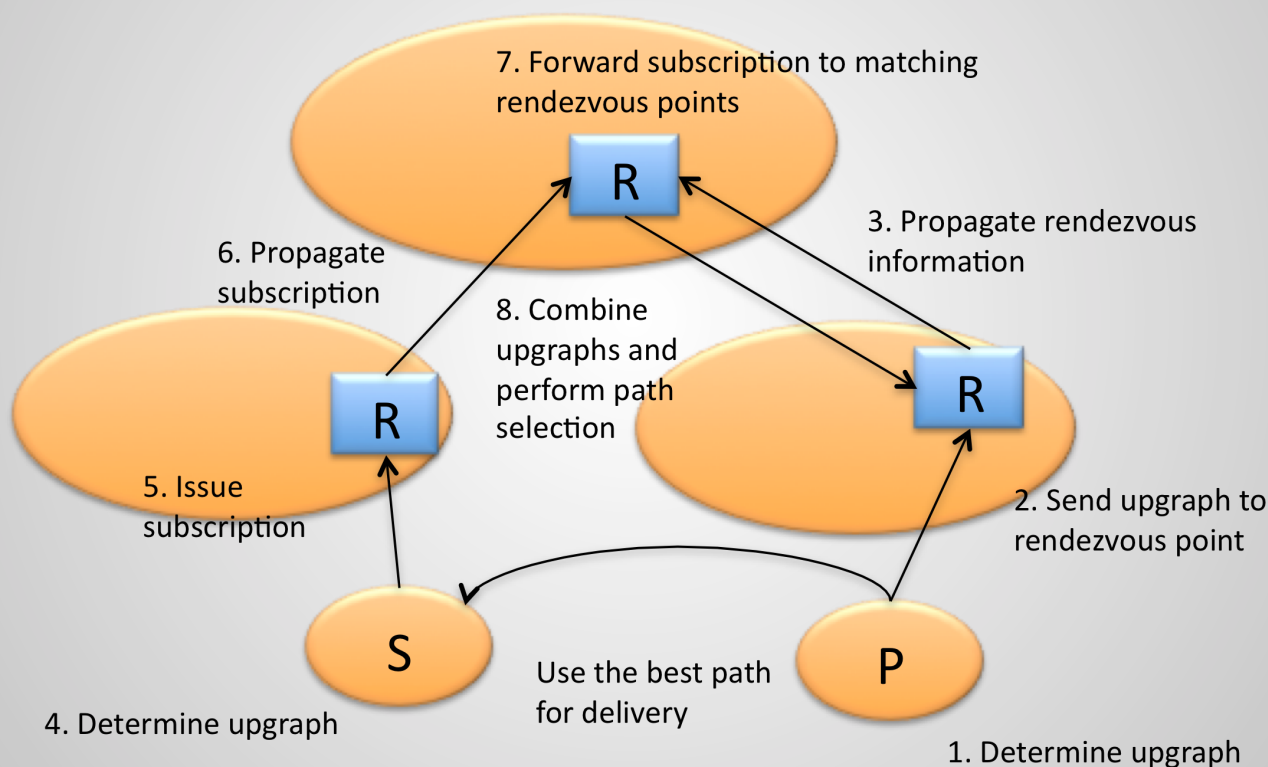




Content-based Rendezvous with Upgraph Combination

- An upgraph is a dag that contains all possible paths from a given node to the tier-1 core networks
- Publisher upgraph roots from the publisher and contains all possible uphill and peer-to-peer paths
- Subscriber upgraph does not contain peer-to-peer links, but only all possible uphill paths

- Subscriber and publisher upgraphs can be combined by reversing the subscriber dags
- The rendezvous system has the responsibility of choosing the most optimal route that is going to be use



- The NIRA system used upgraphs for allowing more control for receiver.
- Canopy uses upgraphs for pub/sub. Upgraphs combined at publisher-side rendezvous point.
- Can take both subscriber & publisher policies into account.

- Initial analysis based on CAIDA topology suggests that upgraph combination is a good candidate technology for implementing a global rendezvous system

Prof. Sasu Tarkoma
Helsinki Institute for Information Technology
University of Helsinki and Aalto University