market a prepaid product that would not directly compete with Sprint's products nor compete for Sprint's mainstream customers. At the time we launched, 95% of the market was postpaid. Sprint was 100% postpaid. Virgin markets only to youth, only offers prepaid, only runs on the Sprint network, and Sprint has significant representation on the board of directors. We were only able to create the Virgin service by operating within the direct self-interest of a weaker player that needed help, by avoiding any direct competition with what

they do, and by giving them a measure of control in our company. In general, this frame of "complementarity" applies to almost every wholesale-style relationship that the major carriers have done. Moreover, the additional frame of "credible partners" with track record and capital also widely applies. Few pure upstarts gain the privilege of access to carrier networks. Of course, this limits the potential for innovation by new firms with new ideas. After Virgin Mobile paved the way, the large carriers have done additional MVNO deals, but who knows what great new idea is sitting in wireless purgatory, waiting for approval from the Big 4.

A wholesale deal with Sprint was only the beginning of our treacherous journey for Virgin Mobile. We had to navigate many arcane business processes in order to get our phones into the market. One of the best examples is the device certification process mentioned above. Device certification is a big deal. It is always the subject of major, detailed negotiation in the MVNO relationships I have been a part of (I have negotiated Virgin's, several as a McKinsey consultant, and one for each of my subsequent ventures Blue and Txtbl). Almost all MVNOs end up taking "table scraps" from the big carrier, *i.e.*, they use devices that have already been approved by the big carrier but which the carrier has cast aside. We followed this pattern at Virgin Mobile, simply releasing devices that Sprint had already certified months before and wasn't currently marketing. We did this because certification is so tedious. It is estimated to take 6-9 months for a new phone. These days, the state of phone technology is such that a new phone can be designed in less than 3 months. Yet the carriers take three times as much time to certify. Most non-U.S. networks take much less time – any device maker will tell you – which is why many cutting edge devices are introduced in Europe or Asia before the U.S. For one of my other companies, a different large carrier made us go through a 45-day process to get approval for changing the wallpaper and ringtones … *on a phone that had already been certified.*

The certification process is also inequitable. One's position in the certification queue is influenced by the carrier's marketing staff. MVNO devices get pushed down the queue for later approval. Exceptions are not usually made for wholesale partners but I have often heard of partially-certified, not-properly-working devices being released by the retail carrier for "marketing impact".

Of course, it is possible to navigate through these obstacles. We have done it before. Our experience tells us, however, that the path can be arduous, especially when compared to our experiences in other sectors of the telecom industry, especially the Internet. Experience also tells us that these efforts often do not succeed or do so slowly or at substantial costs. For every Virgin Mobile there are several other ventures that were not able to navigate the carrier maze.

V. REQUIREMENTS FOR INNOVATION IN WIRELESS

Wireless entrepreneurship would take a huge step forward if wireless was more like the Internet. What makes the wireline Internet so friendly from an entrepreneur's perspective is its Openness. One does not have to ask Comcast or Time Warner Cable or even Verizon's DSL division for permission to launch a new product, service, or device. To borrow the Nike slogan, you can "just do it." In wireless, on the other hand, you can "just ask the Big 4." If you are skillful – or lucky – enough to make it through to the other side, the upside can be large. Yet entrepreneurship is an iterative, trial-and-error process. Having to engage with the Big 4 at each cycle in the process can slow time to market and increase risks and costs for the entrepreneur. One should not have to negotiate with an access provider to offer a product elsewhere in the value chain. Based on my experiences and those of my fellow Coalition members, I would like to offer a few observations about what it takes to innovate in wireless.

First, innovation requires small bets with real customer feedback and iterations. This is the "try, try again" rule. Entrepreneurs need "laboratory" settings to commercialize ideas that may initially look small but turn out to be quite big. This means access to real, live customers using real, live networks. The bar was very high for us when we launched Virgin Mobile in the US – we spent $40 million simply to put together the basic systems to run the service and meet our Sprint's integration requirements. This was quite a high bar to trial our ideas. By contrast, most Internet services can be developed, trialed, refined, and redeployed multiple times in a fraction of the time and at a fraction of the cost. This is one reason the Internet is such a great breeding ground for innovation.

Second, freedom to enter the market is essential. It is very difficult to know, *a priori*, where the good new ideas will come from or the magnitude of their impact on the market. For example, IBM gave up the rights to the Microsoft operating system. Yahoo declined to acquire Google's search engine. And of course AT&T believed the cell phone would never become a "mass market" product. Innovation often happens from the edge of a market. Some of the most important inventions in telecommunications, including the Hayes Smartmodem, online services, the answering machine, and speakerphones were all commercialized by outsiders to the Bell System. Yet these new products and services were only made possible by the FCC's *Carterfone* decision and Part 68 rules, which removed the Bell companies from their traditional role as gatekeeper of the network.

Third, the most disruptive innovations are typically the ones most easily dismissed by market incumbents. Some innovation is merely incremental and accretive to the existing business franchises of the incumbents. But the big changes are often disruptive (or appear so initially) and threaten them. When we started Virgin, the only carrier who was willing to deal

with us was also the only big carrier with no prepaid mobile phone service and the distant number three player with little hope of catching the top spot. More fundamentally, it is easy to see why a market leader such as Verizon Wireless so fiercely opposes opening up its networks. They have a closed business model that makes a lot of money and they fear that a loss of network control will mean a loss of their position.

The upshot is that America is not innovating in wireless at nearly the rate it could be. While all the ingredients for innovation – wireless broadband networks, IP networking stacks, advanced multimedia devices – are readily available, the incumbent operators are too hesitant to try a new recipe for change. We think the industry needs a good test kitchen.

VI. THE OPEN ACCESS SOLUTION

Our Coalition believes that an Open Access requirement on the E Block provides a concrete and actionable way to carve out a portion of the wireless market for entrepreneurial activity. Specifically, we believe the FCC can unlock a wave of entrepreneurial energy if it implements three forms of Open Access in the E Block: Open Services, Open Devices, and Open Auction.

Open Services

An Open Services rule would require that the E Block service provider allow customers to access "over the top" Internet-style applications of all kinds. These would include many kinds of services currently prohibited under the Big 4 subscriber contracts. Verizon Wireless, for example, prohibits the use of VoIP, webcams, and other media services. Under the Open Access rule, these kinds of Terms of Service would not be allowed. Entrepreneurs would be free to create a low-cost voice offering or, say, a mobile social network with videoblogging capabilities.

The only limits on new service ideas would be the entrepreneur's imagination, not the wireless operator's Terms of Service.

Open Devices

The Open Devices rule would ensure that users can connect any device of their choosing to their wireless network, provided it meets certain publicly specified technical standards. The consumer device industry has undergone a revolution in the past few years. Modular design and contract manufacturing now make it possible for even an upstart to sell sophisticated, purpose-built devices. In particular, RF technology is becoming increasingly commoditized, which means that it is now possible to embed wireless capabilities into devices using off-the-shelf component parts. We envision a wave of opportunity in the device space, including the evolution of cell phones toward "broadband communicators", the addition of wireless community features to portable media and gaming devices, and even using wireless to provide cheap connectivity to otherwise "dumb" appliances. We are starting to see these kinds of devices emerge with local area Wi-Fi capabilities, but the possibilities are even greater once the devices can access the sort of wide area 4G networks that will operate in the 700 MHz band. Bringing a new product to market is always a risky proposition, but it is made more risky by the need to pass a carrier's certification process, which as noted above is filled with uncertainty, is non-transparent, and can take many months. Under the proposed Open Devices rule, entrepreneurs would be free to bring new devices to market, gauge customer reaction, and evolve the product all in the time that it otherwise would have spent languishing in a Big 4 lab somewhere. Especially when the underlying RF components have been shown to meet a "do no harm" technical standard, there is no reason to subject the entrepreneur – or her customers – to needless bottlenecks.

Open Auction

Finally, we applaud the recent suggestion made by Google and Frontline that a portion of the E Block network capacity be made available to all comers via an auction. This will ensure a range of new MVNO opportunities at fair and transparent market-clearing prices. Moreover, we can envision the connectivity being used in some non-traditional ways. For instance, someone could offer an inexpensive wireless service subsidized by location-based advertising. Or, in another example, en entrepreneur starting an "over-the-air" online music store could include the cost of wireless connectivity in the price of the song download, so that the customer never has to subscribe to a wireless service to gain access to the music store. And of course there are many more ideas that we haven't even thought of yet (if the proposal is adopted).

VII. PRAGMATIC CONSIDERATIONS: THE E BLOCK AS STARTING POINT

Perhaps the best aspect of the E Block proposal, in our view, is that while it is forward thinking, it is also realistic. We believe it would be an eminently reasonable approach to apply Open Access only to the E Block. We observe that 10 MHz is a relatively small portion of the commercial 700 MHz spectrum and only about 2.7% of more than 350 MHz that will have been allocated for CMRS use following this auction and last year's AWS auction.[1] Over time, the provision of Open Access services by at least one carrier in the market could apply competitive pressure to the others to open up as well. A slight regulatory nudge could result in a major push by market forces.

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[1] After the 700 MHz auction there will be approximately 358 MHz allocated for CMRS. This includes 50 MHz for cellular licenses, 120 MHz for Broadband PCS, 14 MHz for ESMR, 90 MHz for AWS, and 84 MHz at 700 MHz. This does not include nearly 200 MHz of EBS/BRS spectrum and over 50 MHz of MSS/ATC spectrum becoming available for CMRS-like services.

Finally, we want to point out that the Open Access proposal also raises the possibility that entrepreneurs like us can bring new ideas and energy to the public safety market. Open Access would create new opportunities for specialized public safety devices and services, just as it would for commercial uses. Indeed, we note that the openness of the Internet has spawned many important and vital technologies such as firewalls, VPNs, routers, and other products geared toward network security. An Open Access regime, by unbundling network functionalities, allows for the development of "best of breed" security tools that bring state-of-the-art thinking to each layer of the network stack. Openness increases competition to meet public safety's unique requirements, by enabling customers to assemble an end-to-end framework using the best available component piece parts.

As entrepreneurs, we subscribe to the old maxim, "nothing ventured, nothing gained." In our opinion, an Open Access E Block is a venture worth pursuing, because the gains are potentially enormous.

APPENDIX A: WIRELESS FOUNDERS COALITION FOR INNOVATION MEMBERS

Amol Sarva, Ph.D.
Co-Founder, Virgin Mobile USA
Co-Founder, Blue Mobile
Co-Founder and CEO, Txtbl

John Tantum
Co-Founder and former President, Virgin Mobile USA
Co-Founder and former Managing Director, Blue Mobile
Co-Founder and Chairman, Txtbl

Fabrice Grinda
Founder and former CEO, Zingy
Founder and CEO, OLX

Alex Asseily
Co-Founder and CEO, Aliph

Pat McVeigh
Former CEO, Omnisky
Former CEO, PalmSource
Early employee of Palm

DP Venkatesh
Founder and CEO, mPortal

Jason Devitt
Co-Founder and former CEO, Vindigo
Founder and CEO, Skydeck

Ram Fish
Founder and CEO, Fonav

Joel Jewitt
Co-Founder and VP of business development, Good Technology
Early employee of Palm

Martin Frid-Nielsen
Co-Founder and CEO, Soonr

Dr. Sam Leinhardt
Co-Founder and CEO, Penthera
Co-Founder of Leinhardt-McCormick Associates, FORMTEK, and STORM

Dennis Crowley
Co-Founder and former CEO, Dodgeball.com

Kent Thexton
Chairman and Former CEO, Seven Networks

Peter Semmelhack
Founder and CTO, Antenna Software
Founder and CEO, buglabs

Russell Cyr
Founder and CEO, BitWave Semiconductor

APPENDIX B: ATTRIBUTES OF CLOSED VS. OPEN NETWORKS

	"Closed"	**"Open"**
Devices	• Carrier certification required before new device allowed to operate on the network	• New devices do not have to be approved by carrier as long as they meet published technical specification
Services	• Carrier limits content and applications that may be accessed over the network • Carrier hides protocols needed to access network features (e.g., geographical positioning data)	• Users may access any content or service just as they can with the Internet • Public APIs allow independent developers to create services using network "hooks"
Access	• Carriers very selective about which companies may buy wholesale network access, look for "complementary" (i.e., non-threatening) business models	• Any service provider may purchase network capacity via an open auction that prevents favoritism and ensures price transparency