

CS640: Introduction to Computer Networks

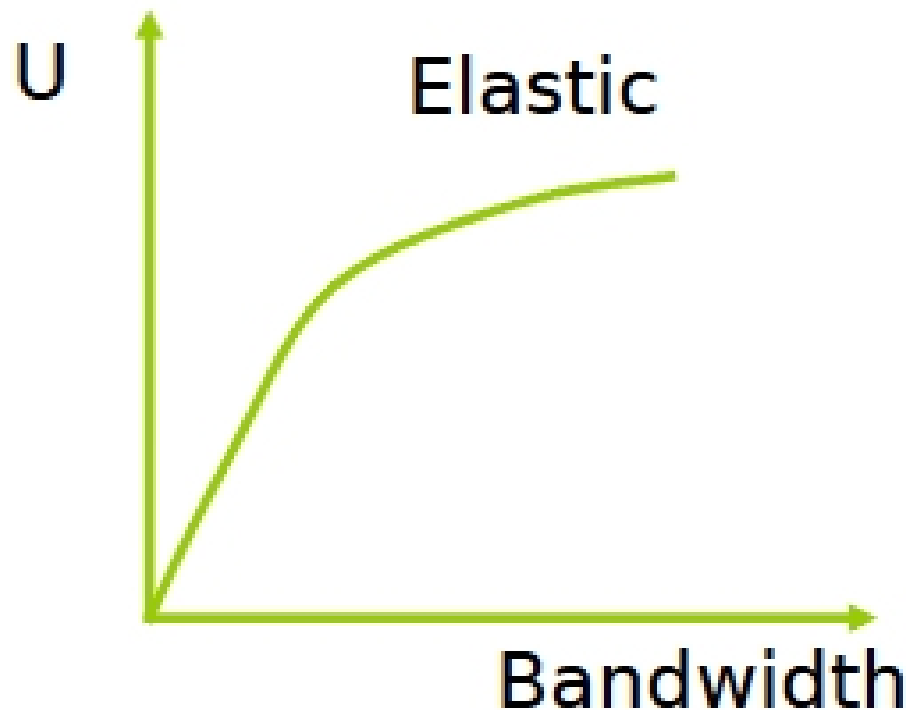
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Lecture 20 -
QoS

Why a New Service Model?

- Best effort clearly insufficient
 - Some applications need more assurances from the network
- What is the **basic objective** of network design?
 - Maximize total bandwidth? Minimize latency?
 - **Maximize user satisfaction** - the total **utility** given to users
- What does utility vs. bandwidth look like?
 - Must be non-decreasing function
 - Shape depends on application

Utility curve - Elastic traffic



Does equal allocation of bandwidth maximize total utility?