In-network feature collection of H264 or H265 streams - Project plan

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1 Project Overview

The aim of our project is to collect data from H264 and H265 streams at ...

This involves parsing I and P frames, collecting per stream features, and transmitting telemetry packets to a collector server for analysis.

2 Goals

Finding, identifying, and parsing I and P frames of H264 or H265 streams.

Collecting per stream features like i-frame rate, p-frame rate, i-frame sizes, p-frame sizes, and inter-frame gaps.

Implementing a telemetry packet generator to transmit collected features to a telemetry collector server.

Developing a telemetry collector server to receive and analyze telemetry packets.

3 Detailed Plan

To achieve this, we have to:

- research and understand H264 ans H265 streams, I and P frames, and real-time streaming in whole
- write parsers for I and P frames
- implement the extraction of frame features
- implement logic to calculate some of the collectable data (e.g. sizes and gaps)
- develop a system to collect the given data (I'm not yet sure about the sequence of these steps)
- create a telemetry collector server (design the storage and communication method as well)
- implement a telemetry packet generator

- integrate the system (packet generator, parser, collector server)
- test the system
- prepare a presentation of our solution
- present the project

4 Due dates

- 22 Apr Project plan
- 13 May (?) Presentation
- 6 Jul Finish