

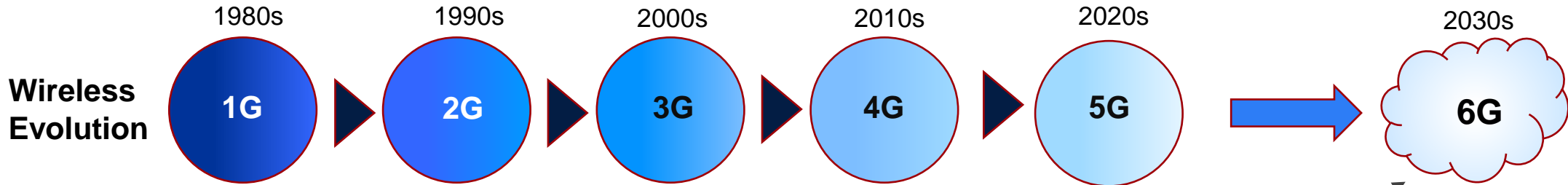
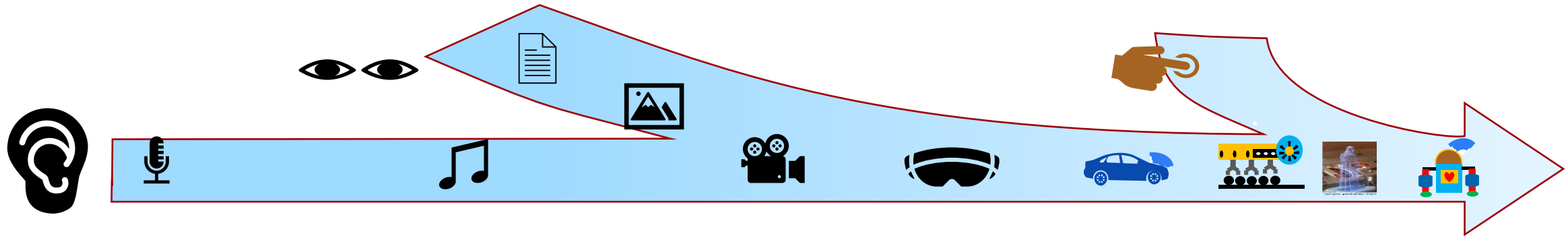
6G RESEARCH VISIONS WEBINAR SERIES: 6G Networking

Having IP Networks Ready for B5G/6G

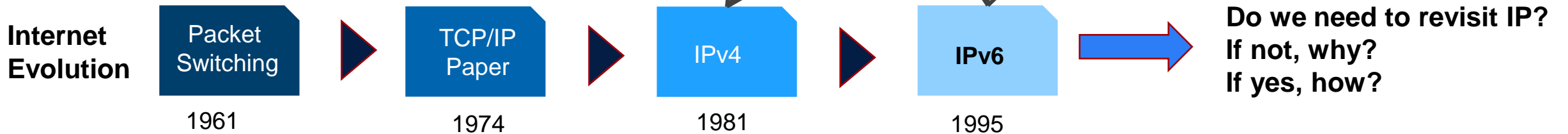
Richard Li

Chief Scientist, Network Technologies
Futurewei, USA

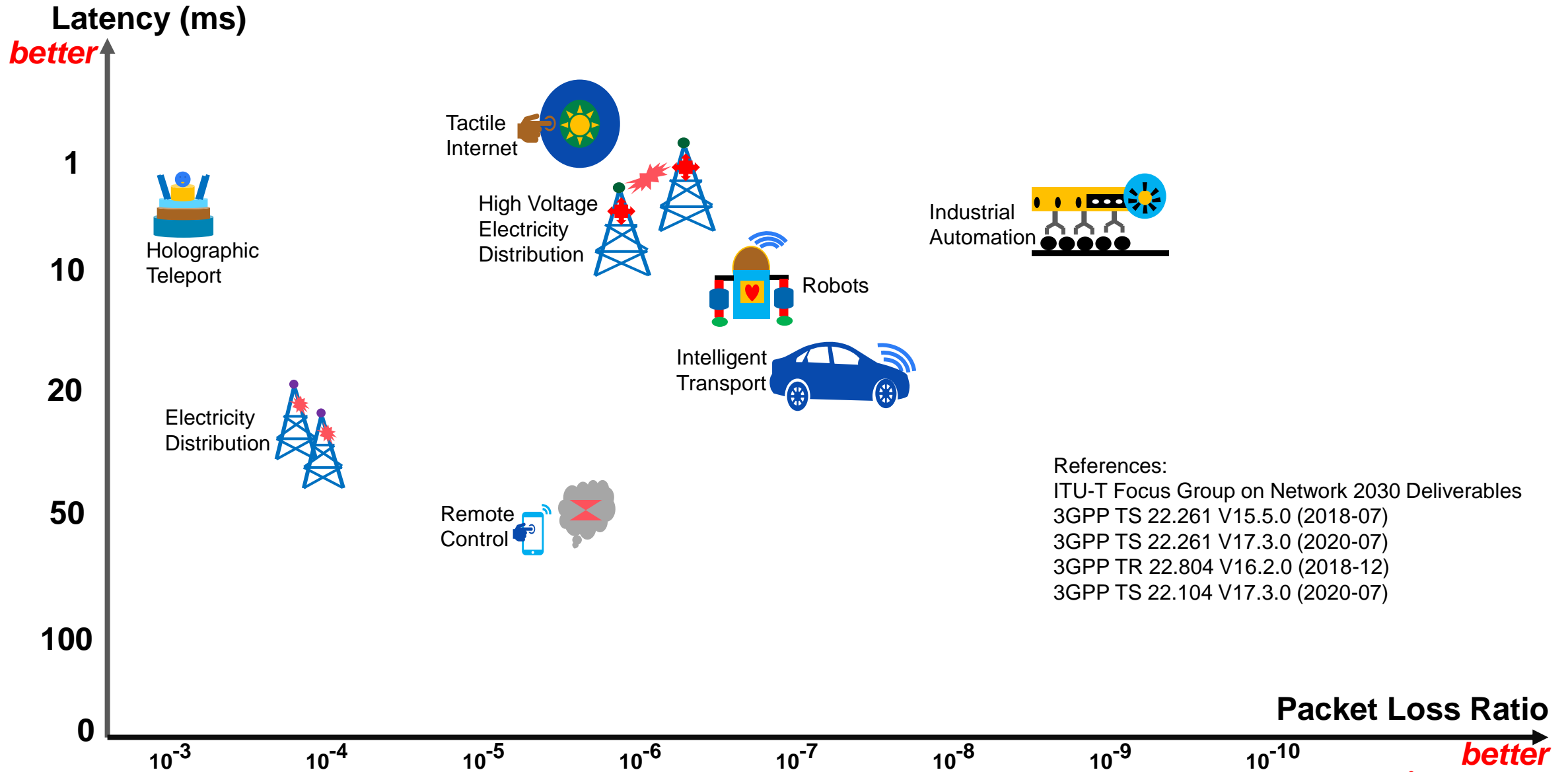
December 9, 202



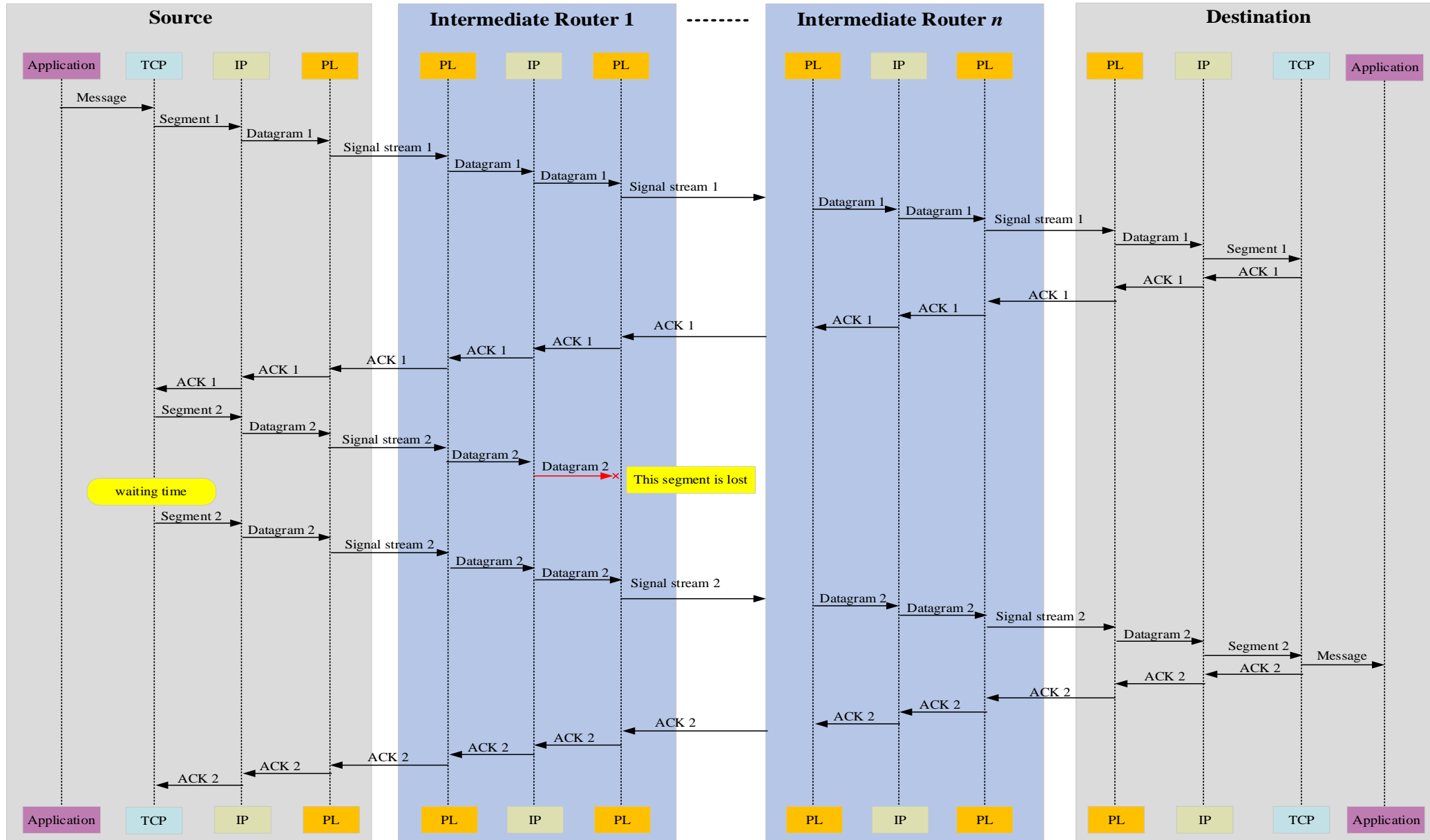
Is IP capable and ready to support future mobile networks?



The future is not just about connectivity, but about KPI!!!

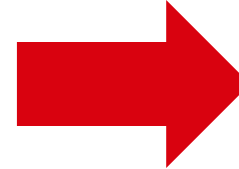
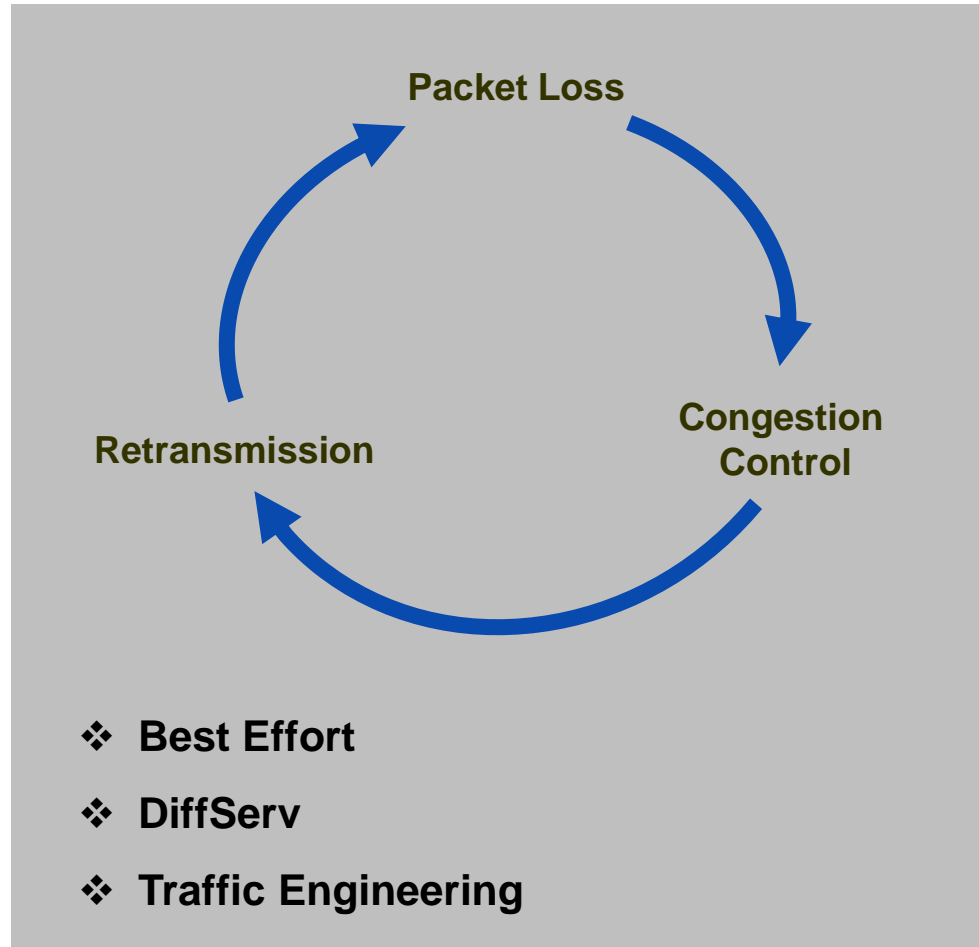


Current Design



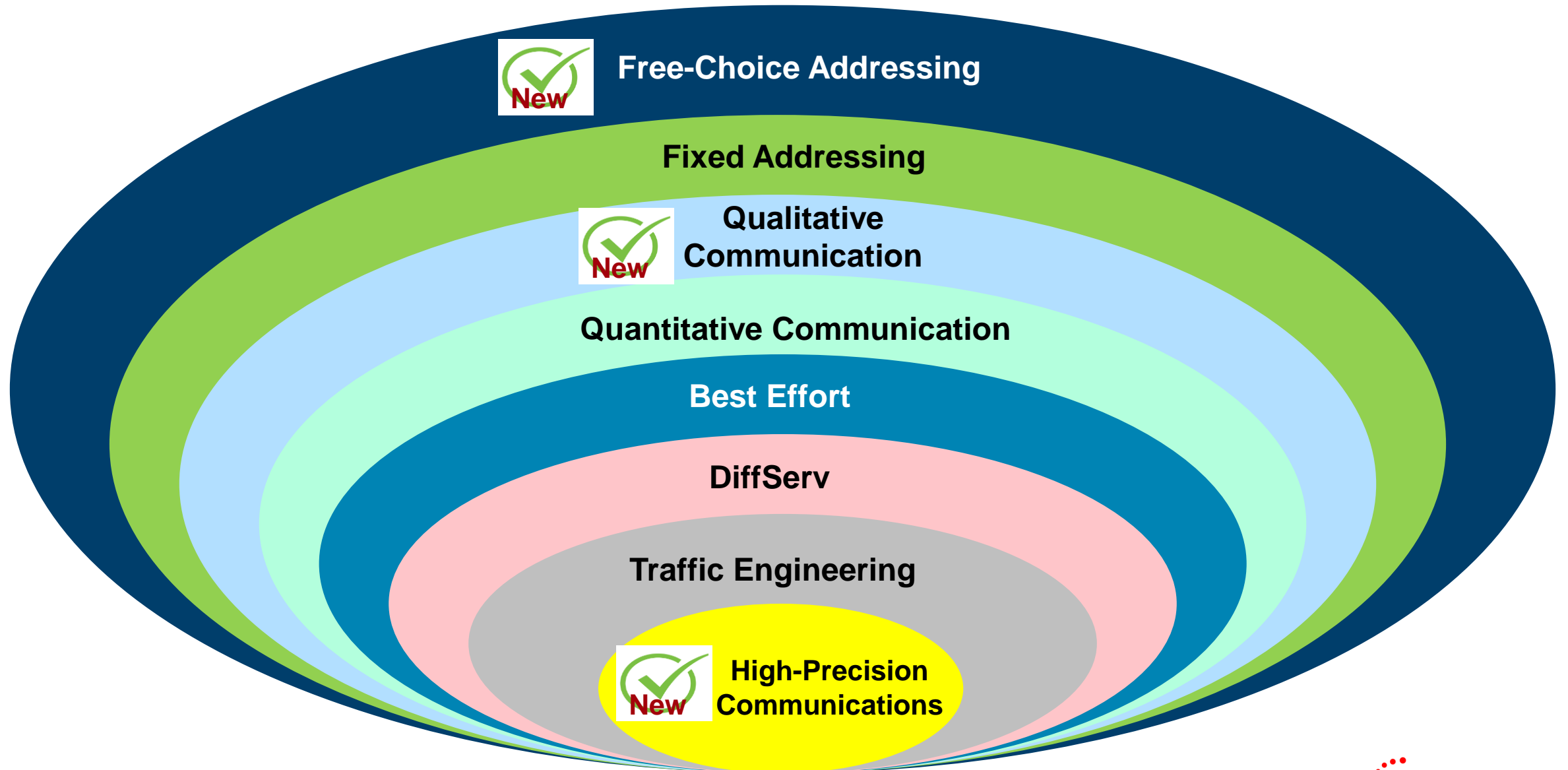
Limitations by the current design

Current Design

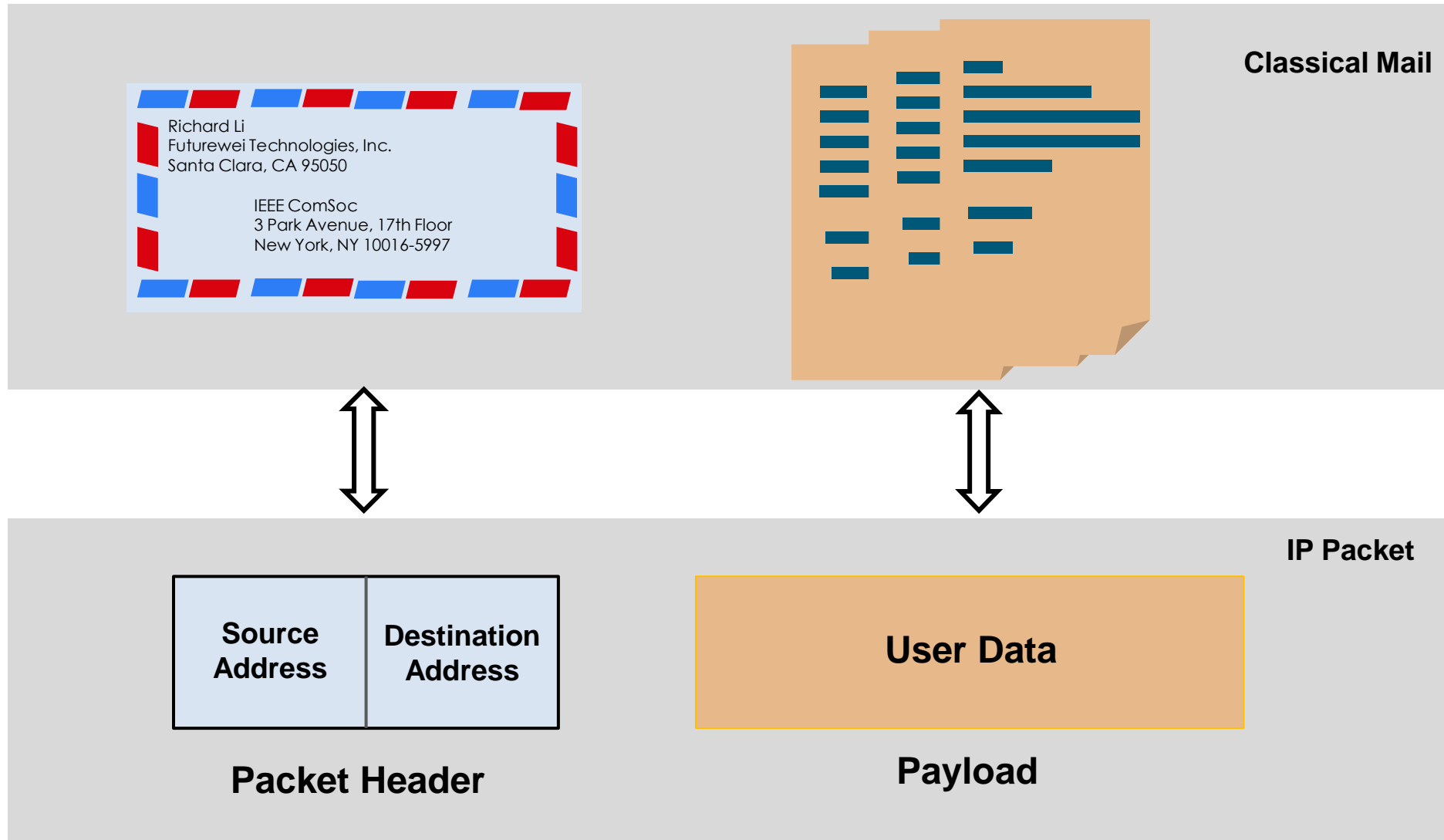


- 1) No guaranteed support to precise KPI
- 2) “One Size Fits All” does not always fit all nicely
- 3) Addressing freedom is not allowed
- 4) Routers are not permitted to proactively avoid congestion and reduce packet loss
- 5) Qualitative and quantitative data are not differentiated

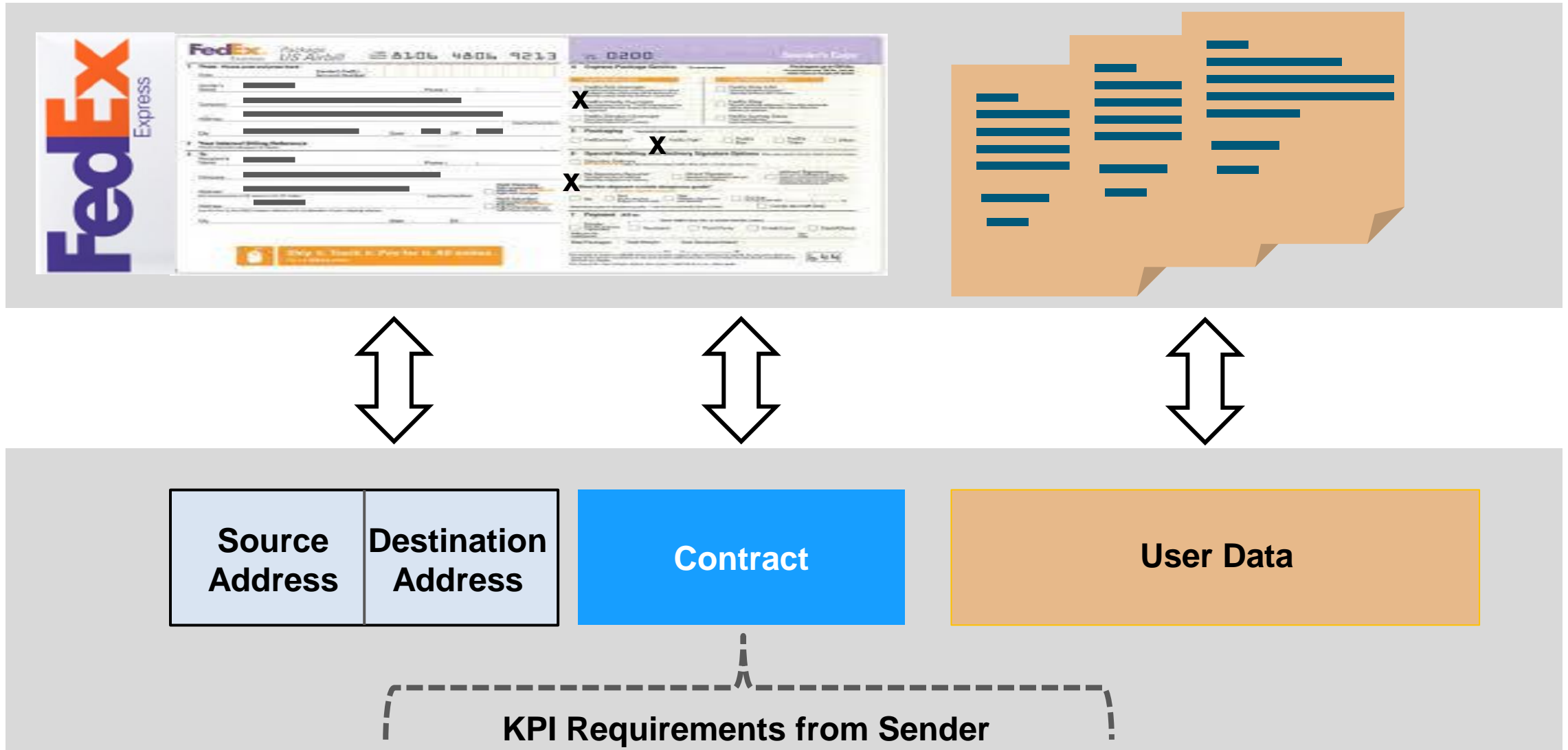
What is needed for future?



Classical Mail vs. IP

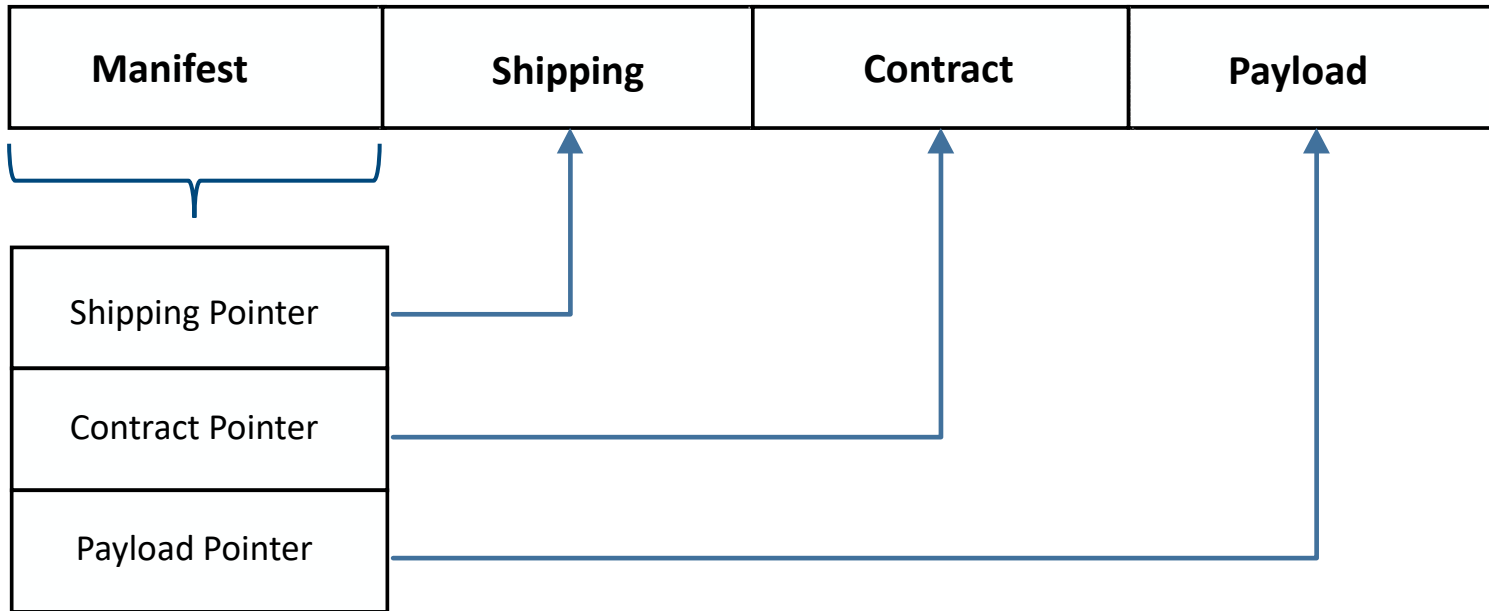


What if We Reimagine an IP Packet as a FedEx Package?



* FedEx is a trademark of FedEx Corp.

Revisited IP: Let's extend and optimize IP for future



Addressing

- Free-Choice Addressing
 - IPv4, IPv6, LISP, Flexible Addressing Systems, others
- Mix and Match

Contract

- In-Time Guarantee
- On-Time Guarantee
- Lossless Networking

Payload

- Native Stream of Bits and Bytes
- Structure of Bits and Bytes
 - Entropy-Based
 - Semantics-Based

Reference: New IP: A Data Packet Framework to Evolve the Internet, Invited Paper, IEEE HPSR 2020

Thank You