TMP: Time Modulation Protocol

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The big picture

▶ Foundation: Shannon’s **Information Theory** (1948)
▶ Capacity of a channel: **bits/second**
▶ **Time insensitive** measure
Fig. 4. Alternatively, with a time-sensitive transmitter and receiver, the capacity of a channel is the number of signals that can be sent within a second, and the effective capacity of a transmission system is given by the number of bits that a transmitter and receiver can encode per signal.

▶ Effective capacity (bits/second)

**Theorem.** Effective capacity > capacity

▶ Jitter (seconds): unpredictable variation in delay
Time Modulation Protocol

Requirement: **high-precision clocks**

Potential benefits:
- Increase effective capacity
- Increase confidentiality (**hiding data in time**)

Looking to **standardize** new Internet protocol: TMP.

Looking for **collaboration** on:
- Prototype implementations
- Better models for predicting delays