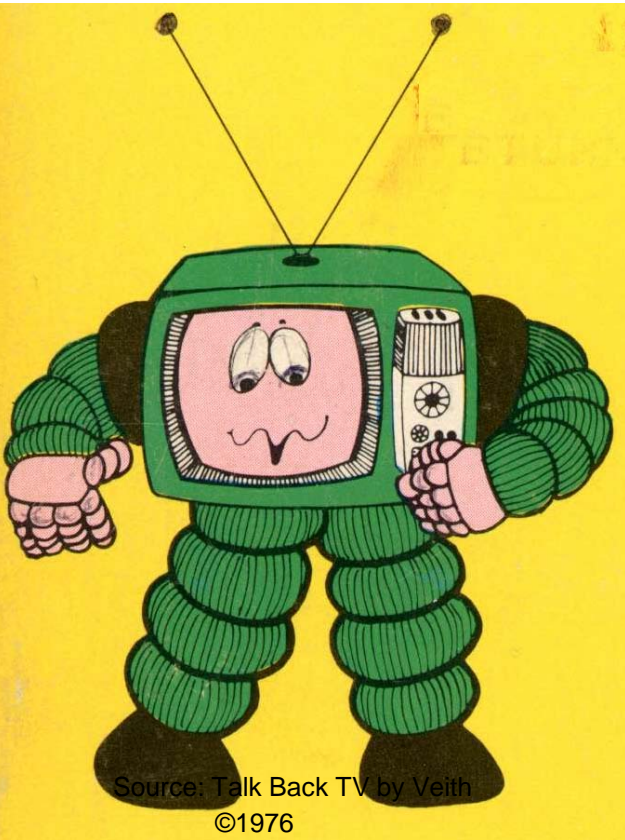
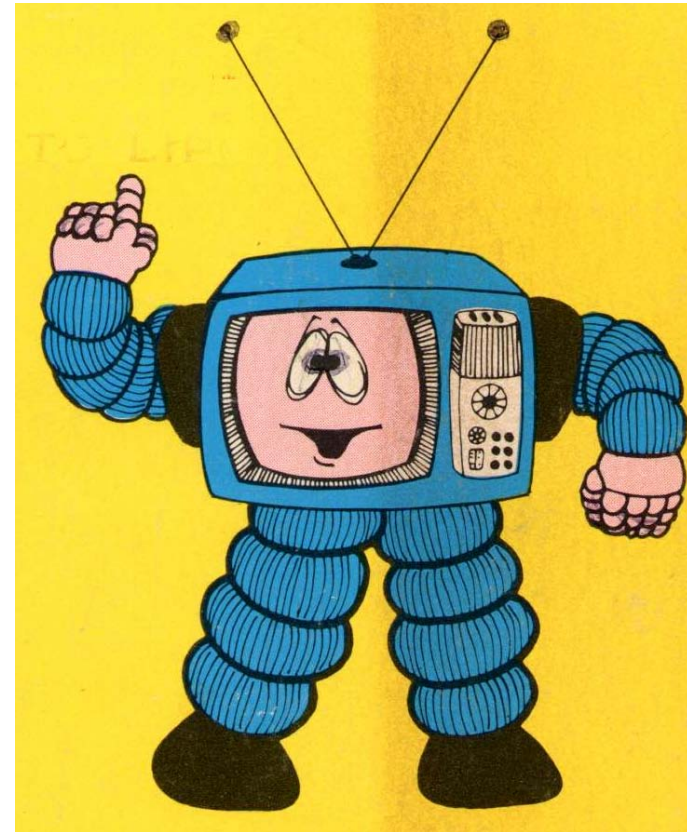


# Time to Get Serious with Interactive TV



**2011 Broadcasters Clinic  
October 11-13, 2011**



Stuart Lipoff  
IP Action Partners

**IPaP**  
IP Action Partners  
192 Kirkstall Road  
web [www.ipaction.com](http://www.ipaction.com)

## The Situation

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**iTV >30 year incubation but now we have a perfect storm**

- EBIF & OCAP Middleware in STBs
- Always on connectivity in homes and mobile
- ATSC/MH for cellphones has an interactive profile
- Switched Digital Video & Advanced Audience Measurement Systems in multichannel video
- Demonstrated consumer interest, e.g.
  - AT&T reports >78million SMS votes during American Idol in 2008 grew >178M in 2009



## Intel's Smart TV Vision



## Concepts in Intel's Smart TV Vision

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### **The Intel Vision Include a Number of Bound and UnBound Interactive Applications Which Had Several Common Concepts**

- Interactive Advertising, Shopping, and Video eCommerce
- Advanced Human Interfaces
  - GUI
  - Voice Recognition
- TV Extras Enhancements to Linear TV
- Artificial Intelligence Expert System Recommendation Engine
- Access to Online Internet Content on the TV Screen
- Social Networking by Text and Video Conferencing
- Sharing of Photo, Video, and Other Content





## Historical Perspective

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For a very long time  
interactive TV (iTV) has been  
TV of Tomorrow

## Historical Perspective



For a very long time  
interactive TV (iTV) has been  
TV of Tomorrow





## Historical Perspective



The vision has not changed much either

Warner QUBE Terminal



## Historical Perspective



The vision has not changed much either

Commodore PET Computer





## Historical Perspective



The vision has not changed much either

30cm Laserdisc Player



## Historical Perspective



The vision has not changed much either

Atari 2600VCS Video Game





## Historical Perspective

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1978 is recent history compared to Winky Dink of 1953



## Historical Perspective

1978 is recent history compared to Zenith's Remote of 1956

**YOU HAVE TO SEE IT TO BELIEVE IT!**

# **FLASH-MATIC TUNING**

**BY ZENITH**

**ONLY ZENITH HAS IT!**



A flash of magic light from across the room  
(no wires, no cords) turns set on, off, or changes  
channels...and you remain in your easy chair!

**YOU CAN ALSO SHUT OFF LONG,  
ANNOYING COMMERCIALS  
WHILE PICTURE REMAINS ON SCREEN!**



Here is a truly amazing new television development—and only Zenith has it! Just think! Without leaving from your easy chair you can turn your new Zenith Flash-Matic set on, off, or change channels. You can even shut off annoying commercials while the picture remains on the screen. Just a flash of light does it. There are no wires or cords. This is not an accessory. It is a built-in part of several new 1956 Zenith television receivers. Stop at your Zenith dealer's soon. Zenith-quality television begins as low as \$349.95.\*

**If it's new... it's from Zenith!**

**YOU HAVE TO SEE IT TO BELIEVE IT**

\*Manufacturer's suggested retail price. Slightly higher in Far West and South.

The Bluenard (Model 3234BQ), 21" Flash-Matic Tuning, Cinchbeam, Class-Lens, Blued-grained finish cabinet on casters. Also in matching color (3234BQ). As low as \$399.95.\*

## **ZENITH**

The royalty of TELEVISION and radio

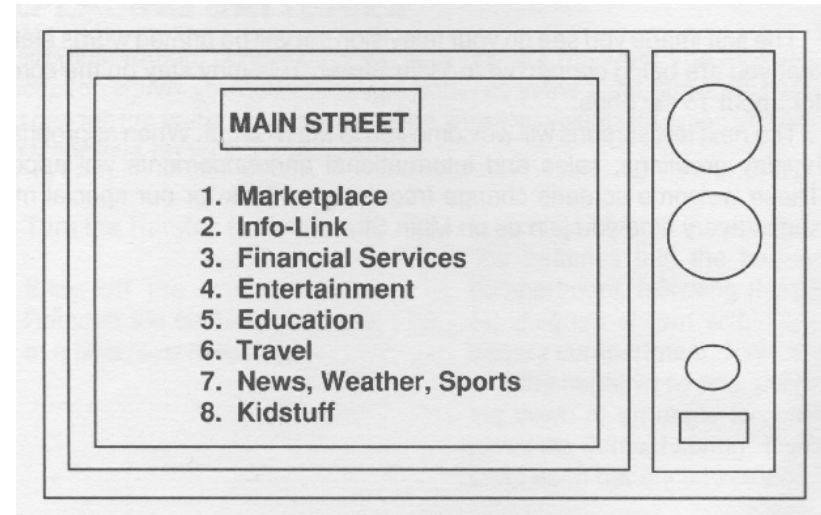
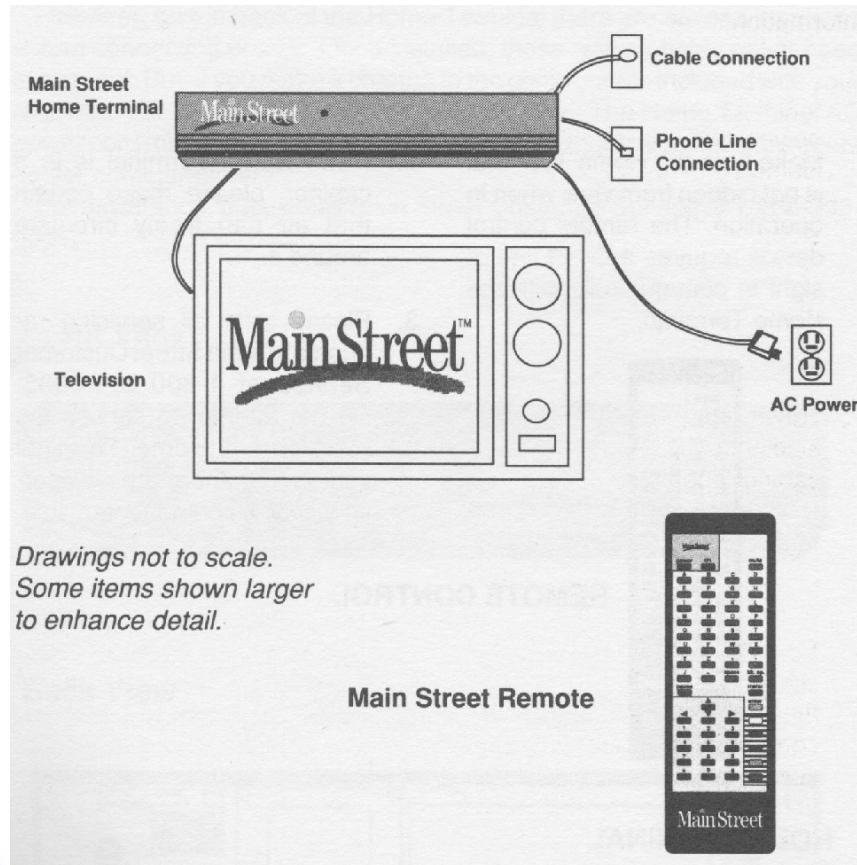
Backed by 24 years of leadership  
in television exclusively  
also makers of fine radios since  
Zenith Radio Corporation, Chicago 90, IL.



# Historical Perspective

And a bunch of other stuff since 1978

## GTE MainStreet Cable Service



Service started 1988



## Historical Perspective

And a bunch of other stuff since 1978

### Philips CDI Player



R&D began 1984 released for sale 1991



**IPaP**  
IP Action Partners



## Historical Perspective

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And a bunch of other stuff since 1978

### TiVO and Replay DVRs



Introduced 1999



## Historical Perspective

And a bunch of other stuff since 1978

### Time Warner Cable Full Service Network in Orlando



Service began 1994

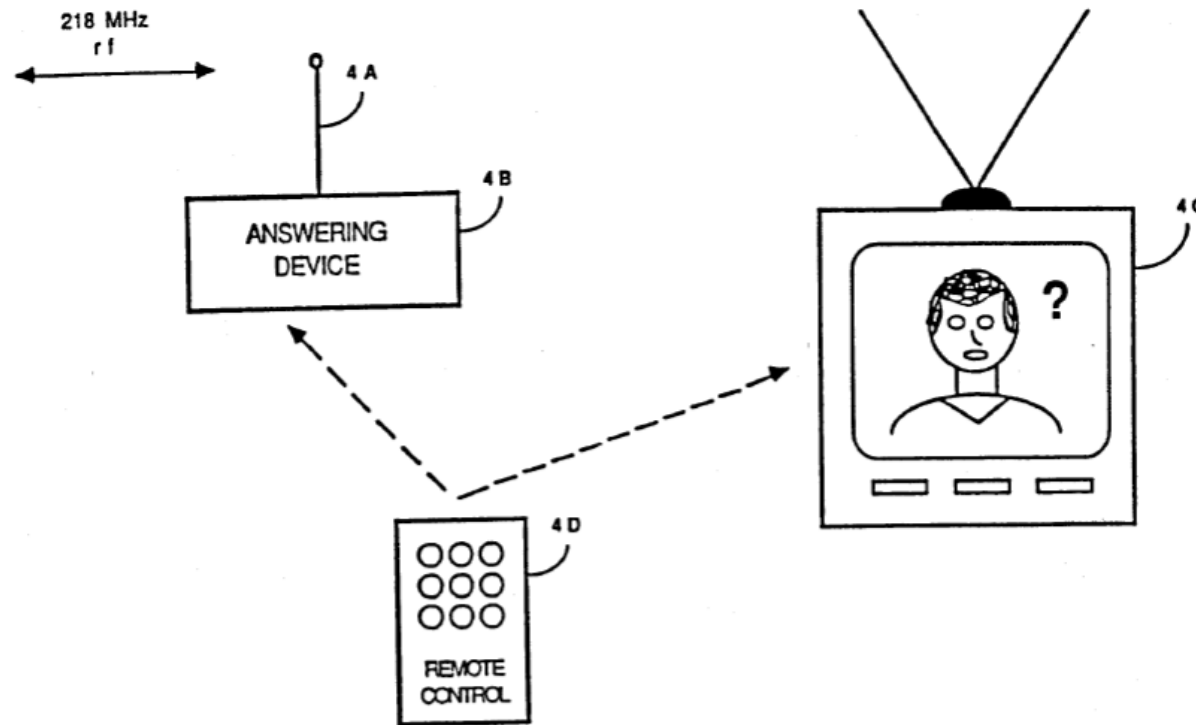




## Historical Perspective

And a bunch of other stuff since 1978

### TV Answer's IVDS Wireless 218MHz System



Source: US Patent 5101267  
Filed Aug 7, 1989

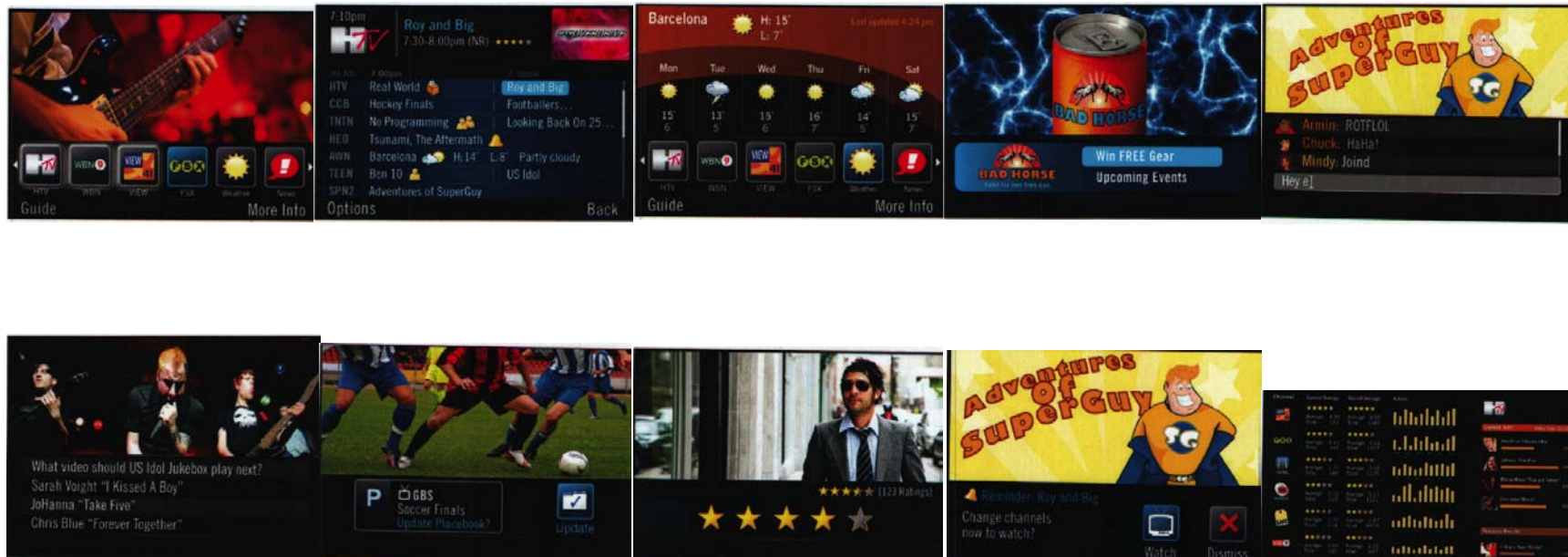
RESPONSE UNIT



# Historical Perspective

And a bunch of other stuff since 1978

## Qualcomm's MediaFLO Smart Phone Service with Interactive Profile



## Historical Perspective

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And a bunch of other stuff since 1978

Qualcomm's MediaFLO Smart Phone Service with Interactive Profile

Personalized Homescreen



## Historical Perspective

And a bunch of other stuff since 1978

Qualcomm's MediaFLO Smart Phone Service with Interactive Profile

### Unified Guide



## Historical Perspective

And a bunch of other stuff since 1978

Qualcomm's MediaFLO Smart Phone Service with Interactive Profile

## IP Data Services





## Historical Perspective

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And a bunch of other stuff since 1978

## Qualcomm's MediaFLO Smart Phone Service with Interactive Profile Interactive Advertising





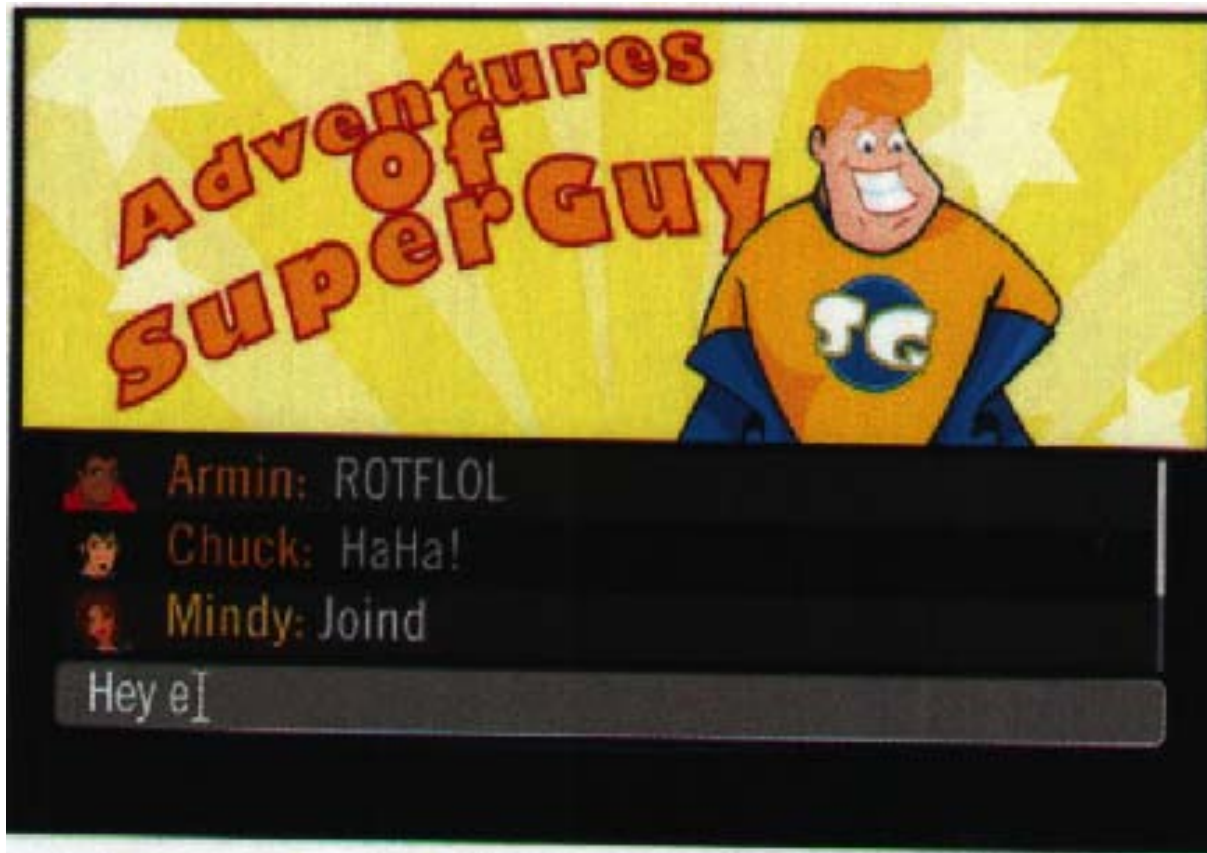
## Historical Perspective

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And a bunch of other stuff since 1978

Qualcomm's MediaFLO Smart Phone Service with Interactive Profile

Chat/Presence



## Historical Perspective

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And a bunch of other stuff since 1978

### Qualcomm's MediaFLO Smart Phone Service with Interactive Profile Jukebox/Merchandising



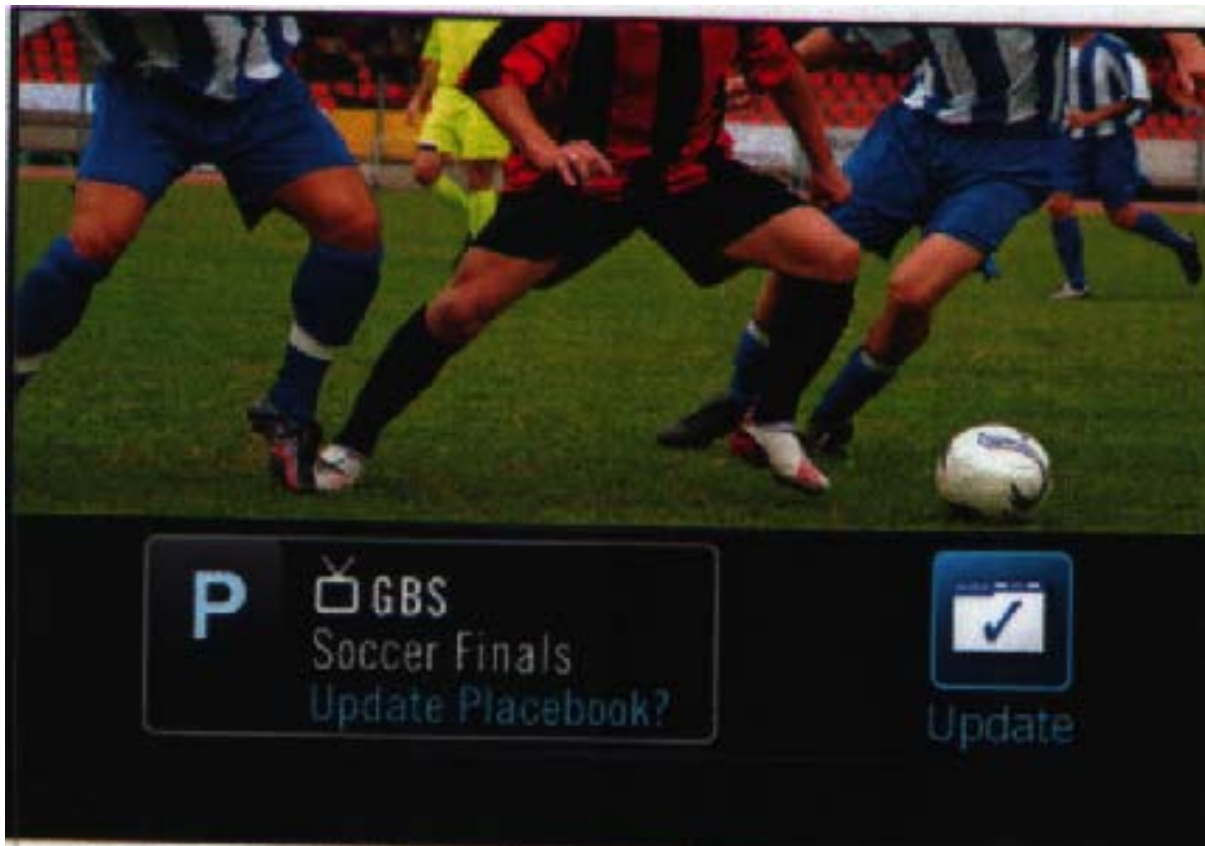
## Historical Perspective

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And a bunch of other stuff since 1978

Qualcomm's MediaFLO Smart Phone Service with Interactive Profile

Social Networking



## Historical Perspective

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And a bunch of other stuff since 1978

## Qualcomm's MediaFLO Smart Phone Service with Interactive Profile Rating



## Historical Perspective

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And a bunch of other stuff since 1978

Qualcomm's MediaFLO Smart Phone Service with Interactive Profile

Program Reminders



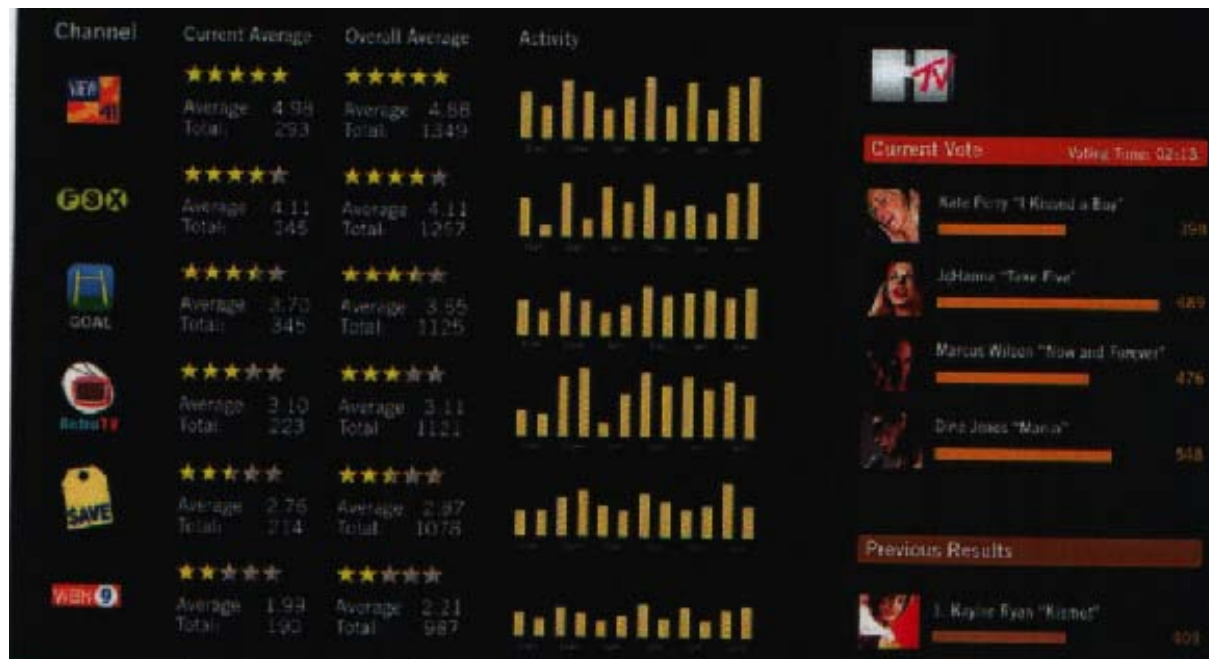


# Historical Perspective

And a bunch of other stuff since 1978

Qualcomm's MediaFLO Smart Phone Service with Interactive Profile

## Usage Tracking

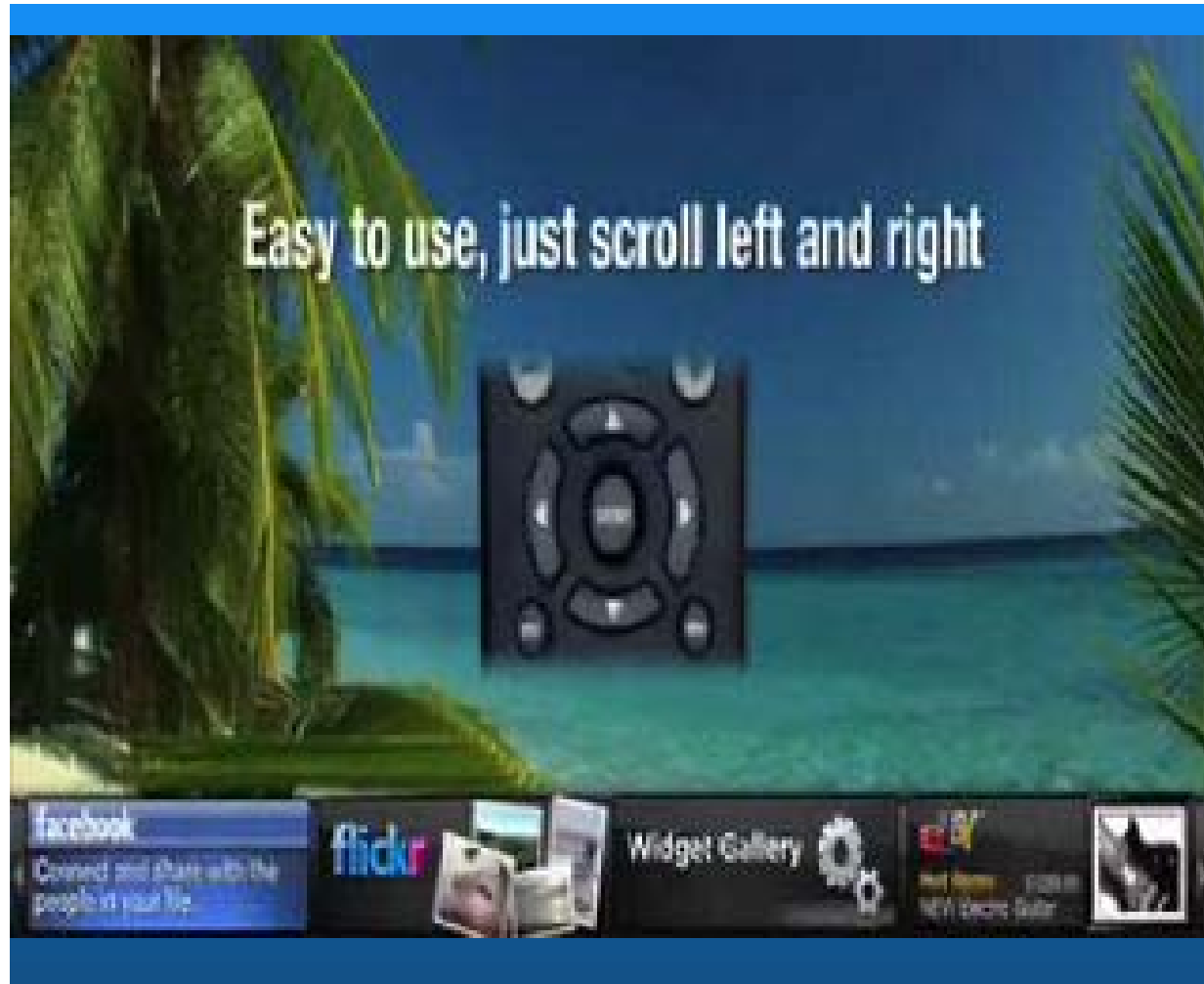




## Historical Perspective

And a bunch of other stuff since 1978

### Yahoo Connected TV



## Current ITV Technology

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### Currently we have

- Yahoo Connected TV Widgets
- Smart Phones
- Video Enabled PCs
- Multiple Platforms
  - Connected TVs
  - iTV Appliances (e.g. AppleTV)
  - Game Consoles (e.g. Xbox)
  - BluRay Players
  - Cable STBs with EBIF or OpenCable/TruTV/OCAP
- Enabling Middleware



## Enabling Middleware

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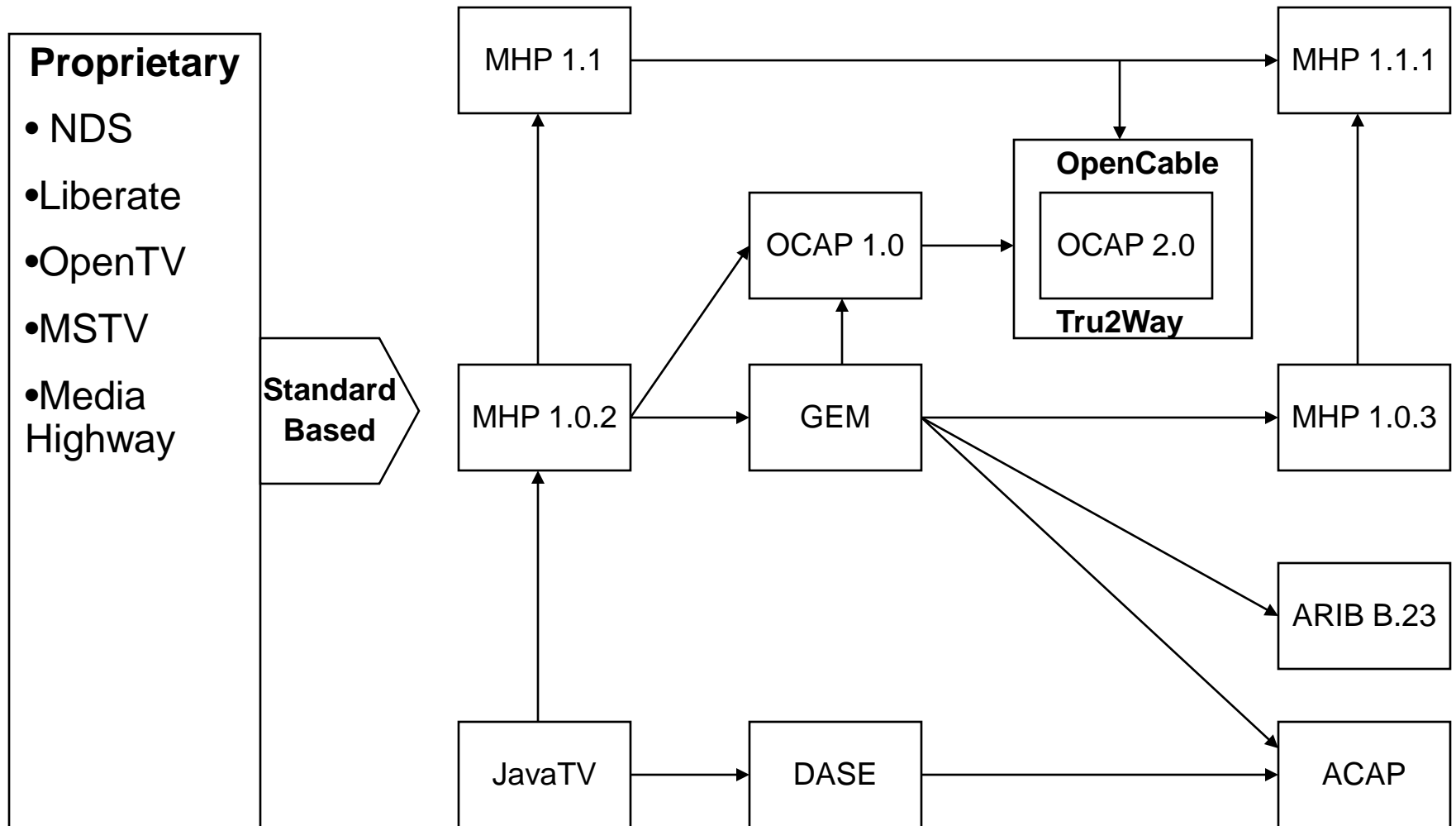
### Proprietary

- NDS
- Liberate
- OpenTV
- MSTV
- Media Highway

Standard  
Based



## Enabling Middleware





## Why Now?

**A new idea can seem to incubate forever until inhibitors are overcome**



### **Inhibitors**

- Infrastructure
- Standards
- Technology limitations
- Government
- Content
- Social acceptance



# Why Now?

## The dynamics can change rapidly once you get over the hill



### Inhibitors

- Infrastructure
- Standards
- Technology limitations
- Government
- Content
- Social acceptance

### Accelerators

- Network effects
- Synergies
- Competition
- Economies of scale



# The Interactive TV Playing Field

**Creative people will likely vastly expand what is already a long list**

	Bound Applications	
Delivery Modality	Subscriber Initiated	System Initiated
Real Time Wired Network Services	<ul style="list-style-type: none"><li>• Advertising response</li><li>• Opinion polling</li><li>• Deep dive</li><li>• Gaming</li><li>• Content determination</li><li>• Subscriber generated</li></ul>	<ul style="list-style-type: none"><li>• Audience measurement</li><li>• Synthetic channels</li><li>• Advertising insertion</li><li>• Content advice</li><li>• Content push</li></ul>
Real Time Wireless Network Services		
Intelligent Customer Premise Devices		

