Adaptive Stream-based Entropy Coding
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Stream-based Lossless Data Compression ASE Coding

ASE Coding is a stream-based lossless compression method. Hardware implementation is very easy and works with 250MHz on FPGA.

Problem to be solved
Conventional compression algorithms require memory and are not suitable for hardware implementation.

Solution
Use a fixed-size look-up table which can be implemented with registers.

Entropy Coding Method

Calculate entropy from the number of symbols registered in the lookup-table.

Convert symbol into a index value of look-up table and encode with the number of bits based on entropy.

Performance Evaluation

Real time video compression performance