Why?

• End to end IP service is no longer a safe assumption
  – There will usually be middleboxes
• Users want specific services, not IP addresses or URLs
• ISPs want to provide some services & redirect to others
What?

• Use the service type requested, not an IP address, to forward packets at the network edge
• Services are abstracted as Service Action Types (SAT) which are small integers
• Near the user, packets are routed by SAT not address
• Of course, IP reachability is one of the available services
How?

- Some SAT examples:
  1. IPv6 reachability
  2. IPv4 reachability
  3. Discovery
  4. Computation service
  5. Storage service

- Packet format derived from IPv6
  - But there’s an SAT instead of a destination address
  - And other goodies that look like a layer violation
Where?

• There’s toy code for both TLV and CBOR versions of SOIP at
  github.com/becarpenter/tlv/

• Side meeting discussion:

  Wednesday 08:30-09:45, Notre Dame
  (also discussing draft-jiang-asymmetric-ipv6)