



Who Are We?



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TV Guide On Screen

Consumer Electronics, North America

We provide Interactive Program Guides (IPGs) for TVs, DVRs, and DVD Recorders sold in the United States and Canada.



MPV TV Broadcast Profile
Published October, 2004



8:05 ◀ SETUP

SEARCH

LISTINGS

PLAY LIST

SCHEDULE ▶



Record Options

schedule recording

frequency: ◀ once ▶

start: ◀ 1 min early ▶

end: ◀ 5 min late ▶

destination: ◀ PVR ▶

keep: ◀ all ▶

keep until: ◀ need space ▶

quality: ◀ original ▶

cancel

THURS

8:00 PM

8:30 PM

9:00 PM

abc

Together Again

Extreme Makeover

FOX

That 70's Show

Paradise Hotel

25 WFXT

New TV 14 8:00 8:30 INFO

Donna finds Jackie a trying roommate; Eric can't make his engagement ring payment Kelso gets a job working under Hyde. Roy: Jim Gaffigan Fenton: Jim Rash. Joanne: Mo'Nique. Bob: Don Stark. Donna: Laura Prepon.

CBS

60 Minutes II

Big Brother ▶

NBC

Law & Order

West Wing ▶

UPN

WWE SmackDown!

Enterprise ▶

WB

Ocean's 11 ▶

PBS

NOVA: The New Face of Terrorism

The American... ▶

ESPN

Stanley Cup Playoff ▶

HBO

Pulp Fiction ▶

EXAMPLE OF METADATA



Use Cases

- DVD Recorder
- Hard Drive Based PVR / PC
- Combo HD / DVD Recorders
- Network-aware Devices
- Personalization
- Libraries



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DVD Recorder

User records a show to DVD, removes it, then reinserts it.



What happens to the description?





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Combo HD / DVD Recorders

User edits home videos on their PC, writes DVD, inserts it in DVD Player.



What is the expected user experience?





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Network Aware Devices

A network that contains video content is enabled.



What should the user see?





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Personalization

Two users in the same household have different recording / viewing habits.

Should they each see their own playlists?





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Libraries

User has recorded 50
DVDs worth of content.



How should the player
support finding specific
content?





Introduction

- New profile required to support Broadcast Television and other video content
- Fully extensible to privately authored video content on PCs or other CE devices



Introduction (cont.)

- New Profile:
 - Compatible with MPV Specification
 - Defines collections (AssetLists) of video content by use of MPV Core Asset List
 - Utilizes core mpv:Video, with extensions
 - Organizes playable content using Broadcast Profile Playlist



Core Video Asset Properties

```
<mpv:Video mpv:id="VID0001">
  <mpv:lastURL mpv:filesystem="UDF">/Seinfeld/Seinfeld84.mpg</mpv:lastURL>
  <nmf:Metadata>
    <dc:Properties>
      <dc:title>Seinfeld</dc:title>
      <dc:description>Elaine fails a drug test---twice---and loses her job; Jerry
talks about his Uncle Leo on "The Tonight Show."</dc:description>
      <dc:creator>TV Guide</dc:creator>
      <dc:language>en_US</dc:language>
      <dc:format>video/mpeg</dc:format>
    </dc:Properties>
    <dct:Properties>
      <dct:Abstract>Four neurotic New Yorkers in a show about nothing.
      </dct:Abstract>
    </dct:Properties>
```




Video Assets

- Basic Broadcast Television Profile index defines an AssetList containing one or more mpv:Video assets
- Wherever possible, MPV Core concepts used for compatibility
- New metadata contained within <mpvtv:ShowProperties>
- Richer vocabulary to describe content



TV Profile Video Asset Properties

```
<dc:Properties>
  <dc:title>Seinfeld</dc:title>
  <dc:description>Elaine fails a drug test---twice---and loses her job;
  Jerry talks about his Uncle Leo on "The Tonight
  Show."</dc:description>
</dc:Properties>
<mpvtv:ShowProperties>
  <mpvtv:episodeTitle>The Showerhead</mpvtv:episodeTitle>
  <mpvtv:channel>25-2</mpvtv:channel>
  <mpvtv:expectedStartTime>2004-03-24T19:00
  </mpvtv:expectedStartTime>
  <mpvtv:expectedDuration>30.0</mpvtv:expectedDuration>
  <mpvtv:productionYear>1998</mpvtv:productionYear>
  <mpvtv:firstAirDate>1998-02-15</mpvtv:firstAirDate>
```



TV Profile Video Asset Properties

```
<!-- Define the cast -->
<mpvtv:castMemberBag>
  <mpvtv:castMember mpvtv:castType="urn:osta-org:mpv:tv:cast:actor">
    <mpvtv:castMemberName>Jerry Seinfeld</mpvtv:castMemberName>
    <mpvtv:castMemberRole>Jerry</mpvtv:castMemberRole>
  </mpvtv:castMember>
  <mpvtv:castMember mpvtv:castType="urn:osta-org:mpv:tv:cast:actor">
    <mpvtv:castMemberName>Julia Louis-Dreyfus</mpvtv:castMemberName>
    <mpvtv:castMemberRole>Elaine</mpvtv:castMemberRole>
  </mpvtv:castMember>
  <mpvtv:castMember mpvtv:castType="urn:osta-org:mpv:tv:cast:actor">
    <mpvtv:castMemberName>Michael Richards</mpvtv:castMemberName>
    <mpvtv:castMemberRole>Kramer</mpvtv:castMemberRole>
  </mpvtv:castMember>
  <mpvtv:castMember mpvtv:castType="urn:osta-org:mpv:tv:cast:actor">
    <mpvtv:castMemberName>Jason Alexander</mpvtv:castMemberName>
    <mpvtv:castMemberRole>George</mpvtv:castMemberRole>
  </mpvtv:castMember>
</mpvtv:castMemberBag>
</mpvtv:ShowProperties>
```



Major New ShowProperty Types

- Start Time / Duration
- Themes / Genres
- Ratings (MPAA, VChip, etc)
- Cast Members
- Station Info (name, logo, channel)
- Show Descriptor Flags (CC, New, HD, etc)
- First Air Date
- Audio / Video Encoding Method
- ShowID
- Alternate Descriptions / Languages



Index Points

- Used to define specific video frames
- SMPTE-style format: HH:MM:SS:FF
- Example:

<mpvtv:IndexPoint>

00:12:12:30

</mpvtv:IndexPoint>



Index Point Sequences

- New container type: IndexPointSeq
- Ordered sequence of Index Points, denoting start - stop pairs.
- Example:

<!-- This seq removes minutes 13-16 of a 30 minute original -->

<mpvtv:IndexPointSeq>

<mpvtv:IndexPoint>00:00:00:00</mpvtv:IndexPoint>

<mpvtv:IndexPoint>00:12:12:30</mpvtv:IndexPoint>

<mpvtv:IndexPoint>00:17:00:00</mpvtv:IndexPoint>

<mpvtv:IndexPoint>00:30:00:00</mpvtv:IndexPoint>

</mpvtv:IndexPointSeq>



Index Point Sequences (cont.)

- IndexPointSeq primarily used to define MPV related references to original content:
 - noCommercialOf
 - previewOf
- Example:

```
<mpv:Video>
  <mpvtv:IndexPointSeq>
    <mpvtv:IndexPoint> ...</mpvtv:IndexPoint>
  </mpvtv:IndexPointSeq>

  <mpv:Related mpv:relationship="urn:osta-org:mpv:tv:relation:noCommercialOf">
    <mpv:VideoRef mpv:idRef="VID0001"/>
  </mpv:Related>
</mpv:Video>
```



Playlists

- Playlists define collections of viewable content
- Multiple Playlists are supported
 - Personality oriented
 - Content oriented



PlaylistAssets

- Playlist contains one or more PlaylistAssets
- PlaylistAsset references Video assets
- Adds descriptive and state information to a referenced Video asset



Major Playlist Metadata

- Title (of Playlist)
- Description (of Playlist)
- PlaylistAsset (container type)
- ResumePoint
- KeepUntil
- LastAccessed



Playlist Example

```
<mpvtv:Playlist mpvtv:id="PLAYLIST0001">
  <mpv:InstanceID>urn:osta-org:dsig:md5:all:043449CA9577688
</mpv:InstanceID>
  <nmf:Metadata>
    <!-- Playlist specific properties -->
    <dc:Properties>
      <dc:title>Seinfeld Episodes</dc:title>
      <dc:description>Recorded September – October 1999
      </dc:description>
      <dc:language>en_US</dc:language>
    </dc:Properties>
  </nmf:Metadata>

  <mpvtv:PlaylistAsset> ... </mpvtv:PlaylistAsset>
</mpvtv:Playlist>
```



Playlist Asset Example

```
<!-- Playlist Asset definition -->
<mpvtv:PlaylistAsset>
  <nmf:Metadata>
    <mpvtv:ShowProperties>
      <mpvtv:resumePoint>00:00:00:00</mpvtv:resumePoint>
      <mpvtv:lastAccess>1999-10-07T19:00 </mpvtv:lastAccess>
      <mpvtv:keepUntil>2030-12-31</mpvtv:keepUntil>
    </mpvtv:ShowProperties>
  </nmf:Metadata>

  <!-- Reference to video asset itself (Original video)-->
  <mpv:VideoRef mpv:idRef="SEINFELD100799"/>
</mpvtv:PlaylistAsset>
```



Device Properties

- Ideally should be handled by another profile (MPV Portable Storage Profile?)
- Should specify, at minimum:
 - Device type (DVD, HD, network?)
 - Device Format (file system, etc.)
 - Volume Descriptor
 - Volume Serial
 - Thumbnail icon depictions



Done in Draft v1.0

- Volume Identification
 - Status of Portable Storage Profile
- Library Support
- Best Implementation Practice
- Digital Rights Management transport
- Genre vocabulary
- **Next Step: MPV-IS, TV Broadcast Chapter**

Thank you



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North American Consumer Electronics