

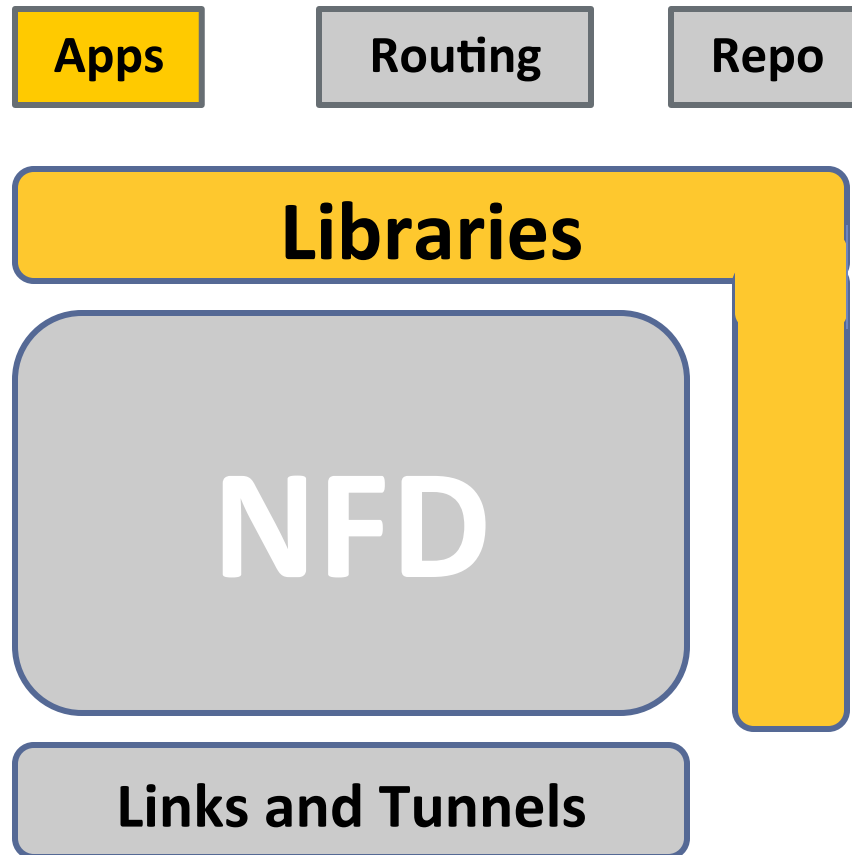
Named Data Networking

Writing NDN Applications and Forwarding Strategies

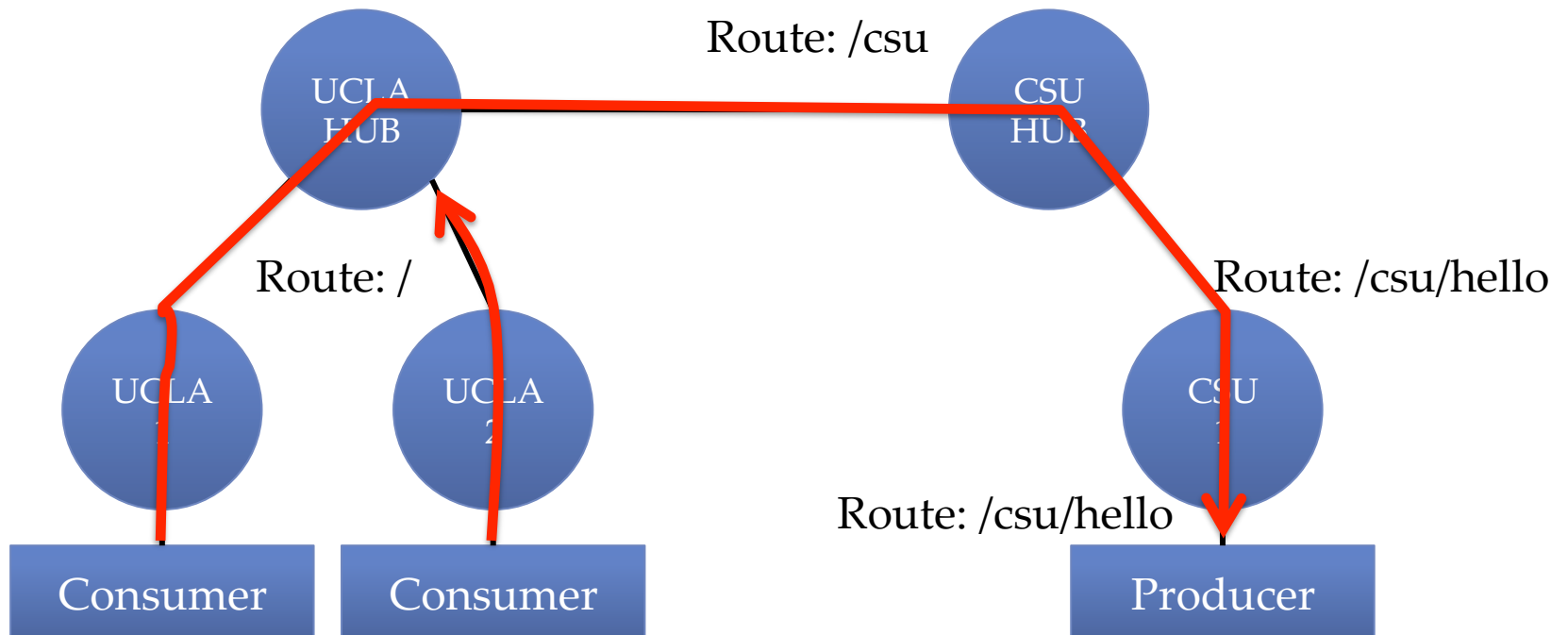
Outline

- Part 1: “Hello World” application with PyNDN2
- Part 2: Implementing a forwarding strategy

NDN Components



“Hello World” App Overview

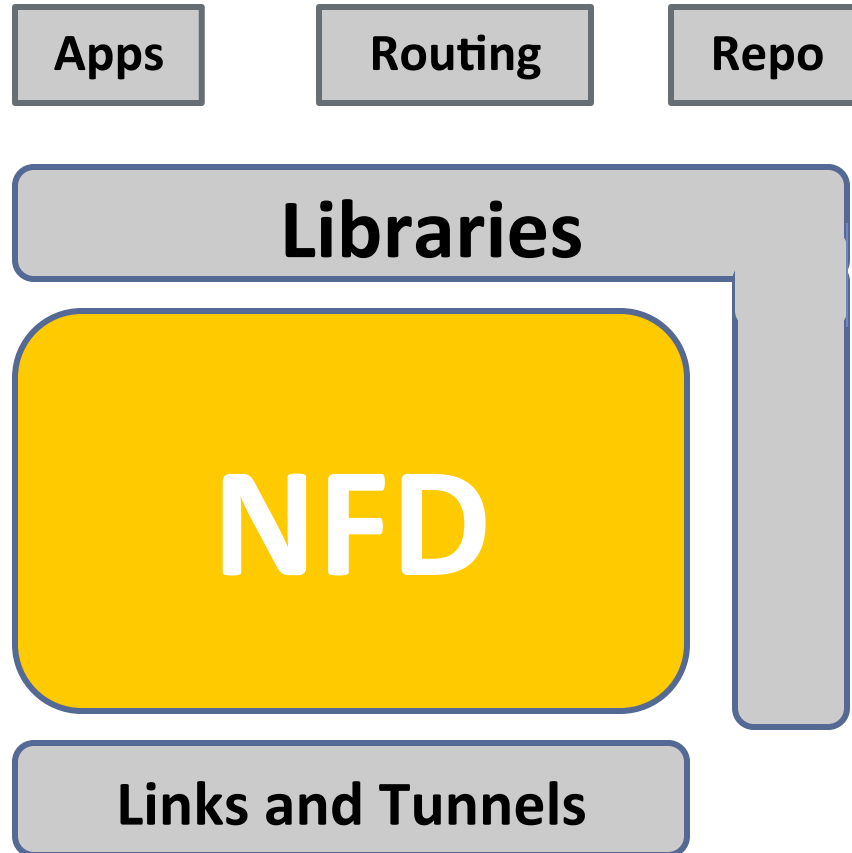


Hello World Walkthrough

Outline

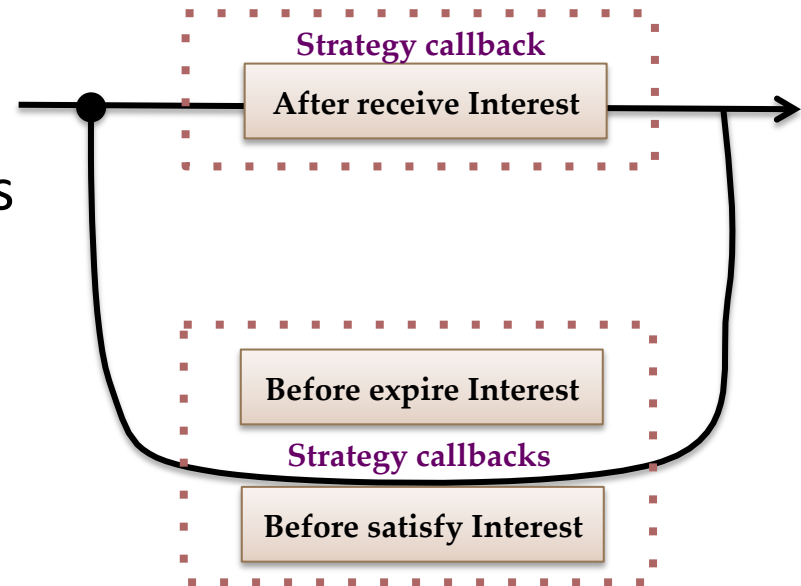
- Part 1: “Hello World” application with PyNDN2
- Part 2: Implementing a new forwarding strategy

NDN Components

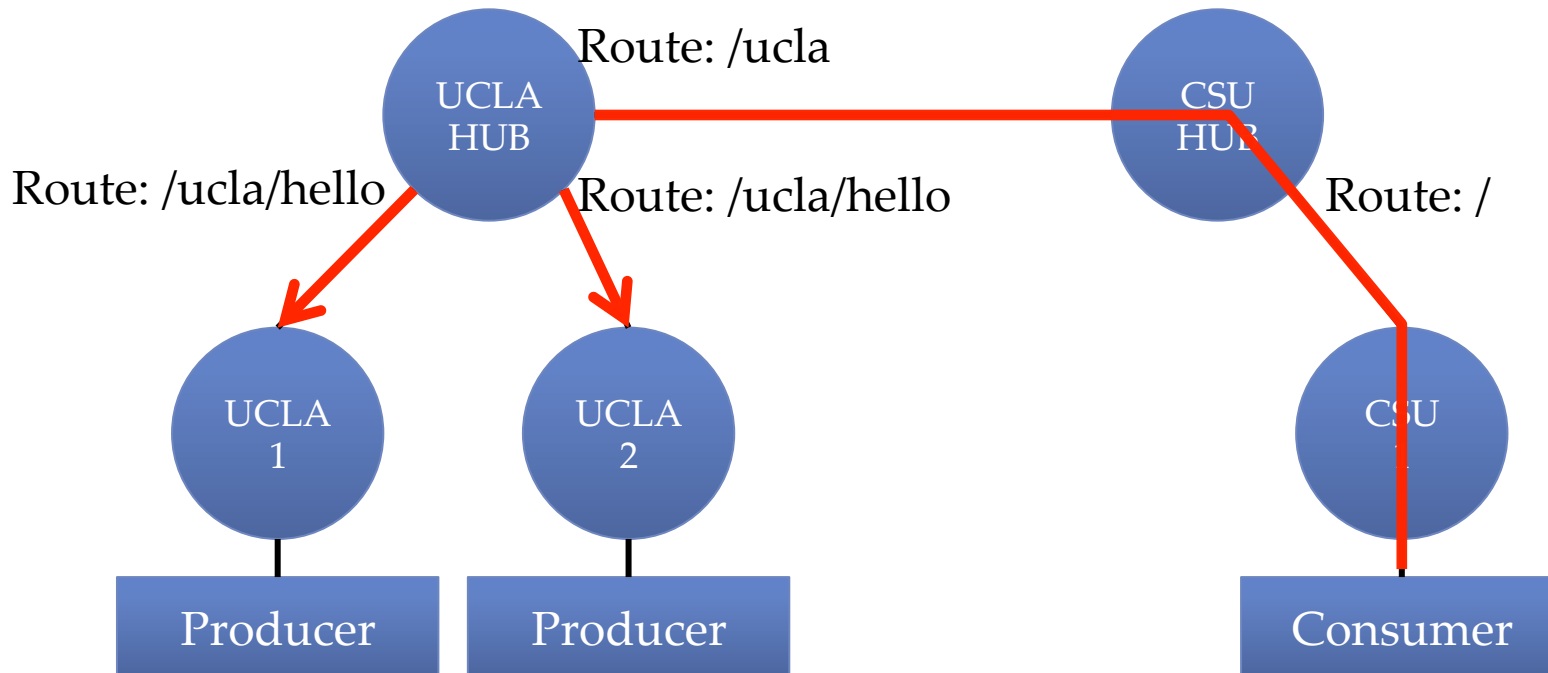


Forwarding Strategies

- **Closed control loop**
 - Decision for Interest forwarding
 - Feedback when
 - Data arrives or Interest expires
 - Can store states.
- **One strategy per namespace**
 - Local to the node
 - Configured via management commands



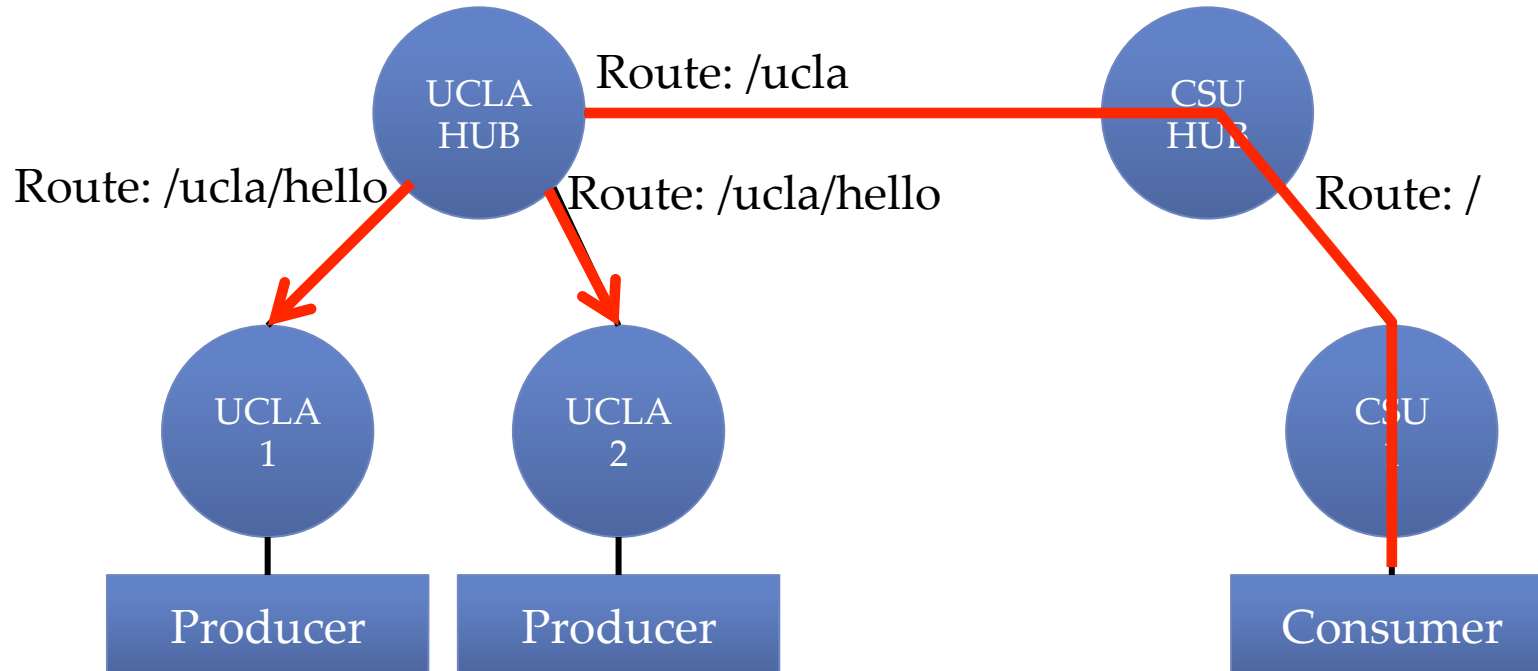
Random Load Balancer



- Randomly select a nexthop
- Stateless

Random Load Balancer Walkthrough

Delay-based Weighting



Delay: 2s

- Remember RTT from each next hop to bias future Interests towards faster paths

Weighted Load Balancer Walkthrough

Now what?

- Implement the “Hello World” application and random load balancer strategy yourself
- Download step-by-step guide and code:
<https://github.com/dibenede/ndn-tutorial-gec21/>
(see README.md)
- Extra credit: try extending “Hello World” and implementing the weighted load balancer
 - See README-ext.md