

16jm Ad Hoc Group Recommendations on 16j/16m Relay Connection Chart

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None

Purpose:

For informing TGM about the discussions that took place in the 16jm AHG regarding 16j/16m interoperability.

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16jm Ad Hoc Group Recommendations on 16j/16m Relay Connection Chart

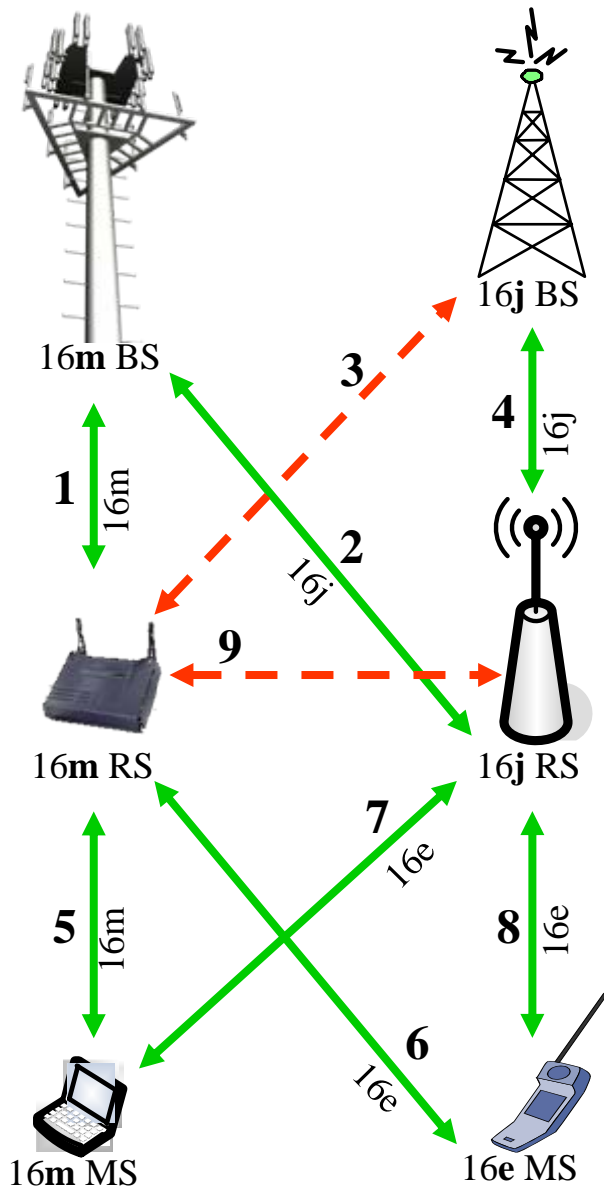
Prepared by

16jm Ad Hoc Group Chairs

Rakesh Taori and Peiyang Zhu

Material Provided to the AHG for discussion

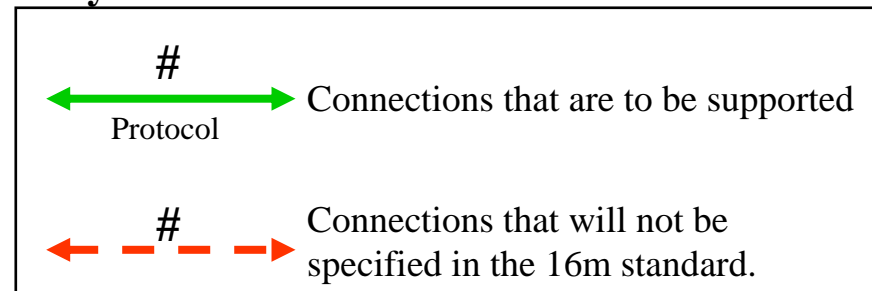
16m Relay Connection Chart



Explanatory Notes:

- Only those connections that involve an RS are shown here.
- 16j BS is referred to as MR-BS in the 16j draft standard.
- The 16m MS shown in this chart refers to a 16m “Terminal” and it is assumed here that the 16m terminal can speak 16m and 16e protocol (in accordance to the Legacy Support requirements text stated in the SRD)

Key



16m Relay Connection Matrix

Connection #	Connected Entities	Protocol used	Supported (Y/N)	Notes
1	16m BS -16m RS	16m	Y	
2	16m BS - 16j RS	16j	Y	This connection is supported under the assumption that a 16j relay profile will be defined (not necessarily in the IEEE 802.16 WG).
3	16m RS – 16j BS	Not Applicable	N	March meeting Straw Poll Results For:25 Against:40
4	16j BS - 16j RS	16j	Y	
5	16m RS - 16m MS	16m	Y	
6	16m RS - 16e MS	16e	Y	March meeting Straw Poll Results For:76 Against:25
7	16m MS – 16j RS	16e	Y	See the Explanatory Note on the previous. slide
8	16j RS - 16e MS	16e	Y	
9	16m RS – 16j RS	Not Applicable	N	March meeting Straw Poll Results For:11 Against:45

Response Summary

Objections/Comments received

- Connection 2 (16m BS – 16j RS): 1 objection
 - Objection: For the exact reason for objection, see Appendix A (at the end).
 - Remark from the chairs: Objection is noted. Will be captured in the final report.
- Connection 6 (16m RS – 16e MS): 1 comment
 - Comment: ‘In the case of connection 6 (16m RS to 16e MS), support for the connection should be conditional based upon the usage model.’
 - Remark from the chairs: When and under what circumstances a connection is to be used will be discussed during the detailed text development phase.
- Connection 9 (16m RS – 16j RS): 1 objection
 - Objection: It is premature to rule out the #9 connection: “16m RS – 16j RS” at this stage. We should keep this connection until the survey results on the basic constructs for the usage models are finalized.
 - Remark from the chairs: Objection is noted. Will be captured in the report.
- Additional connection (MS-RS-MS) proposal
 - Proposal: From the inputs on the 16jm e-mail reflector (as of April 25, 2008), many companies have expressed the desire to support basic construct #7 “local forwarding” (MS1↔RS↔MS2) using relays from MITRE to be placed here.
 - Remark from the chairs: The current connection chart is primarily for discussions related to legacy RS support. End-to-End connectivity constructs (e.g. MS-RS-MS) are dealt with in the “Basic Usage Model Constructs” discussion.

AHG Chairs' Decision

- The objections to connection 2 and 9 have been noted. These will be captured in the AHG report. It should be noted that support for connection 2 was unanimously agreed in the joint TGm/TGj session of the March meeting.
- The discussion on the 16m Relay Connection chart, within this AHG, is now closed.
- The draft of the material (text/table/Figure) which will be recommended by this AHG to the TG for inclusion in the SDD, is shown in the next two slides.
- You are invited to comment on whether the proposed material (text/table/figure) accurately capture the agreed upon connections.

AHG Recommendation

SDD Text for 16j/16m Relay Connection Chart

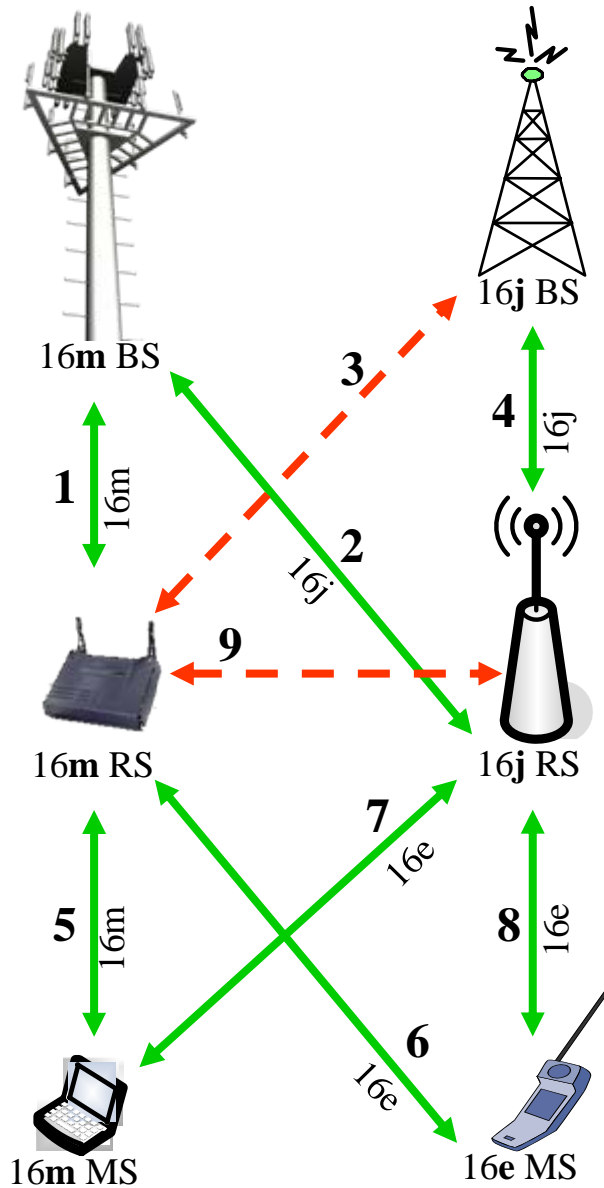
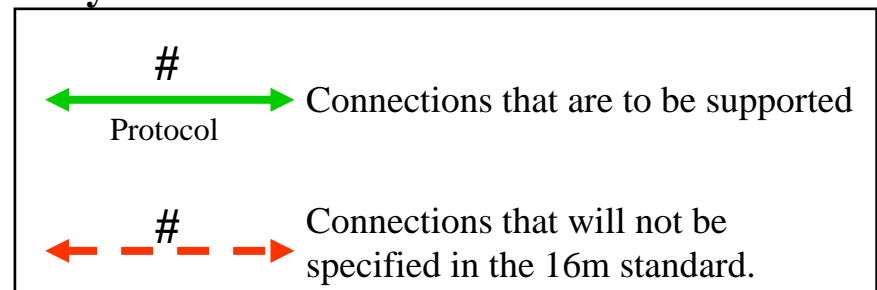


Figure xxx

Connection #	Connected Entities	Protocol used	Supported (Y/N)
1	16m BS - 16m RS	16m	Y
2	16m BS - 16j RS	16j	Y
3	16m RS - 16j BS	N/A	N
4	16j BS - 16j RS	16j	Y
5	16m RS - 16m MS	16m	Y
6	16m RS - 16e MS	16e	Y
7	16m MS - 16j RS	16e	Y
8	16j RS - 16e MS	16e	Y
9	16m RS - 16j RS	N/A	N

Key

Table yyy



SDD Text for 16j/16m Relay Connection Chart

- Insert after Legacy Support Text in line 6, on page 8 of the SDD (08/003r1).
 - Figure xxx and Table yyy, show the 16m relay related interfaces that are to be supported and those which are not required to be supported in the 802.16 specification. Only the interfaces involving RSs (16m and legacy RS) are shown.
 - The 16j BS, shown in Figure xxx is referred to as an MR-BS in the 16j draft amendment. Figure xxx and Table yyy also indicate the specific 802.16 protocol that is to be used for supporting the particular connection.

Appendix A

Objections raised on connection 2

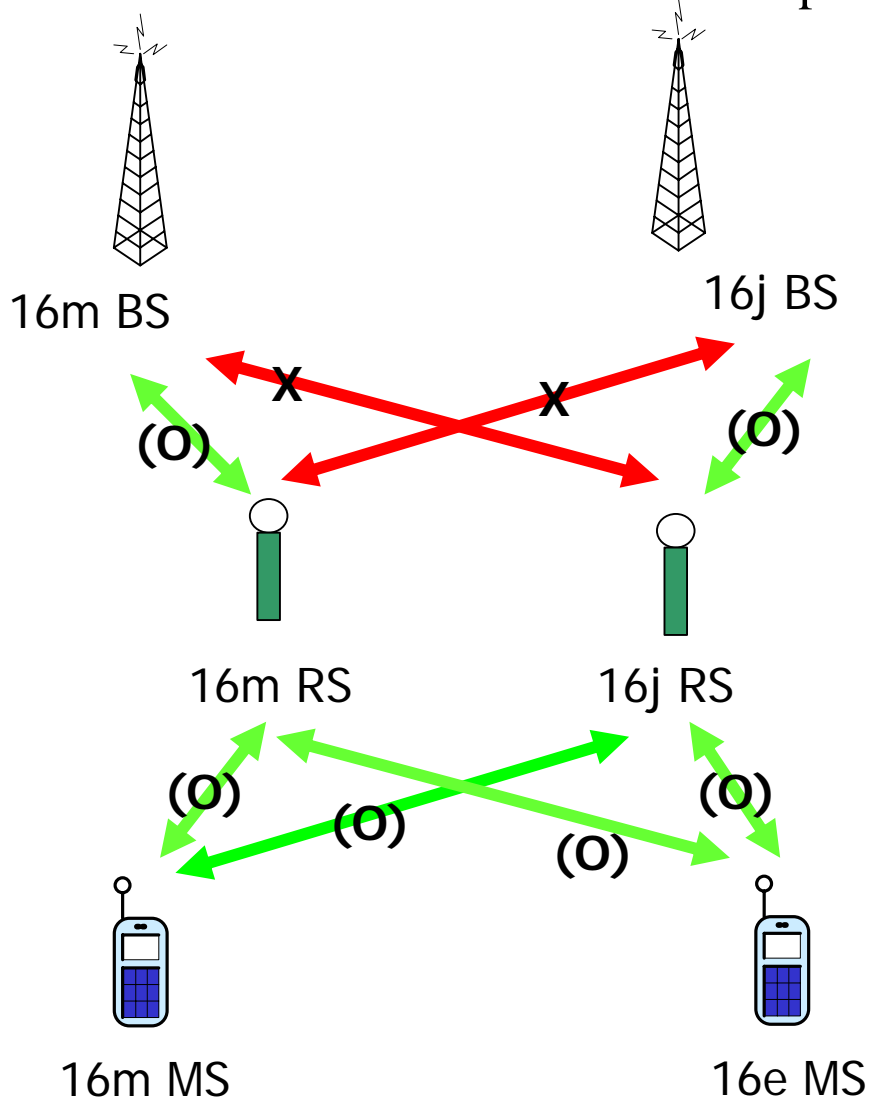
Problem

- Problem: Should Connection-2 which is the one between 16m BS and 16j RS be supported?
- Reason 1:
 - In the current connection configuration, 16m BS can operate with 16j RS. It means 16m BS has to include the capabilities same with 16j BS. In other words, 16m BS has to fully backward support 16j BS.
 - But according to the legacy supporting requirement in 16m SRD, the legacy reference system is defined by WiMAX Mobile System Profile, which does not include the definition of 16j BS.
 - So if 16m BS can operate with 16j RS, the capability of backward compatibility of 16m BS is extended to support 16j BS. It is out of scope of 16m SRD. And it will cause high complexity for 16m BS, because 16m BS has to support at least three air interfaces, including 16e, 16j, and 16m.
- Reason 2:
 - In current 16j standard, there is a lot of optional features to support the same functionality. It does not meet the complexity requirements of 16m for minimum optional features.
- Reason 3:
 - Even 16j profile is defined by WiMAX in the future, this connection is still not necessary. 16m RS can provide the support for both 16e MS and 16m MS to communicate with 16m BS. And 16j RS can support both 16e MS and 16m MS to communicate with 16j BS.

This slide is adopted as is (Slide 5) from a ZTE submission titled 'Considerations on Connection configurations between 16j and 16m (ZTE)-v1.ppt'

Proposals for connection configuration

- In the connection configuration between 16m and 16j, 16m BS, 16m RS and 16m MS are the stations with the capability of legacy supporting.



Case	Path	
1	16m BS to 16m RS	O
2	16m BS to 16j RS	X
3	16j BS to 16m RS	X
4	16j BS to 16j RS	O
5	16m RS to 16m MS	O
6	16m RS to 16e MS	O
7	16j RS to 16m MS	O
8	16j RS to 16e MS	O

This slide is adopted (Slide 6) from a ZTE submission titled
 'Considerations on Connection configurations between 16j and
 16m (ZTE)-v1.ppt'