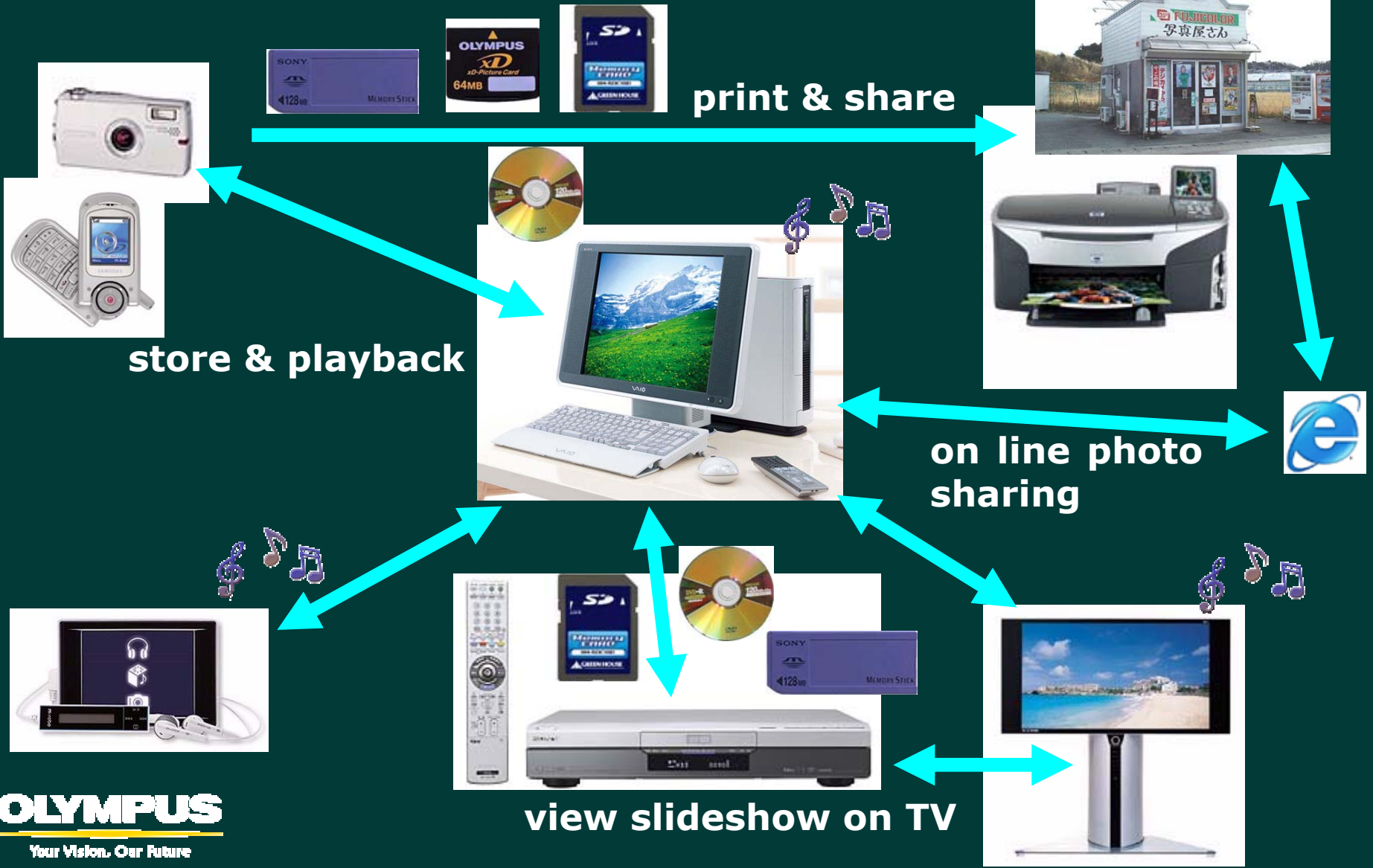


# **MPV Implementation Guidelines for Camera**

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MPV Camera Profile WG  
October.12, 2005**

# Current user's situation





## Background



- The spread of the digital cameras and cell phone cameras
- Its memory size keeps on increasing
  - Hundreds of Mbytes and lately thousand of Mbytes
- The
- It be
- Users need more diversified way of utilizing the content
  - e.g. Not only viewing it on PC but also viewing it on TV

**MPV is the possible solution to such digital camera users problems**

# Scope

- Assist developers who want to learn **how to implement MPV** into **digital cameras**
- Summarize the **key points of MPV-IS** spec
- Provide as many “how to” and best practice examples as possible from the following point of view
  - What kind of features need to be supported?
  - Which specs need to be referenced in order to realize them?
  - Is the goal of the implementation to maximize interoperability or maximize features?

# Contents of the Guidelines

- **Chapter1: Introduction**
- **Chapter2: Why is MPV-IS spec necessary?**
- **Chapter3: Summary of MPV-IS compliant manifest**
- **Chapter4: Details of MPV-IS compliant manifest**
- **Chapter5: Summary of Advanced MPV manifest**
- **Chapter6: Details of Advanced MPV manifest**
- **Chapter7: Consideration of Processing Flows**
- **Chapter8: Error Handling**

# Summary of MPV-IS compliant manifest

## Manifest Structure

```
<?xml version="1.0" encoding="UTF-8"?>
<file:Manifest ... >

  <nmf:Metadata>
    <file:ManifestProperties>
      <file:ProfileBag>
        <file:Profile>http://ns.osta.org/mpv/basic/1.0/</Profile>
      ...
    </file:ProfileBag>
  </file:ManifestProperties>
</nmf:Metadata>

...

<mpvp:Album>
...
  <mpvp:Foreground>
    <mpv:StillRef mpv:idRef="IMG_0005"/>
  </mpvp:Foreground>
...
</mpvp:Album>

...

<mpv:AssetList>
...
  <mpv:Still mpv:id="IMG_0005">
    <mpv:LastURL>DCIM/100ABCDE/IMG_0005.JPG</mpv:LastURL>
  </mpv:Still>
...
</mpv:AssetList>

</file:Manifest>
```

This part provides information regarding the **manifest itself**

This part provides definition regarding **"mpvp:Album"**

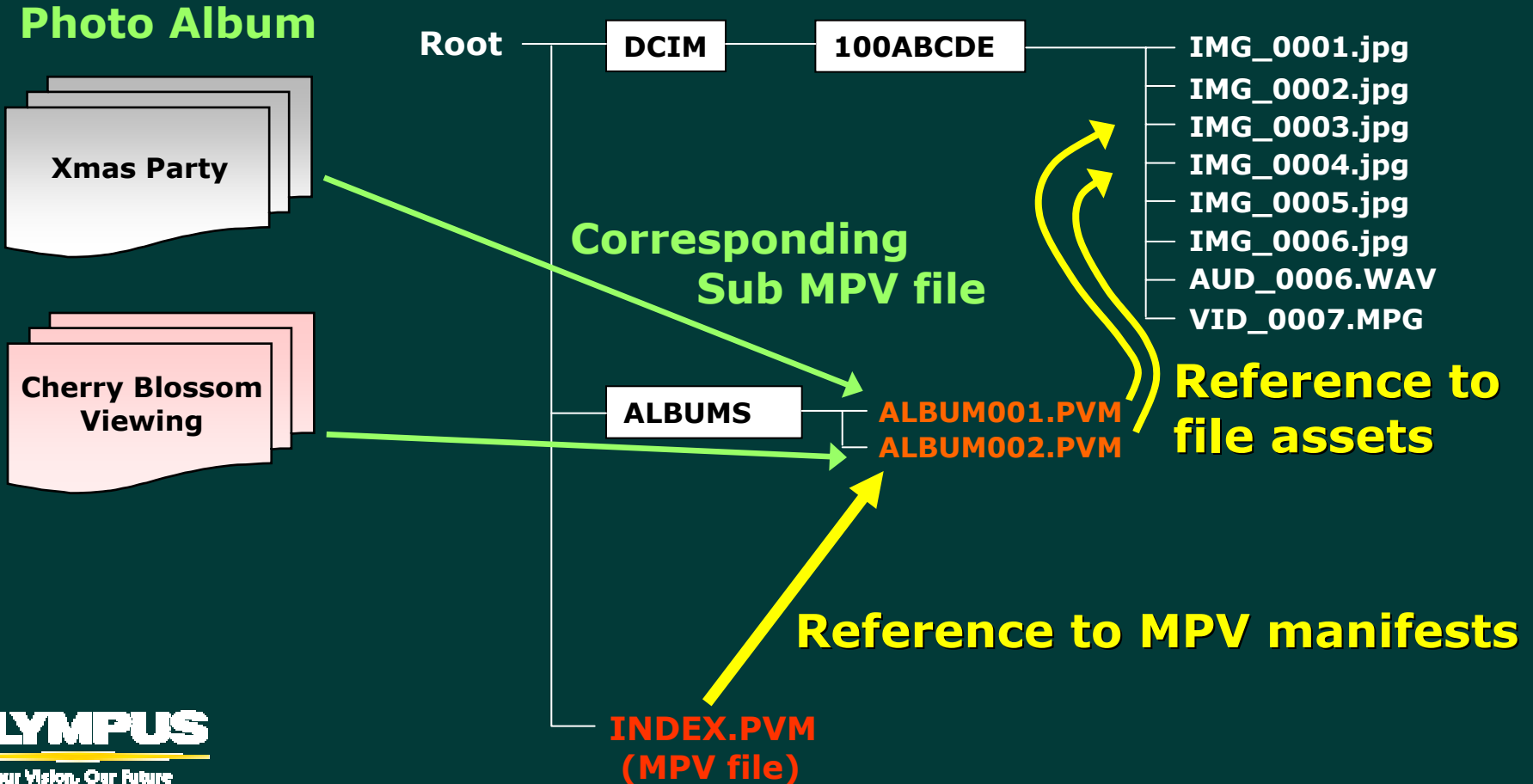
This part provides definition regarding **"mpv:AssetList"**

# Summary of MPV-IS compliant manifest

## Implementation Example 1 (Cont'd)

█ : directory

### Photo Album



# Summary of MPV-IS compliant manifest

## Implementation Example 1 (Cont'd)

INDEX.PVM file example

```
<?xml version="1.0" encoding="UTF-8"?>  
<file:Manifest xmlns:file="http://ns.osta.org/manifest/1.0/"  
xmlns:file2="http://ns.osta.org/manifest/2.0/" xmlns:mpv="http://ns.osta.org/mpv/1.0/"  
xmlns:nmf="http://ns.osta.org/nmf/1.0/">
```

This part provides information  
regarding the **manifest itself**

```
<nmf:Metadata>  
  <file:ManifestProperties>  
    <file:ProfileBag>  
      <file:Profile>http://ns.osta.org/mpv/basic/1.0/</Profile>  
      <file:Profile>http://ns.osta.org/mpv/basic/is/1.0/</Profile>  
    </file:ProfileBag>  
    <file2:AboutManifestMPVDocumentID>DOC_001</file2:AboutManifestMPVDocumentID>  
    <file2:WrittenBy>http://www.companyA.com/Device/ModelAAAA/<file2:WrittenBy>  
  </file:ManifestProperties>  
</nmf:Metadata>
```

```
<mpv:AssetList>  
  <mpv:ManifestLink mpv:id="LNK_0001">  
    <mpv:LastURL>MISC/ALBUM001.PVM</mpv:LastURL>  
  </mpv:ManifestLink>  
  <mpv:ManifestLink mpv:id="LNK_0002">  
    <mpv:LastURL>MISC/ALBUM002.PVM</mpv:LastURL>  
  </mpv:ManifestLink>  
  <mpv:Document mpv:id="DOC_001">  
    <mpv:LastURL>INDEX.PVM</mpv:LastURL>  
  </mpv:Document>  
</mpv:AssetList>
```

This part provides definition  
regarding **assets**

```
</file:Manifest>
```



## ALBUM001.PVM file example

```
<?xml version="1.0" encoding="UTF-8"?>  
<file:Manifest xmlns:file="http://ns.osta.org/manifest/1.0/"  
xmlns:file2="http://ns.osta.org/manifest/2.0/" xmlns:mpv="http://ns.osta.org/mpv/1.0/"  
xmlns:nmf="http://ns.osta.org/nmf/1.0/">
```

This part provides information  
regarding the manifest itself

```
<nmf:Metadata>  
  <file:ManifestProperties>  
    <file:ProfileBag>  
      <file:Profile>http://ns.osta.org/mpv/basic/1.0/</Profile>  
      <file:Profile>http://ns.osta.org/mpv/basic/is/1.0/</Profile>  
    </file:ProfileBag>  
    <file2>AboutManifestMPVDocumentID>DOC_001</file2>AboutManifestMPVDocumentID>  
    <file2:WrittenBy>http://www.companyA.com/Device/ModelAAAA/<file2:WrittenBy>  
  </file:ManifestProperties>  
</nmf:Metadata>
```

This part provides definition  
regarding assets

```
<mpv:AssetList>  
  <mpv:StillWithAudio mpv:id="SWA_0001">  
    <mpv:StillRef mpv:idRef="IMG_0001"/>  
    <mpv:AudioRef mpv:idRef="AUD_0006"/>  
  </mpv:StillWithAudio>  
  <mpv:Still mpv:id="IMG_0001">  
    <mpv:LastURL>../DCIM/100ABCDE/IMG_0001.JPG</mpv:LastURL>  
  </mpv:Still>  
  <mpv:Audio mpv:id="AUD_0006">  
    <mpv:LastURL>../DCIM/100ABCDE/AUD_0006.WAV</mpv:LastURL>  
  </mpv:Audio>  
  <mpv:Video mpv:id="VID_0007">  
    <mpv:LastURL>../DCIM/100ABCDE/VID_0007.MPG</mpv:LastURL>  
  </mpv:Video>  
  <mpv:Document mpv:id="DOC_001">  
    <mpv:LastURL>ALBUM001.PVM</mpv:LastURL>  
  </mpv:Document>  
</mpv:AssetList>
```

```
</file:Manifest>
```

# Details of MPV-IS compliant manifest

- Elements and attributes are explained in detail
- Those explanations are written in the following manner
  - Summary
  - MPV-IS Requirement related to an individual element or attribute
  - Points to note
  - References
  - Example

# Details of MPV-IS compliant manifest

- **<mpv:Still>** Description Example
  - Summary
    - This element specifies a single still image.
  - MPV-IS Requirement related to this element
    - PLW100-14: Requirement regarding metadata related to image size
  - Points to note
    - Each still image must be defined using this element
    - Derivative image and thumbnail can be defined by adding an element called **<mpv:Rendition>**
  - References
    - MPV-Core specification
  - Example

```
<mpv:AssetList>  
  <mpv:Still mpv:id="IMG_0001">  
    <mpv:LastURL>DCIM/100ABCDE/IMG_0001.JPG</mpv:LastURL>  
  </mpv:Still>  
  ...  
</mpv:AssetList>
```

# Details of MPV-IS compliant manifest

- **<file:Manifest>**
  - Namespace
- **<nmf:Metadata>**
  - **<file:ManifestProperties>**
  - **<file:Profile>**
  - **<file2>AboutManifestMPVDocumentID>**
  - **<file2:WrittenBy>**
- **<mpv:AssetList> Cont'd**
  - = **Simple Asset** =
    - **<mpv:Still>**
    - **<mpv:Audio>**
    - **<mpv:Video>**
    - **<mpv:Document>**
    - **<mpv:ManifestLink>**
  - **<mpv:AssetList>**
    - = **Composite Asset** =
      - **<mpv:StillWithAudio>**
      - **<mpv:StillMultishotSequence>**
      - **<mpv:StillPanoramaSequence>**
    - = **Child elements and Attributes** =
      - **<mpv:LastURL>**
      - **<mpv:Rendition>**
      - **mpv:id**
      - **mpv:filesystem**
      - **mpv:idref**
  - **<mpvp:Album>**
    - **<mpv:Foreground>**
    - **<mpv:Background>**

# Future activities of the Camera WG

- **Implementation Guidelines**
  - Complete the final draft of the guidelines in November
  - Board approval and will be **available in December**
- **Develop a camera specific new Profile**
  - Just start discussing use cases
  - **Invitation to Participate**

**Please contact to participate!:**

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**Thank you for your attention!**