IMS GLC IWB/CFF Conformance Document

Version 1.0 Final Specification

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1 Introduction

The Interactive WhiteBoard/Common File Format (IWB/CFF) specification contains a file format that can be used to increase interoperability of file exchange between whiteboard applications. The file format will hold content primarily designed to be viewed on a large display. Much of this content will be designed to be interactive, so objects can move around the page.

The primary goal of this format is to establish a format that can be opened, edited, saved and used across many whiteboard applications so that teaching content can be exchanged between establishments. To this goal the format must be simple but extendible in a restricted way to ensure compatibility.

1.1 Scope

The primary purpose of this document is to provide information on how to test and achieve conformance to the IWB/CFF specification.

1.2 Nomenclature

File	This is the actual file on a computer.
Document	This is the collection of one or more pages available in a file.
Page	This is where any elements are placed.
Slide	This is the area on a page that should primarily be shown on a whiteboard, it is defined with the viewbox attribute.
Elements	These are the objects which appear on a page.
Reader	The application that is opening the file to display it.
Writer	The application that is saving the file, either the first creation or by resaving an existing file.
SVG	Scalar Vector Graphics format.
SVGT	SVG Tiny specification.
Paint server	This is an SVG term for filling objects with things such as gradients or patterns. The IWB format only allows filling with a solid color.

1.3 References

XML 1.0	http://www.w3.org/TR/REC-xml/
SVG 1.1	http://www.w3.org/TR/SVG11/
SVG 1.2 (draft)	http://www.w3.org/TR/2004/WD-SVG12-20041027/
SVG Tiny 1.2 (draft)	http://www.w3.org/TR/SVGMobile12/
CSS2	http://www.w3.org/TR/REC-CSS2/cover.html

2 Conformance

IMS Interactive WhiteBoard/Common File Format (IWB/CFF) conformance enables the interoperability of the packaging, delivery and display of interactive whiteboard content.

Conformance can be achieved at the IWB/CFF file level or at the Reader level. The IWB/CFF file refers to the file that contains content to be displayed in a whiteboard. The Reader refers to the hardware playing the IWB/CFF file.

There are different processes to achieve conformance based on whether an IWB/CFF file is being tested or an IWB/CFF Reader is being tested. Details on each are below.

2.1 Requirements for IWB/CFF Conformance

The following functionality, tags, and attributes are required for conformance.

Table 2.1 IWB/CFF Conformance requirement details.

Item	**Attribute**	**Mandatory**
.iwb filename extension		Yes
Content.xml file required		Yes
IWB namespace required		Yes
SVG namespace required		Yes
XLINK namespace required		Yes
Tag		
element	background	Yes
	flip	Yes
	locked	Yes
group		Yes
iwb		Yes
	version	Yes
	xmlns	Yes
	xmlns:svg	Yes
	xmlns:xlink	Yes
	xmlns:xsi	Yes
	xsi:schemaLocation	Yes
link		Yes
meta		Yes
tspan		Yes
	Type	Yes
svg:a		Yes
	xlink:href	Yes

	xlink:href=”*.wav”	Yes
	xlink:href=”*.mp3”	Yes
svg:circle		Yes
	fill	Yes
	fill-opacity	Yes
	stroke	Yes
	stroke-width	Yes
	transform	Yes
svg:ellipse		Yes
	fill	Yes
	fill-opacity	Yes
	stroke	Yes
	stroke-width	Yes
	transform	Yes
svg:g		Yes
	fill	Yes
	fill-opacity	Yes
	stroke	Yes
	stroke-width	Yes
	transform	Yes
svg:image		Yes
	xlink:href=”*.jpg”	Yes
	xlink:href=”*.bmp”	Yes
	xlink:href=”*.gif”	Yes
	xlink:href=”*.png”	Yes
	requiredExtension	Yes
	transform	Yes
svg:line		Yes
	stroke	Yes
	stroke-width	Yes
	transform	Yes
svg:video		Yes
	xlink:href=”*.mpeg”	Yes
	requiredExtension	Yes
	transform	Yes

svg:page		Yes
svg:pageset		Yes
svg:polygon		Yes
	fill	Yes
	fill-opacity	Yes
	stroke	Yes
	stroke-width	Yes
	transform	Yes
svg:polyline		Yes
	Stroke	Yes
	stroke-width	Yes
	transform	Yes
svg:rect		Yes
	fill	Yes
	fill-opacity	Yes
	stroke	Yes
	stroke-width	Yes
	transform	Yes
svg:svg		Yes
	viewbox	Yes
svg:switch		Yes
svg:tbreak		Yes
svg:text		Yes
	fill	Yes
	font-family	Yes
	font-size	Yes
	font-style	Yes
	font-weight	Yes
	transform	Yes
svg:textarea		Yes
	fill	Yes
	font-family	Yes
	font-size	Yes
	font-style	Yes
	font-weight	Yes

	text-align	Yes
	transform	Yes
svg:tspan		Yes
	fill	Yes
	font-family	Yes
	font-size	Yes
	font-style	Yes
	font-weight	Yes
	text-align	Yes

2.2 IWB/CFF Files

To be deemed to comply with the IWB/CFF specification, an iwb file must:

- Successfully validate against the IWB/CFF online validator.
- Satisfy all of the additional mandatory constraints.

2.2.1 Testing Process for IWB/CFF Files

1. Access the online validator (http://validator.imsglobal.org/iwb/) if you are testing a iwb/cff file. Choose which profile you would like to test against – IWB v1.0.
2. Upload your file and the test will run.
3. When you have tested your file and are ready to apply for conformance, go to the conformance validator (http://www.imsglobal.org/developers/iwbcffalliance/conformancevalidator.cfm) which will gather some data to make applying for conformance very easy.
4. You will be taken to the online validator. Upload your file. Choose which profile you would like to test against – IWB v1.0.
5. Once the test is complete, click on the link that says Apply for Conformance.
6. Your file test results will be posted in the form. Fill out the remaining data and click submit.
7. You will be contacted and may then apply the appropriate conformance mark to the product identified.

2.2.2 Scope of IWB/CFF File Tests

IMS provides an online IWB/CFF validation tool. The tool is located at: http://validator.imsglobal.org/iwb/

This test system is made available free-of-charge so that you can perform your own testing of IWB/CFF files for conformance with the IMS IWB/CFF v1.0 specification.

The validator will:

- Test unzipping the file.
- Test correctness and completeness of references in content.xml.
- Do XML validation of all XML files in the cartridge using namespaces for which profiles are defined in the IWB/CFF spec.

- Report XML files in the IWB file which were not checked (either since they did not concern IWB/CFF or the namespace given was incorrect).
- Do Schematron validation of the content.xml file to enforce additional constraints not enforced through XML Schema validation alone.

2.2.3 Limitations of IWB/CFF Testing

- The testing tool will ensure the presence of appropriate media files for a learning application resource (e.g., mpg, jpg), but not verify their internal structure.
- The testing tool will not apply run-time tests to the IWB/CFF file content.

2.2.4 IWB/CFF Conformance Mark

After you have submitted your successful conformance information to conformance@imsglobal.org, you may then apply the appropriate conformance mark. The IWB/CFF Conformance Chart will list your conformance details. If you have any questions, please feel free to contact us at any point.

Membership in the Interactive WhiteBoard/ Common File Format Alliance is the only way to achieve official conformance to the IWB/CFF standard. Products without a Conformance Registration Number are not considered to be compliant by IMS GLC.

2.3 IWB/CFF Readers

To be deemed to comply with the IWB/CFF specification, IWB/CFF Readers must:

- Successfully import and play the valid test data IWB/CFF files.
- Satisfy all of the additional mandatory constraints.

2.3.1 Testing Process for IWB/CFF Readers

1. Download the valid test data set of IWB/CFF files.
2. Import all of the test IWB/CFF files into your product.
3. Ensure that the IWB/CFF files display properly and all functionality is working.
4. Upon satisfactory completion of the above test, email conformance@imsglobal.org stating:
   - the date that testing was completed,
   - the product tested (and version number),
   - the conformance established (e.g. IWB/CFF v1.0),
   - indicate that you have achieved conformance for a IWB/CFF reader tool.
5. You will be contacted and then you may apply the appropriate conformance mark to the product identified.

2.4 Test Data Set

A test data set of IWB/CFF files is available to members of the IWB/CFF Alliance to enable self-testing of platforms for IWB/CFF compliance. The test data set is comprised of a set of valid IWB/CFF files that support all of the required features of IWB/CFF:

- Valid cartridges which exercise the scope of the features supported in IWB/CFF.

Implementers requiring access to the test data set should visit: http://www.imsglobal.org/IWBCFF/alliance.html

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Revision History

Version No.	Release Date	Comments
Public Draft v1.0	7 December 2011	This draft is submitted to the IMS community for public review and comment.
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