A Declarative Approach to BroadCast TV

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- More programmatic effort to achieve on the web application side
- Increase communication & binding constraints between JavaScript object / plugin and middleware

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- How to handle DRM, CA, CI+,...

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    - Isn't XML aimed to store such information?

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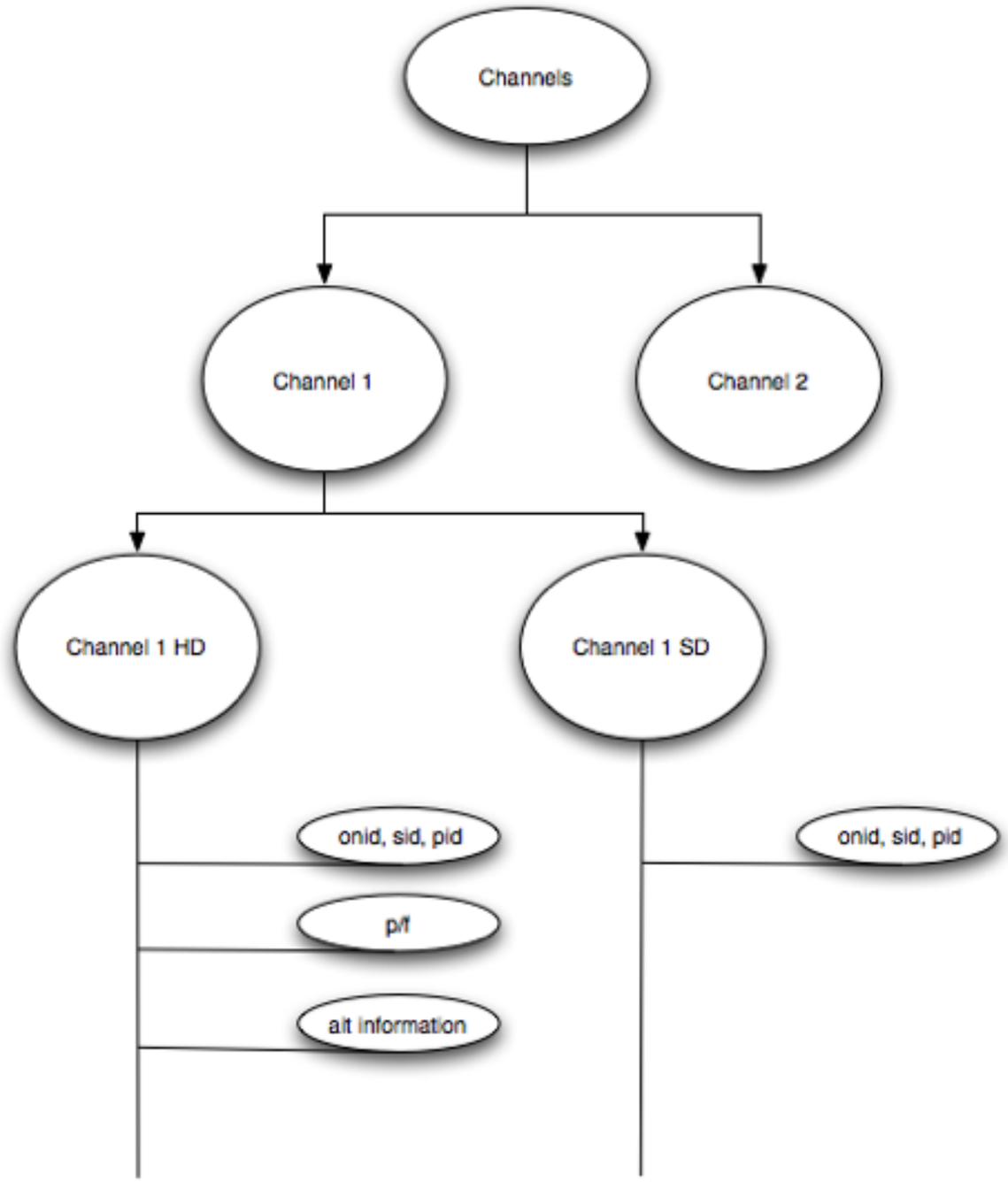
- Create an obvious and ubiquitous way to integrate data from heterogeneous sources such as DVB, ATSC, IP & others, handling all of them under the same paradigm.

What it could look like



Name spaces declaration

Engine parsers should understand that type of page as an informational page for tv

```
<?xml version="1.0"?>
<webtv xmlns='http://www.w3.org/2011/webtv'
            xmlns:dvb='http://www.w3.org/2011/webtvdvb'
            xmlns:iptv='http://www.w3.org/2011/webtviptv'>

</webtv>
```

An hard-coded example of channels*

```
<html xmlns='http://www.w3.org/2011/webtv'
      xmlns:dvb='http://www.w3.org/2011/webtvdvb'
      xmlns:iptv='http://www.w3.org/2011/webtviptv'>
<body>
  <webtv>
    <dvb:channel id='chann1'>
              <name>ABC</name>
              <dvb:source>onid,pid,sid</dvb:source>
              <dvb:ait>
                    <application>http://wwww.appToLaunch.com
                 </application>
                    <state>signalled</state>
               </dvb:ait>
    </dvb:channel>

    <iptv:virtualChannel id='chann2'>

         <name>ZDF</name>
         <iptv:channel id=‘chann2hd’>
               <iptv:source>http://www.zdf.com/streamingSD/video.m3u</iptv:source>
         </iptv:channel>

         <iptv:channel id=‘chann2sd’>
               <iptv:source>http://www.zdf.com/streamingSD/video.m3u</iptv:source>
         </iptv:channel>
    </iptv:virtualChannel>

  </webtv>

</body>
</html>
```

* don’t do that

An hard-coded example of channels*

```
<dvb:channel id='chann1'>
          <name>ABC</name>
          <dvb:source>onid,pid,sid</dvb:source>
          <dvb:ait>
                <application>http://wwww.appToLaunch.com
        </application>
                <state>signalled</state>
           </dvb:ait>
</dvb:channel>
```

```
<iptv:virtualChannel id='chann2'>

  <name>ZDF</name>
  <iptv:channel id='chann2hd'>
          <iptv:source>http://.../streamingSD/video.m3u</iptv:source>
  </iptv:channel>

  <iptv:channel id='chann2sd'>
          <iptv:source>http://.../streamingSD/video.m3u</iptv:source>
  </iptv:channel>
</iptv:virtualChannel>
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How to play

```
<html   xmlns='http://www.w3.org/2011/webtv'
        xmlns:dvb='http://www.w3.org/2011/webtvdvb'
        xmlns:iptv='http://www.w3.org/2011/webtviptv'>

<body>

<div class="video">
    <video>
        <source="#WebTVObject" type="video/x-webtv">
        <div class="panel"></div>
    </video>
</div>

</body>
</html>
```

Example of a LCN/Virtual Channel

```
<video><source="#WebTVObject" type="video/x-webtv">

    <track kind="broadcast_hd" src="chann1HD">
    <track kind="broadcast_sd" src="chann1SD">
    <track kind="subtitles" src="chann1subtitle">

    <div class="panel"></div>

</video>
```

Video object

Attribute	Description in our specific case
***channelTuning**	onid, pid, sid triplet or equivalent
***aitTable**	AIT Table information (DVB specific)
***EPGInformationObject**	In case an EPG data has been linked with the dvb:channel object, or with an higher level, it will also be made available to the panel class for display & processing purpose
***eitObject**	Object including informations retrieved from the eit (DVB specific)

Video object

Attribute	Description in our specific case
readyState	yes or no
seeking	N/A if channel is viewed live (it could be used in PVR mode, still to be determined)
currentTime	
startTime	N/A (PVR)
duration	
paused	N/A (PVR)

Video object

Attribute	Description in our specific case
defaultPlaybackRate	N/A (PVR)
playbackRate	N/A (PVR)
TimeRange played	
TimeRange seekable	
ended	N/A

Video object

Attribute	Description in our specific case
autoplay	true
loop	N/A
play	N/A (PVR)
pause	N/A (PVR)
controls	enhanced panel with specific channel managements controls (program +/-, …)
volume	
muted	

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Thank you