



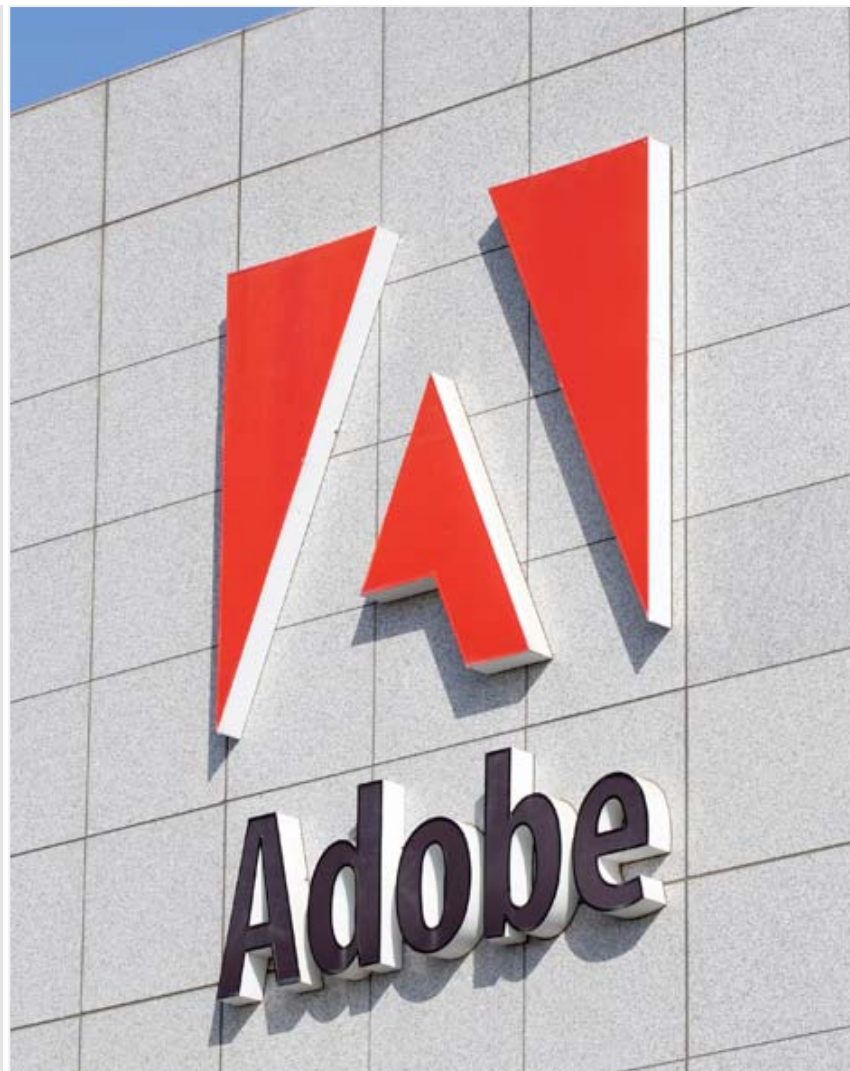
Introduction to Mars

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Mars

An XML-Friendly PDF Serialization



What is Mars?



- New serialization of PDF contents
 - Open-standards based
- ZIP[XML + standard formats] == Mars serialization
 - ZIP as from Open eBooks Forum (IDPF) Open Container Format (OCF)
 - SVG Pages, XML Signatures & Encryption, JPEG/PNG/JP2K/JBIG2, OpenType (OTF), ICC Profiles, other Adobe defined XML files
- Behavior compatible with existing PDF serialization
- Mars subset (Mars/A?) may become a superior archiving format
- Technology preview available from Adobe Labs
 - Adobe is actively seeking input & feedback from the user & developer communities
 - <http://labs.adobe.com/technologies/mars/> or <http://www.adobe.com/go/mars>

What Mars is NOT...



- PDF replacement
 - PDF is the core of many international (ISO) standards
 - It drives most printing solutions
 - There are nearly a BILLION documents online

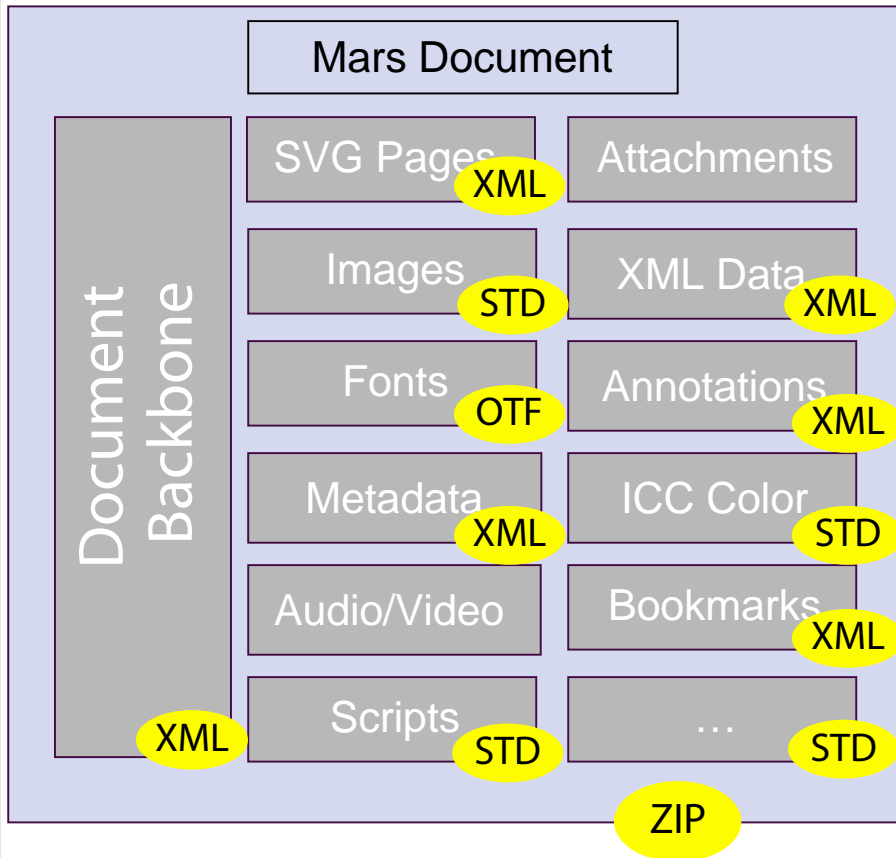
- In long term Mars may become an alternative PDF serialization

Why Try Mars?



- If you are adventuresome
- If you favor open standards
- If you have an internal infrastructure based on XML
 - Use of same tools & technologies
 - Consistent data exchange
- If you want simple PDF processing
 - Mars packaging – efficient access to document subcomponents
 - Pages are stand-alone – handle independently
 - Use off-the-shelf technology
- Over time, ubiquity for reading Mars files can be established
 - Use PDF (PDF/A & PDF/X) where Reader ubiquity matters

Mars: An XML-Friendly Serialization of PDF



- components use appropriate standards
- linked and packaged using ZIP (OCF)
- backbone ties all together

- OTF (Open Type Font)
- STD (existing standard format)

Mars File Design Criteria



- Scalability: handle very large documents
 - one encompassing XML file doesn't scale
- File Size: compact and efficient
 - XML is verbose
- Page Content: very expressive
 - PDF content not common file format or XML

Mars must be comparable to PDF

- Scalability: component sub-files; objective: page display
- File Size: sharing, Zip (Flate) compression
- Page Content: Scalable Vector Graphics (SVG–W3C XML language)
 - SVG Tiny 1.2 ± (+high-end graphic extensions, - dynamic features)

Mars Modular Document Components



XML Components

- Pages
- Bookmark Navigation
- Article Threads
- Structure
- Destinations (internal labels)
- Font Descriptors
- Metadata
- Annotations (Markup)
- XML Form Information
- Form data
- SVG Fonts
- Signatures
- XML Encryption information
- Actions

Non XML Components

- ICC Color Profiles (ICC)
- Images (JPEG/PNG/JP2K/JBIG2)
- Fonts (OTF)
- User file attachments
- Scripts
- Multimedia content
- Shader / Pattern / Function data
- 3D content (U3D standard)

A Peek Inside a Mars Container

DemoFile.mars (a ZIP archive file)

meta_info/

backbone.xml

...

bookmarks.xml

page/

0/

info.xml

pg.xml (svg)

1/

info.xml

pg.xml (svg)

...

A Peek Inside a Mars Container

backbone.xml

```
<PDF PDFVersion="1.6" Version="0.7.0" Class="10-17-06"
  xmlns="http://ns.adobe.com/pdf/2006" >
  <Bookmarks src="/bookmarks.xml"/>
  <Pages>
    <Page src="/page/0/info.xml" x1="0" y1="0" x2="612" y2="792" ID="0"/>
    .....
  </Pages>
  .....
</PDF>
```

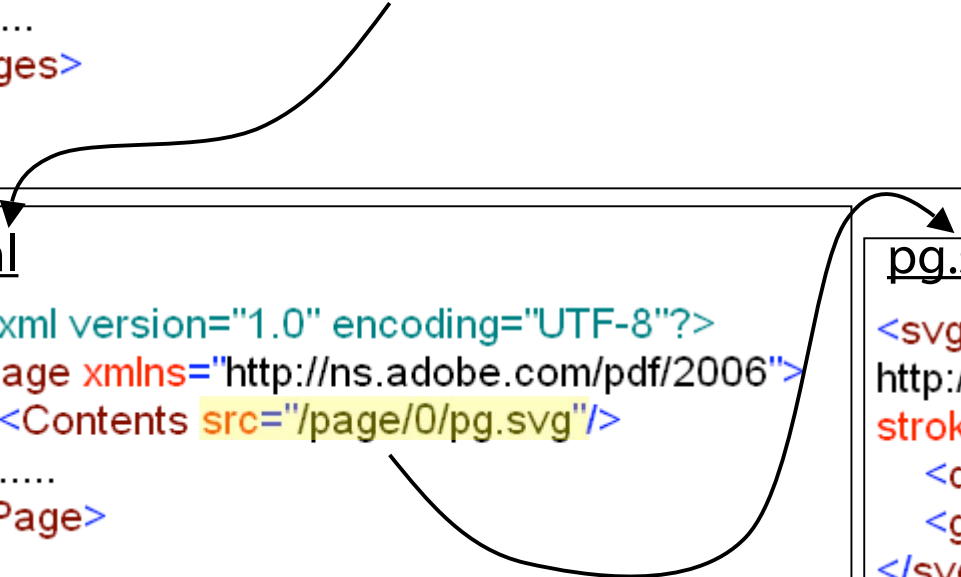
bookmarks.xml

```
<Bookmarks xmlns="http://ns.adobe.com/pdf/2006" Open="true">
  <Bookmark>
    <Action> <GoTo>
      <Dest>
        <XYZ Left="72" Top="205" Zoom="" Page_ref="/backbone.xml#0"/>
      </Dest>
    </GoTo></Action>
    <Title>Company Overview</Title>
  </Bookmark>
```

A Peek Inside a Mars Container

backbone.xml

```
☐ <PDF PDFVersion="1.6" Version="0.7.0" Class="10-17-06"
  |
  |   xmlns="http://ns.adobe.com/pdf/2006" >
  |   <Bookmarks src="/bookmarks.xml"/>
  |   <Pages>
  |     <Page src="/page/0/info.xml" x1="0" y1="0" x2="612" y2="792" ID="0"/>
  |     .....
  |   </Pages>
  |
  |   .....
  </PDF>
```



info.xml

```
<?xml version="1.0" encoding="UTF-8"?>
☐ <Page xmlns="http://ns.adobe.com/pdf/2006">
  |
  |   <Contents src="/page/0/pg.svg"/>
  |   .....
  </Page>
```

pg.svg

```
<svg xml:space="preserve" xmlns="http://ns.adobe.com/pdf/2006" xmlns:xlink="http://ns.adobe.com/pdf/2006"
  stroke="none" width="612" height="792">
  |
  |   <defs>.....
  |   <g>.....
  </svg>
```



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- Technology preview available from Adobe Labs
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 - <http://labs.adobe.com/technologies/mars/> or <http://www.adobe.com/go/mars>



Better by Adobe.™

