YANA0318
You Are Not Alone
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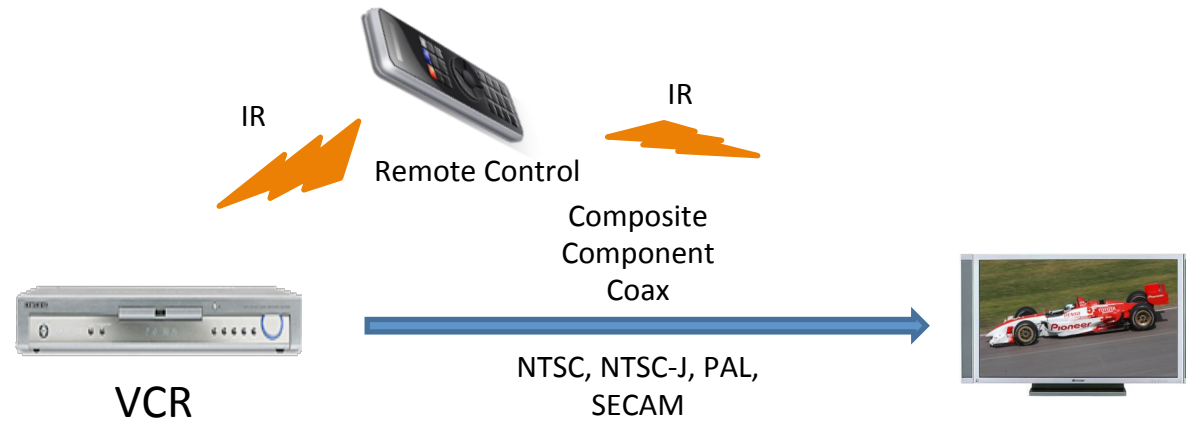
Organizers:
    Leslie Daigle
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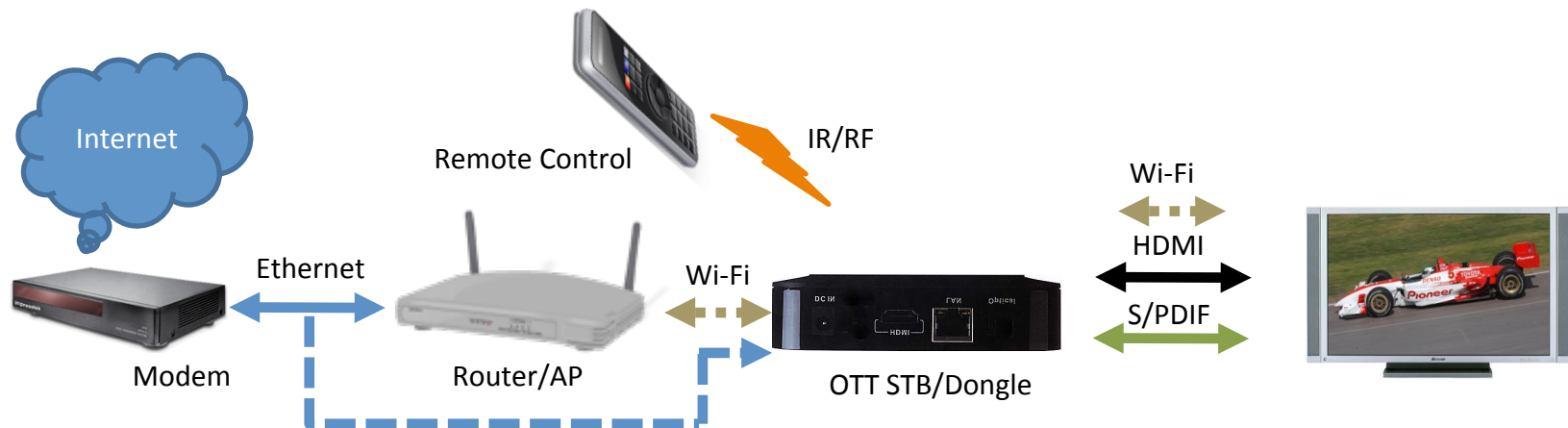**YANA is not your traditional death by powerpoint event.**

In the spirit of the great hallway conversations that happen at other events, the YANA workshop format is structured to encourage open interaction, sharing, and discussion. Like those great hallway conversations there are no topic bounds to stay within, everyone attending YANA is encouraged to go where the conversation takes them.

Content Delivery is getting much more Complex

Television Circa 1994

IR

Remote Control

IR

Composite
Component
Coax

NTSC, NTSC-J, PAL,
SECAM

VCR

OTT Video Circa TODAY

Internet

Remote Control

IR/RF

Wi-Fi

HDMI

S/PDIF

Ethernet

Wi-Fi

Modem

Router/AP

OTT STB/Dongle

Standards Circa 1994

Connectivity

•**Component**: EIA-770.1 (analog NTSC typically using 3 wires - YP_BP_R)
•**Composite**: EIA/RS-170A (analog baseband NTSC composite video)
•**Coax**: 75 ohm modulated RF NTSC
•**Remote Control**: IR - Proprietary

Encoding

•**NTSC**: Broadcast standard for analog TV
•**NTSC-J:** Broadcast standards for analog TV in Japan
•**PAL:** Broadcast standard for analog 625 line/50 Hz systems used in most of Europe and parts of Asia, South America and elsewhere
•**SECAM:** Broadcast standards for analog TV originating in France but used in other areas as well.

A Few of Standards Circa Today

Connectivity

- HDMI: CEA 861-F
  - CEC (Consumer Electronics Control)
  - ARC (Audio Return Channel)
  - HEC (HDMI Ethernet Channel
- HDCP: High Definition Content Protection (over HDMI)
- Wi-Fi: IEEE 802.11a/b/g/n/e…
- Ethernet: IEEE 802.3
- S/PIDF (Optical Port): IEC 60958 type II
- Remote Control
  - IR: RC-5/6 (Philips); NEC; proprietary
  - RF: RF4CE (ZigBee), Bluetooth LE; low power Wi-Fi

Network & Transport

- IPv4/IPv6
- IP Multicast
- TCP
- UDP
- HTTP/HTTPS
- HTML & MSE
- HTTP progressive download
- MPEG Dash/CFF
- HLS streaming Apple)
- Smooth Streaming (Microsoft)
- HDS steaming (Adobe)
- RCSP
- DivX Plus Streaming technology
- ASF
- MPEG-2 TS
- MPEG2-PS
- HTML5
- RTSP
- RTCP
- RTP
- TLS
- WebRTC
- +DLNA
- UPnP

Video Codecs

- MPEG-1: ISO/IEC 11172
- MPEG-2: H.262 (used by ATSC digital broadcast)
- MPEG-4: H.264
- HEVC: H.265
- WMV3
- VC-1
- Flash

Audio Codecs

- MP3
- MP2
- AAC
- AC-3 (Dolby Digital)
- Dolby TrueHD
- DTS

Others

- CEA-708B: Closed Captioning
- TTML10 (W3C): Closed Captioning

Content Identification

- EIDR