802.17 RPR
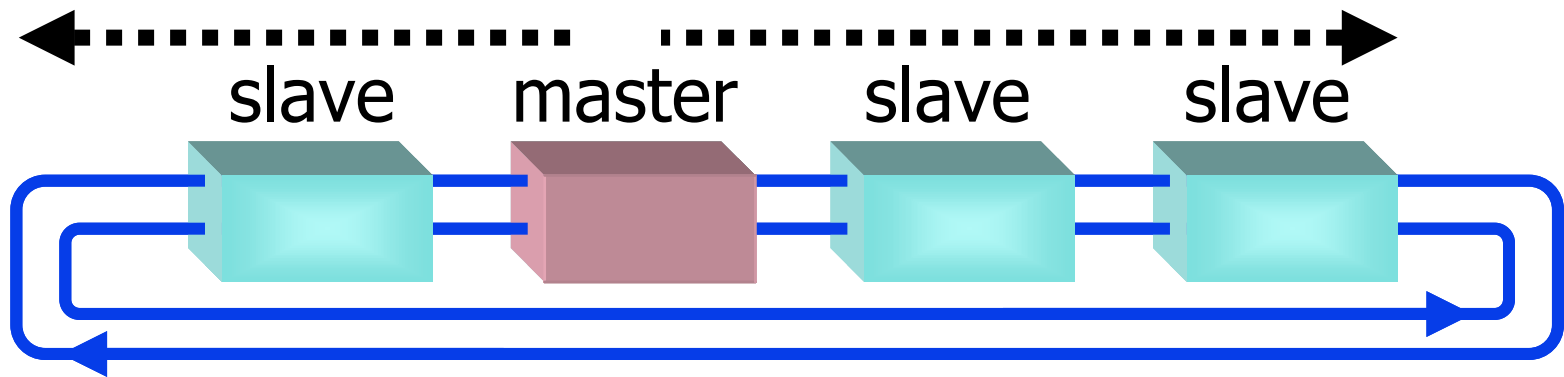# Time synchronization

○ Prepared for 802.17, March 2002

○ David V. James, PhD
Chief Architect
3180 South Ct
Palo Alto, CA 94306
Tel: +1.650.494.0926
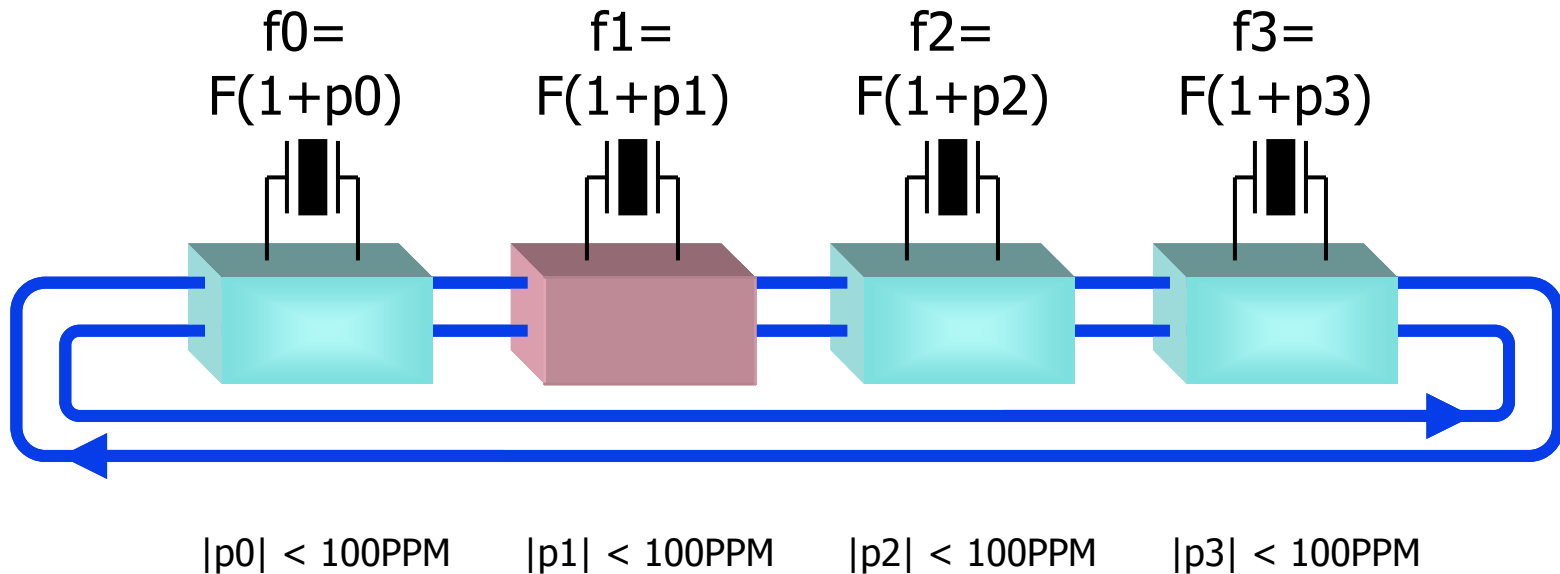Cell: +1.650.954.6906
Fax: +1.360.242.5508
Email: dvj@alum.mit.edu

Time-sync support

- ❍ **TDM traffic**
  - – **Stratum-clock equivalent**
  - – **Boundary inputBw==outputBw**
- ❍ **Diagnostics**
  - – **Event time stamps**
- ❍ **RTT assistance**
  - – **"No global clock assumed"**
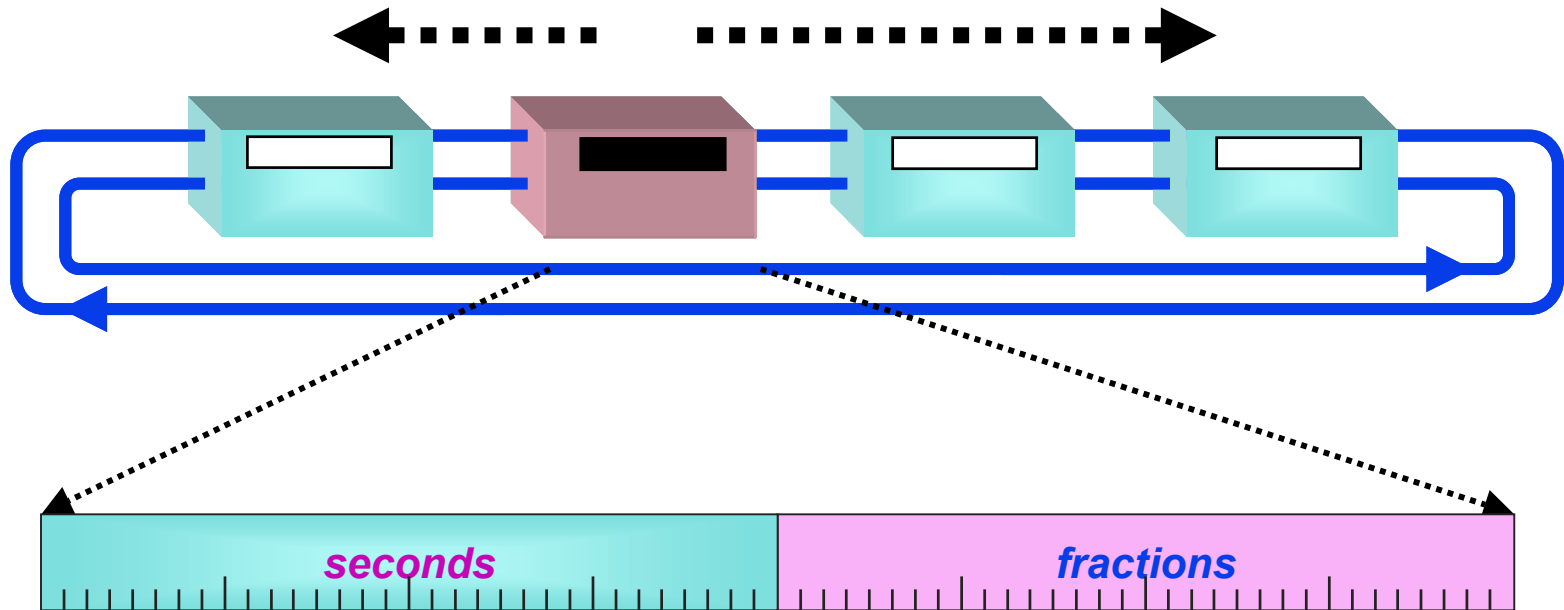 - – **Known cable delays and global timers**

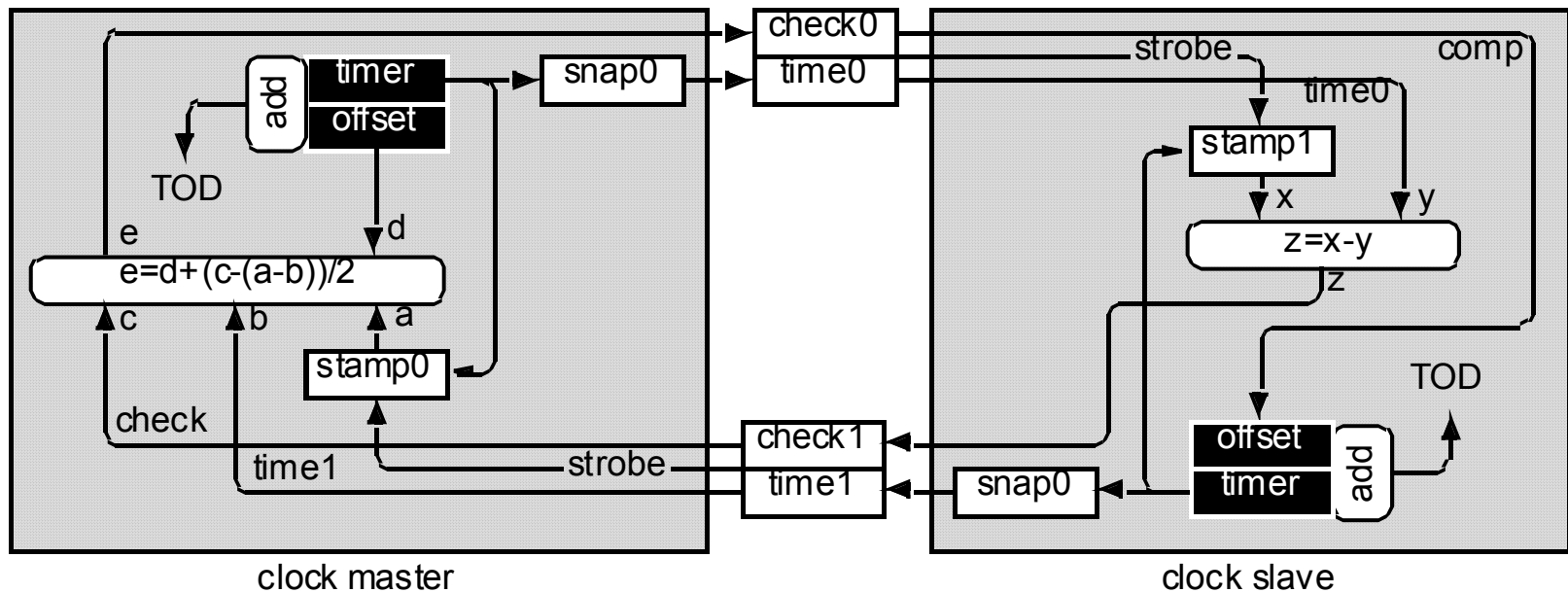# Time-of-day master and slaves

This is not bit-clock synchronization!

f0=
F(1+p0)

f1=
F(1+p1)

f2=
F(1+p2)

f3=
F(1+p3)

|p0| < 100PPM |p1| < 100PPM |p2| < 100PPM |p3| < 100PPM

This is time-of-day synchronization!

seconds | fractions

Precise duplex-link synchronization

clock master

clock slave

Leveraged idle format

fairness

ttl	ctrl	
sourceStationID		
type	args	
FCS		

idle

ttl	ctrl	timeAHi
timeB		
type	count	timeALo
FCS		