

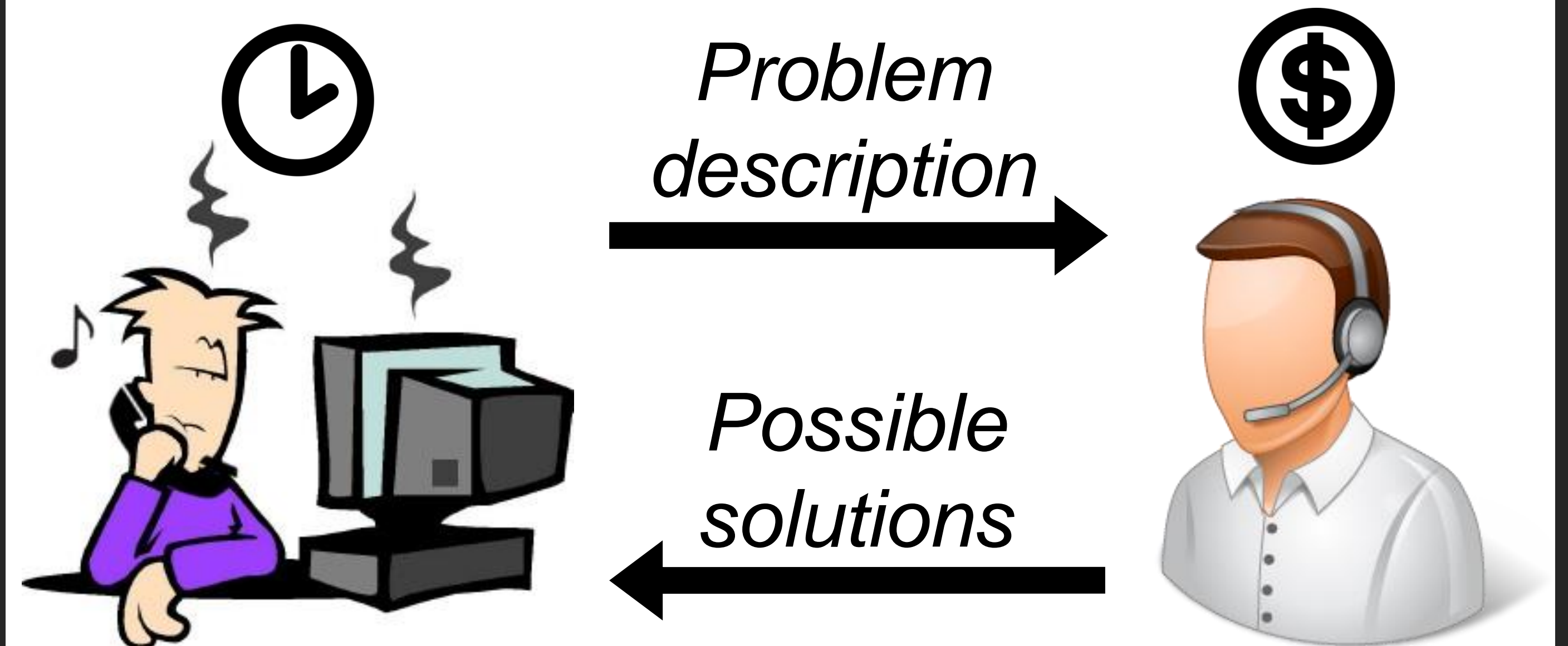


A Method for Measurement and Diagnosis of Home Wi-Fi Network Performance

Problems in the Wi-Fi network are frustrating



Troubleshooting can be costly!



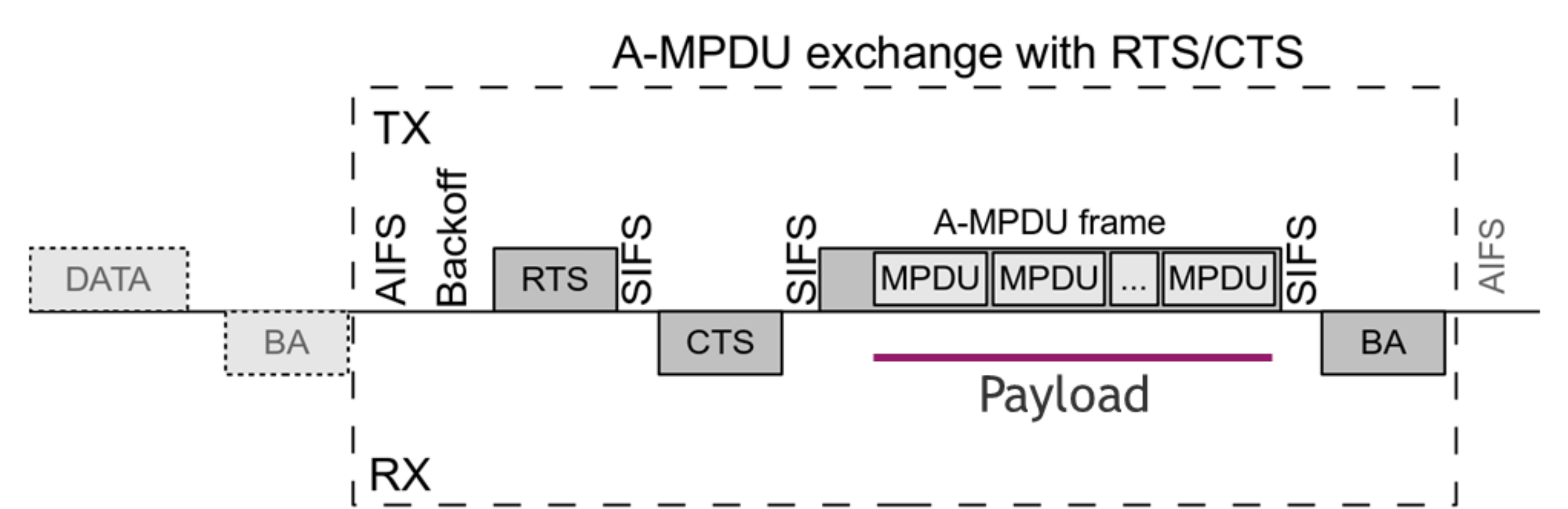
For both the user and the ISP

Proposal

ISPs should instrument APs to monitor Wi-Fi quality and assist users in diagnosis

- Passive Wi-Fi link capacity estimation
- Wireless diagnosis
- Quality-of-experience on wireless

Link capacity estimation



$$LC(P) = \frac{AGG(P) \times \text{UDP payload}}{\text{A-MPDU TxDelay}(P)} \times (1 - B_o)$$

$$LC(t_0, \tau) = \frac{1}{\tau} \int_{t_0}^{t_0+\tau} FDR(t) \times LC(P(t)) dt.$$

Current results

