

# Multimedia Encryption, Transmission and Authentication

Edited by

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## Chapter 7

### SCALABLE VIDEO CODING: A Review

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#### 7.1. INTRODUCTION

Scalable video coding (SVC) is classified as layered video codec which is the extension of H.264/AVC standard [1, 2]. SVC based layered video coding is suitable for different use-cases and different bitstream e.g., supporting heterogeneous devices with a single, scalable bitstream. Such a stream allows for delivering a decode-able and presentable quality of the video depending on the device capabilities. In terms of spatiotemporal and quality, scalability of SVC is referred as a functionality that allows the removal of parts of the bit-stream while achieving a reasonable coding efficiency of the decoded video at reduced temporal, Signal to Noise Ratio (SNR), or spatial resolution [3]. The three different types of scalability, i.e. CGS, MGS, and FGS, can be combined in order that the single scalable bitstream can support multitude of representations with different spatiotemporal resolutions and bit rates. The efficient scalable video coding provides benefits in many applications [3-5].

#### 7.2. H.264/AVC BASICS

SVC reuses some functions that have already been provided at H.264/AVC. Conceptually, the design of SVC covers a *Video Coding Layer (VCL)* and a *Network Abstraction Layer (NAL)*. Figure 7.1 shows the design of SVC. VCL represents the code of the source content (input video), while the NAL forms the VCL data in simple form and effective so that the VCL data can be utilized by many systems.