

NONLINEAR ADAPTIVE LOOP FILTERING IN VIDEO PROCESSING

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This application is the national phase of International Patent Application No. PCT/CN2020/080827, filed on March 24, 2020, which claims the priority to and benefit of International Patent Application No. PCT/CN2019/079395, filed on March 24, 2019. For all purposes under the law, all the aforementioned applications are hereby incorporated by reference as part of the disclosure of this application.

TECHNICAL FIELD

[0002] This patent document relates to video processing techniques, devices and systems.

BACKGROUND

[0003] In spite of the advances in video compression, digital video still accounts for the largest bandwidth use on the internet and other digital communication networks. As the number of connected user devices capable of receiving and displaying video increases, it is expected that the bandwidth demand for digital video usage will continue to grow.

SUMMARY

[0004] Devices, systems and methods related to digital video processing, and for example, to non-linear adaptive loop filtering for video processing are described. The described methods may be applied to both the existing video coding standards (e.g., High Efficiency Video Coding (HEVC)) and future video coding standards (e.g., Versatile Video Coding (VVC)) or codecs.

[0005] In one representative aspect, the disclosed technology may be used to provide a method for video processing. This method includes encoding a video unit of a video as an encoded video unit; generating reconstruction samples from the encoded video unit; performing a clipping operation on the reconstruction samples, wherein a clipping parameter used in the clipping operation is a function of a clipping index and a bit-depth of the reconstruction samples or a bit-depth of samples of the video unit; applying a non-linear adaptive loop filter to an output of the clipping operation; and generating a coded representation of the video using the encoded video unit.