WHAT IS CLAIMED IS:

1. A method of reconstructing significant-coefficient flags for a transform unit from a bitstream of encoded data, the transform unit partitioned into non-overlapping groups of significant-coefficient flags, the method comprising:

reconstructing significant-coefficient-group flags, wherein each significant-coefficient-group flag corresponds to a respective group of significant-coefficient flags, by setting the value of at least one significant-coefficient-group flag to 1; and

reconstructing each significant-coefficient flag by

decoding the significant-coefficient flag from the bitstream if that significant-coefficient flag is in a group that has corresponding significant-coefficient-group flag that is non-zero, and

setting the significant-coefficient flag to zero, if that significant-coefficient flag is in a group that has corresponding significant-coefficient-group flag that is zero.

2. The method claimed in claim 1, wherein reconstructing the significant-coefficient-group flags includes decoding from the bitstream at least one of the significant-coefficient-group flags other than said at least one significant-coefficient group flag.

3. The method claimed in claim 1 or claim 2, wherein setting the value of at least one significant-coefficient-group flag to 1 includes setting the significant-coefficient-group flag for the group containing the significant-coefficient flag for a last-significant coefficient to 1.

4. The method claimed in any one of claims 1 to 3, wherein setting the value of at least one significant-coefficient-group flag to 1 includes setting the significant-coefficient-group

flag for the group containing the significant-coefficient flag for a DC coefficient to 1.

5. The method claimed in any one of claims 1 to 4, wherein setting the value of at least one significant-coefficient-group flag to 1 includes setting a significant-coefficient-group flag to 1 if that significant-coefficient-group flag corresponds to a group that has two neighbor groups both of which have corresponding significant-coefficient-group flags that have reconstructed values of 1.

6. The method claimed in claim 5, wherein the groups are contiguous blocks, and wherein the two neighbor groups include a right neighbor block and a below neighbor block.

7. The method claimed in any one of claims 1 to 6, wherein reconstructing significant-coefficient-group flags further comprises setting the value of significant-coefficient-group flags to zero for each significant-coefficient-group flag after, in a forward scan order, the group containing a last-significant coefficient.

8. The method claimed in claim 2, wherein decoding from the bitstream at least one of the significant-coefficient-group flags comprises decoding all significant-coefficient-group flags for the transform unit that have not been set.

9. The method claimed in any one of claims 1 to 8, wherein the transform unit is 16x16 and wherein each group is a 4x4 block.

10. The method claimed in any one of claims 1 to 8, wherein the transform unit is 32x32 and wherein each group is an 8x8 block.

11. The method claimed in any one of claims 1 to 10, wherein reconstructing one of the significant-coefficient-group flags includes determining a context for that significant-coefficient-group flag based on the significant-coefficient-group flags reconstructed for two neighbor groups.

12. The method claimed in claim 11, wherein the two neighbor groups include a right neighbor and a below neighbor, and wherein the context is 0 if both of the significant-coefficient-group flags for the two neighbor groups are 0, and wherein otherwise the context is 1.

13. The method claimed in any one of claims 1 to 12, wherein the values of all the significant-coefficient flags in one of the groups decoded from the bitstream are zero although the

corresponding significant-coefficient-group flag for that group is set to 1.

14. The method claimed in any one of claims 1 to 13, wherein the video bitstream conforms to one of a scalable video coding standard, a multi-view coding standard, a reconfigurable video coding standard, and a high-efficiency video coding standard.

15. The method claimed in any one of claims 1 to 14, wherein each group has a height different from its width.

16. The method claimed in any one of claims 1 to 15, wherein each group contains sixteen significant-coefficient flags, and wherein decoding the significant-coefficient flag from the bitstream if that significant-coefficient flag is in a group that has corresponding significant-coefficient-group flag that is non-zero comprises:

if the first fifteen significant-coefficient flags decoded for that group are zero, then setting a sixteenth significant-coefficient flag in that group to 1.

17. A decoder for decoding a bitstream of encoded data to reconstruct significant-coefficient flags for a transform unit, the decoder comprising:

a processor;

a memory; and

a decoding application stored in memory and containing instructions for configuring the processor to perform the method claimed in any one of claims 1 to 16.

18. A method for encoding significant-coefficient flags for a transform unit, the transform unit partitioned into non-overlapping groups of significant-coefficient flags, the method comprising:

encoding significant-coefficient-group flags, wherein each significant-coefficient-group flag corresponds to a respective one of the groups of significant-coefficient flags, and wherein the significant-coefficient-group flag is set to zero to indicate that that corresponding group contains no non-zero significant-coefficient flags, and wherein the encoding excludes at least one significant-coefficient-group flag inferred to be 1 irrespective of whether its corresponding group contain non-zero significant-coefficient flags; and

for each of the significant-coefficient flags,

encoding the significant-coefficient flag if that significant-coefficient flag is in one of the groups for which its corresponding significant-coefficient-group flag is non-zero, and not encoding the significant-coefficient flag if that significant-coefficient flag is in one of the groups for which the corresponding significant-coefficient-group flag is zero.

19. An encoder for encoding significant-coefficient flags for a transform unit, the encoder comprising:

a processor;

a memory storing the significance map; and

an encoding application stored in memory and containing instructions for configuring the processor to perform the method claimed in claim 18.

20. A non-transitory processor-readable medium storing processor-executable instructions which, when executed, configures one or more processors to perform the method claimed in any one of claims 1 to 16 or 19.

WHAT IS CLAIMED IS:

1. A method of reconstructing a set of significant-coefficient flags in a reverse scan order for a transform unit from a bitstream of encoded data, the set of significant-coefficient flags corresponding to the transform unit, which is partitioned into non-overlapping square blocks, each block corresponding to a respective group of the significant-coefficient flags, the method comprising:

reconstructing significant-coefficient-group flags, wherein each significant-coefficient-group flag corresponds to one of the respective groups of significant-coefficient flags, by inferring the value of at least two significant-coefficient-group flags to be 1 without decoding those at least two significant-coefficient-group flags from the bitstream, the at least two significant-coefficient group flags being for the group containing the significant-coefficient flag for a last-significant coefficient and for the group containing the significant-coefficient flag for a DC coefficient, and by decoding at least one of the other significant-coefficient-group flags from the bitstream; and

reconstructing each significant-coefficient flag by:

if all of:

the significant-coefficient-flag is at position (0,0) in a group, a corresponding significant-coefficient-group flag is non-zero

a transform unit size is at least 16x16,

the corresponding group is not the DC block, and

all the previous significant-coefficient flags in that group are zero;

then inferring the significant-coefficient-flag at position (0,0) in that group to be 1;

otherwise:

decoding the significant-coefficient flag from the bitstream if that significant-coefficient flag is in a group that has corresponding

significant-coefficient-group flag that is non-zero, and

inferring the significant-coefficient flag to be zero, if that significant-coefficient flag is in a group that has corresponding significant-coefficient-group flag that is zero.

2. The method claimed in claim 1, wherein reconstructing significant-coefficient-group flags further comprises inferring the value of significant-coefficient-group flags to be zero for each significant-coefficient-group flag after, in a forward scan order, the group containing a last-significant coefficient.

3. The method claimed in claim 1, wherein decoding at least one of the other significant-coefficient-group flags from the bitstream comprises decoding all significant-coefficient-group flags for the transform unit that have not been inferred.

4. The method claimed in any one of claims 1 to 3, wherein the transform unit is 16x16 and wherein each group is a 4x4 block.

5. The method claimed in any one of claims 1 to 3, wherein the transform unit is 32x32 and wherein each group is an 8x8 block.

6. The method claimed in any one of claims 1 to 3, wherein the transform unit is 32x32 and wherein each group is a 4x4 block.

7. The method claimed in any one of claims 1 to 6, wherein reconstructing one of the significant-coefficient-group flags includes determining a context for that significant-coefficient-group flag based on the significant-coefficient-group flags reconstructed for two neighbor groups.

8. The method claimed in claim 7, wherein the two neighbor groups include a right neighbor and a below neighbor, wherein the reconstructing of significant-coefficient-group flags occurs in a reverse scan order, wherein the context is 0 if both of the significant-coefficient-group flags for the two neighbor groups are 0, and wherein otherwise the context is 1.

9. A decoder for decoding a bitstream of encoded data to reconstruct significant-coefficient flags for a transform unit, the decoder comprising:

a processor;

a memory; and

a decoding application stored in memory and containing instructions, which when executed, configure the processor to perform the method claimed in any one of claims 1 to 8.

10. A method for encoding a set of significant-coefficient flags, in reverse scan order, for a transform unit, the set of significant-coefficient flags corresponding to the transform unit, which is partitioned into non-overlapping square blocks, each block corresponding to a respective group of the significant-coefficient flags, the method comprising:

encoding significant-coefficient-group flags, wherein each significant-coefficient-group flag corresponds to one of the respective groups of significant-coefficient flags, and wherein the significant-coefficient-group flag is set to zero to indicate that that corresponding group contains no non-zero significant-coefficient flags, and wherein the encoding excludes at least two significant-coefficient-group flags inferred to be 1 irrespective of whether its corresponding group contain non-zero significant-coefficient flags, the at least two significant-coefficient group flags being for the group containing the significant-coefficient flag for a last-significant coefficient and for the group containing the significant-coefficient flag for a DC coefficient, and wherein the encoding includes encoding at least one of the other significant-coefficient-group flags; and

encoding each significant-coefficient flag by:

if all of:

the significant-flag is at position (0,0) in a group, a corresponding significant-coefficient-group flag is non-zero,

a transform unit size is at least 16x16,

the corresponding group is not the DC block, and

all the previous significant-coefficient flags in that group are zero;

then not encoding the significant-flag at position (0,0) in the group;

otherwise:

encoding the significant-coefficient flag if that significant-coefficient flag is in one of the groups for which its corresponding significant-coefficient-group flag is non-zero, and

not encoding the significant-coefficient flag if that significant-coefficient flag is in one of the groups for which the corresponding significant-coefficient-group flag is zero.

11. An encoder for encoding significant-coefficient flags for a transform unit, the encoder comprising:

a processor;

a memory storing the significance map; and

an encoding application stored in memory and containing instructions, which when executed, configure the processor to perform the method claimed in claim 10.

12. A non-transitory processor-readable medium storing processor-executable instructions which, when executed, configures one or more processors to perform the method claimed in any one of claims 1 to 8 or 10.