

Name Compression on MTU-restricted Channels

- In an Interest, the Name is the question.
 - In a command Interest, the question is long:
 - `/<maybe-routable-prefix>/<device-name>/<command>/<parameters>/<signature>`
 - Data has to carry the Interest name, so that downstream knows which question is answered.
- MTU is limited on some channels: e.g. Bluetooth Low Energy $MTU \leq 512$
 - Fragmentation can work around MTU restriction, but it causes more packet transmissions, and uses more energy.
- Can we shorten names on a MTU-restricted hop without changing semantics?
 - Interest name: strip common prefix, such as the `<maybe-routable-prefix>`
`/%C1.PREFIX/<device-name>/<command>/<parameters>/<signature>`
 - Data name: replace Interest name with its NDNLP sequence number
`/%C1.REPLY/<seq>/<extra-components>`

Name Compression on MTU-restricted Channels

- Compress Interest/Data names, save bandwidth and energy.
- You need:
 - C++11
 - knowledge about NFD forwarding pipelines
 - Mininet or Mini-NDN or virtual machines on your computer to run 3 NFD instances
- Project demo:
 - A-B-C linear topology, A runs regular NFD, B and C run patched NFD
 - send signed Interests from A to C
 - A-B uses original names, B-C uses compressed names
 - show packet names with Wireshark