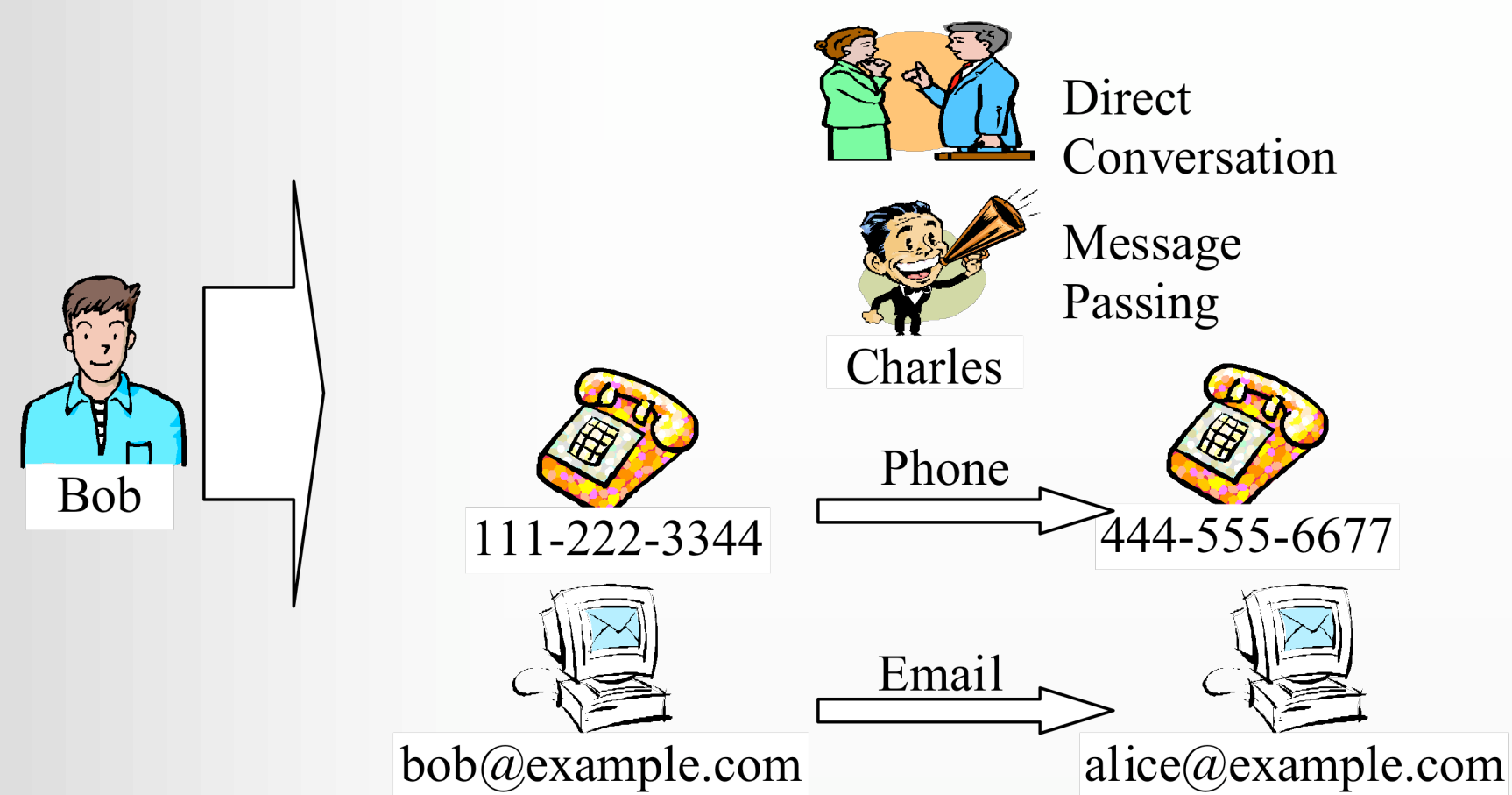




Information Sciences Institute

# Flexible Stack Architecture - Communication with Choices

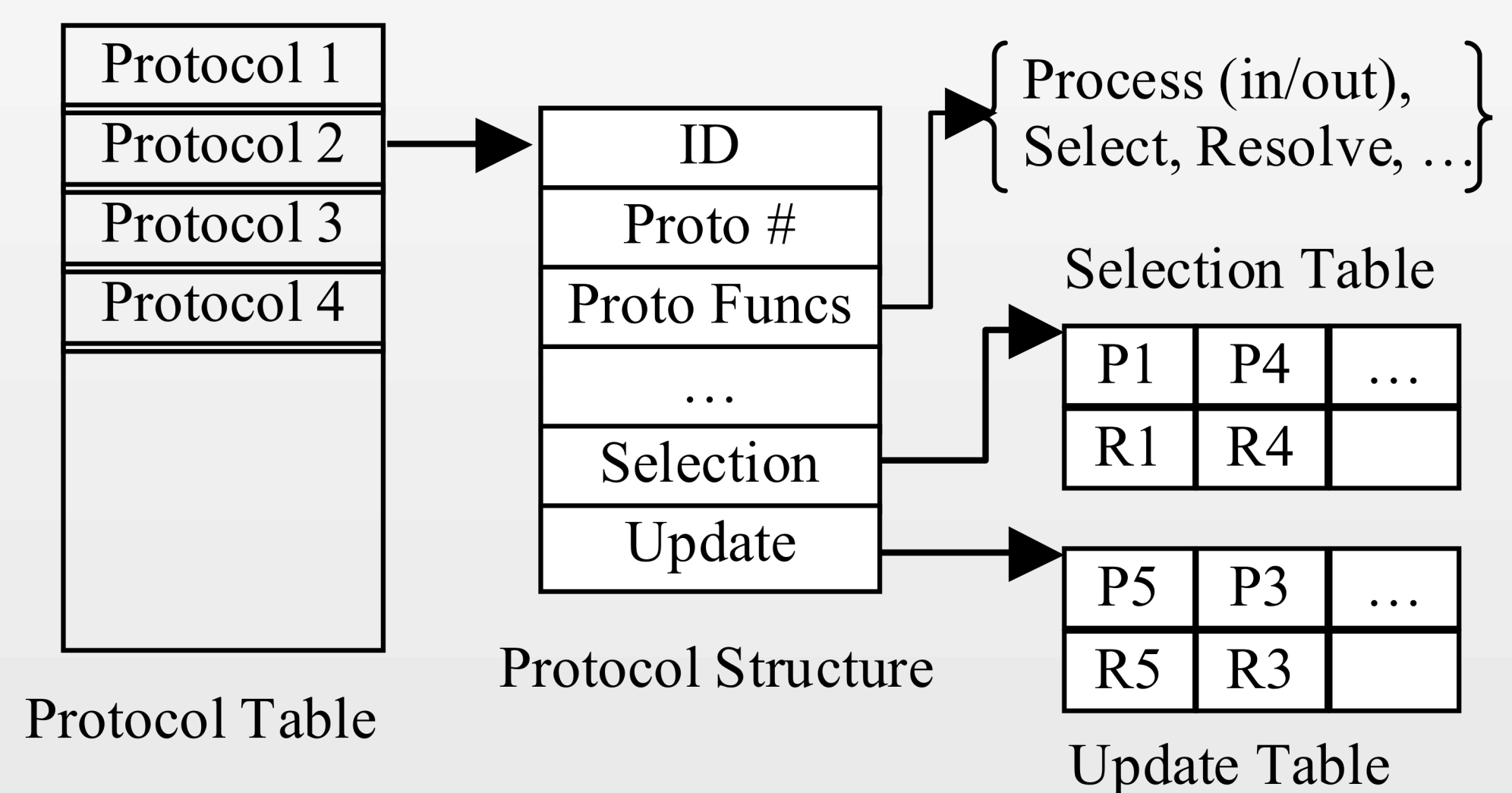
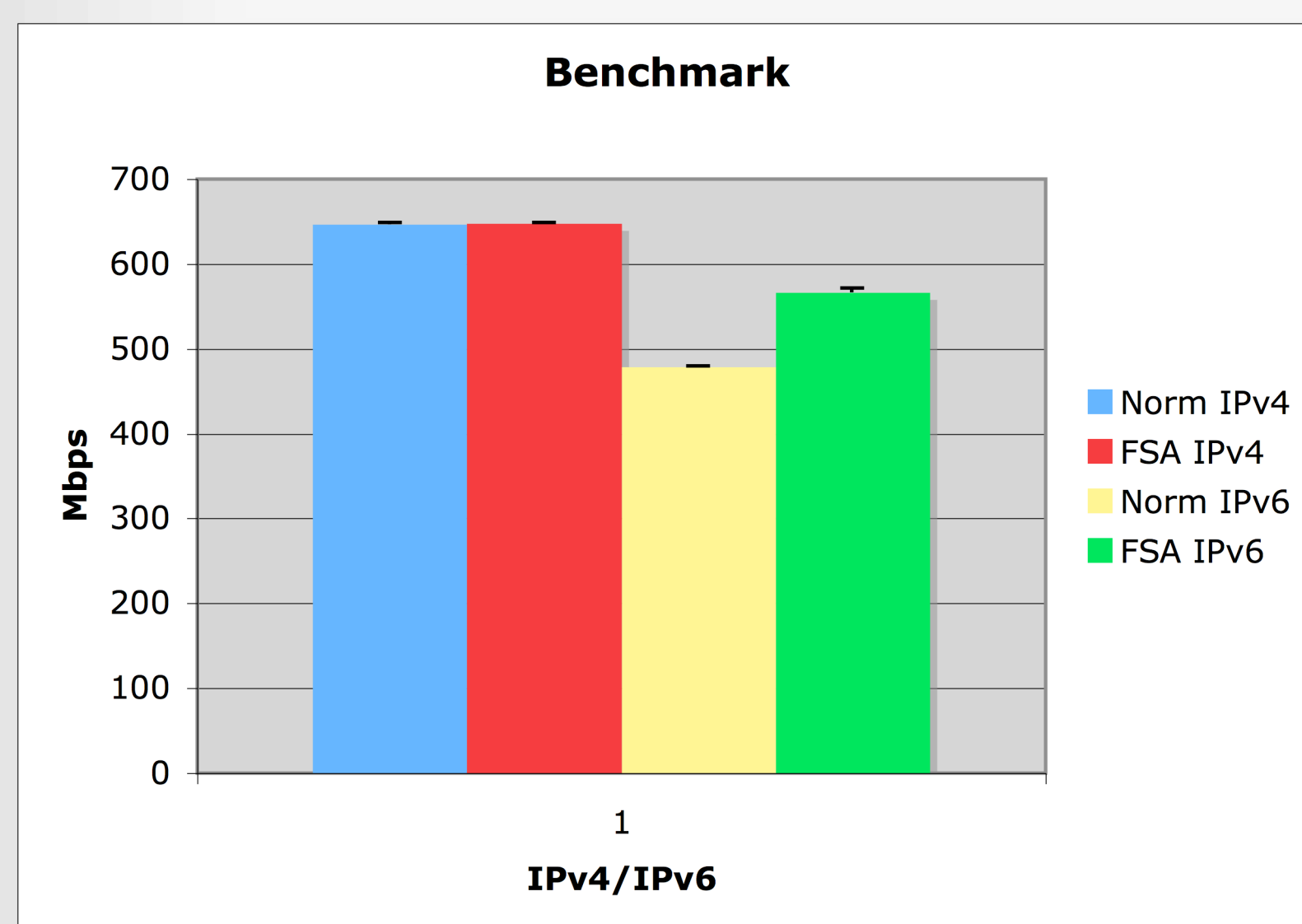


## Communication Model w/ Choices

```

C( $\Delta, S, D, I$ ) {
  ( $I', L'$ ) := P( $\Delta, S, D, I$ ); /*process*/
  while( $L' \neq D$ ) {
     $\Delta' := S(\Delta, S, D)$ ; /*select*/
    ( $S', D'$ ) := R( $\Delta, \Delta', S, D$ ); /*resolve*/
    C( $\Delta', S', D', I'$ ); /*recurse*/
     $L' := R^{-1}(\Delta, \Delta', D')$ ;
  }end_while
  return success;
}

```



## Communication with Choices

- Next layer protocols
- Next hop or region
- Resolution mechanisms
- Resolution results

## “Layer” Template

- Apply protocol processing
- Verify current location
- Select next available protocol
- Resolve new source & destination
- Enter the new protocol

## Flexible Stack Architecture

- Resolution = Glue between Layers
- Dynamic selection of next protocols
- Runtime protocol plug-in & detachment
- Experiment new & modified protocols
- Support flexible selection policies
- Support concurrent or serialization of mechanisms (selection/resolution)

## FSA Prototype:

- FreeBSD CURRENT: INET4 Stack with IPv6, ICMP6, & UDP6 modules (KLMs)

