

WAYNE STATE  
UNIVERSITY

# Campus Perspectives on IPTV

*David W. Fleig, Computing & Information Technology*

Merit IPTV Workshop  
May 2007

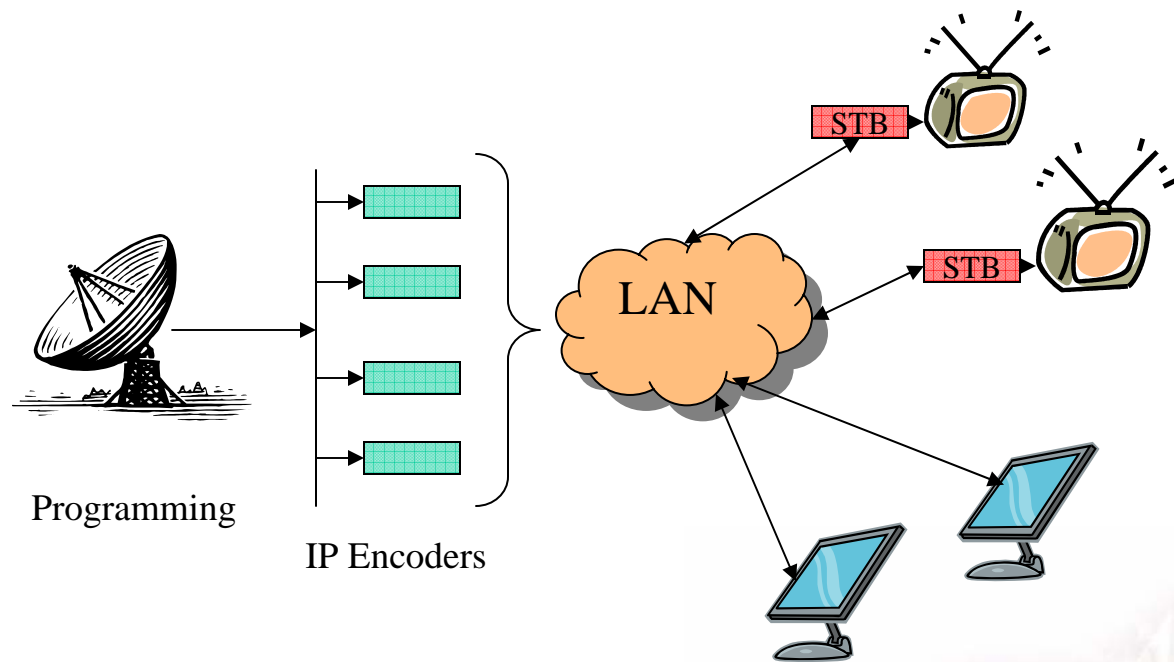


# Definitions

- IPTV
  - Extension of cable or satellite system
  - Requires a carefully conditioned network
- IP Video
  - Broader definition
- Both
  - IP encapsulation and transport
  - May use multicast or unicast



# IPTV



# Issues

- Cost
  - IP vs. Legacy
- Licensing and rights
  - Analog...Easy
  - Digital...Difficult

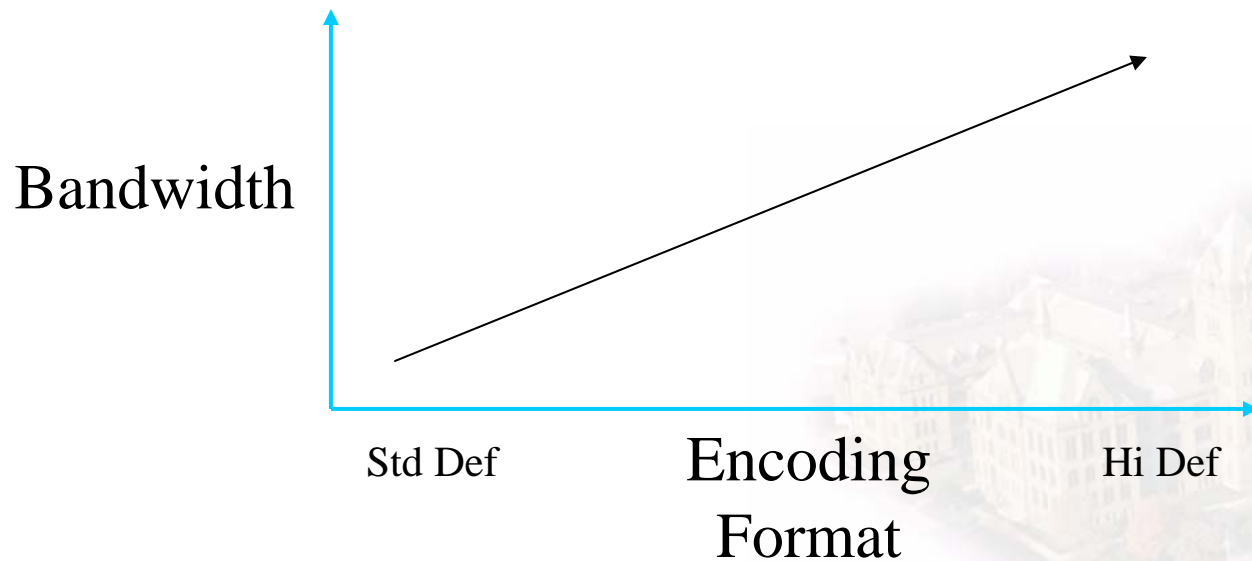
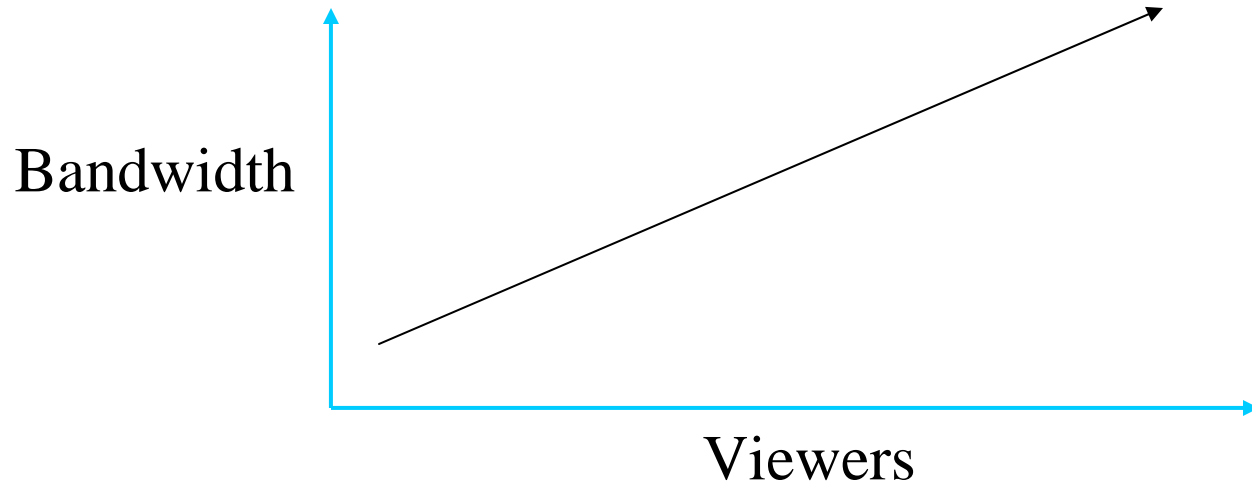


# Issues

- Cost of IPTV ownership
  - 40 channels
  - \$5K to \$10K per channel / encoder
  - \$200K to \$400K
  - Computer-based
    - 5 year replacement cycle
    - Annual licensing fees
  - Network management
    - Real-time environment
    - Multicast
    - Test and measurement
  - Network Consumption



# Network Consumption



# Which way?

- EchoStar (aka DISH Network)
  - Value proposal
    - Provide / Expand Headend – “No Charge”
      - Equipment and labor
      - Analog or QAM
      - Fiber transport
      - STB’s
      - Built to WSU specs
    - Tradeout - Multiyear contract
      - Educational rates
      - Negotiated ROI



# Digital Rights

- IP Encoding
  - Programming from somewhere...
  - EchoStar
    - “...Can’t offer permission to IP encode DISH programming...”



# Transport Rights

- WSU classified as a cable operator?
  - Crossing PROW's
- Are we fundamentally different than a cable company?
- Why or why not?
  - Concept and intent of a Franchise Agreement
  - Private for-profit company vs. public entity
  - Public interest test



# Copyright

- Google buys YouTube
- Viacom sues Google for “*One Billion Dollars*”
- Where’d they get that idea?



# What we're doing

- Wait on “locally-encoded” IPTV
- Limited
  - OSTN
    - Student Channel
  - U of M IP HDTV MiLR Project
  - HDTV Videoconferencing
  - Legacy CATV system
    - IP-based tools
- Drivers
  - Unique, specific applications
    - Foreign language, Medicine
- More IP Video than IPTV



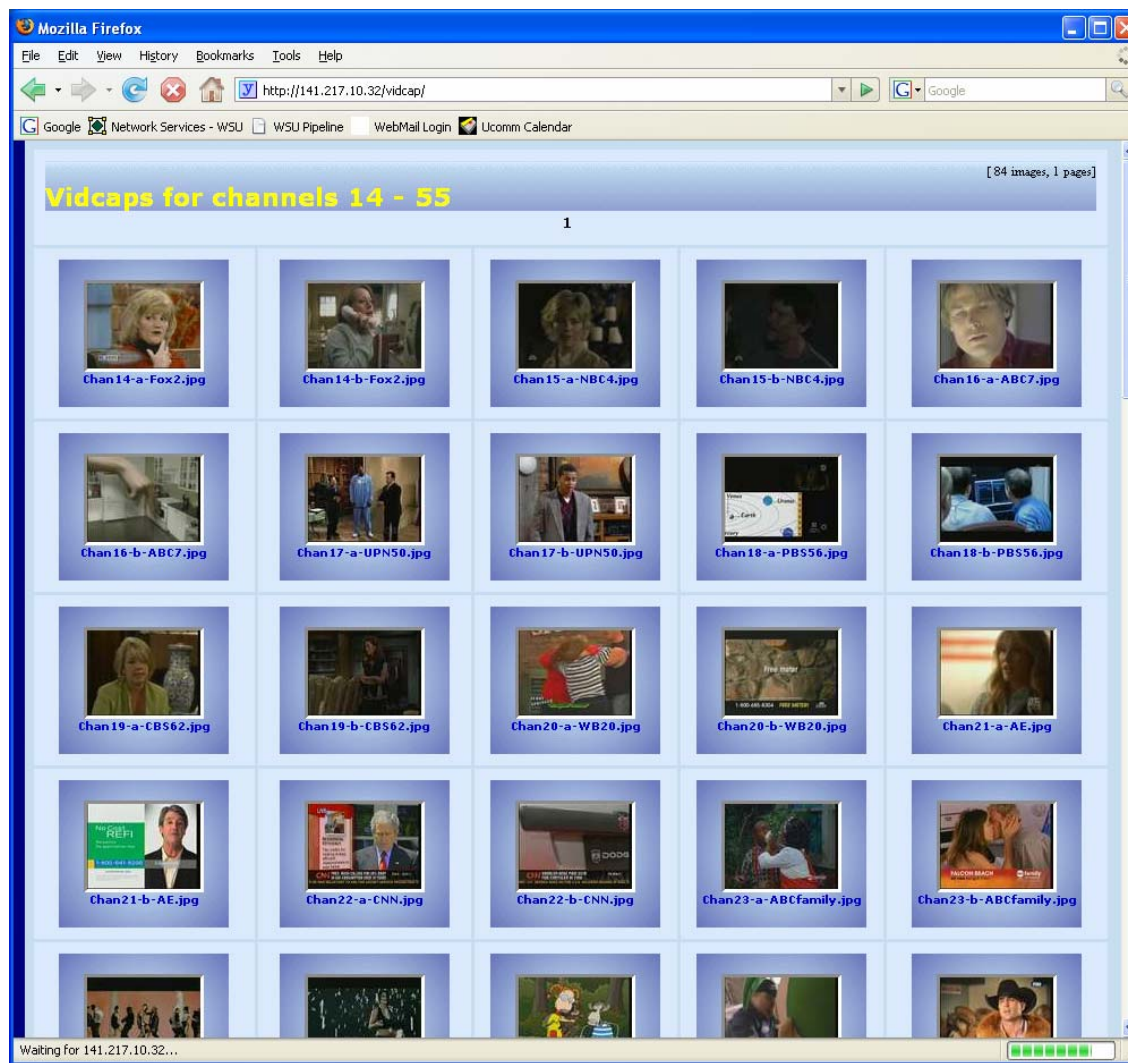
# OSTN IPTV Receiver



## Parts and Cost

Sun x2100 Server	\$1,580
Matrox G550LP Video Card	\$183
Edirol UA25 Audio Interface	\$239
TurboLinux 10f Software	\$79
APC UPS	\$690
<b>Total</b>	<b>\$2,771</b>

# Monitoring



# Program guide

TV listings guide, TV shows, cable TV, satellite TV, TV schedules on Zap2it - Mozilla Firefox

http://tvlistings.zap2it.com/tvlistings/ZCGrid.do?method=decideFwdForL

ZAP 2 it WHAT TO WATCH. WHERE TO WATCH IT. MAY 14, 2007

HOME TV MOVIES NEWS DAILY BLOG ON DEMAND PHOTOS FORUMS

TV HOME NEWS BEST BETS SHOWS RATINGS TV GAL TV LISTINGS

TransUnion Experian Equifax What is Your Credit Score?

You are here (640) You are here (635) You are here (616)

Wayne State University - Cable (48201) New User? Register | Returning? Login

Jump to Channel Mon, May 14 1:00 PM

RIGHT NOW PRIMETIME Highlight: FAVORITES SPORTS MOVIES NEWS CHILDREN

EDT	1:00 PM	1:30 PM	2:00 PM	2:30 PM	3:00 PM	3:30 PM
14 WJBK	<b>Dr. Keith Ablow</b> NEW		<b>Cristina's Court</b> NEW	<b>Judge Hatchett</b> NEW	<b>Divorce Court</b> Broken Promises Week NEW	<b>Judge Alex</b> NEW
15 WDIV	<b>Days of our Lives</b> NEW		<b>Passions</b> NEW		<b>Rachael Ray</b> NEW	
16 WXYZ	<b>All My Children</b> NEW		<b>One Life to Live</b> NEW		<b>General Hospital</b> NEW	
17 WKBD	<b>One on One</b> Contract High	<b>One on One</b> Radioactive Platonic	<b>My Wife and Kids</b> Chair Man of the Board	<b>Malcolm in the Middle</b> Christmas	<b>What I Like About You</b> Bad to the Scene	<b>What I Like About You</b> Working Girls
18 WTYS	<b>Reading Rainbow</b> Beegu	<b>Between the Lions</b> Fuzzy Wuzzy, Wuzzy?	<b>Bob the Builder</b> The Environment	<b>Jakers! The Adventures of Pigley Winks</b> Waking Thor HD	<b>Clifford the Big Red Dog</b> Fishing Lessons; No Baths for Cleo	<b>Cyberchase</b> The Flying Parallels
19 WWJ	<b>The Young and the Restless</b> NEW HD	<b>The Bold and the Beautiful</b> NEW	<b>As the World Turns</b> NEW		<b>Dr. Phil</b> NEW	
	<b>Jerry Springer</b> NEW		<b>A Different World</b> Some Enchanted	<b>A Different World</b> Dream Lover	<b>The Cosby Show</b> And So We	<b>The Cosby Show</b> And So We

http://tvlistings.zap2it.com/tvlistings/ZCProgram.do?method=getDetail&pgnId=EP3618800077&sch=1179171000008&str=11921&chn=18

# What we'd like to see

- Regional service
  - Cost spread across multiple parties
  - Little or no local encoding
- Fully licensed
- Secure
- Design, Engineering, Support
  - Test & Measurement Toolkit
- Complete program offering
  - Educational & Academic
  - Sports & Entertainment
- Collaboration tools
- VoD
- Don't want to build ourselves

