



SEE THE **FUTURE.**
CREATE YOUR OWN.



Delivering Multi-format Video to Your Digital Networked Home

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Technology for Innovators™



Driving Factors for IP Video Delivery into your home

- ◆ **Broadband Pipe – Changing the way we live**
- ◆ **Consumer Video/Electronics – Getting cost effective**
- ◆ **Home Networking – Becoming pervasive**
- ◆ **Video Compression and Multi-Format**
 - H.264/VC1 provide 2x improvement
 - Further reach with the same infrastructure
 - Richer media experience with the new infrastructure (fiber, VDSL2,....)
- ◆ **Quad Play – Differentiated and Competitive Services**

Disruptive Innovation – Delivery of Video content

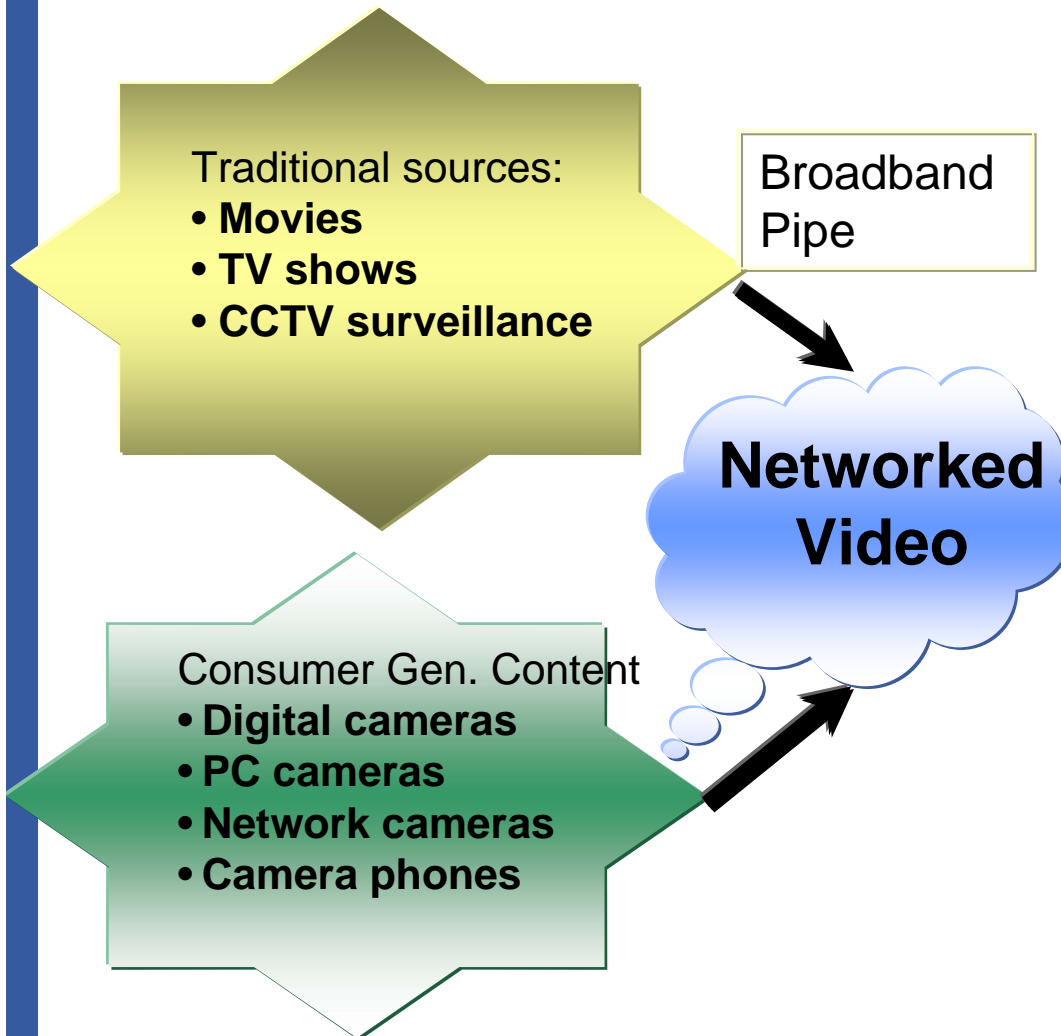
Ability to deliver video content any time, any place, in any format and at a lower price to the end consumer

IP-TV Access Network Key Care Abouts

- Video Headend Interoperability
- Multi-format and format interoperability
- Future Proof – Field Upgradeability
- Customer Reach/Bandwidth
- Security, DRM/Content protection
- QoS

Multi-format and Format Interoperability

Any Content ... Many Opportunities



Embedded opportunities:

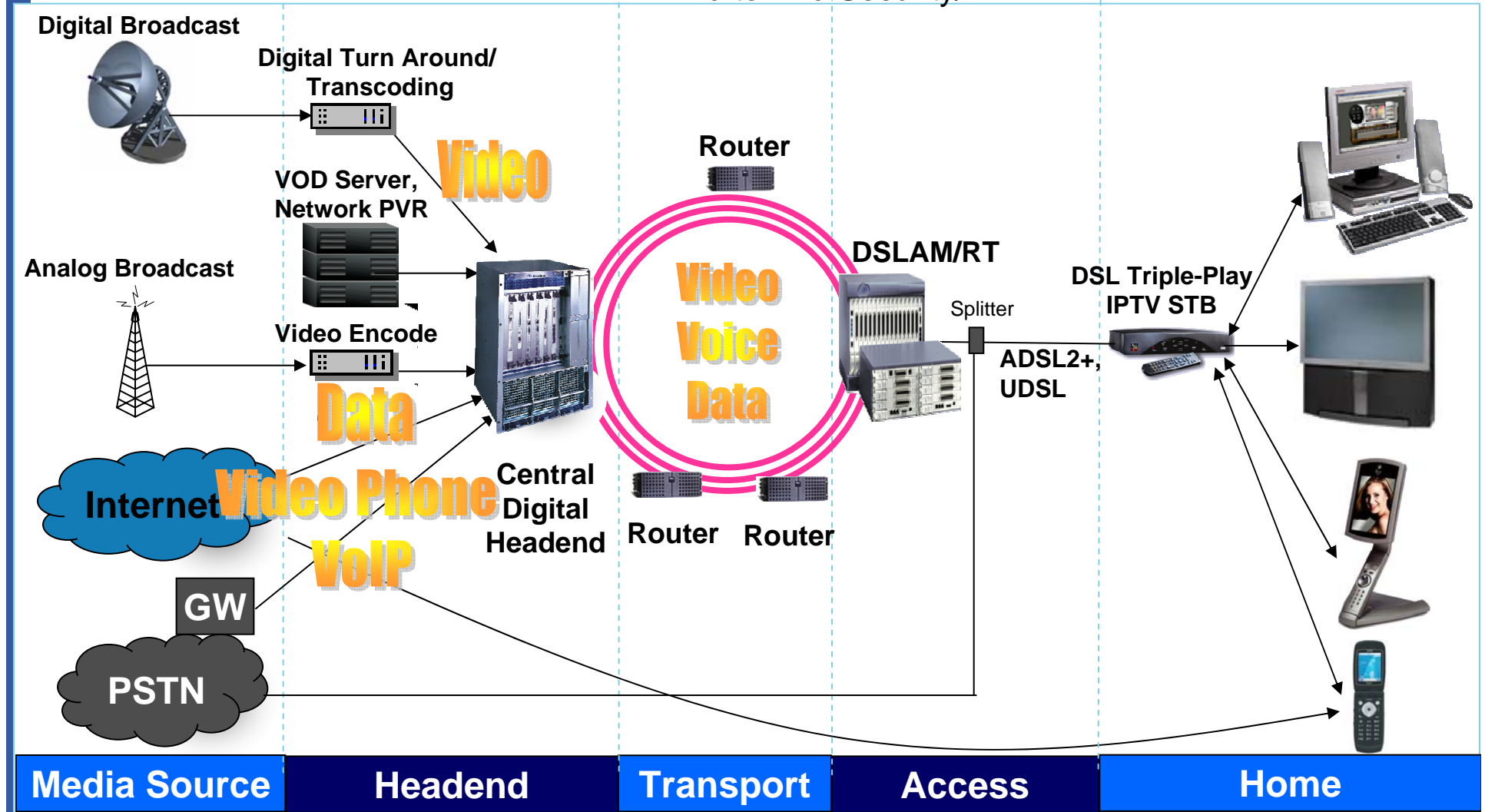
- ◆ **Digital distribution - VOD**
- ◆ **IP based broadcast TV**
- ◆ **Quad play – Wireless, VOIP, Video data for Telco's**
- ◆ **Networked Gaming**
- ◆ **Content aware Advertising**
- ◆ **Digital Home Content delivery**
- ◆ **Networked PVR**
- ◆ **Digital Home Entertainment**
- ◆ **E-Commerce**

Digital video is emerging in diverse embedded systems

IP-TV Quad Play Delivery Network (xDSL Example)

Content QoS Transport QoS Access QoS Home Network QoS

← End to End Security/DRM →



Texas Instruments Streaming Media IP-STB and DMA Solution



Flexibility at Lower System Cost Scalability for Product Differentiation and Reduced Development Cost



- **Video Compression** → MPEG-2, MPEG-4, H.264, WMV, Real Networks, On2 VP6 decoders
- **Audio Compression** → AAC, AC3, WMA decoders
- **Networking Stack** → TCP/IP, UDP, RTP, RTSP
- **Middleware** → Browser, OSD, DRM/CA

- **Video Compression** → MPEG-2, MPEG-4, H.264, WMV, Real Networks, On2 VP5 codecs
- **Audio Compression** → AAC, AC3, MP3, WMA codecs
- **Networking Stack** → TCP/IP, UDP, RTP, RTSP, HTTP
- **Middleware** → OSD, uPNP, DLNA, IGRS, DRM

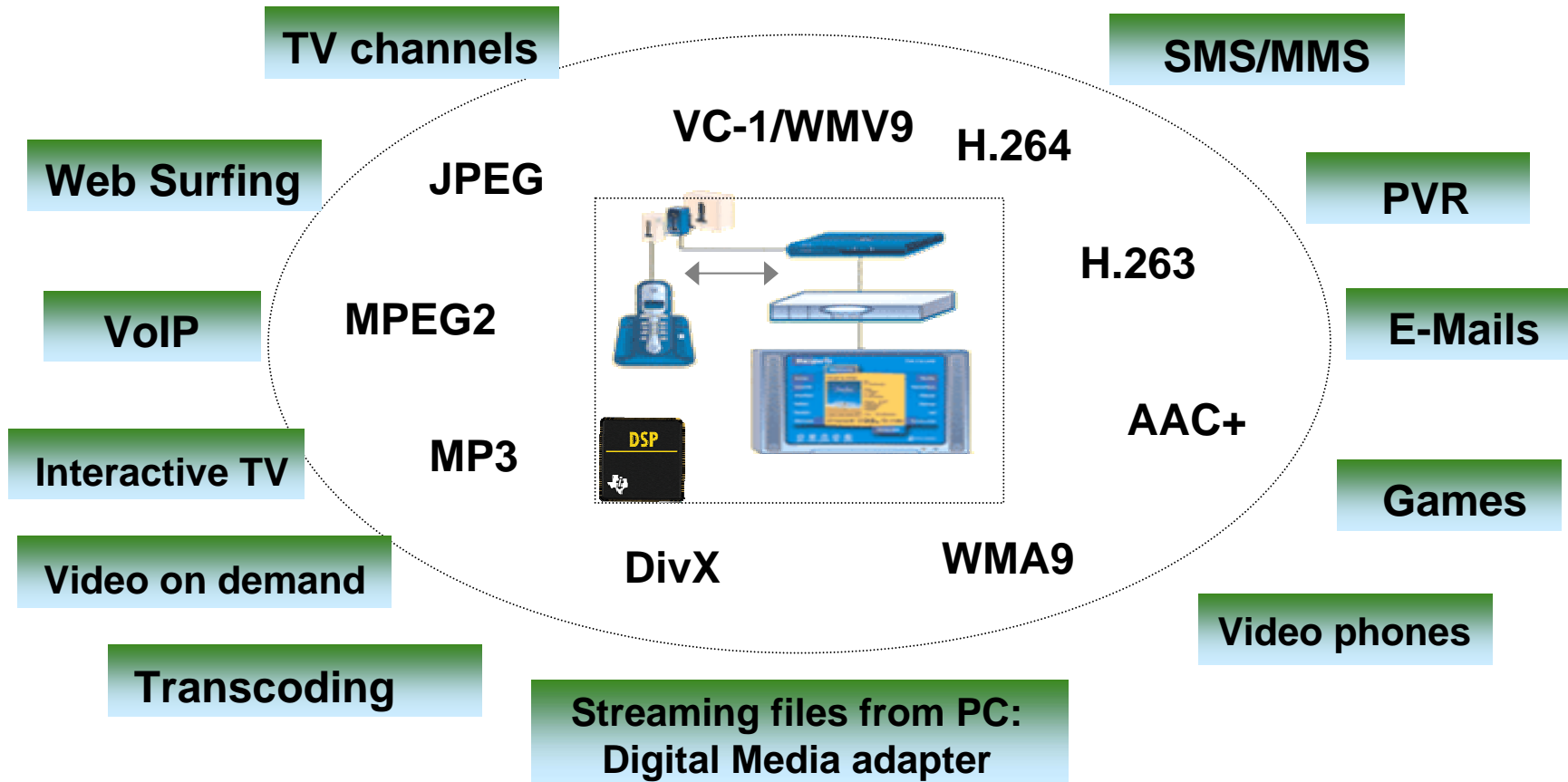
- **Video Compression** → H.261, H.263, H.264 codecs
- **Speech Compression** → G.722, G.722.1, G.728
- **IP Communications Protocols** → H.323, SIP
- **Networking Stack** → TCP/IP, UDP

- **Video Compression** → H.261, H.263, H.264, MPEG-4, JPEG codecs
- **Speech Compression** → G.722, G.722.1, G.728
- **Networking Stack** → TCP/IP, UDP, RTP, RTSP

Format Interoperability

The New IP-STB landscape

From single Fixed function to multi-services and standards



Multi-format and Format Transcoding

Any Content, Any Format, Any Time, Any Place