The case for removing the HR/DSSS/FH option.

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What is it?

• HR/DSSS/FH is first and foremost an FH system.
  – A HR/DSSS/FH station joins an FH BSS and “hops” with the rest of the BSS.
  – CCA and “medium reservation” is done in a 1 MHz wide channel.
  – High Rate transmission of the PDU consumes a 22 MHz channel.
• It is an FH system that speeds up to HR DS when possible.
• It is NOT a system that operates at high speed and falls back to 2 Mbps FH.
Why remove it?

• No Coexistence.
• The HR/DSSS/FH mode interferes with all other 802.11 PHYs.
• If approved, it will be the worst possible interferer that we have defined.
  – Bad interferer for existing FH and DS systems
• It doesn’t even coexist with itself.
  – Co located HR/DSSS/FH systems will not work well

Why remove it?

• It is a single cell system.
  – Applications are limited
• There is no migration path from existing FH to high speed DS.
• It does not provide backwards compatibility from the high rate PHY to FH systems.
Why remove it?

- It is a new PHY.
- It does not interoperate with the HR/DSSS PHY.
- The charter for TGb states that we are to develop a single PHY.
  - This clearly violates that charter.
- Options in the standard are bad.

Why remove it?

- Adding this option causes confusion in the market.
  - Creating two new incompatible PHYs
  - 802.11 should present a unified position
- High Rate capability is expanding the market for WLANs.
- Why repeat the same mistake we made with FH and DS in the 2.4GH band?
- This option is yet another thing to explain.
  - It becomes an obstacle to adoption
Please vote to remove HR/DSSS/FH

• it is technically ugly
  – not well defined in current draft
• it is not benign
  – “electronic warfare”
• it has limited application
• it will be expensive
• it slows the market adoption of WLANs
• 802.11b schedule issues