NW Digital Radio

"The great Tele-comm Net-comm Convergence"

Bryan Hoyer - K7UDR

"Those who cannot remember the past are condemned to repeat it."

George Santayana "The Life of Reason" 1905

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First there was the Analog Telephone

- Analog 1876-1950

- Subscribers wired to a Central Office or Exchange

- Trunks between Central Offices

- Erlang Model

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1950s Trunks go FDM

- Still Analog

- Increases Cable Capacity

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1960s Computers Transistors ICs …

- Trunks go digital with T-carrier

- DS0 = 8 samples companded at 8 kHz = 64 kbps

  - ISDN = 2 DS0 bridged to 128 kbps

- Synchronous TDM is used

- T1 = 64 k/line X 24 lines + Frame Sync = 1.544 Mbps

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But Wait, There's More

- Over in the Computer World
  - 1970 Aloha Net
  - 1973 3 Mbps Experimental Ethernet
  - 1983 10 Mbps
  - 1990 10 Base T

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Why Converge?

- The PC Brings the Computer Home

- The World Wide Web Brings the Internet Home

  - Not just for Business any More

- Why build 2 separate networks?

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Who Wins?

- Telephony - TDM

    - Synchronization is Difficult

    - Hard Allocation is inefficient

- Network - Ethernet

    - Latency and Overhead are issues

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Let's Not Forget the Cell Phone

- It's like De Ja Vu all over again

- Starts as Analog Voice

- Moves to Digital Voice

- Today, it's Mobile Broadband

- ...

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To DV or Not to DV?
That is the Question

Whether 'tis nobler in the mind to chop our precious spectrum into little voice channels. Or to take arms against a sea of incompatible modes and build real data networks.

with Apologies to Bill S.

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UDRX Status

- Finish Proto 3 Bring-Up

  - Possible PA only Proto

- Receiver Update

- Build Pilot run

  - Final SBC Configuration

  - Full Manufacturing Cycle

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ThumbDV™

- 250 Units Delivered

- D-STAR SW Support

  - Dummy Repeater/ircDDB Gateway

  - WinDV

- New Protocols

  - DSD DMR Receiver

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