Working together: Future cooperation between 802 and 1394 communities

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Past successes

- 1394 Protocol Adaption Layer for 802.3.15

- IPv4, IPv6, and DHCP over 1394

- Selector code for p1394c

Next phase

- 1394-compatible isochronous services for 802.3 networks
  - Carry IEC 61883 packets *as is* with appropriate wrapper
  - Requires low max latency, preferably <500 usec per hop through bridge/switch
  - Requires accurate time reference for packet timestamps, preferably based on 1394/WAN 8kHz clocks
- Allows building very, very low cost silicon-based Ethernet/1394 bridge

Possible methodology:
personal MJT opinion

- two methods
  - add layer to 802.3 MAC for isoch services - just like 1394 link layer, or …
  - add services only to 802.1 using existing priority fields
- Need 802.1 enhancements as well
  - build on priorities mechanism to support time-varying priorities
    - pacing of isoch packets to avoid bunching in queues)
  - timing services to allow uniform IEC 61883-type time stamping
  - bandwidth management/multicast routing
  - take advantage of extensive work done for IEEE 1394.1 bridging

After that

- 1394 PAL for 802.3+
  - Ethernet devices that run 1394 firmware
  - Ethernet TVs, STBs, etc.
  - Content protection based on DTCP (5C) without compromise
- transparent 1394.1/ethernet bridgine

Thank you!