Recommendations on 802.16j technical requirements

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Aimin Zhang, Shangzheng, Yuanyuan Wang, Yanling Lu, Shulan Feng, John Lee
Huawei Technologies
Voice: +86-21-68644808
Fax: +86-21-50891853
E-mail: John_Lee@huawei.com
Address: No.98, Lane91, Eshan Road, Puding, Shanghai, China 200127

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None

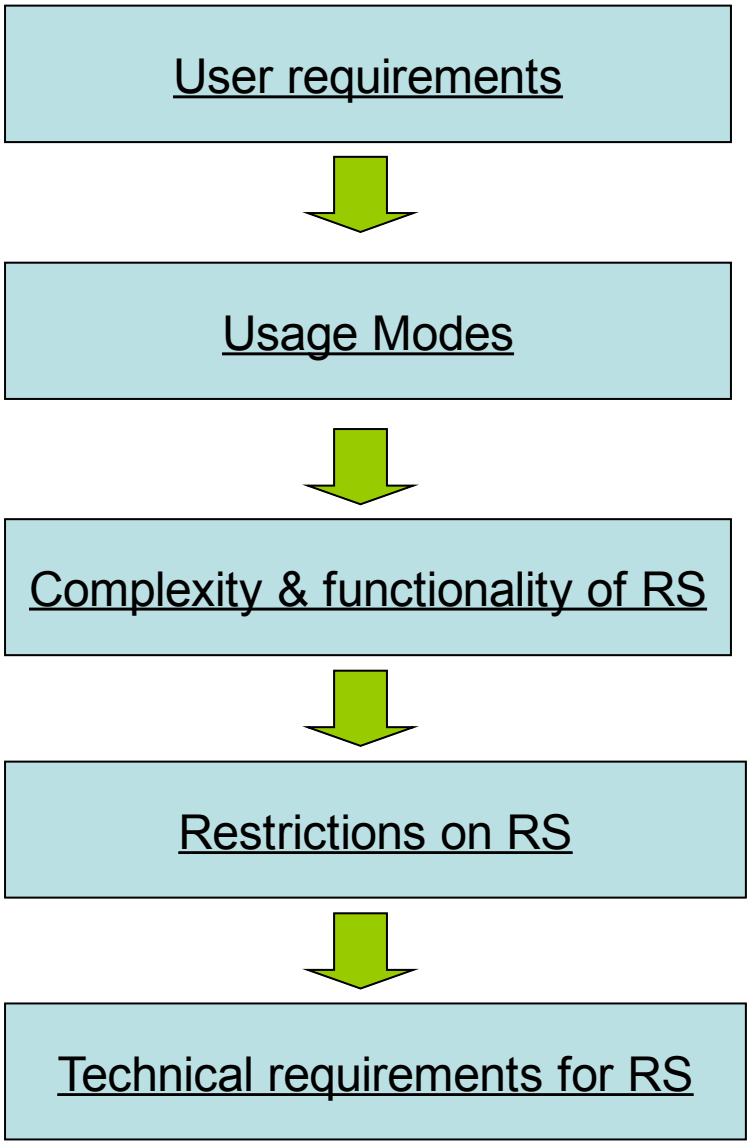
Purpose:

The purpose of this document is to give some recommendations on 802.16j technical requirements.

Necessity to distinguish different capability levels of RSs (1/4)

- Different companies have different views on the technical requirements for 16j, the main arguments are:
  - Preamble transmission
  - Hop limits
  - Scheduling
  - …

Necessity to distinguish different capability levels of RSs (2/4)



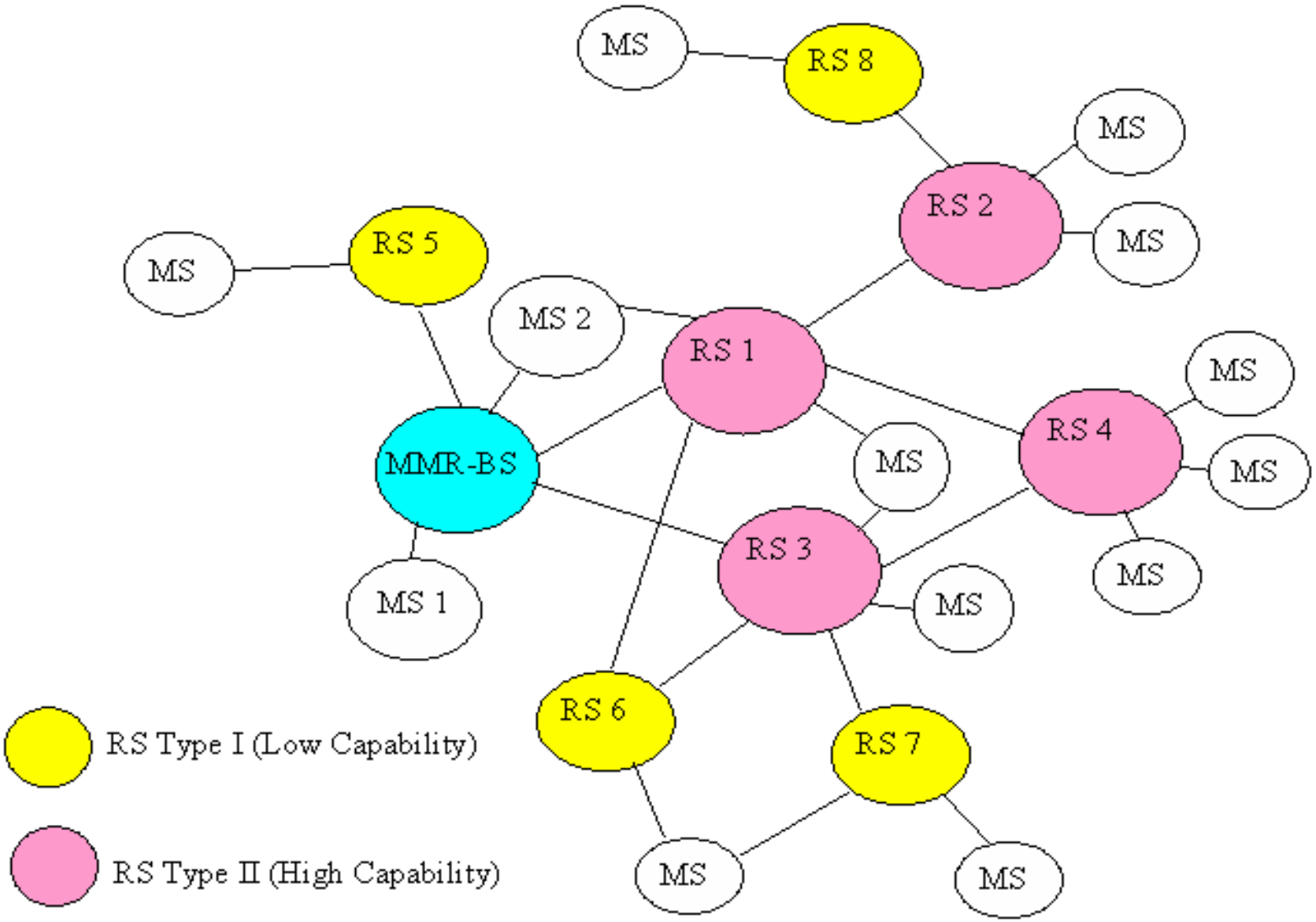
Necessity to distinguish different capability levels of RSs (3/4)

- Different user requirements lead to different capability RSs
  - Some users (Operators) need powerful, high performance RSs
  - Some users (Customers) want simple low cost RSs
- The complexity and functionality of different capability RSs vary greatly
  - Processing power
  - Power supply
  - Memory size
  - …
- Different capability RSs might have different technical requirements
  - Simple/low capability RSs might not have the ability to schedule too much MS due to its processing power, small memory size, and so forth.

Necessity to distinguish different capability levels of RSs (4/4)

- The key issue between different capability RSs is whether they can schedule the resources by themselves
- Most of the other arguments on technical requirements such as frame header transmission, hop limits, HO decision point, etc., could be derived from the above item.
- RSs without scheduling are not very suitable for more than 2 hops transmission while they are feasible due to their simplicity and efficiency for 2 hops.

Suggested topology (1/2)



Suggested topology (2/2)

- RS Type I (low capability RS) can only be placed in the last relay hop
- RS Type II (high capability RS) can associate with any other RSs or MS

Suggestion to classify technical requirements based on key capabilities for different types of RSs

	RS Type I	RS Type II	……..	RS Type N
Requirement 1	Yes	Yes		Yes
Requirement 2		No		
……				
……				
……	No		Yes	
Requirement M				No

An Example

	RS Type I	RS Type II
Preamble	No/Yes	Yes
Map Messages Transmission	No	Yes
Scheduling	No	Yes
Hop limitations	The last hop only	No
MS HO decision	No	Yes
……		
……		