

CLAIMS

What is Claimed:

1. A method of coding video data, the method comprising:
 - identifying a collocated picture for a current slice of the video data, wherein the current slice comprises a plurality of coding units (CUs);
 - identifying, for a current CU of the plurality of CUs, a plurality of neighboring CUs, wherein each of the neighboring CUs corresponds to a reference picture;
 - selecting one of the plurality of neighboring CUs to be a candidate neighboring CU based on at least one reference picture of the neighboring CUs and the collocated picture for the current slice;
 - identifying a collocated motion vector (MV) from the collocated picture based on a reference MV of the candidate neighboring CU; and
 - coding the current CU based on the collocated MV.
2. The method of claim 1, wherein a neighboring CU of the plurality of neighboring CUs is selected to be the candidate neighboring CU based on respective temporal differences between the reference pictures of the neighboring CUs and the collocated picture.
3. The method of claim 2, wherein each reference picture is associated with a picture order count (POC), and the neighboring CU is selected to be the candidate neighboring CU based on the neighboring CU having a lowest POC difference from the collocated picture among the plurality of neighboring CUs.
4. The method of claim 1, wherein the candidate neighboring CU is selected based on having a reference picture that is the same as the collocated picture.
5. The method of claim 4, wherein upon identifying a neighboring CU having a reference picture that is the same as the collocated picture, the neighboring CU is selected as the candidate neighboring CU without considering further neighboring CUs.

6. The method of claim 1, wherein the reference MV is a spatial MV and the collocated MV is a temporal MV.
7. The method of claim 1, wherein the collocated picture is identified based on a collocated picture indication in a slice header.
8. The method of claim 1, further comprising performing temporal scaling on the reference MV on a condition that the reference picture of the candidate neighboring CU is not the same as the collocated picture.
9. The method of claim 8, wherein performing temporal scaling comprises multiplying the reference MV by a scaling factor, wherein the scaling factor is based on a temporal difference between the reference picture of the candidate neighboring CU and the collocated picture.
10. The method of claim 1, wherein the collocated MV is associated with a first collocated block of a plurality of collocated blocks within the collocated picture, and further comprising:
 - identifying a valid collocated block region of the collocated picture based on the current slice;
 - on a condition that the collocated block is not located in the region, selecting a second collocated block that is located within the region; and
 - replacing the collocated MV with a second collocated MV associated with the second collocated block.
11. The method of claim 10, wherein the second collocated block is selected based on having a lowest distance to the first collocated block.
12. A wireless transmit/receive unit (WTRU) comprising:
 - a processor configured to:
 - identify a collocated picture for a current slice of video data, wherein the current slice comprises a plurality of coding units (CUs);
 - identify, for a current CU of the plurality of CUs, a plurality of neighboring CUs, wherein each of the neighboring CUs corresponds to a reference picture;

select one of the plurality of neighboring CUs to be a candidate neighboring CU based on at least one reference picture of the neighboring CUs and the collocated picture for the current slice;

identify a collocated motion vector (MV) from the collocated picture based on a reference MV of the candidate neighboring CU; and

code the current CU based on the collocated MV.

13. The WTRU of claim 12, wherein the processor is configured to select a neighboring CU of the plurality of neighboring CUs to be the candidate neighboring CU based on respective temporal differences between the reference pictures of the neighboring CUs and the collocated picture.

14. The WTRU of claim 13, wherein each reference picture is associated with a picture order count (POC), and wherein the processor is configured to select a neighboring CU to be the candidate neighboring CU based on the neighboring CU having a lowest POC difference.

15. The WTRU of claim 12, wherein the processor is configured to select the candidate neighboring CU based on the neighboring CU having a reference picture that is the same as the collocated picture.

16. The WTRU of claim 15, wherein upon identifying a neighboring CU having a reference picture that is the same as the collocated picture, the processor is configured to select the neighboring CU as the candidate neighboring CU without considering further neighboring CUs.

17. The WTRU of claim 12, wherein the reference MV is a spatial MV and the collocated MV is a temporal MV.

18. The WTRU of claim 12, wherein the processor is configured to identify collocated picture based on a collocated picture indication in a slice header.

19. The WTRU of claim 12, wherein the processor is further configured to perform temporal scaling on the reference MV on a condition that the reference picture of the candidate neighboring CU is not the same as the collocated picture.

20. The method of claim 7, wherein performing temporal scaling comprises multiplying the reference MV by a scaling factor, wherein the scaling factor is based on a temporal difference between the reference picture of the candidate neighboring CU and the collocated picture.
21. The WTRU of claim 12, wherein the processor is further configured to:
- subdivide the current CU into one or more sub-blocks, wherein each sub-block corresponds to a reference MV; and
 - identify a collocated MV from the collocated picture for each sub-block based on the reference MV for the sub-block.
22. The WTRU of claim 12, wherein the processor is further configured to determine a size of the sub-blocks based on a temporal layer of the current CU.