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Re:	Comments on 802.16h general issues
Abstract	
Purpose	Provide some high level questions on 802.16h
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Comments on 802.16h general issues

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I have the following observations/concerns regarding the 16h Baseline Document:

- 1) You have something like nine different methods. This is far too many options, even for an 802.16 standard. The complexity of making even a single one of the solutions completely viable is a difficult enough task. Down select to, at most, three or four proposed methodologies.
- 2) What is the mandatory method that all BS and SS must support? How can any of these solutions work if at least the BS and SS is not required to support just one of these methods? What good does it do to even have optional methods for coexistence coordination?
- 3) BS has no way in 802.16 to communicate directly to another BS (cannot get Basic & Primary CID; does not have the programming of an SS); range limitations make such direct communication over-the-air unlikely though common co-channel or adjacent channel interference impact on a SS at a common boundary is possible, even likely; proxy communication through a common affected SS is more likely; Which proposed solutions rely upon direct BS-to-BS communications and how do they overcome this limitation? How do affected SS gain a transmission 'window' opportunity when interference causes an inability to complete network entry at any BS?
- 4) Many of the 'detection' methods at BS power-up and channel selection require detection of SS UL transmissions to an adjacent co-channel or adjacent channel BS. What if the boundary SS does not have UL transmission requirements/makes no UL transmissions during the BS detection interval? This seems very likely to me. Also, the BS powering-up will only here the SS transmission in the UL subframe. How can the powering-up BS interpret the entire frame structure of the other BS transmissions? What about synchronizing in time? How can the powering-up BS know the transmission offset of the affected SS UL transmissions to the other BS such that the powering-up BS can correctly know the other BS absolute transmission timing? What if there are five affected SS, each differently affected and with different offsets?
- 5) What if a BS is a part of more than one neighborhood or community? part of three neighborhoods? four? nine? How can the available solution methodologies cope with the complexity of such decision making?
- 6) Depending on the use of MIMO and/or AAS (actually, even without them), interference may be extremely intermittent and not readily detected at installation. How can the proposed solutions cope with such issues? Dynamic reconfiguration? Learned interference? I believe that systems that rely upon BS scanned interference sources alone are inherently flawed/uninformative and should be discarded. Therefore must rely upon reports of interfering sources, identifiable or not, from SS. But how can an SS be a part (in Normal Operation) with more than one BS at a time? 802.16 precludes this possibility. How can the SS report interference information to each BS of all other transmission sources that are affecting it? What if the SS is lying?
- 7) In a 'master/slave' relationship, why would any network consent to be slaved to any other network? Why would not each network insist on being the master?
- 8) Some solutions require creation of a 'master subframe'. While we all recognize that this can impact network efficiency, will it impact efficiency to such an extent that MAPs and other overhead consume so much of the DL transmission subframe that the frames become unavailable for data payloads? What about when the master subframe is divided into two parts? three? five?