

SEGMENTATION: Effect of Chunking for Video Based Workloads in Information-Centric Networks

Harshad Shirwadkar, Dayoon Chung

Carnegie Mellon University
Pittsburgh, PA 15213.
{harshad, dayoon}@cmu.edu

ABSTRACT

MyAbstract

Categories and Subject Descriptors

C.2 [Computer-Communication Networks]: Miscellaneous; C.4 [Performance of Systems]: Measurement Techniques

General Terms

Measurement, Performance, Experimentation

Keywords

ICN, CCN, NDN, Video

1. INTRODUCTION

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2. BACKGROUND

- *Question: What follows the Zipf distribution? Is it the “video files” or “video chunks”? If we change video chunk sizes, will it change the popularity distribution as well? How do we account for it?*

I think, the Zipf distribution for popularity is a very generic observation and probably applies to video files as well as to video chunks. So, I think it might not matter much if we change chunk sizes. Zipf distribution will still be observed on these different / variable sized chunks. So probably, we can go ahead and assume that even after chunking differently, Zipf will still be seen.

- *Question: How do we take into consideration different video access patterns?*

So, as long as we don't find any study that talks about these patterns, we could just assign weights to different parts of a video and assume that that's how the videos are accessed. So, essentially, we also have a distribution of these weights. We can try various options here:

- Exponential (Initial parts watched more often than the ends)

- Uniform
- Parabolic (Not sure if the name is correct, but what I mean is - ends are watched more often than the middle) We could ignore these patterns to start off, and once we have got a working system we could then incorporate them.

3. APPROACH

I think once we look at various configuration parameters available (section 3.1) and various chunking patterns (3.2), we will realize that there are many combinations possible. We will select a few scenarios and evaluate different chunking patterns. 3.3 will talk about these scenarios.

3.1 System configuration

- *Content popularity simulation*
Zipf - the parameter should be 1.5. the results vary when we change the parameter. The parameter is between 0.5, 2.5 NDNsim We want to refer here - <http://ndnsim.net/2.0/applications.html> and write our own application that generates interests according to our requirements and also write a publisher.
- Network topology?
- Cache sizes?
- Caching policy
- Cache eviction policy

3.2 Chunking patterns

3.3 Scenarios

4. EVALUATION

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5. RELATED WORK

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6. CONCLUSION

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7. REFERENCES