WHAT IS CLAIMED IS:

1. A method comprising:

receiving a coded video bitstream including a current frame, a first reference frame and a second reference frame associated with a current block in the current frame, a joint motion vector difference (JMVD) associated with the first reference frame and the second reference frame, and a flag indicating whether one or more scaling factors are used to derive a motion vector difference (MVD) from the JMVD;

deriving a first MVD associated with the first reference frame based on applying a first scaling factor in the one or more scaling factors to the JMVD or based on a distance between the first reference frame and the current frame;

deriving a second MVD associated with the second reference frame based on applying a second scaling factor in the one or more scaling factors to the JMVD or based on a distance between the second reference frame and the current frame; and

decoding the current block based on the first MVD and the second MVD.

2. The method of claim 1, wherein the flag includes a pair of scaling factors for the first reference frame and the second reference frame.

3. The method of claim 1 or 2, wherein the one or more scaling factors are restricted to values of 2^n, where n is an integer value.

4. The method of claim 1 or 2, wherein the one or more scaling factors are restricted to values of m / M, where $M = 2^n$ and m and n are integer values.

5. The method of claim 1, wherein the one or more scaling factors is one scaling factor and, when the flag indicates that the one scaling factor is not equal to a first default value, the one scaling factor is used to derive one of the first MVD and the second MVD, and a scaling factor used to derive the other one of the first MVD and the second MVD is a second default value different than the first default value.

6. The method of any one of claims 1 to 5, wherein a context for signaling the one or more scaling factors is based on encoded information of the current block or one or more neighboring blocks to the current block.

7. The method of claim 6, wherein the context is based on a block size of the current block, wherein the one or more scaling factors include a first set of scaling factors when the block size of the current block is equal to or smaller than a first threshold size, and the one or more scaling factors include a second set of scaling factors when the block size of the current block is larger than the first threshold size.

8. The method of claim 7, wherein the block size corresponds to one or more of a block width, a block height, a number of pixels in current block, a minimum block width, a minimum block height, a maximum block width, and a maximum block height.

9. The method of any one of claims 6 to 8, wherein the context is based on whether a motion vector prediction (MVP) for the current block is symmetric.

10. The method of any one of claims 6 to 8, wherein the context is based on an index of a motion vector prediction (MVP) candidate for the current block.

11. The method of any one of claims 1 to 10, wherein a syntax is signaled in one of a sequence header, frame header, or slice header to indicate whether the flag is included in the coded video bitstream.

12. The method of any one of claims 1 to 11, wherein the first reference frame belongs to a list of backward reference frames and the second reference frame belongs to a list of forward reference frames, or the first reference frame belongs to a list of forward reference frames, and the second reference frame belongs to a list of backward reference frames.

13. The method of any one of claims 1 to 12, wherein the first MVD and/or the second MVD is derived according to $derived_mvd = \frac{td1}{td0} * scaled_factor * joint_mvd$, when td1 is greater than td0, and according to $derived_mvd = \frac{td0}{td1} * scaled_factor * joint_mvd$, when td0 is greater than td1,

wherein td0 corresponds to the distance between the first reference frame and the current frame, and td1 corresponds to a distance between the second reference frame and the current frame.

14. The method of any one of claims 1 to 12, wherein first MVD and/or the second MVD is derived according to $derived_mvd = \frac{td1}{td0} * \frac{scaled_factor}{M} * joint_mvd$, when td1 is greater than td0, and

according to $derived_mvd = \frac{td0}{td1} * \frac{scaled_factor}{M} * joint_mvd$, when td0 is greater than td1,

wherein td0 corresponds to a distance between the current frame and the first reference frame, td1 corresponds to a distance between the current frame and the second reference frame, and M corresponds to 2^n where n is an integer.

15. An apparatus comprising:

a memory storing program code; and

at least one processor configured to execute the program code and operate as instructed by the program code, to perform the method of any one of claims 1 to 14.

16. A computer readable medium that stores computer readable program code which, when executed by a processor, cause the processor to perform the method of any one of claims 1 to 14.