1xEV-DV Reverse Link Overview
1x-EV-DV Reverse Link Summary & Status

- An ad-hoc group in 3GPP2 has been working on selecting a framework for the Reverse Link under TSG-C Working Group 5
- Five different Reverse Link proposals and additional component proposals are being considered
- “Winning” proposal may be a combination of those being considered
- A number of additional proposals are being considered as component technologies that may be included regardless of which proposal is selected
Main Features of Reverse Link Proposals

• Backward compatibility with cdma2000 1x
• Combination of TDM/CDM operation
• Scheduling and congestion control mechanisms
  – Shared packet data channel (fast scheduling)
  – Autonomous transmission with congestion control
  – Combinations thereof
• Frame sizes
  – Fixed (2.5, 5, and 20 ms)
  – Dynamically variable frame sizes (multi-frames are also possible)
• Transmission rate
  – Fixed, based upon scheduling
  – Fixed, based upon scheduling with some MS autonomy
  – Totally autonomous by MS
• Adaptive Modulation and Coding
• Physical layer ARQ
  – Simple energy combining
  – Simple incremental redundancy
  – Asynchronous adaptive incremental redundancy
Other Reverse Link Aspects

• Quasi-Active State for packet data applications to improve power consumption
• Higher data rates than cdma2000
  – Proposed up to 2.4 Mbps in 1.25 MHz
• Interference cancellation
• Control signaling on Forward Link to support Reverse Link
• New control channels (cdma2000 1x) to enable fast RL operation
• Spatial/Time diversity (e.g., STS, MIMO)
• Spectrally efficient spreading codes
• Better use of common channels for efficient transmission of short data packets
• Code orthogonal reverse link
Status of Reverse Link Proposal Evaluation

- Performance results for the various proposals are being examined prior to reaching a framework.
- Merits of scheduling approaches: “fast” scheduling, “autonomous” transmission, and a combination thereof are being considered.