

OGC Indexed 3d Scene Layer (I3S) and
Scene Layer Package Format Version
1.3 Release Notes

Open Geospatial Consortium

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Preface

This document provides the set of revision notes for version 1.3 of the OGC I3S Community Standard [OGC <document number>] and does not modify that standard.

This document provides the details of edits, deficiency corrections, and enhancements of the above-referenced standard. These notes also documents those items that have been deprecated. Finally, this document provides implementations details related to issues of backwards compatibility.

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Keywords ogcdoc, I3S, 3D, streaming, scene layers, release notes

Chapter 1. Abstract

These I3S Release notes document changes incorporated into the OGC I3S Community Standard version 1.3.

Chapter 2. Introduction

2.1. Scope

This Release Notes document provides information on changes to Version 1.3 of the OGC I3S Community Standard. The addition of the ability to support Building Scene Layers is the key enhancement. Numerous other edits and additions to informative content are also provided in version 1.3.

2.2. Document contributor contact points

All questions regarding this document should be directed to the contacts provided below or the referenced standard editor(s).

Table 1. Contacts

Name	Organization
Carl Reed	Carl Reed & Associates
Tamrat Belayneh	Esri

Chapter 3. References

The following normative documents are new or updated references in the standard to which these Release Notes apply.

OGC: URL TO be added when I3S version 1.3 is published. OGC Indexed 3d Scene Layer (I3S) and Scene Layer Package Format Specification Version 1.3

Chapter 4. Terms and definitions

This document uses the terms defined in Sub-clause 5.3 of [OGC06-121r9], which is based on the ISO/IEC Directives, Part 2, Rules for the structure and drafting of International Standards. In particular, the word “shall” (not “must”) is the verb form used to indicate a requirement to be strictly followed to conform to this standard.

For the purposes of this document, the following additional terms and definitions apply.

4.1. administrative change

change that does not alter the conformance abstract tests for any requirements

NOTE

An administrative change includes typographical errors, changes in wording to improve clarity or consistency, and perfunctory changes such as changes in version numbers.

4.2. critical Change

change that alters requirements in a way that is known to cause reverse compatibility issues

NOTE

There are no critical changes in OGC I3S Version 1.3

4.3. substantive change

change that alters requirements in a way that is not deemed to have a high risk for causing reverse compatibility issues

NOTE

The addition of Building Scene Layers is the major substantive change to I3S Version 1.3. The BLS addition does not change any of the existing requirements or class descriptions.

Chapter 5. Change Log

5.1. KEY

- Source:
 - CR - Formal Change Request
 - (Ed)itor - The Editor for the standard
 - (Is)sue - GitHub Issue
 - OGC-NA - OGC Naming Authority review
 - (Pu)blic - Public Comment period
 - (Su)bmission team - From the source specification as submitted by the Submission Team, usually for a Community Standard.
 - SWG - Approved decision by the Standards Working group (SWG)
 - User - The standard's User Community
 - Other
- Identifier: Change Request number or issue number and pull request/commit in GitHub
- Type:
 - A=Administrative
 - S=Substantive
 - C=Critical

See [Description of Critical Changes](#) for more information on critical changes and [Description of Substantive Changes](#) for more information on substantive changes.

- Section: Section number in the updated document
- Description: Brief text describing the change
- Purpose: the reason for the change:
 - Clarity
 - Consistency
 - Enhancement
 - Interoperability
 - Perfunctory
 - Readability
 - Usability
 - Change Request

NOTE

All of the new classes identified below are optional! Further, new properties added to existing classes are also optional. All of the 1.1 classes, properties, and capabilities are included in version 1.3. This is for backwards compatibility. The majority of the new (optional) classes must be implemented to support the new major enhancements as identified in the Substantive Changes section of this document.

5.2. Change Table

Table 2. Change Log

Source	Identifier	Type	Section	Description	Purpose
Editor	NA	A	New Cover Page	Change cover page to reflect Version 1.3	Consistency
Editor	NA	A	All sections	Change 1.2 references as needed to version 1.3	Consistency
Editor	NA	A	Clause 1 - Scope	Added Building Scene Layer content and updated tables.	Enhancement
Editor	NA	A	Clause 4	Added definitions for bin size and vertex attribute	Enhancement
Editor	NA	A	Clause 6 - informative	Added Building Scene Layer content and updated tables.	Enhancement
Editor	NA	A	Clause 7 - normative	Added Building Scene Layer content to tables.	Enhancement
Editor	NA	A	Clause 7 - normative	Added more informative text on textures and texture compression.	Clarity
Editor	NA	A	3DObject_ReadMe.adoc	Fix typos and some URLs.	Readability and fix link error
Editor	NA	A	3DNodeIndexDocument.cmn.adoc	lodSelection property is now mandatory. This property was previously optional in earlier versions. This was a documentation error.	Correct error.
Editor	NA	A	3DSceneLayer.cmn.adoc	geometryDefinitions: This property was optional due to typo. Should be mandatory (which it now is).	Correct error.

Source	Identifier	Type	Section	Description	Purpose
Editor	NA	A	3DSceneLayer.psl.adoc	geometryDefinitions: This property was optional due to typo. Should be mandatory (which it now is).	Correct error.
Editor	NA	A	drawingInfo.cmn.adoc	Add more informative content to the description. Removed link to Esri renderers and added inline examples of renderers.	Readability and clarity
Editor	NA	A	drawingInfo.pcs.adoc	Add more informative content to the description.	Readability and clarity
Editor	NA	A	elevationInfo.adoc	Add more informative content to the description.	Readability and clarity
Editor	NA	A	featureAttribute.cmn.adoc	Added link to geometryFaceRange for more information on faceRange property	Readability and clarity
Editor	NA	A	geometryColor.adoc	Added link to sRGB page on Wikipedia.	Readability and clarity
Editor	NA	A	geometryNormal.adoc	Added mathematical definition for "normal".	Readability and clarity
Editor	NA	A	featureData.adoc	Rewrote the description.	Readability and clarity
Editor	NA	A	lodSelection.cmn.adoc	Add more informative content to the description and fixed ambiguous wording.	Readability and clarity
Editor	NA	A	slpk_hashtable.cmn.adoc	Added definition for associative array.	Readability and clarity
Editor	NA	A	texture.cmn.adoc	Added more descriptive content. Also added content about use of KTX (Basis Universal).	Readability and clarity
Editor	NA	A	textureSetDefinitionFormat.cmn.adoc	Added some descriptive text. Added text on support for Khronos KTX texture compression.	Readability and clarity
Editor	NA	A	value.adoc	Added more informative text in the description.	Readability and clarity

Chapter 6. Description of Critical Changes

There are no critical changes in this release.

Chapter 7. Description of Substantive Changes

7.1. Addition of Building Scene Layers

A Building Scene Layer is a 3D representation of a building model. A building model may be derived from 3D construction content, such as BIM data, or from a relational database model that contains 3D spatial information. The I3S BSL capability is designed to model the organization of construction data and groups content into standard engineering disciplines. Content in a BSL may represent a partial building, an individual building, or multiple buildings on a campus.

BIM encapsulates best-practice processes in the Architectural Engineering and Construction (AEC) industry to capture virtual (typically in 3D) representations of real-world assets that are commonly used for construction, documentation, and evaluation. BIM processes are applied in multiple domains including architecture and buildings, energy and utilities, or transportation and are typically captured across the lifecycle of an asset.

A BSL layer captures and optimizes BIM data and is typically sourced from formats/standards such as Autodesk Revit, Industry Foundation Classes (IFCs) or Geodatabase Feature data. The I3S BSL enables a user to efficiently share building 3D data for usage on the web, mobile devices as well as desktop platforms. The I3S BSL capability supports visualization and interactive analysis such as view shade analysis or efficient exploration of the many layers of content associated with a BIM model.

An I3S Building Scene Layer also encapsulates the semantic structure of the information in the building model while capturing geometry and attributes that can be used in an application. The BSL captures standard AEC disciplines such as Mechanical, Architectural, Piping, Electrical, and Structural. Within each discipline, a BSL groups category layers containing 3D objects representing assets of the building such as doors, windows, pipes and walls. The assets can contain attributes that directly reflect standard and user defined metadata that are stored in the source BIM content or other 3D data source.

NOTE

The BSL capability to the I3S 1.3 standard is contained in the addition of a number of new classes (normative) including the BSL Scene Layer Profile and informative content to the OGC 1.2 I3S Standard. The BSL extension **did not** result in changes to any of the existing 1.2 classes.

The following classes are added to the OGC I3S version 1.3 in support of Building Scene Layers:

- BSL_ReadMe.adoc - Entry point and introduction for I3S Building Scene Layers
- layer.bld.adoc - 3DSceneLayer profile for Building Scene Layers
- sublayer.bld.adoc - This class defines the sublayers of a Building Scene Layer.
- subLayerModelName.adoc - Model names allow clients to identify entities of a building without having to rely on a specific name of a category layer, for example.
- stats.bld.adoc - Define statistics for all building scene layer sublayers.

- `attributestats.bld.adoc` - Concatenated attribute statistics.
- `filter.bld.adoc` - Specify rules for display of content in a Building Scene Layer
- `filterBlock.bld.adoc` - A filter block defines what elements will be filtered with a specific filter mode.
- `filterMode.bld.adoc` - Filter mode represents the way elements draw when participating in a filter block.
- `filterModeSolid.bld.adoc` - Based on rules in filter, display as "solid" if specified.
- `filterModeWireFrame.bld.adoc` - Based on rules in filter, display as "wireframe" if specified.
- `filterAuthoringInfo.bld.adoc` - Authoring Info used to generate user interface for authoring clients.
- `filterBlockAuthoringInfo.bld.adoc` - The filter authoring info object contains metadata about the authoring process for creating a filter block object.
- `filterTypes` - The file authoring information for a filter, including the filter type and its value settings.

Unresolved directive in `i3s-1.3-release-notes.adoc` - `include::clause-7-future.adoc[]`

Unresolved directive in i3s-1.3-release-notes.adoc - include::annex-history.adoc[]