



Annotation Data Formats in Linux: XFDF vs. Instant JSON



PSPDFKit Processor has been deprecated and replaced by [Document Engine](#). To migrate to Document Engine and unlock advanced document processing capabilities, refer to our migration guide. Learn more about these enhancements on our [blog](#).

In addition to reading and writing annotations embedded into a PDF, Nutrient enables you to use external files to manage annotations.

Nutrient supports reading and writing annotations in the following external data file formats:

- ✧ XML Forms Data Format (XFDF)
- ✧ Instant JSON

For most use cases, we recommend Instant JSON because, unlike XFDF, it can store deleted annotations. It also has built-in support for comparing (diffing) changes to annotations. This makes it ideal for synchronizing annotations to a server, or across users, devices, or sessions. Instant JSON can be [\[converted to XFDF\]](#)[\[convert to xfdf\]](#). XFDF is best suited for importing data into the system or exporting it for integration with third-party PDF applications.

Comparing data formats



CRITERIA	XFD
Compatible with third-party PDF applications	✓
ISO-standard format	✓
Built-in support for comparing changes	
Can store deleted annotations	
Syntax	Ver
File size	Lar
Fully documented	✓

** Can be [converted to XFDF][convert to xfdf] for use in third-party applications.*

XML Forms Data Format (XFDF)

Nutrient has full support for reading and writing XFDF.

XFDF is an XML-based standard from Adobe [XFDF \(ISO 19444-1:2016\)](#) for encoding annotations and form field values. It's compatible with Adobe Acrobat and many other third-party PDF applications.

XFDF is a representation of all annotation and form data inside a PDF document at a point in time. It doesn't have a concept of differentials (diffs) for managing changes made by multiple users annotating the same PDF simultaneously, and it cannot store deleted annotations. This makes XFDF a challenging format to use for comparing changes, managing conflicts, and synchronizing annotations across users, devices, or sessions.

Instant JSON

Instant JSON is a format we created for bringing annotations and bookmarks into a modern format while keeping all important properties to make the Instant JSON spec work with PDF. It's not directly supported by other frameworks; however, it can be [converted to XFDF][convert to xfdf] to make it interoperable.

Instant JSON is [fully documented][fully documented] and supports persistent storage. It's designed for synchronizing annotations to a server, and across users, devices, or sessions.

The Instant JSON format is used by [Nutrient Instant][instant], our solution for automatically synchronizing annotations from multiple concurrent users. Nutrient Instant is a licensable component that's included as part of Document Engine, our solution for synchronizing documents and annotations and managing authentication.

Instant JSON can be used without licensing Nutrient Instant or Document Engine.

For more information, refer to the [Instant JSON][fully documented] guide.

Was this helpful?



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