TV-Anytime Metadata for IPTV

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Motivations(1)

o Media consumption environment becomes diverse and more complex.
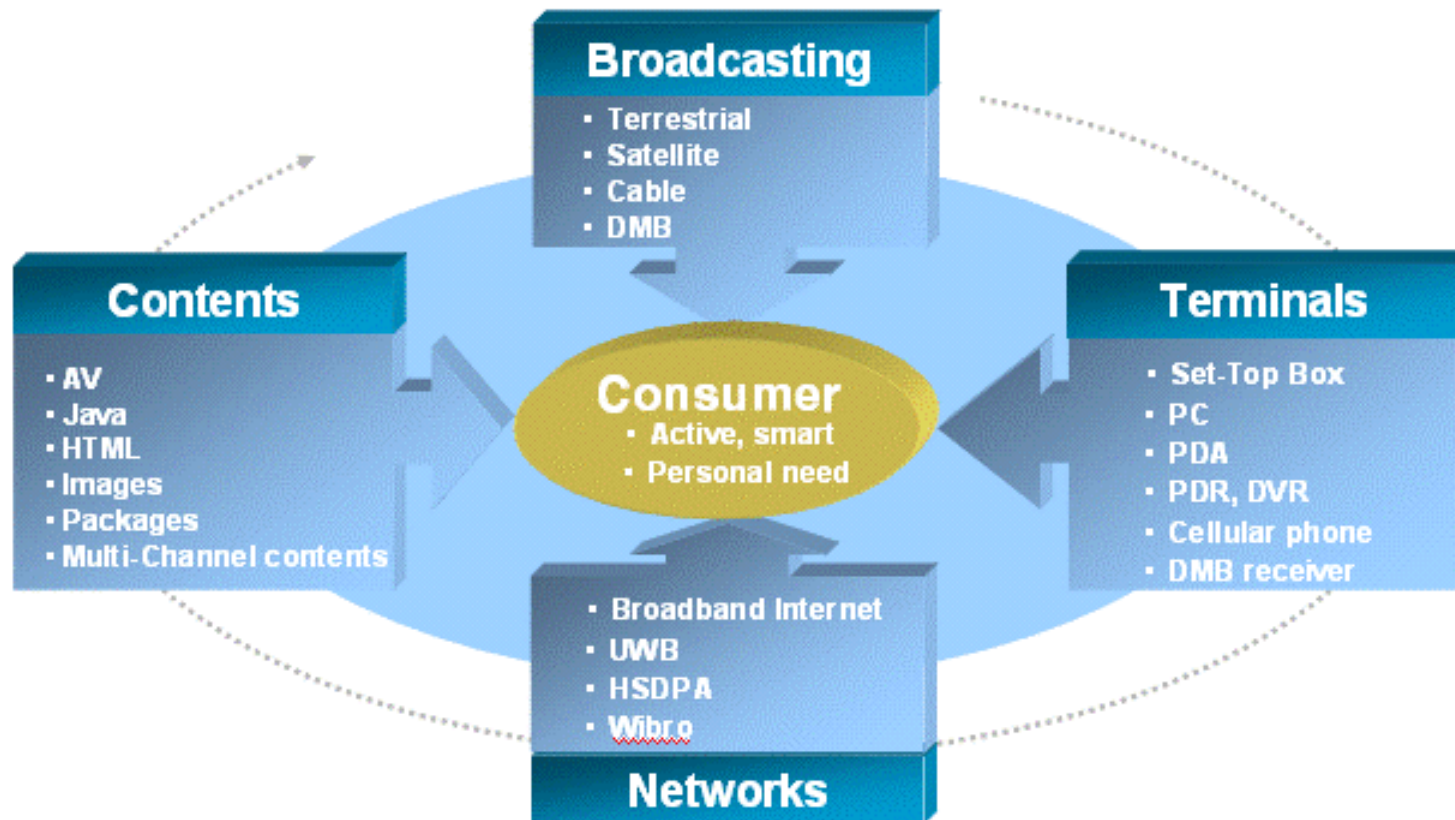
TV-Anytime Forum

o   TV-Anytime Forum

- 40 companies from Asia, Europe and USA
- Content Holders, CE manufacturers, broadcasters, telecom operators, etc.
- Founded in Sep. 1999
- To be platform 'agnostic' about digital broadcast delivery mechanisms (ARIB, ATSC, DVB etc.) and the Internet

Status of TV-Anytime

ITU-T

o **Phase 1**
  - PVR-based applications in a uni-directional broadcast environment
  - Enable search, select, acquire and rightful use of audio and video
  - Specifications - finished in 2002

o **Phase 2**
  - Toward a world beyond TV (i.e., beyond audio plus video)
  - Build digital entertainment and information-rich lives around a digital hub
  - Including targeting, redistribution and new content types
  - Phase 2 final, July 2005

TVA Phase 1: What you want, when you want it!
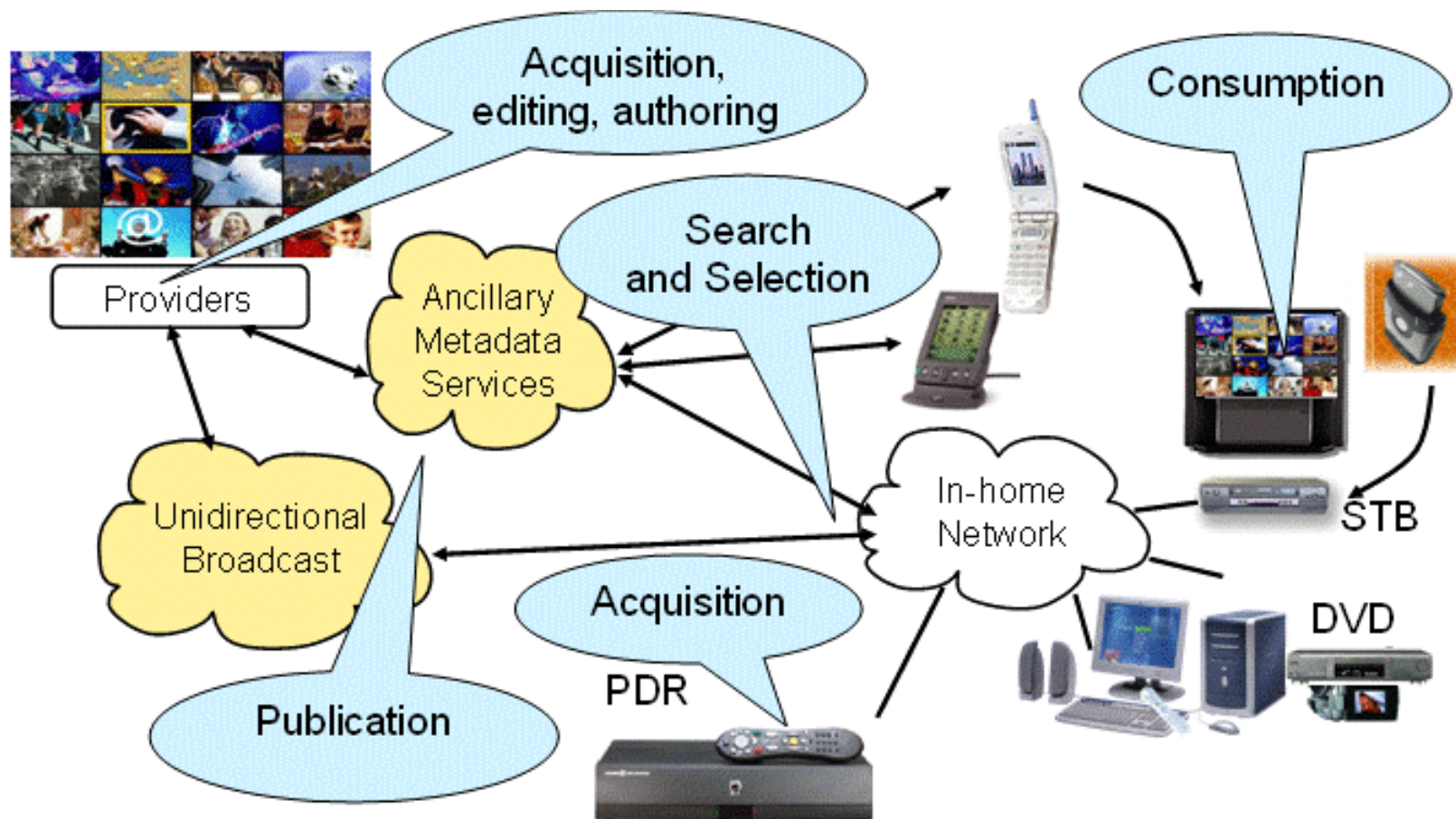
From NAB Presentation

TV-Anytime Spec. : Phase 1

program title, genre,
summary, critic's review
Content Creator
For Advanced EPG
Non-linear Navigation

Content Description metadata

Program ID

location (broadcast time &
channel), usage rules,
delivery parameters
Content Provider
For Advanced EPG

Instance Description metadata

Program ID

Program CRID

user preferences, usage
history, personal bookmarks
Consumer
For Personalized Consumption

Consumer metadata
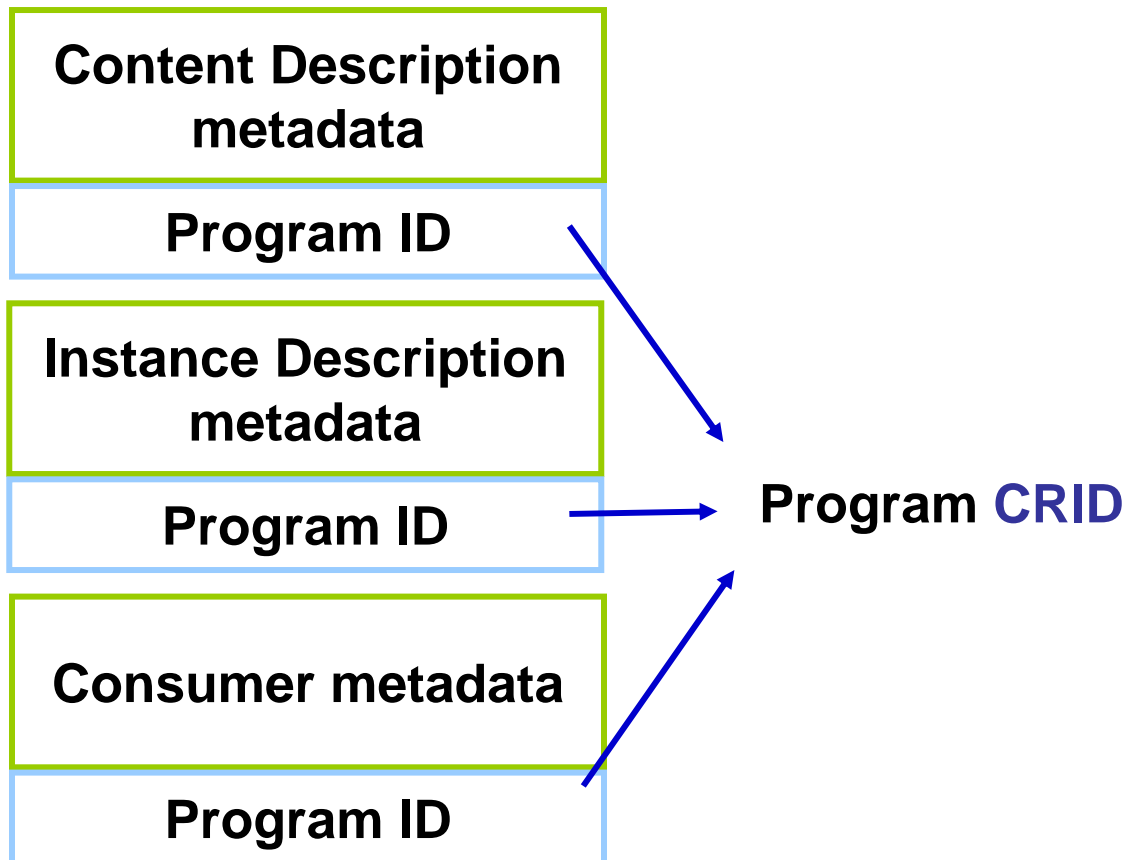
Program ID

TV-Anytime Spec. : Phase 2 (1)

o Beyond the TV services and environments

- interactive and personalized media consumptions at IPTV environment

o Segment-based consumptions

- Create virtual programs

- Highlights viewing

- Indexes and chapters e.g. for non-linear navigation

- Insertion of pre-recorded/cached related content, such as target advertising

TV-Anytime Spec. : Phase 2 (2)

o A concept of Virtual Program
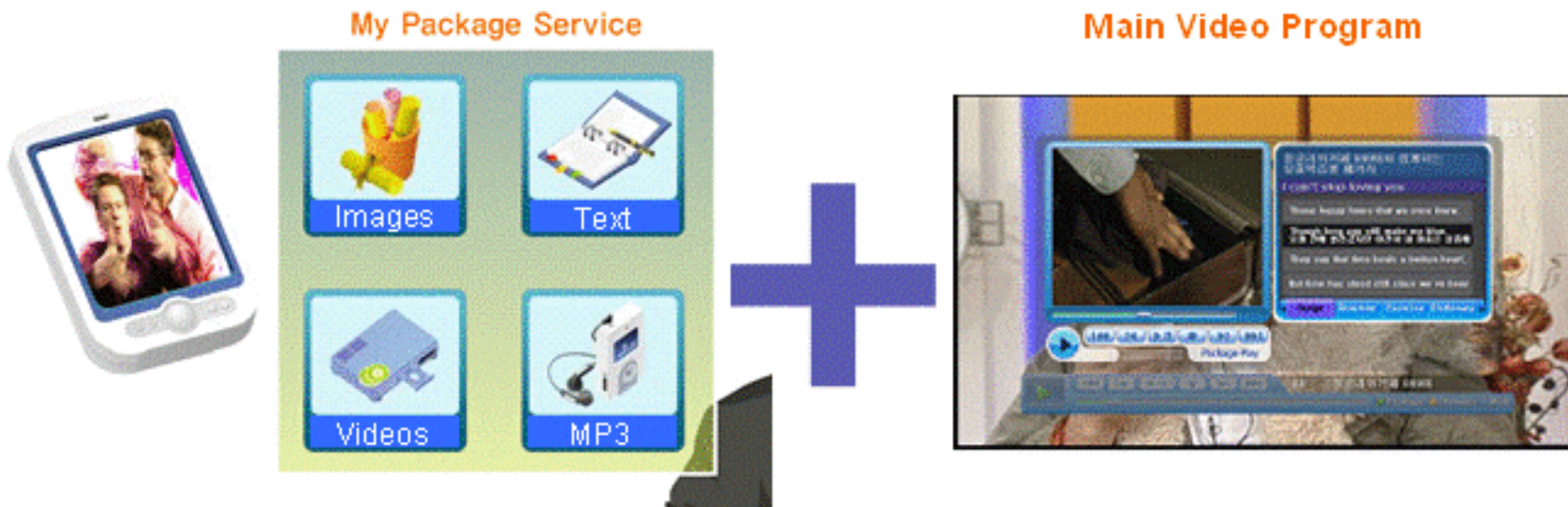

Program A

Program B

Program C

User Preference

TENNIS

User's virtual program on Tennis

TV-Anytime Specifications(4)

o **Package-based** consumptions

- • A collection of content components by means of grouped item elements

TV-Anytime Business Models(1)

o **Phase 1**

- Content replacement or update
  - Consumer will want to choose whether a new recording of content replaces existing content that is out of date.

- Preference-based capturing or filtering
  - Consumer will allow PDR to automatically capture content based on their viewing behaviour.

- Remote control of PDR
  - Consumer allow a service provider to remotely control the functionality of their PDR.

- NDR service
  - Consumer will want to be able to store their personal content on network storage devices.

TV-Anytime Business Models(2)

o Phase 2

- Content sharing or redistribution
  - Consumer will want to make available some of their recordings and information to another users.

- On-lined interactive package
  - Consumer wants their PDR to capture a interactive package that contains applications, data, text, video, audio and links to other online content.

- Synchronous or alternative playback of enhancing content
  - Consumer wants to capture enhancing content in advance so that they are available on device for synchronous or alternative playback.

- Device-adaptive content service
  - Consumer who subscribes to content service provider wants to be sure that content is appropriate to each or all of their devices.

Developments(1)

o ETRI has developed Personalized TV system and service based on TV-Anytime technologies.

- At 2004 and 2005, a trial test of metadata service
  - over terrestrial broadcasting channel
  - Co-work with EBS, a Korean broadcasting service provider.
- At 2006, ETRI is co-working to test metadata service
  - over digital cable broadcasting environment
  - Co-work with C&M Communications, a Korean MSO of DCATV.

Developments(2)

o   Structural diagram of Personalized TV service

- Authoring Tool
- Transmission server and Return channel server
- Set-top box and mobile PDR
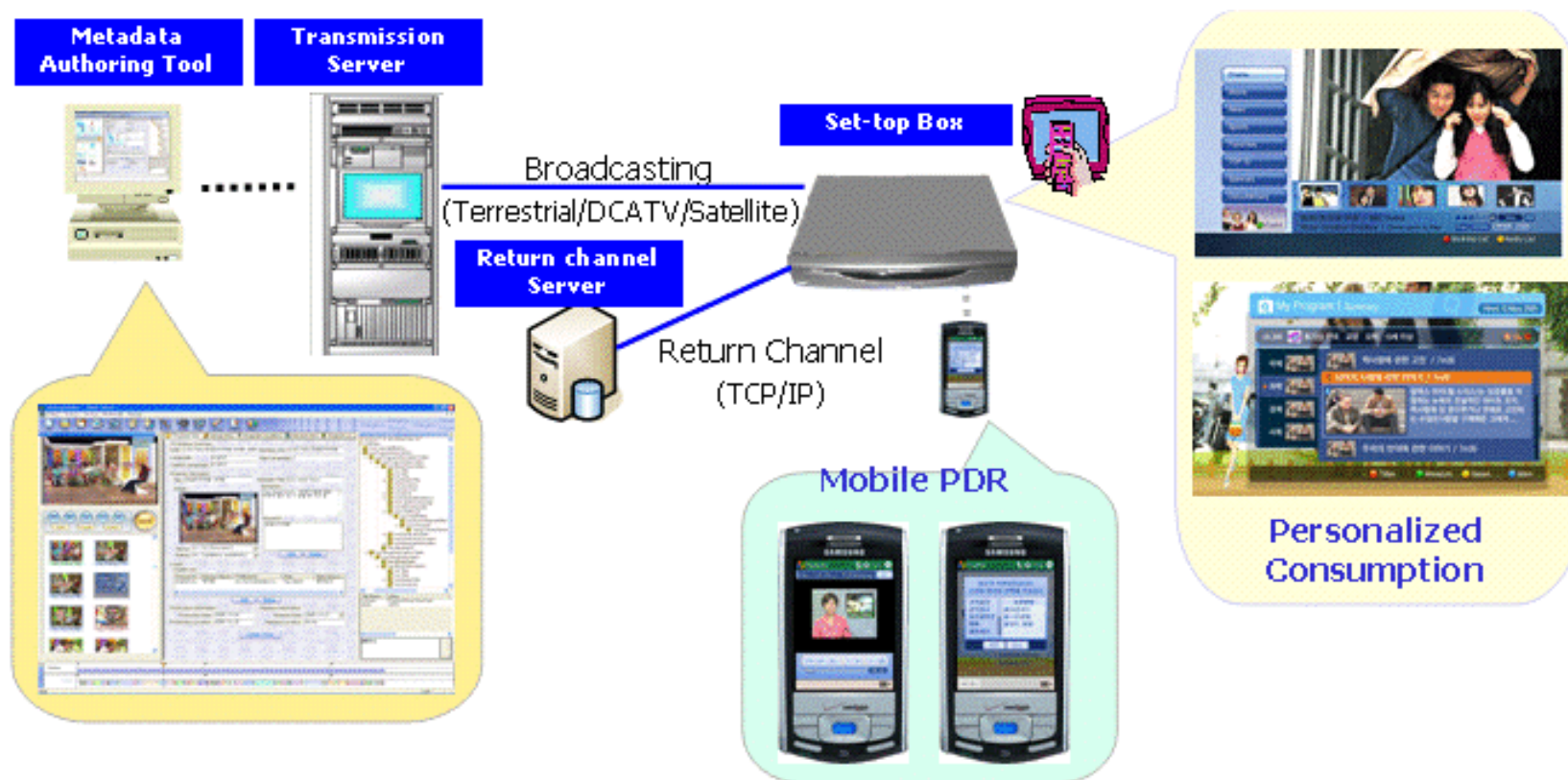
Considerations on Metadata for IPTV

o Metadata for IPTV requires

- To be compatible with metadata of current broadcasting services

- To support various profile for various consumption environment

- To promote services attractive to consumers

- To make user easy to access and consume IPTV services

Considerations on Metadata for IPTV

o   TV-Anytime metadata is best one to be compatible with existing broadcasting service.

o   Beyond existing broadcasting service, TV-Anytime metadata supports extended media service proper for IPTV.

- Interactive
- Rich media service related to main AV program

o   Easy access and consumptions of media service is essential for IPTV

- Personalized and targeting service

Thanks for your attentions

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