INFOCOM 2015 Panel

What should the future Internet be centered on: Information, Service, Mobility, or User?

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Different perspectives → different views
From the architecture perspective:

RFC791: Internet Protocol Specification
What Does the Network Do?

Shipping bits (=data=info)

- unfortunately the existing TCP/IP architecture, designed 30+ years ago, no longer fits today’s job well
Applications can be built directly on top of NDN data delivery, use names to communicate

Any communication media that can provide best effort datagram delivery
Named Data Networking: A new narrow waist

Applications can be built directly on top of NDN data delivery, use names to communicate.

Any communication media that can provide best effort datagram delivery.
Had we were all running NDN today

You (and the projector) would have been able to get my slide deck for this talk:

/Thisroom/lixia/presentations/1504infocom

◊ My laptop WiFi can reach all your laptop/phones in this room
  o the existing protocol stack is the hurdle
Named Data Networking: A new narrow waist

Applications can be built directly on top of NDN data delivery, use names to communicate

Any communication media that can provide best effort datagram delivery

- Consumer driven, best-effort data fetching
- \textit{Leave to the system} to figure out where to get nearest copy of requested data
  - from transmission, storage, processing
- Every data packet carries a crypto signature
Get the narrow waist right → enable all desired functions

by **naming data** instead of its containers

◊ **Service centric**: directly enabled

◊ **Mobility centric**: enabled (by removing IP address)
  ○ ship bits bits from mobile devices to mobile devices

◊ **User centric**: by putting control in users hand
  ○ remove consumer info from data exchange (unless needed)
  ○ control data access via encryption

◊ **Security centric**: built right into the narrow waist
The new architecture needs your help

NDN research: still in early stage

◊ NDN architecture design: needs a global collaboration effort
  o Mailing list ndn-interest@lists.cs.ucla.edu

◊ NDN prototype development: a global open source effort
  o https://github.com/named-data
  o http://redmine.named-data.net/projects

◊ NDN testbed: open to all interested parties

http://named-data.net/
Let's join hands to move Internet architecture forward