

NetCompetition Comments on the Spectrum Frontiers Order 14-177 Spectrum Bands above 24 GHz 139

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### **Google Fiber Pivots to Be Wireless ISP & FCC Spectrum Access Administrator**

Don't miss Google's enduring big wireless ISP ambitions in the midst of all the noise and confusion about the future of Google Fiber.

(And also don't miss Google's grand ambitions to organize and dominate America's spectrum-related information via its certification as a key FCC Spectrum Access System Administrator discussed in the second half of this analysis.)

Google continues to pivot its Internet access ambitions away from deploying capital-expensive *fiber* technology deployment to deploying much-less-capital-expensive *unlicensed wireless* access technology, that does not require digging and burying fiber, and that only uses *free* unlicensed spectrum.

Alphabet's CFO effectively explained on its 3Q16 earnings [call](#) that Google is halting *new* capital investment in fiber deployments in new cities because it believes that new wireless access technology advances combined with its acquisition of wireless internet access provider [WebPass](#) this summer have the potential to dramatically reduce Google's Internet access deployment capital costs.

This is exactly in keeping with what I recently wrote in my [analysis](#) "*Why Google Fiber is Dead Business Model Walking*," that the business model for a new *fiber*-based entrant was a too-expensive business model so Google would switch to much-less expensive *unlicensed wireless* internet access technologies, and eventually would rebrand Google Fiber to something like Google Access, Wireless, WiFi, or Fi.

The much bigger development this summer than Google's acquisition of Webpass and its shift to unlicensed wireless technology, was the FCC's July approval of its Spectrum Frontiers Order, which more than doubled the amount of spectrum available for unlicensed use to over 14GHz, and paved the way for Google to have a potentially central and leading role in overall spectrum access administration for the U.S. wireless marketplace going forward.

This question of Google's ISP future is particularly timely now because the FCC is taking comments on how access to the new licensed and unlicensed spectrum allocated in the Spectrum Frontiers Order should be administrated going forward.

To cogently explain and bring attention to this arcane, but exceptionally important strategic development to the future of broadband wireless competition, some brief background is necessary.

In 2012, The President's Council of Advisors on Science and Technology (PCAST) issued a [report](#) on how Government-held spectrum could be better utilized, which recommended shifting from auctioning more Government spectrum for commercial licensed use to more Government sharing of its spectrum with licensed and unlicensed users.

This recommendation was a near-180-degree reversal of two decades of bipartisan policy to make more government spectrum bands available for auction and commercial use.

Google Chairman Eric Schmidt and Microsoft's Chief Research Officer Craig Mundie were the only corporate advisors on this PCAST spectrum report and advisory team that recommended implementation of this complete spectrum policy reversal -- which the Administration and the FCC ultimately fully adopted.

In 2015, the FCC issued a 3.5MHz spectrum [order](#) that created an experimental "innovation band" to pilot the Administration's new spectrum sharing paradigm. It explained: *"The Commission adopted a comprehensive framework encompassing three tiers of shared use (Incumbents, Priority Access, and General Authorized Access), coordinated through one or more Spectrum Access Systems."*

Since then, the FCC has certified Spectrum Access System (SAS) administrators: Google; CTIA (The Wireless Association); Federated Wireless (a small start-up); and Comsearch ( a subsidiary of ComScope Inc, a network infrastructure services provider).

**Importantly, there was no FCC neutrality requirement forbidding competitive conflicts in becoming a SAS administrator**, like when Congress and the FCC, in implementing the competition rules in the 1996 Telecom Act, required the administrator of local number portability, to be a neutral party, because a competitor would have conflicts/incentives to not efficiently transfer their phone numbers to a competitor.

Requiring an honest broker here, is the same common sense principle of why a company trading on a commodity, stock or currency exchange, cannot own the exchange, and why many professions have fiduciary legal and regulatory obligations to be an honest broker.

The SAS role is highly analogous because it is at core a classic middleman/broker role, where it would gain privileged access to potentially the most complete source of some of the most competitively sensitive information about wireless customers and their use of spectrum for what purposes, when, where, who, why, and how over time.

Last month, **these new SAS administrators commendably reached an agreement** “to govern how information exchanged between the SAS administrators may be used and the responsibilities of the SAS administrators to maintain information exchanged as confidential.”

I specifically commend Google for contractually agreeing with the other certified SASs to keep SAS-collected sensitive registration-information confidential because of the statutory privacy and security requirements involved.

This contractual commitment is especially important given the potentially sensitive private data and national security-relevant data involved related to Critical Infrastructure Information (CII) per the Department of Homeland Security.

This brings us up to date, and to the main point of this analysis.

The FCC has asked for comment whether or not the FCC’s 3.5 MHz experimental three-tier spectrum management pilot and SASs should become the default standard SAS model for ~all of the 11 GHz of licensed and unlicensed spectrum the FCC allocated in the July Spectrum Frontiers Order, and potentially all existing spectrum in the future.

This big question here is about whether or not the FCC should allow Google to expand its experimental innovation band SAS role, to a more universal central role where it could become America’s de facto dominant SAS for the whole wireless industry given the PCAST and Google ambitions that all spectrum -- unlicensed and licensed -- should be shared if it is not being used at a given time in a given place.

### **The Big Question: Can Google Be a Neutral, Impartial FCC Spectrum Access Administrator?**

As Google is shifting its Google Access/ISP business model to become the leading unlicensed *wireless* ISP in the U.S., it is appropriate and important to address the new blue whale swimming in the spectrum room.

Is it a conflict of interest and anticompetitive for the FCC to allow a wireless ISP competitor like Google to be an FCC-certified SAS with FCC-required access to much of its competitors’ most competitively-sensitive customer and network utilization and performance data?

Of course it is. Let me explain why.

A SAS is a spectrum information database manager and spectrum access system administrator (gatekeeper) responsible to the FCC for preventing interference between the three tiers of spectrum users, *Government Incumbents, Priority Access, and General Authorized Access* and for algorithmically optimizing efficient utilization of the spectrum dynamically in multiple dimensions.

Simply, the FCC is delegating part of its mission and *raison d’être* to private SASs, that is the responsibility to manage spectrum frequencies to ensure they do not interfere with each other. The FCC currently accomplishes that duty by examining and certifying every type of manufactured device, chip,

phone, radio, TV, transmitter, receiver, sensor, etc. to be allowed to transmit and receive permitted frequencies.

The FCC/Administration's new and opposite spectrum sharing approach practically and effectively requires the FCC to *privatize* a substantial part of the FCC's own statutory purpose to private entities, ostensibly because the FCC does not believe it has the capability or resources in house to complete this new spectrum administration task.

I suspect another big reason for this selective spectrum privatization work-around is that the FCC did not want to ask Congress for the necessary appropriations or legal authority to shunt a big part of its original statutory authority to the private sector to enable spectrum sharing -- for the purposes of de facto reversing Congress' 24-year bipartisan policy of clearing and repurposing government spectrum for commercial auction so ~275 million American consumers' smartphones and other personal digital devices can work fast and without interference.

The SAS administration task is complex involving large amounts of data, storage, and computing, and requires new algorithms and real-time operational responsiveness and reliability, among other requirements.

Since Google's mission is to organize the world's information and make it universally accessible and useful, Google apparently sees this FCC SAS opportunity as the task of organizing the world of visually-invisible spectrum information (i.e. the radio magnetic spectrum frequencies, by location, time, availability, utilization, efficiency, usage types, congestion, etc.) and making them accessible and useful to networks, systems, devices and users – as part of its corporate mission and [dominant information horde](#).

### **Why Google as a More Universal SAS Would Be Highly Anti-Competitive**

Granular spectrum usage information is the effective operational DNA of the wireless ecosystem.

Google is the dominant/default mobile search engine for information in the U.S. with [~90% share](#) of mobile searches per Statcounter. Worldwide Google controls [95%](#) of the mobile search market and [78%](#) of PC market per Merkle Inc.

Google's Android mobile operating system has become the dominant operating system worldwide with [87%](#) market share per IDC, by illegally tying Android to Google's dominant search engine according to antitrust formal charges in the EU's [Statement of Objections](#) against Google-Android.

It is telling that of the 19 downloaded Android apps with over a billion users, 15 are Google apps, including: Search, Play, Maps, YouTube, Chrome, Drive, Hangouts, Newsstand, Books, Games, Music, Movies, & TV -- [per Wikipedia](#).

The FCC's SAS spectrum administration role is analogous to a potential spectrum operating system for the wireless ecosystem and inherently a gatekeeper role potentially deciding which spectrum, which

traffic, which users, which usage gets routed to whose different spectrum in what place and at what time.

Simply, would a combined Google wireless ISP and SAS gatekeeping role be considered a Title II common carrier service by the FCC requiring strongest net neutrality from Google, or would the FCC allow Google in its SAS role to discriminate in its spectrum access management in favor of itself?

With Android, Google already collects much spectrum usage data on Android, and also a lot from iPhone devices as the default search engine with location enabled, and as the second most used map app.

With its SAS role and the FCC requirement that other SASs share a tremendous amount of competitive, private and security information from networks and devices, Google could quickly have vastly more spectrum-related information than any other entity in the U.S.

Google would also have the incentive to self deal to use that information to grow its targeted advertising business, which generates 90%, or \$76b, of Google's \$85b in annual revenues, that's growing at a torrid 20% growth rate in this meager growth environment.

In addition, Google would have a powerful incentive to redirect spectrum use, users, and usage to Google's ISP offering over competitors' ISP services, and to use the competitively sensitive information the FCC would force wireless competitors to share with the Google SAS, to take or win away customers from their competitors.

## **Conclusion**

While it is commendable that Google contractually agreed to keep SAS customer data confidential, it did not explicitly agree to not use it for its own commercial or competitive/anti-competitive advantage.

From the outside, it appears that the FCC has created a spectrum sharing system that has the potential for great anticompetitive abuse by creating a potential rats' nest of unnecessary and unwise FCC-Google created SAS conflicts of interest for what should be an honest broker function.

The FCC's current SAS trajectory creates a spectrum-sharing police responsibility in the SASs, but the FCC apparently has not thought through the need for FCC oversight of their deputized SAS policepersons, especially the one which is a rapidly [proliferating monopoly](#).

Bottom-line, it defies common sense for the FCC to allow Google, the world's [info-opoly](#), a red carpet entrée to become America's dominant spectrum access bottleneck, if the FCC's goals are to promote competition and protect consumers' privacy and security.

No question, the FCC has a lot more work to do to ensure that the current vibrant competition in the U.S. wireless marketplace today, which is the envy of the world, does not get partially or largely monopolized long term by the current Google-Android-opoly, because the FCC did not install common sense, pro-competition SAS safeguards and policies to ensure a competitive and not a monopoly SAS role.

Forewarned is forearmed.

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Note: this blog was filed as a FCC comment in the FCC's Spectrum Frontiers proceeding.

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*Scott Cleland served as Deputy U.S. Coordinator for International Communications & Information Policy in the George H. W. Bush Administration. He is President of [Precursor LLC](#), an internetization consultancy for Fortune 500 companies, some of which are Google competitors, and Chairman of NetCompetition, a pro-competition e-forum supported by broadband interests. He is also author of "Search & Destroy: Why You Can't Trust Google Inc." Cleland has testified before both the Senate and House antitrust subcommittees on Google and also before the relevant House oversight subcommittee on Google's privacy problems.*