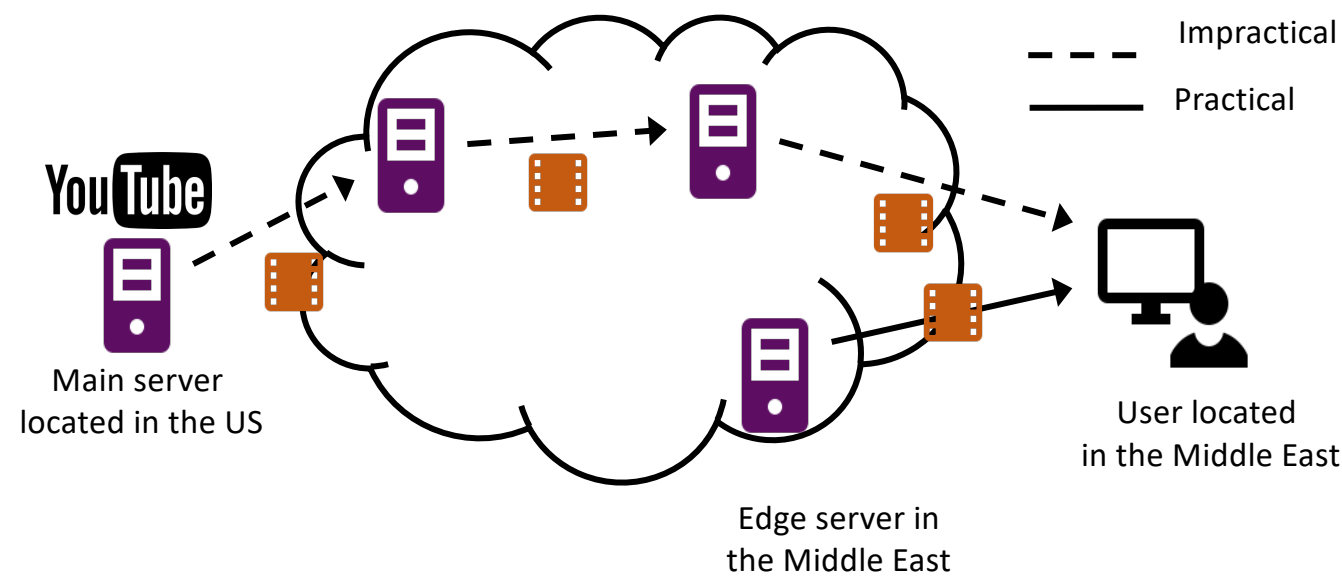
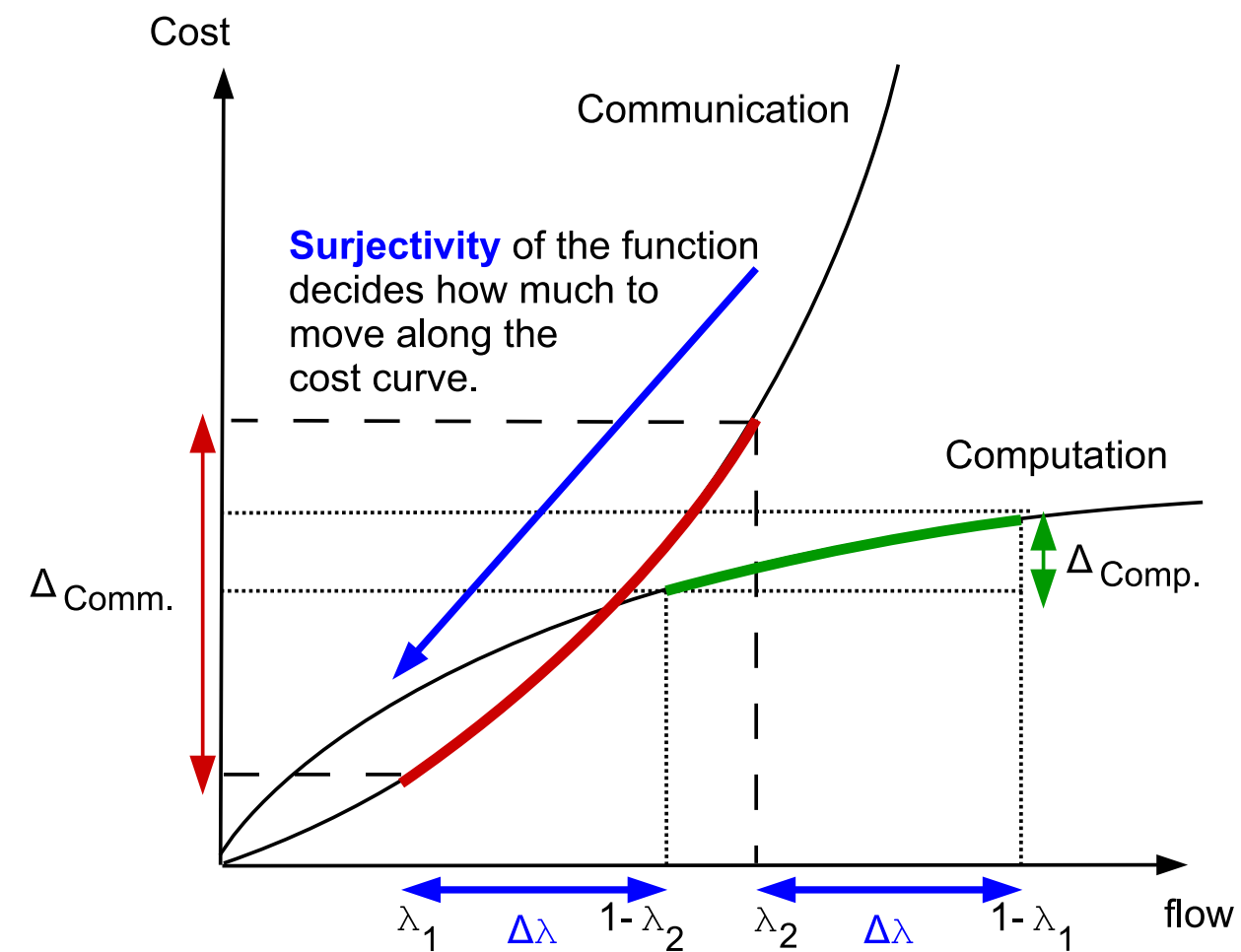


Coordinating Caching, Communications and Computation in Networks

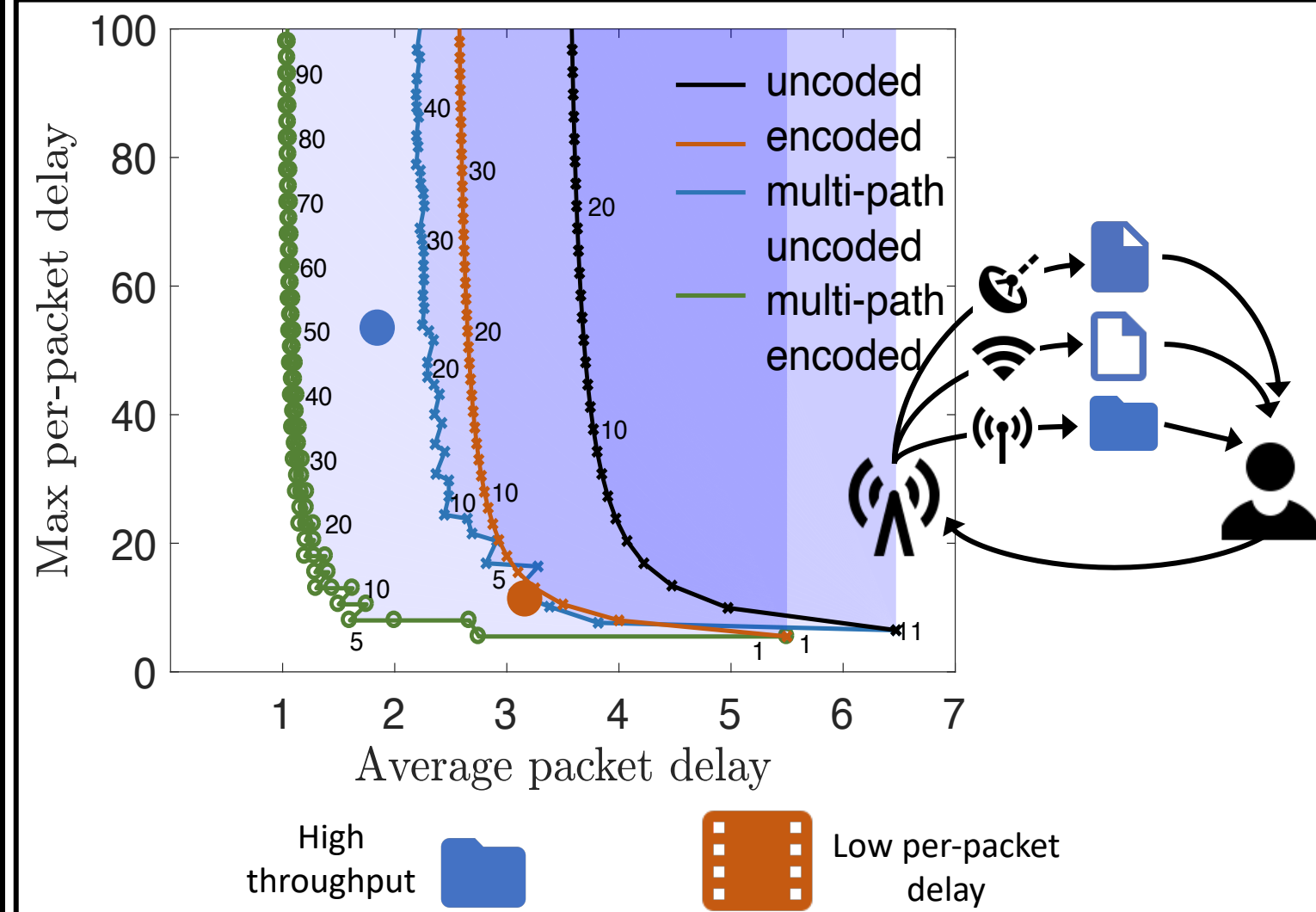
Derya Malak, Dept. of Electrical, Computer, and Systems Engineering, Rensselaer Polytechnic Institute
malakd@rpi.edu



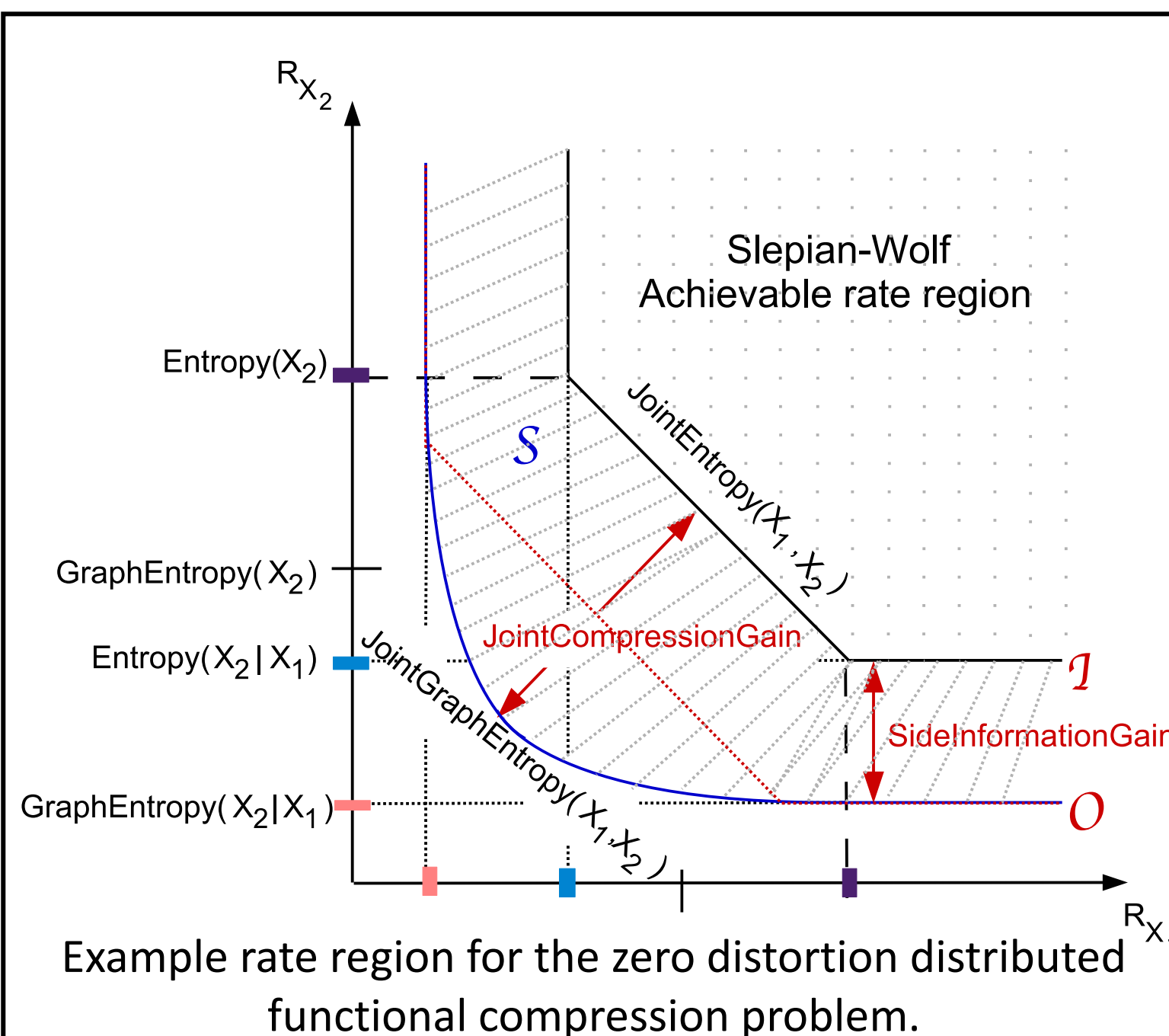
What are the theoretical limits of
geographic caching? **reliable communications?**
Where to cache what files so as to minimize delay or bandwidth use
Scalable solutions to maximize speed of delivery or minimize overall completion time



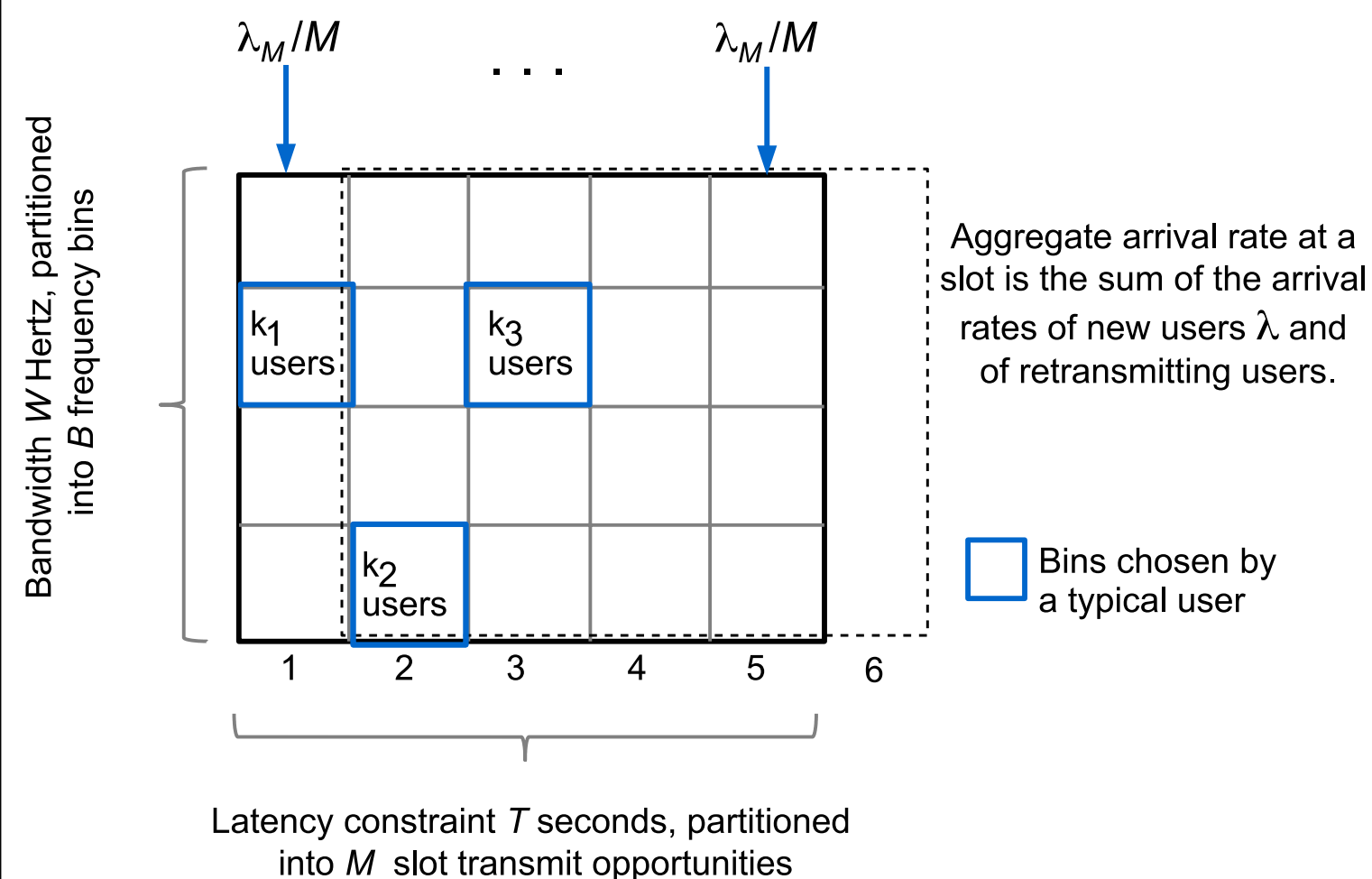
The costs of communications and computation versus the outgoing communication flow Entropy(f(X)).



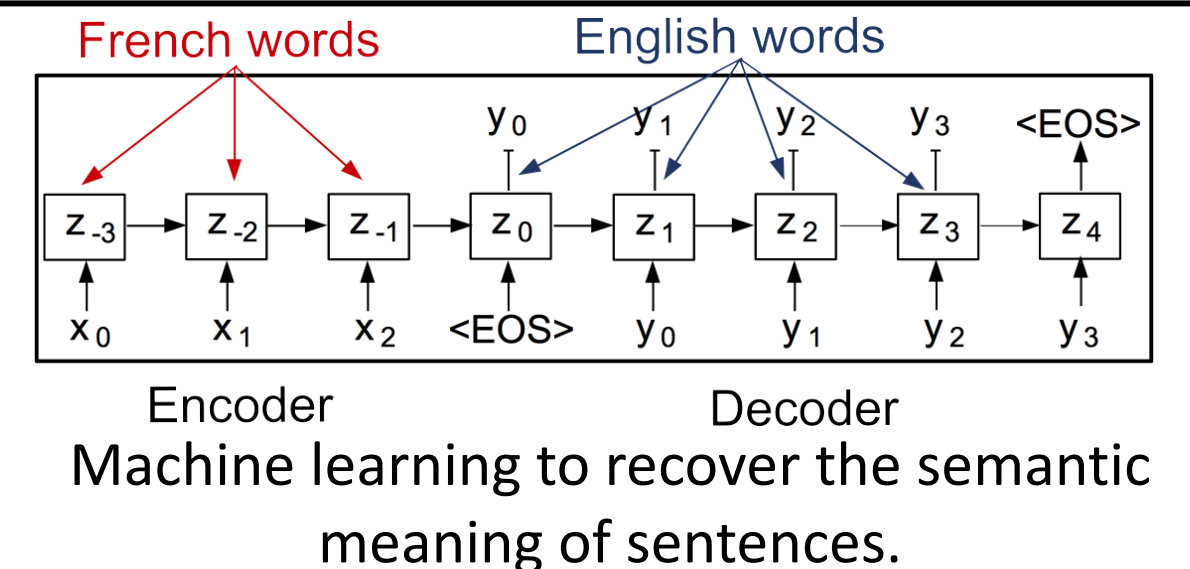
Scalable solutions to maximize speed of delivery or minimize overall completion time.



Example rate region for the zero distortion distributed functional compression problem.



Multiple access for delay sensitive machine-type communications.



Distributed neural network computation.

