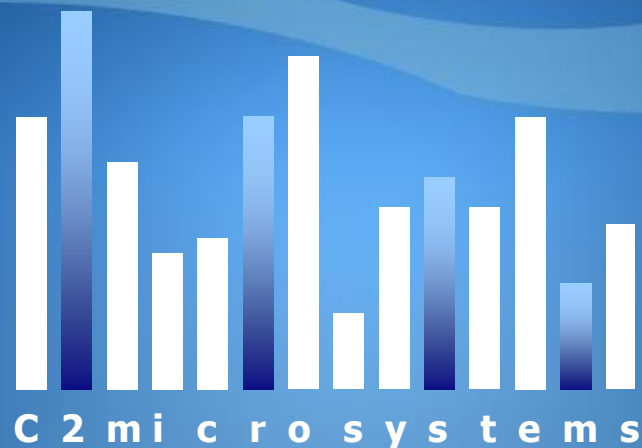
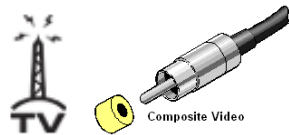




# Powering Connected TV with C2 Media Processor



# Evolution of TV Technology



480i Analog TV

to

HD iDTV

**HD**  
ready

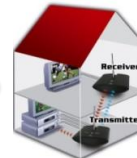
**DVB**  
Digital Video  
Broadcasting

a-t-s-c

**ARIB**



Single Room to Multi-Room Viewing



Published

to

Web Content/UGC



**You**Tube

**YAHOO!** VIDEO



Mobile

and

HDTV



**HDMI**



HD-Ready

and

Connected

**Wi-Fi**



**Bluetooth**

HD, Intuitive UI, Interactive

Better TV

and

Home connected

Connecting Content Across Devices

# Expanding into new segments

## A New Dimension in Viewing TV

### Traditional home TV

- Evening prime time
- Daytime television
- Averaging 2 hours a day



### New, seamless TV over 3 screens

- Snack Size: 2 ~ 10 minutes
- Commute time ~ 40 minutes
- Lunch time ~ 30 minutes
- Free time ~ 60 minutes

# Summary

- Connected TV are rising, all players in the ecosystems are having major actions going to this field. (Operators, Content Providers, Appliance manufactures and Semiconductors)
- Home entertainment are shifting from cable & direct broadcast to internet and pc based. Industry CE players are in the race to connect internet video to the TV.
- Advances in silicon technology have improved the performance and lowered the cost of ownership of network-capable consumer electronics. (DMA, networked DVD, hybrid STB, media player/networked, and internet TV)
- Most of the silicon companies with the capabilities of delivering internet video are lack of providing turn-key solution and services.
- As the worldwide internet infrastructure are becoming better and faster, Internet based content delivery to TV will become mainstream.

# Connected TV world

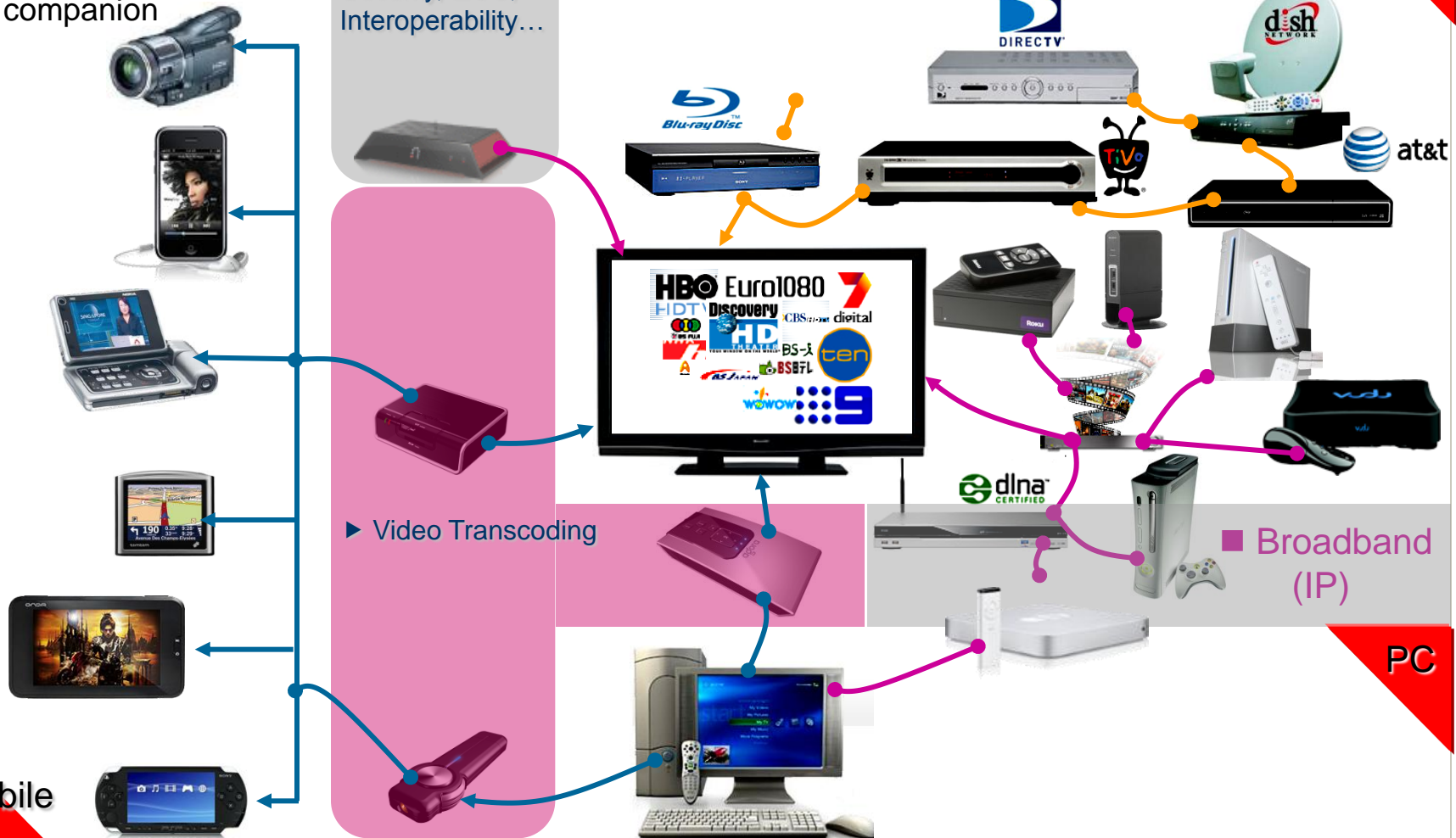
☑ More than just a phone – a life style gadget & a companion

► QoS, DRM, Security, EOU, Interoperability...

☑ Convergence

■ Broadcast

CE



Mobile

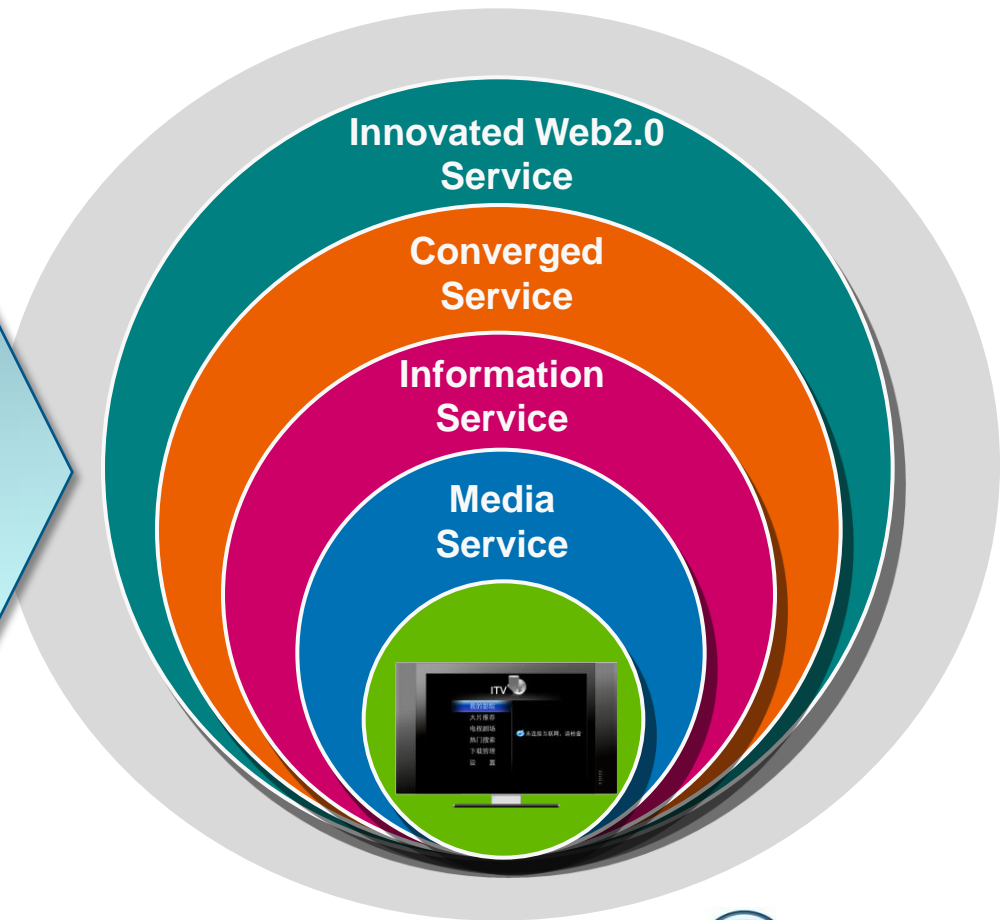
■ Broadband (IP)

PC

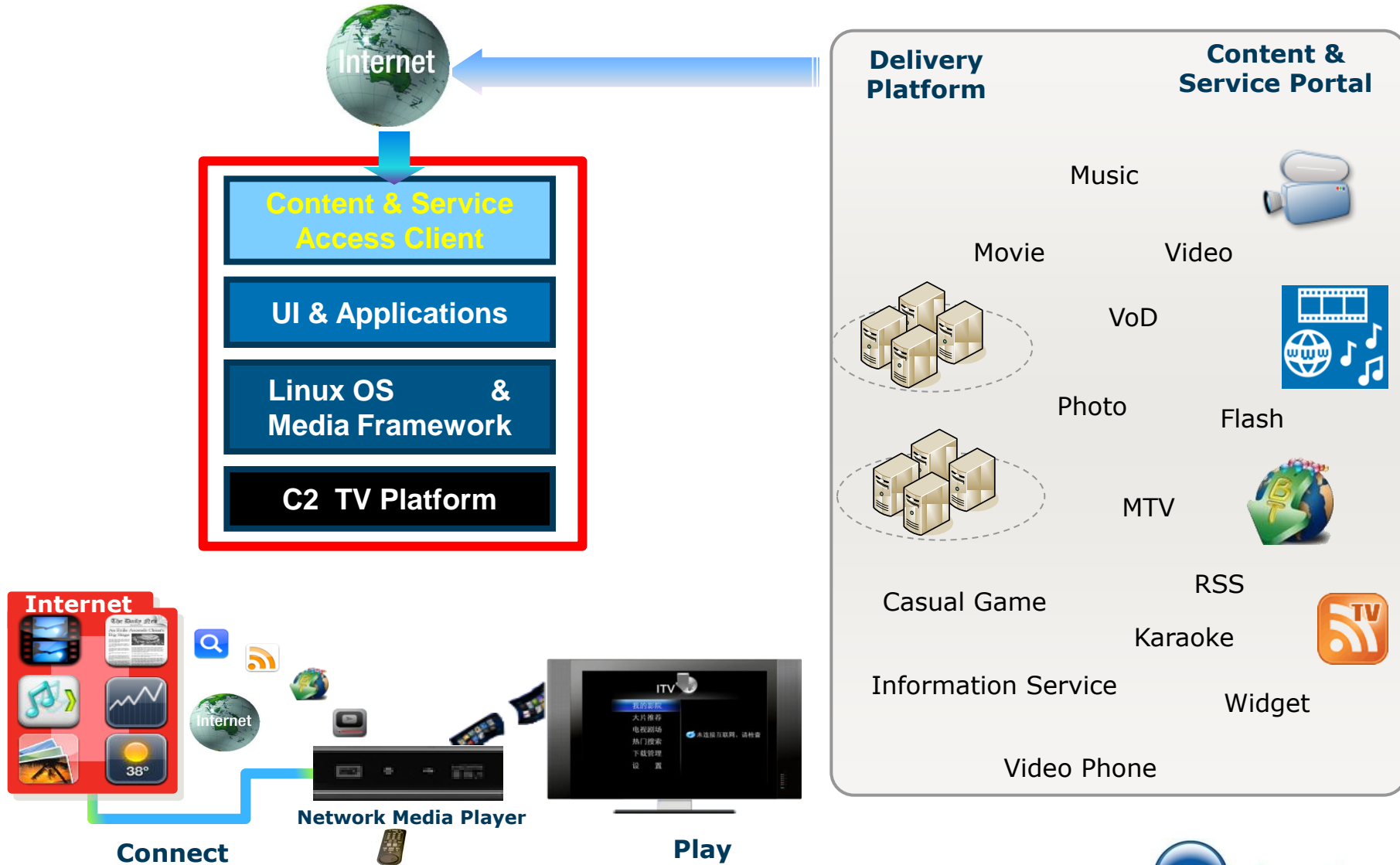
# Prime Business Opportunities

*With a broadband-enabled network TV as display device, a number of broadband multimedia services can be offered:*

- Download and View
- Live TV and Video on Demand
- Network Music Box
- Network Photo Album
- Digital Video Recording
- Information service
- Place-shift
- Video Phone
- Remote education
- TV gaming
- Network Karaoke
- TV Shopping
- Internet Radio







# It's about delivering content and services to TV





# TV Manufacturer Offering

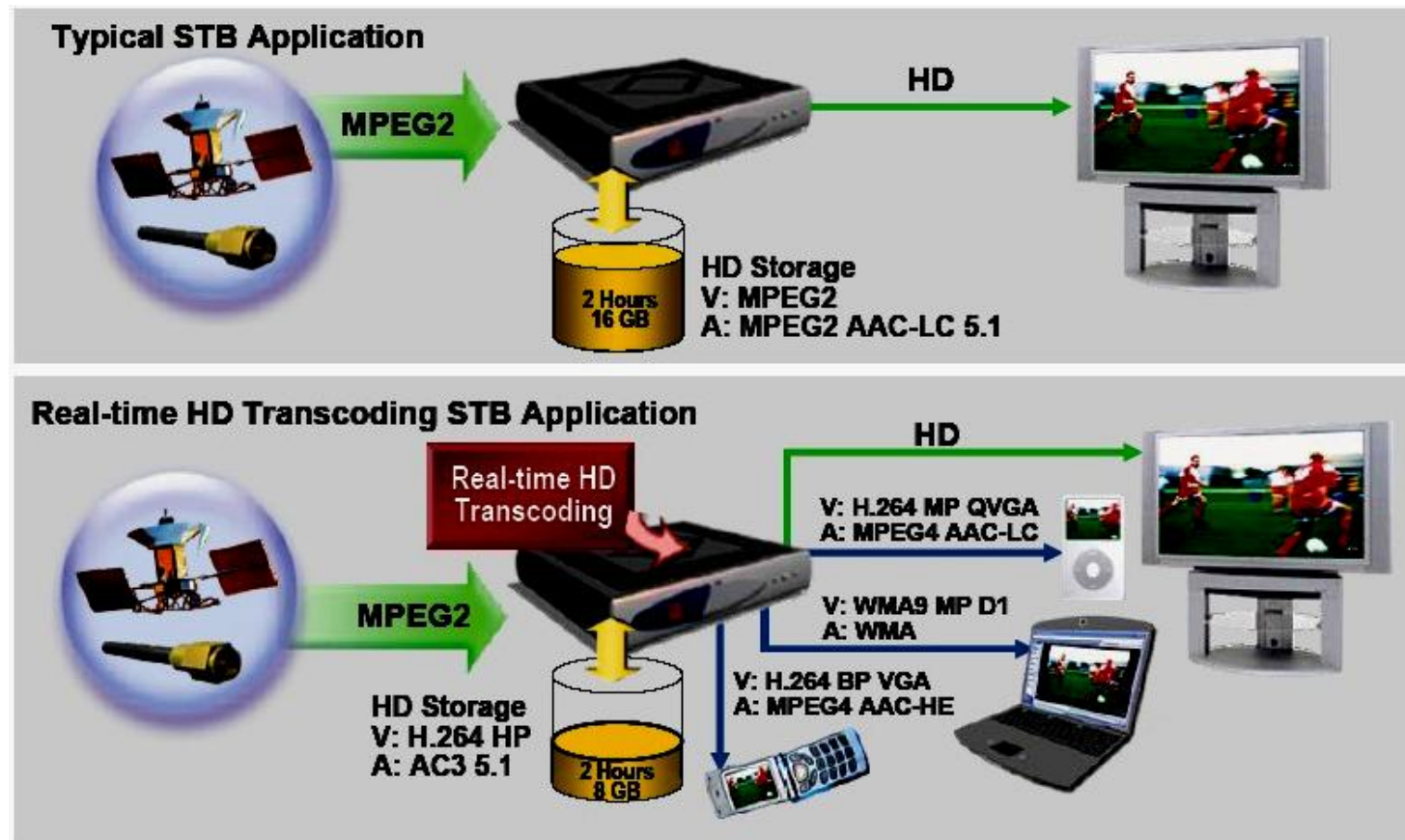
Manufacturer	Panasonic	Sony	Samsung	Vizio
Service	Vieracast	Bravia Link	Info.Link	Extrem XVT
Example				
Content Partner	Google	Yahoo! (Portal)	USA Today (RSS Feeds)	Rhapsody Amazon video
Feature	YouTube Picasa	YouTube SI Yahoo! content	News Weather Sports Finance	SNS Yahoo Widget

**Problem: only have access to limited, primitive contents**

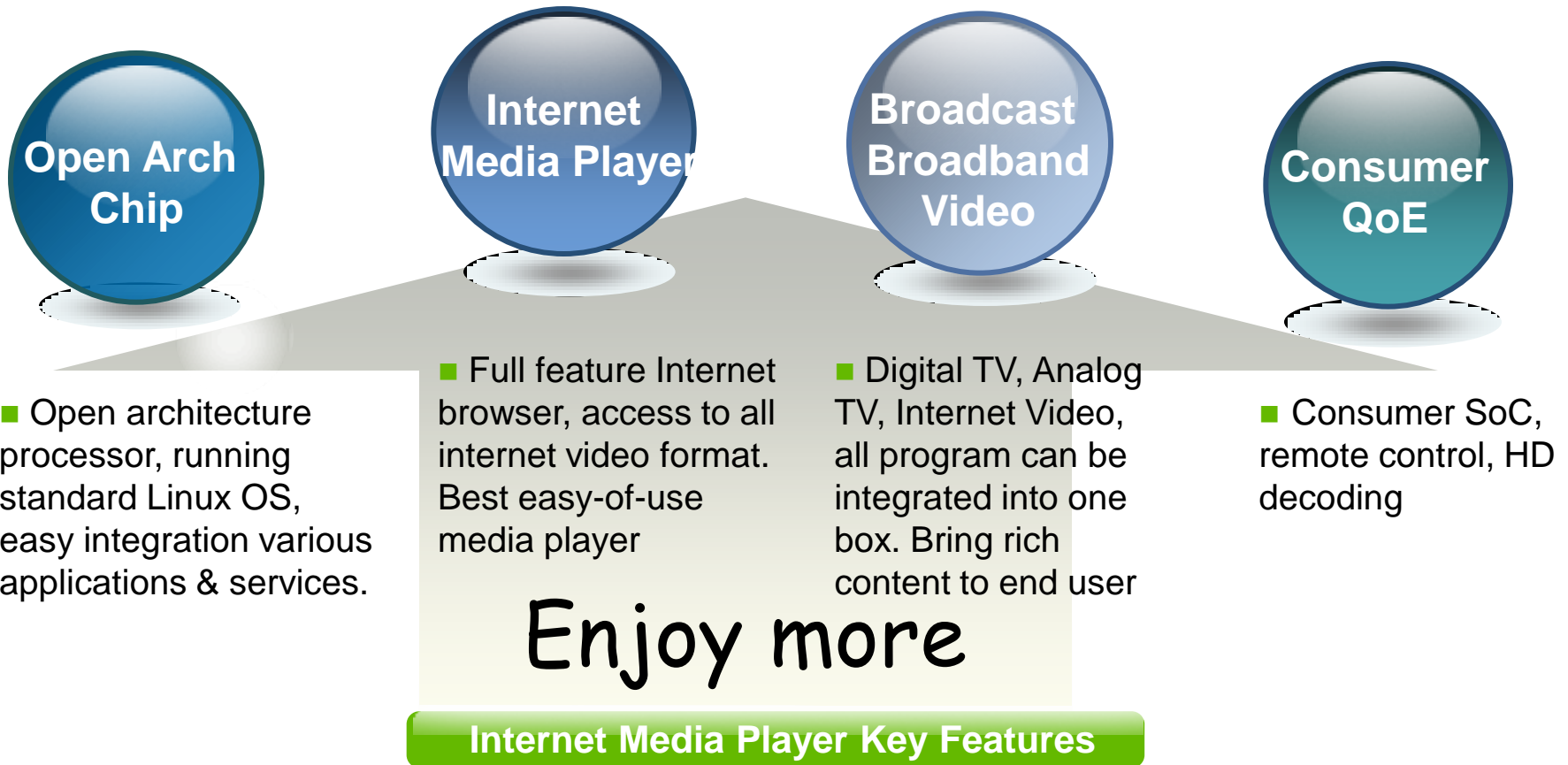


# Opportunities

- With the evolution of TVs and the content, the needs for making it more “User Friendly” and “Accessible” has always been the driving force to all sections.



# What's the Best Solution?



**C2 Offers Best Network Media Player Solution in Industry**

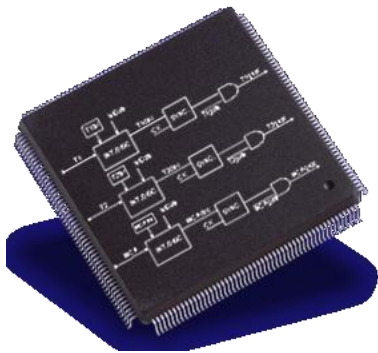
# About C2

- Founded by veteran Silicon Valley entrepreneurs to create the best technology in the world for networked entertainment
- Dedicated to the delivery of rich media internet content and services to the living room
- Developed the Jazz architecture and products to address the need for cost-effective solutions for consumer electronics devices

# Jazz Media Processor Architecture

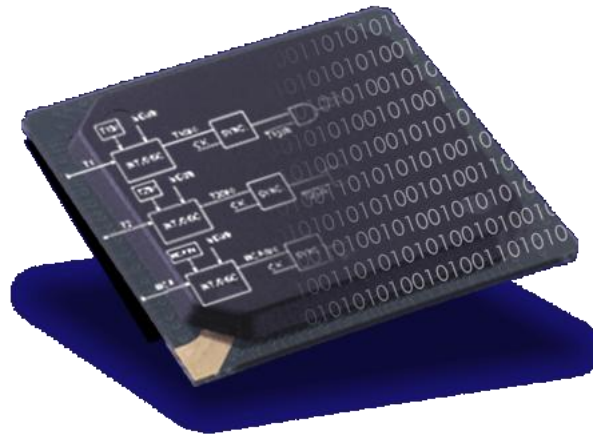
## Hard-wired

- + **Cost-effective**
- + **Low power**
- **Fixed function**
- **Slow time-to-market for new features**



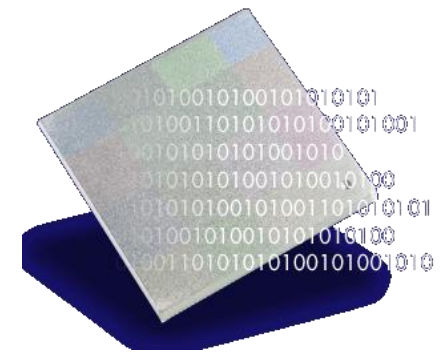
## Jazz

- + **Cost-effective**
- + **Programmable where necessary**
- + **Fast time-to-market for new features**



## CPU / DSP

- + **Programmable**
- + **Fast time-to-market for new features**
- **Expensive**



**Optimal tradeoff between  
hardware acceleration  
and software flexibility**

# Jazz processor enables next generation TV Applications

- ✓ **Video Call**
- ✓ **Time/place-shift**
- ✓ Browser
- ✓ Java
- ✓ P2P
- ✓ Media Server
- ✓ PIP/POP
- ✓ Digital Signage
- ✓ Karaoke

## Media Processor

Dual Core  
HD Codec  
Transcode  
350 MHz

## 2D Graphics Processor

OpenVG 1.1  
300 MHz

- ✓ Intuitive UI
- ✓ Flash
- ✓ Casual Game

## Display Processor

Noise Reduction  
Scaling  
Dual Display

## Security Processor

Secure Boot  
Device ID  
Crypto Engine

- ✓ Code protection
- ✓ DRM
- ✓ E-Commerce
- ✓ Value-added services

# C2 benefits

## **Architected for rich media content**

- High performance general purpose processor
- Extension for rich media data
- Hardware acceleration of commonly used operations

## **Designed for the internet**

- Flexible/all codec support
- Linux-based for fast product development
- Browser-based content delivery

## **Optimized for CE**

- Highly integrated
- Low cost
- Low power
- Small physical footprint

## **Complete Solution**

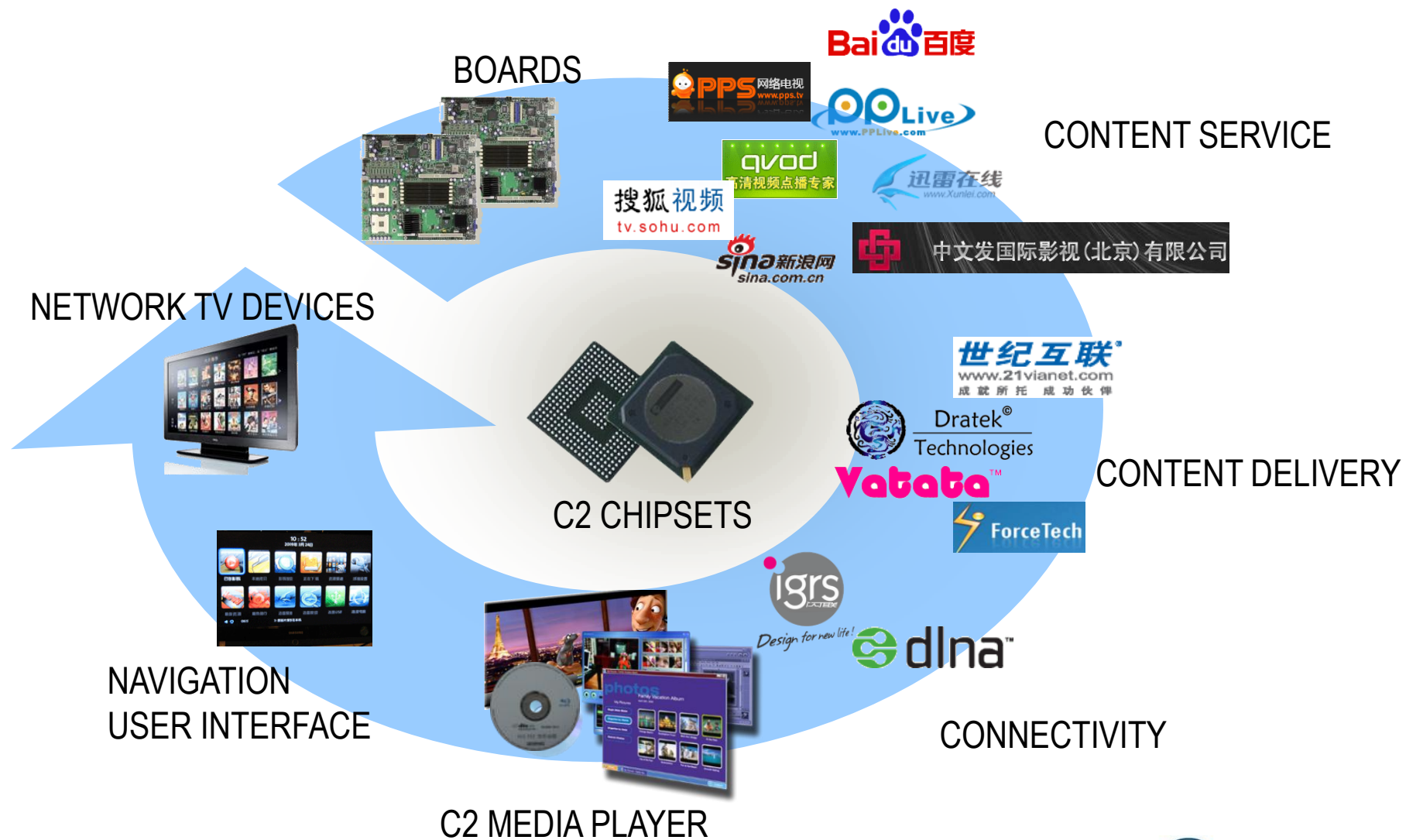
- Silicon Device
- Media processing software
- Applications software
- Hardware design

# Other network TV features can be enabled by C2

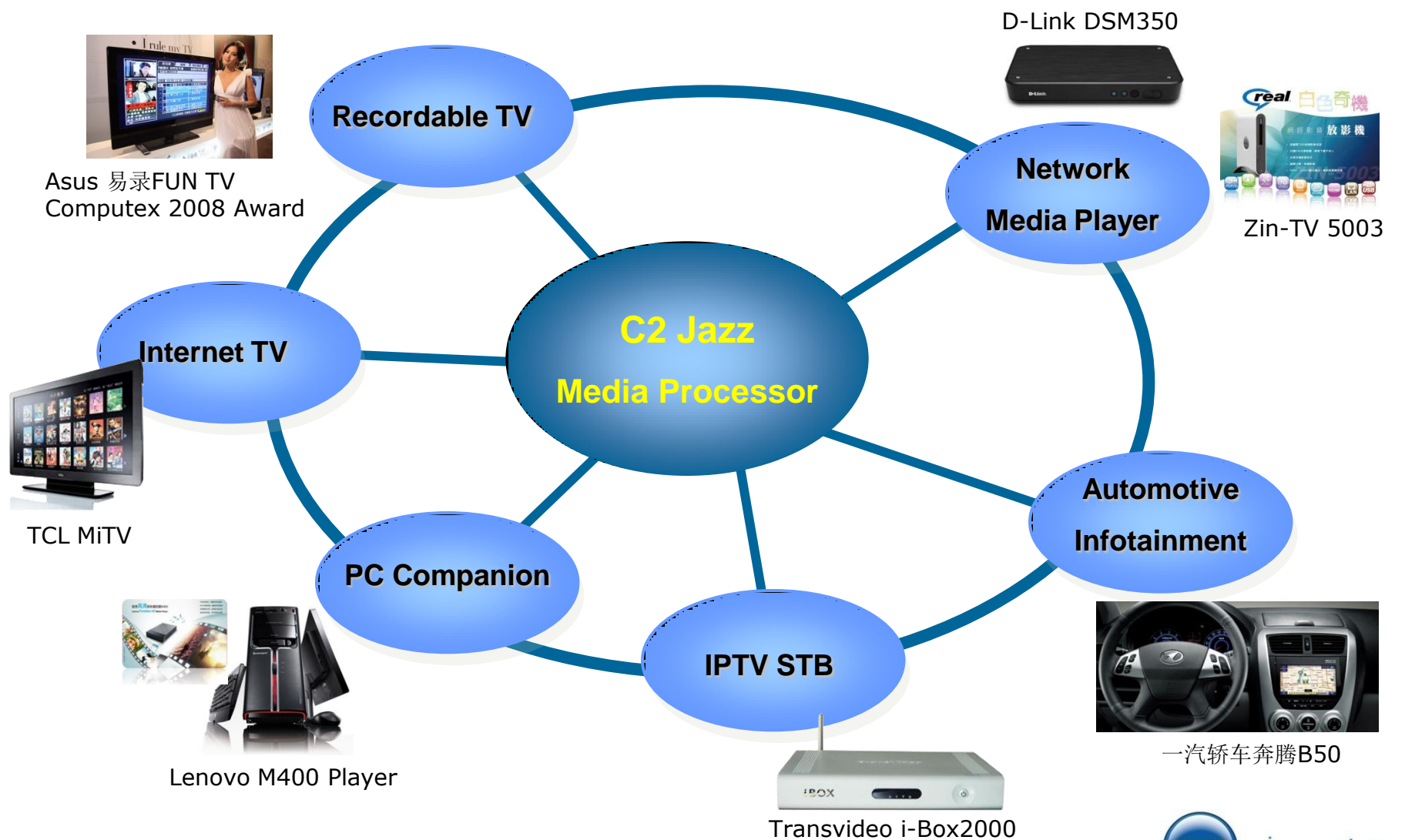
Internet TV Services	
Broadcast TV Channels	Analog/Cable/Terrestrial
Video-On-Demand (VoD)	
Media downloading TV (MiTV)	
RSS-TV	News, weather forecast, Stock
Widgets	Information services
Time Shift TV (TSTV)	
Personal Video Record by EPG (Recordable TV)	
Location Free /Place-shift TV/3G	Connecting TV and smart phone
Interactive TV	Tele-voting
Photo sharing TV	Network Photo sharing, Flickr, Picassa
Karaoke/Music TV	
Video conference	Visual call with 3G phone
Security TV/Home monitoring	Home surveillance
Messaging/SNS (Social TV)	Networking
E-Education	
Games	Multi-player casual game




# Network TV Alliance



# C2 in Market





**C2 = Consumer + Communication**

**Video 2.0 = Transform Digitized Video to Networked Video**

*Accelerating Development...Connecting Innovation*

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Thank you!