

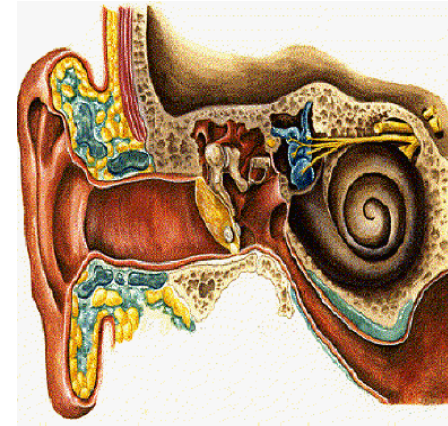
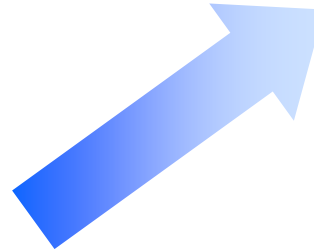


Residential Ethernet Latency Requirements IEEE802.3 SG

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Playing music requires timely feedback

Comfort music playing
requires delay to be no
more than 10 - 15
millisecond*



Home recording



6 ms air delay at 6' distance



1 ms D/A Conversion delay

T4

T3



5 ms processing delay

T2

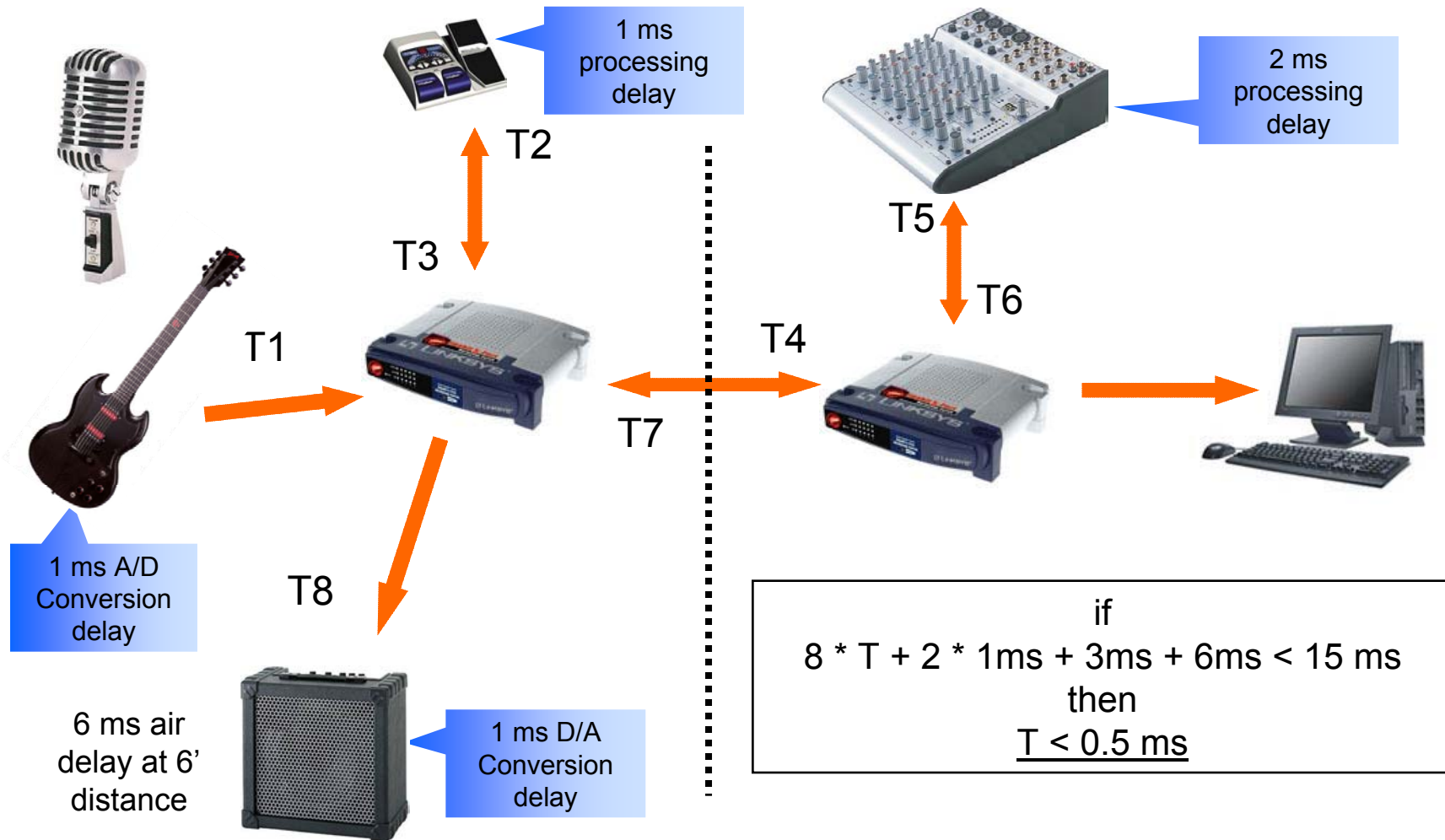
T1



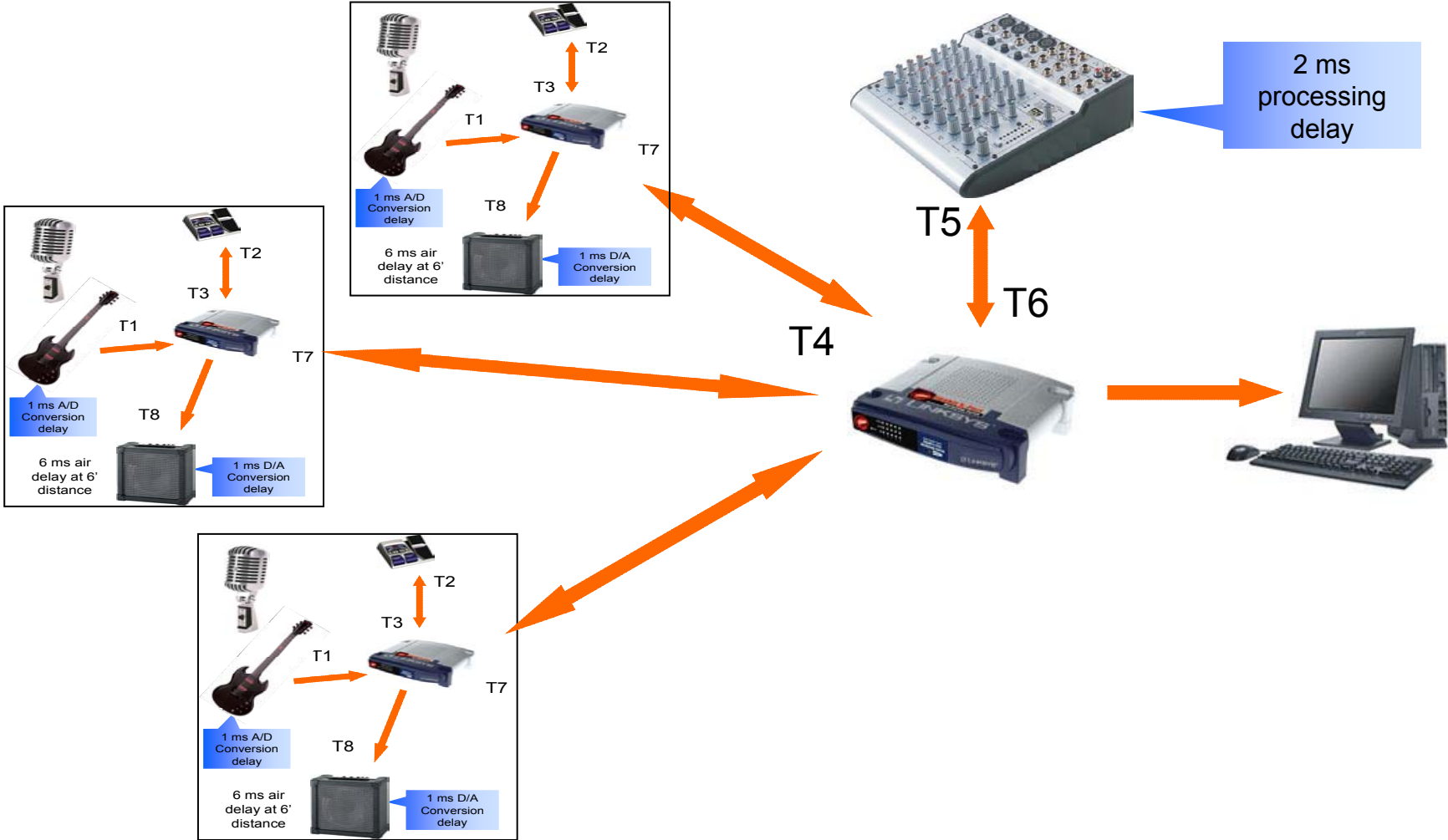
1 ms A/D Conversion delay

$$\text{If } T = T1 = T2 = T3 = T4 \text{ and} \\ 4 * T + 2 * 1\text{ms} + 5\text{ms} + 6\text{ms} < 15 \text{ ms} \\ \text{Then } \underline{T < 0.5 \text{ ms}}$$

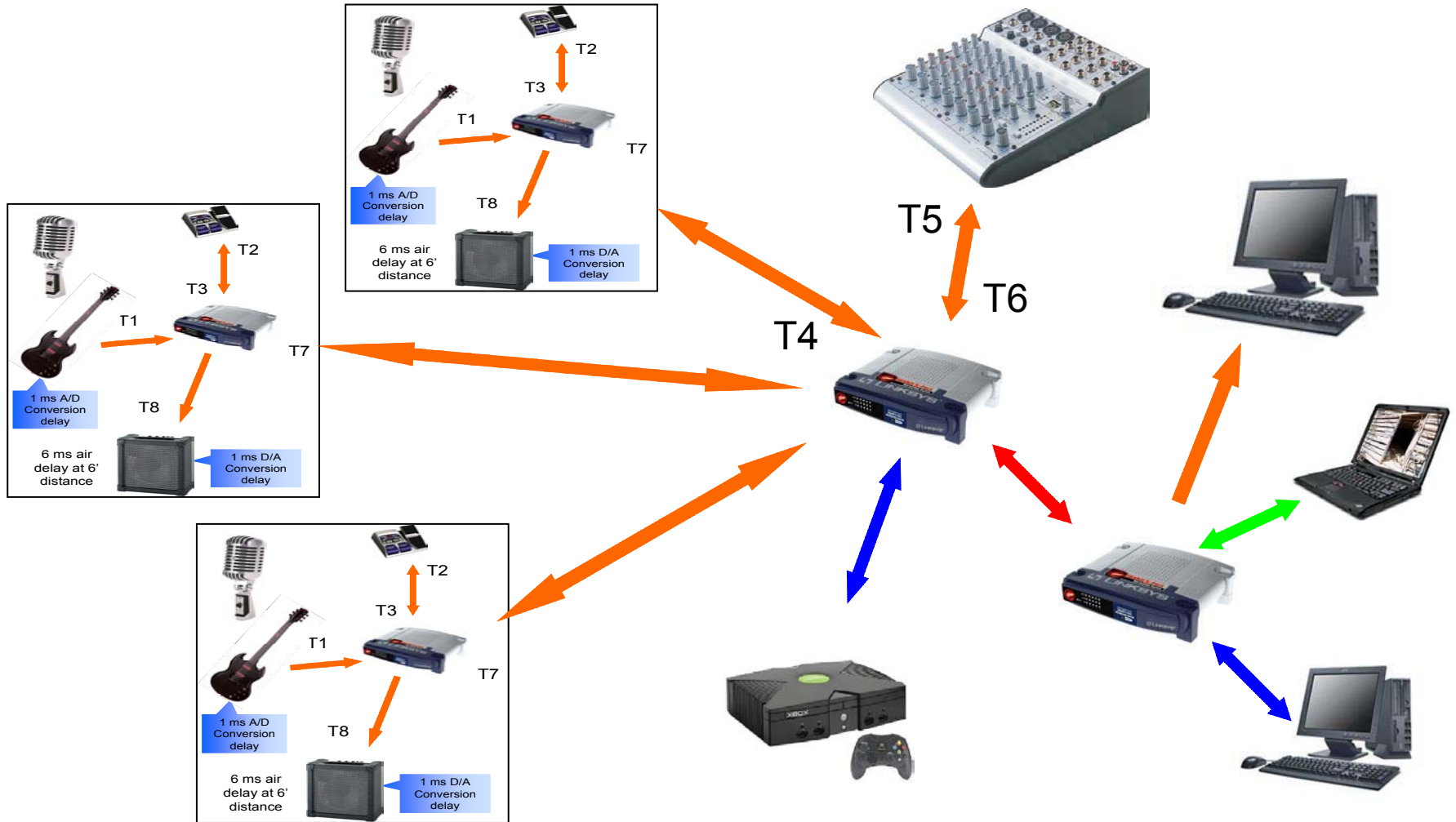
Garage jam session



Glitch-free connection of nodes



Bandwidth reservation (no interference between applications)



Other important characteristics

- Low jitter, simple deterministic timing model
- Low cost, reliable and simple in use
- Operates over 802.3 standard existing PHY's and the associated media
- Support for multiple channels of advanced fidelity audio and high-quality video simultaneously

Conclusion

Existing and future applications require Residential Ethernet to provide non-interfering data transmissions with guaranteed bandwidth and predictable low latency and jitter.



THANK YOU!