TITLE: Effective Reverse Link Data Rate Control for 1xEV-DV –r2

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ABSTRACT :   This contribution proposes the IAB concept for the effective data rate c
DV reverse link

RECOMMENDATION : Review, discuss, and adopt

Purposes of Reverse Link Data Rate Contr

- To provide performance enhancements and symmetric
with forward link
    - Effective bandwidth allocation is required
        - ✓ Based on grade of service or mobile station
    - Overshoot is not desirable
        - ✓ Fluctuation depth should be small
    - Full reverse link utilization is guaranteed
        - ✓ Based on the cell environment, quick saturation or conversio
        maximum capacity should be achieved
- All Performance enhancements should be provided with
overhead or with minimum overhead

Existing control schemes for Reverse Link

- Common control schemes for Reverse Link Data Rate
    - Common information from the BS is sent to all MS in the
    - A small amount of overhead is required, but dynamic and reverse link data rate control can not be provided
    - 1xEV-DO Reverse MAC operation
        - ✓ 1 bit RAB(Up and Down Reverse Activity Bit) through Forwar control channel
            - 1 bit per cell (common information for all mobile stations)
        - ✓ PV(Persistence Value) test
            - To increase or decrease the data rate, the MS performs the per based on the probability predefined from the BS and decides th to be increased or decreased
            - Dynamic and individual data rate control for each MSs are not p
            - But, just 1 bit and PV are required to control RL- data rate

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Existing control schemes for Reverse Link

- Dedicated Control schemes for Reverse Link Data Rate
  - Designated information from the BS is sent to each MS in
  - A large amount of overhead is required, but dynamic and reverse link data rate control can be provided
  - LGE and Airvana's proposals for 1xEV-DV
    - ✓ 2 bits RAB(Up, Down and Keep) through Forward dedicated channel
      - 2 * N bits per cell(where, N is the number of active mobiles in
      - Designated information for each mobile stations
    - ✓ PV(Persistence Value) test is not required
      - Dynamic and individual data rate control for each MSs are prov
      - But, extraordinary overheads are required to control RL- data ra

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Proposed Data Rate Control of Reverse Link

- IAB(Increase Availability Bit) is proposed to provide effe
  reverse link data rate control
  - 1 bit indicator(IAB) to notify the status of the Mobile stati
  - The MSs in the cell send an IAB, which is set to '0', to the
    station to request it's reverse link data rate up
  - A concept of IAB can be applicable for both common and
    control scheme for reverse link data rate
- And also, a concept of RAB proposed in common and d
  control scheme is preserved
  - Only 1 bit IAB bit is added on the reverse link regardless
    link data rate control scheme(common or dedicated)
- The functionalities defined in 1xEV-DO are also preserv
  - Persistence Value and RRL(Reverse Rate Limit) message
- MARDC(Mobile Assistant Reverse link Data rate Control)

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