Claim

1. A method of decoding a motion vector, the method comprising:

obtaining prediction mode information of a current block from a bitstream;

obtaining motion vector predictor candidates of the current block using a block co-located with the current block in a temporal reference picture in direction List0 or List1 when the prediction mode of the current block is inter-prediction;

obtaining a motion vector predictor of the current block among the obtained motion vector predictor candidates based on a information indicating a motion vector predictor used for the current block; and

obtaining a motion vector of the current block based on the obtained motion vector predictor and a differential vector obtained from the bitstream,

wherein the obtaining motion vector predictor candidates of the current block further comprising: scaling a motion vector of the block co-located with the current block in the temporal reference picture based on a first temporal distance and a second temporal distance, the first temporal distance indicates a temporal distance between a reference picture referred to by the block co-located with the current block in the temporal reference picture and the temporal reference picture, and the second temporal distance indicates a temporal distance between a current picture and a reference picture refered to by the current block,

wherein an image is split into a plurality of maximum coding units according to an information about the maximum size of the coding unit,

the maximum coding unit is hierarchically split into one or more coding units of depths including at least one of a current depth and a lower depth, and

the current coding unit of the current depth is one of rectangular data units split from a coding unit of an upper depth.

What is claimed is:

1. An apparatus for encoding a motion vector, the apparatus comprising:

a predictor which obtains motion vector predictor candidates of a current block using a block co-located with the current block in a temporal reference picture in direction List0 or List1 when the prediction mode of the current block is inter-prediction, and obtains a motion vector predictor of the current block among the obtained motion vector predictor candidates;

a first encoder which encodes information about the motion vector predictor of the current block; and

a second encoder which encodes a differential vector between the motion vector predictor of the current block and a motion vector of the current block;

wherein the predictor scales motion vector of the block co-located with the current block in the temporal reference picture based on a first temporal distance and a second temporal distance, the first temporal distance indicates a temporal distance between a reference picture referred to by the block co-located with the current block in the temporal reference picture and the temporal reference picture, and the second temporal distance indicates a temporal distance between a current picture and a reference picture referred to by the current block,

wherein an image is split into a plurality of maximum coding units according to an information about the maximum size of the coding unit,

the maximum coding unit is hierarchically split into one or more coding units of depths including at least one of a current depth and a lower depth, and

the current coding unit of the current depth is one of rectangular data units split from a coding unit of an per depth.

2. A method of decoding a motion vector, the method comprising:

obtaining prediction mode information of a current block from a bitstream;

obtaining motion vector predictor candidates of the current block using a block co-located with the current block in a temporal reference picture in direction List0 List1 when the prediction mode of the current block is inter-prediction;

obtaining a motion vector predictor of the current block among the obtained motion vector predictor candidates based on a information indicating a motion vector predictor used for the current block; and

obtaining a motion vector of the current block based on the obtained motion vector predictor and a differential vector obtained from the bitstream,

wherein the obtaining motion vector predictor candidates of the current block further comprising: scaling a motion vector of the block co-located with the current block in the temporal reference picture based on a first temporal distance and a second temporal distance, the first temporal distance indicates a temporal distance between a reference picture referred to by the block co-located with the current block in the temporal reference picture and the temporal reference picture, and the second temporal distance indicates a temporal distance between a current picture and a reference picture referred to by the current block,

wherein an image is split into a plurality of maximum coding units according to an information about the maximum size of the coding unit,

the maximum coding unit is hierarchically split into one or more coding units of depths including at least one of a current depth and a lower depth, and

the current coding unit of the current depth is one of rectangular data units split from a coding unit of an upper depth.