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Browser Power: Client-side rendering of DocBook and DITA

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About your speaker:

Scott Hudson is a senior consultant with 20+ years of experience in technical communications. Scott is an active member of:

- OASIS DocBook TC
- OASIS DocBook SC for Publishers (Chair),
- OASIS DocBook SC for e-Learning (Chair),
- OASIS DITA TC
- OASIS DITA Learning and Training SC (Secretary)
- ONVIF Technical Services Committee (Vice Chairman)

What do these have in common?

In This Session

- Benefits
- Caveats
- Source content requirements, ideal applications
- General presentation layer approach
- XSL + CSS specifics

Dynamic Approaches

Server side

- **4D Pubs by Chris Despopoulos** - reads native DITA on the server, and transform it into HTML on the fly
- **Live DITA** by Jang Graat (at this conference)

Client side

- **Saxon-CE** – XSLT 2.0 JavaScript implementation
- **wysiwygDocBook** – XSL + CSS
- **Browser Power** by Scott Hudson - XSL + CSS + media queries

Acknowledgements

- Based on the work of:
  - David Holroyd, Michael Thiele
  - wysiwygDocBook
  - oXygenXML CSS
- Source examples from ONVIF, Pelco by Schneider Electric

Benefits

- No additional publishing workflow
- Responsive Design
- Content Re-Use
- Reduced Time to Market (Just In Time Information)
- Supported in all modern browsers, including mobile!

Caveats

- Due to browser security design, you cannot “Open… File…” directly. Content must be hosted on a website.
- Proper xml-stylesheet reference to the stylesheets
- One level of nesting (ditamap can read in dita, but not nested maps)
- No complex conref / keyref resolution

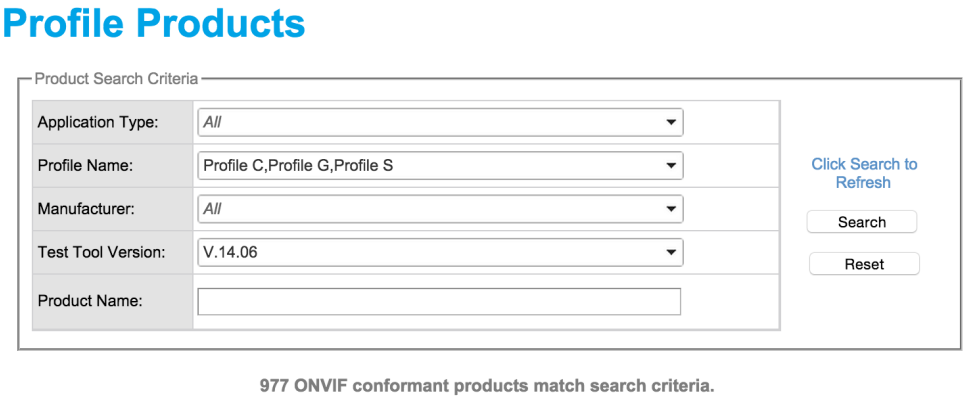
Ideal Applications

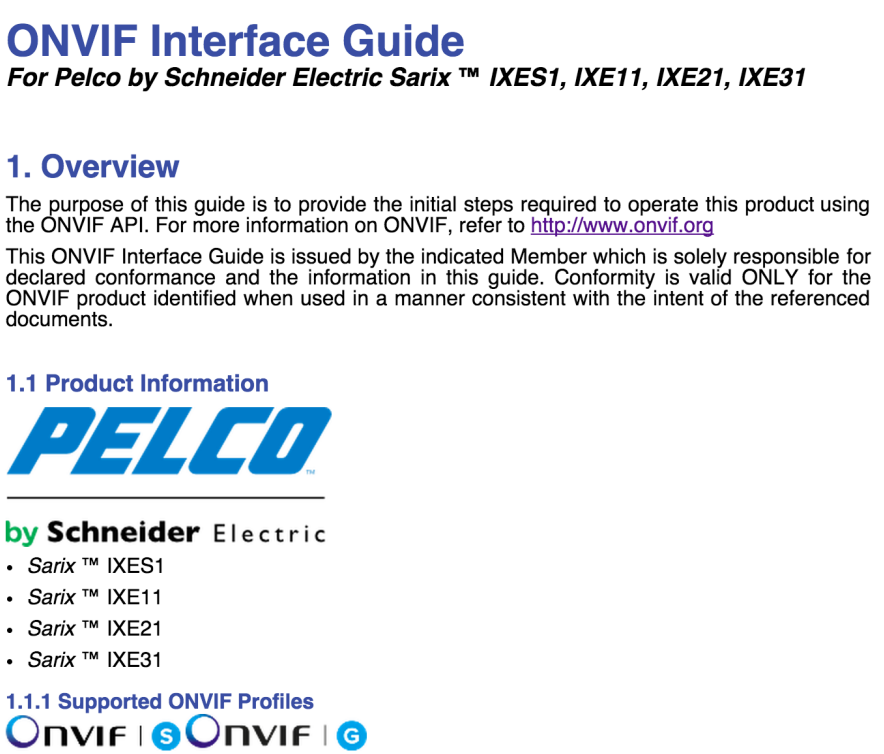
- Product Specification Sheets
- Simple Articles or Content Pages
- Technical Support Pages
- Knowledge Base Topics

And more!

Browser Power in Action

- ONVIF Interface Guide using dynamically rendered DocBook (http://www.onvif.org/FindaProduct/ProfileProducts.aspx)





Old way: Static PDFs

PRODUCT SPECIFICATION camera solutions

Spectra® HD Series IP Dome System

S5118 MODELS, HIGH DEFINITION PAN/TILT/ZOOM HIGH-SPEED DOME

Product Features

- Up to 1280 x 960 Resolution
- 4:3 or 16:9 Aspect Ratio; 960p at 20 Images per Second (ips), 720p at 30 ips
- 1.3 Megapixel (MPx), 18X Optical, Wide Dynamic Range (WDR) Camera
- Ability to Control and Monitor Video Over IPv4 and IPv6 Networks
- Built-in Analytics Including AutoTracker and Adaptive Motion Detection
- 2 Simultaneous Video Stream: Dual H.264 or H.264 and Scalable MJPEG
- 360° Continuous Pan Rotation at 280° per Second
- Supported Protocols: TCP/IP, UDP/IP (Unicast, Multicast IGMP), UPnP, DNS, DHCP, RTP, RTSP, NTP, and More
- Power over Ethernet (PoE) IEEE 802.3af (For Non-Environmental Units Only)

ENDURA ENABLED

- USB Expansion Slots for Pelco Alarm and Audio Accessories
- 16 Preset Tours, 256 Dome Presets, 8 Privacy Zones
- Open IP Standards
- ONVIF Profile S Conformant

Network Dome System

Pelco takes its industry-leading Spectra® Series dome into the world of high definition. **Spectra HD** delivers crystal-clear, live streaming images over the Internet using a standard Web browser (Microsoft® Internet Explorer® or Mozilla® Firefox®). With four times the resolution of standard definition domes, **Spectra HD** is an ideal solution to view details such as faces, license plates, tattoos, playing cards (in casinos), or other specific features.

Built-In Analytics

Pelco Analytics enhance the flexibility and performance of Spectra HD. Nine Pelco behaviors are preloaded and included as standard features. Pelco behaviors can be configured and enabled using a standard Web browser, and they are compatible with Endura or a third-party system that supports alarms using Pelco's API.

- Framemaker
- Manual effort
- Error prone

Dynamic DocBook

- Single-Source
- Responsive Design
- Content Reuse
- Consistent Presentation
- Automated Editorial Checking (Schematron)
- Easy to Customize Presentation

Old way: Static PDFs

PRODUCT SPECIFICATION camera solutions

Sarix® IXE Series Box Cameras with SureVision 2.0

UP TO 3 MPX, H.264, IP CAMERAS WITH WDR AND LOW-LIGHT PERFORMANCE

Product Features

- Next Generation SureVision 2.0 Technology, Including:
  - True Wide Dynamic Range (WDR)
  - Advanced Low-Light Performance
  - Anti-Bloom Technology
  - 3D Noise Filtering
  - Enhanced Tone Mapping
- Up to 3 Megapixel (MPx) Resolution
- Up to 30 Images per Second (ips) at 3 MPx
- CS Lens Mounts with Auto Back Focus (ABF)
- Power over Ethernet (PoE), IEEE 802.3af
- Built-in Pelco Analytics Suite

SureVision™ 2.0
A Pelco™ by Schneider Electric™ technology

ENDURA ENABLED

- Local Storage (Micro SD)
- Compatible with Pelco and Third-Party Video Systems
- ONVIF Profile S and Profile G Conformant
- 3-Year Warranty and Support

Sarix Enhanced Range with SureVision 2.0

Sarix® Enhanced (E) range cameras feature SureVision technology, delivering high definition (HD) resolution, consistent color science, fast processing power, and simultaneous advanced low-light performance with wide dynamic range (WDR) and anti-bloom technologies. New advancements include 3D noise filtering, smooth response to illumination changes, and improved tone mapping to retain color accuracy and overall image contrast.

The streams can be configured to a variety of frame rates, bit rates, and group of pictures (GOP) structures for additional flexibility in bandwidth administration. In addition, streams can be encoded as constrained variable bit rate (CVBR), constrained bit rate (CBR), or variable bit rate (VBR).

Open and Integrated

Sarix Enhanced range cameras seamlessly connect to Pelco video management systems such as Endura® version 2.0 (or later), and

- Framemaker
- Manual effort
- Error prone

Dynamic DITA

- Single-Source
- Responsive Design
- Content Reuse
- Consistent Presentation
- Automated Editorial Checking (Schematron)
- Lightweight DITA Publishing

Example DocBook Source

```
<?xml version="1.0" encoding="UTF-8"?>
<?xml-model
href="http://docbook.org/xml/5.0/rng/docbook.rng"
schematypens="http://relaxng.org/ns/structure/1.0"?>
<?xml-model href="pelco-rules.sch" type="application/xml"
schematypens="http://purl.oclc.org/dsdl/schematron"?>
<?xml-stylesheet href="db-specsheet-styles/docbook.xsl"
type="text/xsl" ?>
<article xmlns="http://docbook.org/ns/docbook"
xmlns:xlink="http://www.w3.org/1999/xlink"
xmlns:xhtml="http://www.w3.org/1999/xhtml" version="5.0"
audience="installer/integrator" xml:id="Pelco_Spectra_HD" >
       <title>Spectra HD Series IP Dome System</title>
       <subtitle><productnumber>S5220</productnumber> and
<productnumber>S5230</productnumber> models, high-definition
pan/tilt/zoom high-speed dome</subtitle>
```

Example DITA Source

```
<?xml version="1.0" encoding="UTF-8"?>
<?xml-model href="urn:dita-ng:dita:rng:map.rng"
schematypens="http://relaxng.org/ns/structure/1.0"?>
<?xml-model href="pelco-rules.sch" type="application/xml"
schematypens="http://purl.oclc.org/dsdl/schematron"?>
<?xml-stylesheet href="dita-specsheet-styles/dita.xsl"
type="text/xsl" ?>
<map xmlns:xlink="http://www.w3.org/1999/xlink" id="sarix_ixe">
 <title>Sarix IXE Series Box Cameras with SureVision <ph
outputclass="subtitle">UP TO 3 MPX, H.264,
   IP CAMERAS WITH WDR AND LOW-LIGHT PERFORMANCE</ph>
 </title>
 <topicgroup outputclass="intro">
  <topicmeta><navtitle>Product Specification</navtitle></topicmeta>
  <topicref href="IXE_box_features.dita">
   <topicmeta><navtitle>Product Features</navtitle></topicmeta>
  </topicref>
```

XSL + CSS

- The XSL calls a driver.css that applies CSS to most elements
- Match HTML equivalent elements for pass-through and/or apply specific transforms (tables, images, urls, emails, xrefs)

DITA XSL

```
<?xml version="1.0" encoding="UTF-8"?>
<xsl:stylesheet version="1.0"
xmlns:xsl="http://www.w3.org/1999/XSL/Transform"
xmlns:xlink="http://www.w3.org/1999/xlink"
xmlns="http://www.w3.org/1999/xhtml">
    <xsl:output encoding="UTF-8" indent="no" media-type="text/html"
method="xml" />

    <xsl:template match="/">
        <html>
            <head>
    <link rel="stylesheet" href="dita-specsheet-styles/driver.css"
type="text/css" />
            </head>
            <body>
                <xsl:apply-templates />
            </body>
        </html>
    </xsl:template>
```

DITA vs DocBook XSL

```
<?xml version="1.0" encoding="UTF-8"?>
<xsl:stylesheet version="1.0"
xmlns:xsl="http://www.w3.org/1999/XSL/Trans
form"
xmlns:xlink="http://www.w3.org/1999/xlink"
xmlns="http://www.w3.org/1999/xhtml">
    <xsl:output encoding="UTF-8"
indent="no" media-type="text/html"
method="xml" />

    <xsl:template match="/">
        <html>
            <head>
        <link rel="stylesheet" href="dita-
specsheet-styles/driver.css"
type="text/css" />
            </head>
            <body>
                <xsl:apply-templates />
            </body>
        </html>
    </xsl:template>


...
```

```
<?xml version="1.0" encoding="UTF-8"?>
<xsl:stylesheet version="1.0"
xmlns:xsl="http://www.w3.org/1999/XSL/Trans
form"
xmlns:xlink="http://www.w3.org/1999/xlink"
xmlns:db="http://docbook.org/ns/docbook"
xmlns="http://www.w3.org/1999/xhtml">
    <xsl:output encoding="UTF-8"
indent="no" media-type="text/html"
method="xml" />

    <xsl:template match="/">
        <html>
            <head>
        <link rel="stylesheet" href="db-
specsheet-styles/driver.css"
type="text/css" />
            </head>
            <body>
        <xsl:apply-templates />
            </body>
        </html>
    </xsl:template>

...
```

DITA vs DocBook driver.css

DITA

```
@import "table.css";
@import "topic.css";
@import "concept.css";
@import "task.css";
@import "reference.css";
@import "mapgroup-d.css";
@import "map.css";
@import "bookmap.css";
@import "learning.css";
@import "ut-d.css";
@import "pr-d.css";
@import "hi-d.css";
@import "sw-d.css";
@import "ui-d.css";
@import "links.css";
@import "html_cals_table.css";
@import "map_ext.css";
@import "show_colspec.css";
@import "xnal_ext.css";
@import "xnal.css";
```

DocBook

```
@import "display.css";
@import "structures.css";
@import "lists.css";
@import "admonitions.css";
@import "linespec.css";
@import "exampfigequ.css";
@import "tables.css";
@import "miscblock.css";
@import "inline.css";
@import "l10n.css";
@import "mozilla.css";
@import "opera.css";
```

Responsive Design

Setting a 2-column layout for wider screens using media query

```
@media screen and (min-width:1200px){
cover, set, book, part, appendix, article, bibliography,
chapter, glossary, preface, colophon, toc,
dedication, lot, reference, index, setindex  {
        font-family:arial;
        padding-top:40px;
        -webkit-column-count: 2; /* Chrome, Safari, Opera */
             -moz-column-count: 2; /* Firefox */
             column-count: 2;
              -webkit-column-gap: 20px; /* Chrome, Safari,
Opera */
              -moz-column-gap: 20px; /* Firefox */
              column-gap: 20px;
              height: auto;
              min-height: 100%;
              margin:0 auto;
              position:relative;
}}
```

Rendering DITA components

DITA's component nature requires topicrefs in a map be processed using the xsl:document function and then xsl:copy the nodes to the output tree for CSS styling

```
<xsl:template match="topicref">
        <xsl:apply-templates select="document(@href)"/>
    </xsl:template>
```

```
<xsl:template match="node()[not(self::topicref or
self::table or self::fig or self::inlinemediaobject or
self::image or self::xref or self::url or
self::emailaddress or self::alt)]|@*">
<xsl:copy>
  <xsl:apply-templates select="@*|node()"/>
</xsl:copy>
</xsl:template>
```

Styling DITA components

Styling is done using CSS. Example: concept.css

```
concept {
    display:block;
    page-break-inside:  avoid;
}

conbody{
    /* It inherits the styles from topic.css */
    display:block;
}

concept > title {
          font-size:1em;
          font-weight:bold;
          text-align:left;
          color:  #006db8;
}

conbody > section > title{
          font-size:1em;
          font-weight:bold;
          text-align:left;
          color:  #006db8;
}
```

Questions?

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