A Comparison Study of Various 2D Illustrations in S1000D Technical Documentation

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PRESENTED BY
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Topics

- 2D Illustrations in accordance with S1000D
- Types of Graphics
- Hotspot challenges
- SVG and CGM Supportability
- Alternative image and hotspots rendering
- Conclusion
• All the formats are (silently) allowed
• Web CGM is highly recommended and promoted
• CGM is recommended for both vector and raster illustrations
Types of Graphics

• Vector Graphics
• Raster Graphics
• Hybrid Graphics
Types of Graphics: Vector Graphics

Scalable Vector Graphics (SVG)
Characteristics
- XML based
- Natively supported by all web browsers
- Unlimited scaling

Computer Graphics Metafile (CGM)
CGM
Web CGM
Web CGM/S1000D Variant
Characteristics
- Binary files
- No web browsers support
- Promoted by the S1000D specification
- Unlimited scaling
Types of Graphics: Raster Graphics

Joint Photographic Experts Group (JPEG)
Tagged Image File Format (TIFF)
Bitmap (BMP)
Portable Network Graphics (PNG)
… and many others…

Characteristics
- Hotspots must be defined externally
- Binary
- Natively supported by all environments
- Limited scaling
Types of Graphics: Hybrid Graphics

- JPEG embedded in SVG
- JPEG embedded in CGM
# SVG Supportability Matrix (Web Browsers)

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# CGM Supportability Matrix (Web Browsers)

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## SVG Supportability Matrix (Desktop and Touch Platforms)

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Current
Custom SVG namespaces

```xml
<?xml version="1.0" encoding="iso-8859-1"?>
<!DOCTYPE svg PUBLIC "-//W3C//DTD SVG 1.1//EN" "http://www.w3.org/Graphics/SVG/1.1/DTD/svg11.dtd">
<svg width="170mm" height="222mm" viewBox="0 0 170 222"
xmlns="http://www.w3.org/2000/svg" xmlns:xlink="http://www.w3.org/1999/xlink"
xmlns:myCompany="http://mycompany/customSchema" >
  
  <g id="annotations">
    
    <text x="2.237" y="57.28" stroke="none" fill="#000000" font-family="Arial" font-size="3.528" id="hot-0002" class="Cabinet frame assembly"/>
    
  </g>
</svg>
```
Hotspot Challenges

Hotspot referencing

S1000D includes a detailed but complex referencing guidance, leading to misinterpretations by technical authors.
Alternative image and hotspots rendering: SVG to XAML
Alternative image and hotspots rendering:
SVG to XAML

Deep Zoom Technology

- Deep Zoom Technology demonstration
- Example of zooming into an image
- 6.25% zoom level
- 100% zoom level

S1000D User Forum 2014
Alternative image and hotspots rendering: SVG to XAML

Multi-Scale Image Collections
Conclusion

- High resolution JPEG illustrations with xml hotspots seems to be the most cost effective solution in the authoring and IETM Viewer development environments.
- SVG with xml hotspots is the preferred solution for vector graphics.
- The CGM promotion by the S1000D specification should be reconsidered since:
  - This format is not widely supported by the most popular Web Browsers and development platforms.
  - Its binary format restricts the authoring process.
  - Restricts the IETM Viewers deployment to classified environments due to prerequisites requirements (plugins and com/activeX components).
Questions