CLAIMS

What is claimed is:

1. A method for processing video content, the method comprising:

identifying a block that is partitioned into a plurality of sibling nodes comprising a first sibling node and a second sibling node; wherein the first sibling node is associated with a first partition parameter and a second partition parameter, and the second sibling node is associated with a third partition parameter and a fourth partition parameter;

determining the third partition parameter for the second sibling node of the plurality of sibling nodes, and a parent partition type and a parent partition direction for the block;

determining, based on the third partition parameter for the second sibling node of the plurality of sibling nodes, and the parent partition type and the parent partition direction for the block, whether to receive an indication of the fourth partition parameter of the second sibling node;

obtaining the fourth partition parameter based on the determination whether to receive the indication of the fourth partition parameter of the second sibling node, wherein on a condition that the fourth partition parameter is not determined to be received, the fourth partition parameter is obtained based on third partition parameter and the parent partition direction; and

decoding the second sibling node based on the third partition parameter and the fourth partition parameter.

2. A video processing device comprising:

a processor configured to:

identify a block that is partitioned into a plurality of sibling nodes comprising a first sibling node and a second sibling node, wherein the first sibling node is associated with a first partition parameter and a second partition parameter, and the second sibling node is associated with a third partition parameter and a fourth partition parameter;

determine the third partition parameter for the second sibling node of the plurality of sibling nodes, and a parent partition type and a parent partition direction for the block;

determine, based on the third partition parameter for the second sibling node of the plurality of sibling nodes, and the parent partition type and the parent partition direction for the block, whether to receive an indication of the fourth partition parameter of the second sibling node;

obtain the fourth partition parameter based on the determination whether to receive the indication of the fourth partition parameter of the second sibling node, wherein on a condition that the fourth partition parameter is not determined to be received, the fourth partition parameter is obtained based on the third partition parameter and the parent partition direction; and

decode the second sibling node based on the third partition parameter and the fourth partition parameter.

3. The method of claim 1, wherein, on a condition that the indication of the fourth partition parameter of the second sibling node is determined to be received, obtaining the fourth partition parameter comprises:

receiving the indication of the fourth partition parameter in a bitstream; and

determining the fourth partition parameter based on the indication.

4. The method of claim 1 or the video processing device of claim 2, wherein the parent partition type is triple tree (TT), wherein the second sibling node is a middle sibling node, and wherein the third partition parameter indicates a partition direction for the middle sibling node and the fourth partition parameter indicates a partition type for the middle sibling node, and wherein on a condition that the partition direction for the middle sibling node is the same as the parent partition direction, the partition type for the middle sibling node is derived to be TT.

5. The method of claim 1 or the video processing device of claim 2, wherein the parent partition type is TT, wherein the second sibling node is a middle sibling node, and wherein the third partition parameter indicates a partition direction for the middle sibling node and the fourth partition parameter indicates a partition type for the middle sibling node, and wherein on a condition that the partition direction for the middle sibling node not the same as the parent partition direction, the partition type for the middle sibling node is received.

6. The method of claim 1 or the video processing device of claim 2, wherein the parent partition type is TT, wherein the second sibling node is a middle sibling node, and wherein the third partition parameter indicates a partition type for the middle sibling node and the fourth partition parameter indicates a partition direction for the middle sibling node, and wherein on a condition that the partition type for the middle sibling node is binary tree (BT), the partition direction for the middle sibling node is determined to be orthogonal to the parent partition direction.

7. The method of claim 1 or the video processing device of claim 2, wherein the parent partition type is TT, wherein the second sibling node is a middle sibling node, and wherein the third partition parameter indicates a partition type for the middle sibling node, and the fourth partition parameter indicates a partition direction for the middle sibling node, and wherein on a condition that the partition type for the middle sibling node is TT, the partition direction for the middle sibling node is received.

8. The method of claim 1 or the video processing device of claim 2, wherein the parent partition type is BT and wherein the first partition parameter indicates a partition direction for the first sibling node, the second partition parameter indicates a partition type for the first sibling node, the third partition parameter indicates a partition direction for the second sibling node, and the fourth partition parameter indicates a partition type for the second sibling node, and wherein on a condition that the partition direction for the first sibling node and the partition direction for the second sibling node are different or that the partition type for the first sibling node is TT and the partition direction for the first sibling node and the partition direction for the second sibling node are both the same as the parent partition direction, the partition type for the second sibling node is received.

9. The method of claim 1 or the video processing device of claim 2, wherein the parent partition type is BT and wherein the first partition parameter indicates a partition direction for the first sibling node, the second partition parameter indicates a partition type for the first sibling node, the third partition parameter indicates a partition direction for the second sibling node, and the fourth partition parameter indicates a partition type for the second sibling node, and wherein on a condition that the partition type for the first sibling node is BT and the partition direction for the first sibling node and the partition direction for the second sibling node are the same, the partition type for the second sibling node is derived to be TT, and wherein on a condition that the partition type for the first sibling node is TT and the partition direction for the first sibling node and the partition direction for the second sibling node are both orthogonal to the parent partition direction, the partition type for the second sibling node is derived to be BT.

10. The method of claim 1, further comprising:

on a condition that the parent partition type is TT, determining one or more boundaries of one or more of the first sibling node, the second sibling node, or a third sibling node of the plurality of sibling nodes; and

applying a deblocking filter to the one or more boundaries.

11. The method of claim 1 or the video processing device of claim 2, wherein the parent partition type is BT and wherein the first partition parameter indicates a partition type for the first sibling node, the second partition parameter indicates a partition direction for the first sibling node, the third partition parameter indicates a partition type for the second sibling node, and the fourth partition parameter indicates a partition direction for the second sibling node, and wherein on a condition that the partition type for the first sibling node and the partition type for the second sibling node are different, or that the partition type for the first sibling node and the partition type for the second sibling node are both BT and that the partition direction for the first sibling node and the parent partition direction are not the same, or that the partition type for the first sibling node and the partition type for the second sibling node are both TT and that the partition direction for the first sibling node is not orthogonal to the parent partition direction, the partition direction for the second sibling node is received.

12. The method of claim 1 or the video processing device of claim 2, wherein the parent partition type is BT and wherein the first partition parameter indicates a partition type for the first sibling node, the second partition parameter indicates a partition direction for the first sibling node, the third partition parameter indicates a partition type for the second sibling node, and the fourth partition parameter indicates a partition direction for the second sibling node, wherein on a condition that the partition type for the first sibling node and the partition type for the second sibling node are both BT and the partition direction for the first sibling node and the parent partition direction are the same, the partition direction for the second sibling node is derived to be orthogonal to the partition direction for the first sibling node, and wherein on a condition that the partition type for the first sibling node and the partition type for the second sibling node are both TT and the partition direction for the first sibling node is orthogonal to the parent partition direction, the partition direction for the second sibling node is derived to be orthogonal to the partition direction for the first sibling node.

13. The video processing device of claim 2, wherein, on the condition that the indication of the fourth partition parameter of the second sibling node is determined to be received, the processor is further configured to:

receive the indication of the fourth partition parameter in a bitstream; and

determine the fourth partition parameter based on the indication.

14. The video processing device of claim 2, wherein, on a condition that the parent partition type is TT, the processor is further configured to:

determine one or more boundaries of one or more of the first sibling node, the second sibling node, or a third sibling node of the plurality of sibling nodes; and

apply a deblocking filter to the one or more boundaries.

15. A method for processing video content, the method comprising:

identifying a block that is partitioned into a plurality of sibling nodes comprising a first sibling node and a second sibling node; wherein the first sibling node is associated with a first partition parameter and a second partition parameter, and the second sibling node is associated with a third partition parameter and a fourth partition parameter;

determining the third partition parameter for the second sibling node of the plurality of sibling nodes, and a parent partition type and a parent partition direction for the block;

determining, based on the third partition parameter for the second sibling node of the plurality of sibling nodes, and the parent partition type and the parent partition direction for the block, whether to include an indication of a fourth partition parameter of the second sibling node in a bitstream; and

including indications of the first partition parameter, the second partition parameter, the third partition parameter, and the parent partition direction in the bitstream.

16. The method of claim 15, wherein the parent partition type is TT and wherein the third partition parameter indicates a partition direction for the second sibling node, and the fourth partition parameter indicates a partition type for the second sibling node, and wherein on a condition that the partition direction for the second sibling node is the same as the parent partition direction, the partition type for the second sibling node is not included in the bitstream.

17. The method of claim 15, wherein the parent partition type is TT and wherein the third partition parameter indicates a partition direction for the second sibling node, and the fourth partition parameter indicates a partition type for the second sibling node, and wherein on a condition that the partition direction for the second sibling node is not the same as the parent partition direction, the partition type for the second sibling node is included in the bitstream.

18. The method of claim 15, wherein the parent partition type is BT and wherein the first partition parameter indicates a partition direction for the first sibling node, the second partition parameter indicates a partition type for the first sibling node, the third partition parameter indicates a partition direction for the second sibling node, and the fourth partition parameter indicates a partition type for the

second sibling node, and wherein on a condition that the partition direction for the first sibling node and the partition direction for the second sibling node are different or that the partition type for the first sibling node is TT and the partition direction for the first sibling node and the partition direction for the second sibling node are both the same as the parent partition direction, the partition type for the second sibling node is included in the bitstream.

19. The method of claim 15, wherein the parent partition type is BT and wherein the first partition parameter indicates a partition direction for the first sibling node, the second partition parameter indicates a partition type for the first sibling node, the third partition parameter indicates a partition direction for the second sibling node, and the fourth partition parameter indicates a partition type for the second sibling node, and wherein on a condition that the partition type for the first sibling node is BT and the partition direction for the first sibling node and the partition direction for the second sibling node are the same or that the partition type for the first sibling node is TT and the partition direction for the first sibling node and the partition direction for the second sibling node are both orthogonal to the parent partition direction, the partition type for the second sibling node is not included in the bitstream.