

External vs Internal Synchronization

- **Consider a group of processes**
- **External Synchronization**
 - Each process $C(i)$'s clock is within a bound D of a well-known clock S external to the group
 - $|C(i) - S| < D$ at all times
 - External clock may be connected to UTC (Universal Coordinated Time) or an atomic clock
 - E.g., Cristian's algorithm, NTP
- **Internal Synchronization**
 - Every pair of processes in group have clocks within bound D
 - $|C(i) - C(j)| < D$ at all times and for all processes i, j
 - E.g., Berkeley algorithm