#5. New Cache Decision Policies for NFD

Motivation

NFD currently admits all incoming Data packets into the Content Store.

Therefore, the content inside multiple content stores is often similar, which decreases the cache hit ratio. We propose to randomize the admission decision to increase the cache diversity inside the network and thus improve caching efficiency.

Tasks

Change the Content Store admission policy to a randomized policy.Options include:

(a) uniform random caching;
(b) leave copy down (LCD)
(c) more likely to cache a Data packet when it's closer to producer;
(d) more likely to cache a Data packet when it's closer to consumer;

Evaluate the cache decision policy on a realistic topology (grid, fat-tree, etc.)

Metrics

A report should show the results of this investigation: overall cache hit ratio; average distance from each node to the nearest cache replica, etc.

Simulation Parameter:

- Content Store Size: 100
- Content Catalogue: Zipf, 10.000 Items
- Consumer apps: 100pps, # depending on scenario
- Cache Decision Policies: UniformRandom, LCD