



September 15, 2015

Subject: Eleventh Broadband Progress Notice Of Inquiry, FCC 15-101

1. Microcom submits the following comments:

- a. Paragraph 4. Speed, latency, and service consistency are technical parameters and don't define capability. Just because an ISP meets the minimum broadband speed requirements, has low latency, and high consistency of service doesn't mean it is capable of doing what a customer needs at a predictable price. Look at a range of residential customers and decide what broadband should be able to do for them. For example, what type of internet service is required to support 2 HD video streams, 2 audio streams, 10 other devices around the home chatting with one another and the manufacturer, a Skype video chat, home alarm monitoring, a serious gaming session, and a research session with the Library of Congress 7 days a week between 6 and 10 PM. The big question from that study, do we need to do that everywhere.
- b. Paragraph 26. The issue is not so much speed as data caps or more specifically in the satellite world, the amount of data in your plan and the times when you get to use it. You can certainly deliver data faster but that means they reach the plan limit sooner. If you asked me if I wanted 10 Mbs or 25 Mbs downstream from a satellite provider, that might be the wrong question. A better question would be do you want 10 or 25 GB of data in prime time. In today's world I can get 25 GB of data on a 10 GB plan if I spend time between midnight and 5AM watching NetFlix and downloading large files. However, I also have to work so I just forgo it. Data caps are a fact of life in satellite broadband and as well as the mobile broadband world. Until the cost for bandwidth disappears into the noise floor (like the cost of long distance) across the Internet, some ISPs will have to meter usage or get out of the business. In this respect satellite and mobile are very similar since their spectrum is limited and the cost of entry into the business quite high. It is not rational for consumers to believe they should get unlimited amounts for data from an ISP for the same reason it is not rational that we should all pay the same amount for gasoline each month no matter how far we drive. However the typical internet consumer thinks their "gasoline" is unlimited. Weening them off that is going to be a hard sell. Don't worry about Alaska, the meter is always running or things are so slow it doesn't matter.
- c. Paragraph 31. The discussion should not be about latency per se, but about capability. What can it do? An arbitrary decision on latency required for VOIP would discount the fact that we have run VOIP systems over satellite for more than a decade. The same could be said for Virtual Private Networks (VPNs). Many VPNs won't work over satellite but many do because they have been adapted.
- d. Paragraph 44. By consistency of service, we assume the Commission is talking about system availability. As that term has many dimensions we assume you are referring to availability of the customer VSAT. In that respect network congestion is a problem for most ISPs and topography is generally not a problem once it is installed. The main



issue of availability of the customer terminal is weather if you remove the customer router and internet device from the equation. If the Commission wants to establish consistency of service standards on broadband satellite, it should probably do that in the licensing process and not as part of this proceeding. Having been in the consumer satellite business for more than 20 years, most of that operating at the edge of satellite coverage, the best way to improve VSAT availability is to go big. It is unfortunate that most satellite broadband providers don't offer customers a way to improve availability with a larger antenna.

- e. Paragraph 88. The Commission is seeking comment on whether advanced telecommunications capability is being deployed to all Americans on a timely basis. Before we can answer that we would like to pose a rhetorical question to the Commission: Is satellite broadband part of the solution or simply a manifestation of the private market competing with the Connect Americas Fund (CAF) to see who can get there first? Depending on the answer here is our input:
- (1) If satellite is part of the solution, then most Americans have access to advanced telecommunications capability at 3 Mbps up and 12 Mbps down, but the CAF needs to come to grips with a couple of things:
 - Not everyone in the US has access to the latest generation of broadband satellites (Alaska and the US Territories)
 - The CAF, using USF dollars collected from rate payers around the US, is slowly and inexorably reducing the satellite customer base.
 - (2) If satellite is not part of the solution, then at least it must be considered, as a step in getting there. The Alaska Broadband Task Force report said satellite broadband was a "near term solution for many communities" and "should be included in any final design." The CAF has no satellite component and until it does, the patchwork of money thrown at Alaska carriers has created pockets of broadband and will not reach as many people as it should have in the next decade. We can do better if the Alaska Broadband Task Force recommendation is acted on.

2. Microcom stands ready to do our part, we just need to know if we are working with you or competing with you.

Respectfully Submitted,

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Chief Technology Officer