

How to Collaborate in the Modern World

A data-centric approach to information protection, document collaboration, and document intelligence

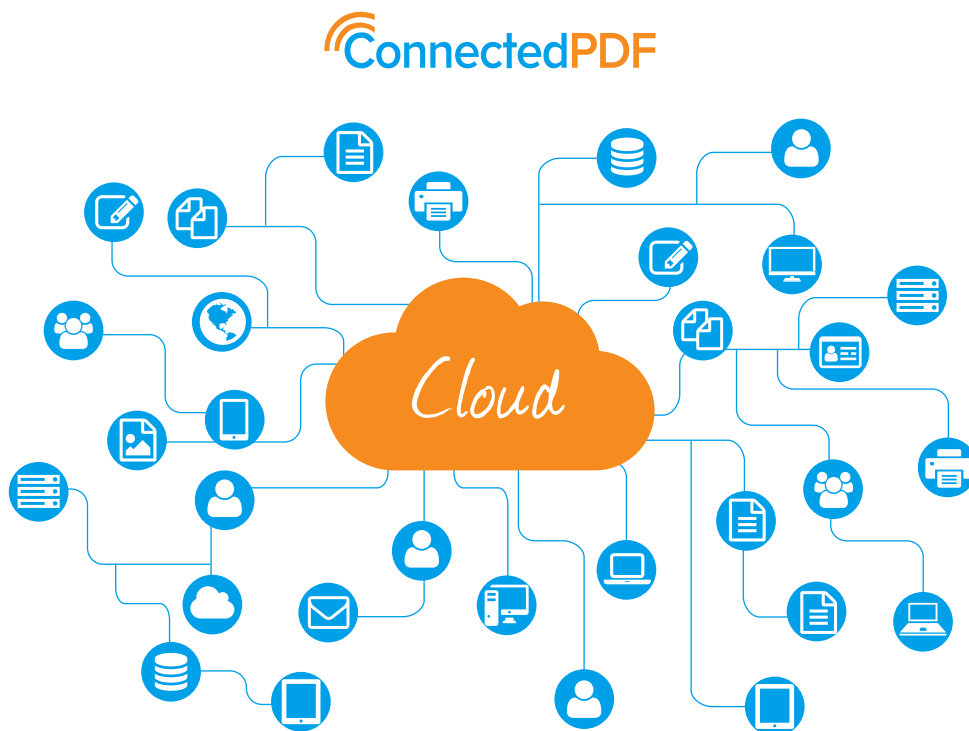


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Executive Summary

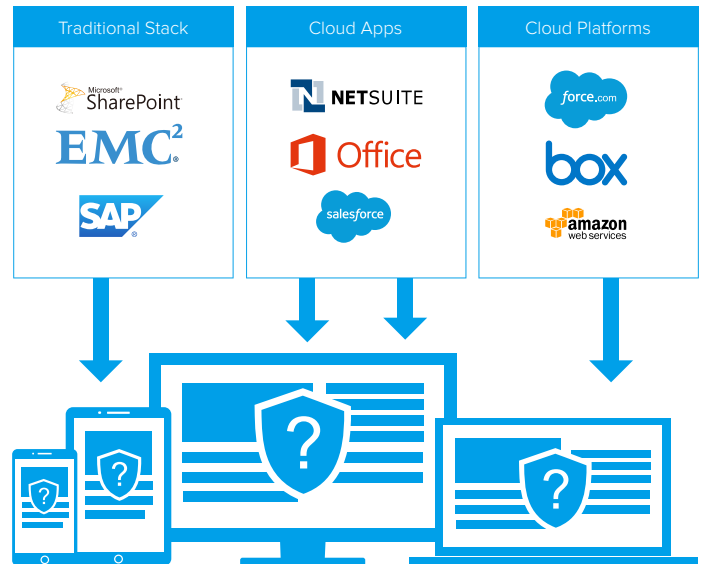
IT organizations face a demand for digital transformation. Cloud file sharing and collaboration platforms enable individuals to synchronize and share documents and files across multiple devices, such as smartphones, tablets, and PCs. At the same time, sharing of files can be a security and compliance risk with lack of IT control. As more and more data can reside outside of the organization, stored on public clouds, on mobile devices, in different geographies, the need for end-to-end protection becomes critical.

While protecting the perimeter, devices, and shared folders are important, the best protection is done through the file itself. But how can you protect documents yet enable document collaboration safely and easily without a large IT investment in a collaboration platform? This paper addresses the need for document intelligence at the file level, which provides everything documents owners need to protect, share, and collaborate.

The Challenge

You are working on a highly confidential engineering project with outside suppliers that need to help in the design, manufacturing, and testing of components. The sharing of product data is critical to completing the job; however, risks abound with the chance that Intellectual Property is shared outside of the team.

Documents might reside in any number of secure, on-premises storage systems, cloud-based application systems, and cloud platforms. However, what happens when a government defense contractor or government worker downloads or prints classified information? What if an SAP user downloads a sales report to a laptop. How can you reduce the risk of that report or Engineering designs getting into the wrong hands, or if it does, that the file can be immediately revoked or expired once the project is complete?



Migration of data to cloud collaboration platforms (e.g. Enterprise File Sync and Share) is one method that controls access to "secured" workspaces where collaborators are granted access to certain folders. But what happens once these files containing sensitive data are downloaded to devices and now exist outside of these shared folders?

And how many times have you sent out a document with little insight into who has opened it, who has read it, or who is even working on old or outdated specifications?

Visibility and control over documents after being shared with others is the challenge.

Today's Connected World

We live in a digital workplace where you need connectivity, communication, and collaboration whether you are in a Government agency that needs to collaborate with outside attorneys on a case, or in a hospital collaborating with

outside doctors on patient medical data. Privacy and protection of sensitive data must meet security and compliance requirements. Regardless of where documents travel, how many distributions, modifications, or versions were created, the document owners should be able to track and collaborate with others in real time. Document security, document collaboration and document intelligence are key.

What is ConnectedPDF (cPDF)?

Document owners need to keep control of their content during development and after publishing. ConnectedPDF is leading edge technology that powers document intelligence, security, and collaboration services for PDF files.

- **ConnectedPDF Security** - grant and revoke document access, enabling document owners to control who has access to the document and what actions (i.e. rights) they can perform.
- **ConnectedPDF Collaboration** - Elevate your teamwork with file sharing, connected reviews, or send requests to others to get a file.
- **ConnectedPDF Document Intelligence** - Track to see who opens your document and what they do and notify readers of new updates. This provides valuable business intelligence into how users are interacting with your documents.

ConnectedPDF Security

With information rights (often known as enterprise DRM) embedded in the document, you can make sure that confidential files are only in the hands of those you allow access. For manufacturing companies or government field workers, access to technical product manuals and service instructions are often required from mobile devices or laptops. The risk of IP theft by insiders, competitors, or terrorists is real especially for critical infrastructure such as dams, pipelines, water utilities, etc. Having full control of documents, regardless of where they travel (on-premises enterprise content systems, to the cloud, in data centers, on your local system, even when downloaded to mobile devices), files are granted access or revoked remotely at any time from any environment.

ConnectedPDF Collaboration

ConnectedPDF enables easy “connected” reviews with internal or external participants without the headache of adding people to corporate identity management systems or bothering IT to set up trust certificates. Document comments are quickly shared in real-time. Thus, any comment made by one user in a Connected Review will automatically be synchronized to all other users in the review. You can either email the document to users or upload it to the public or private Foxit Drive. Anyone with access to the file can request to join the Connected Review.

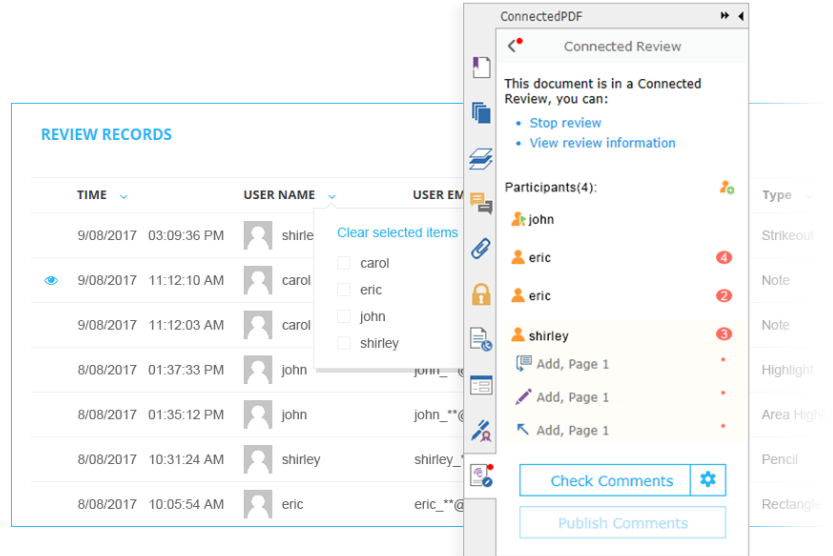


Figure 1: Connected Review

Different versions are tracked notifying readers when a new version is available. File owners can also update, change and distribute document automatically, preventing others from reading the wrong version.

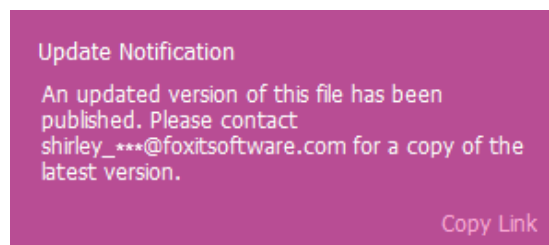
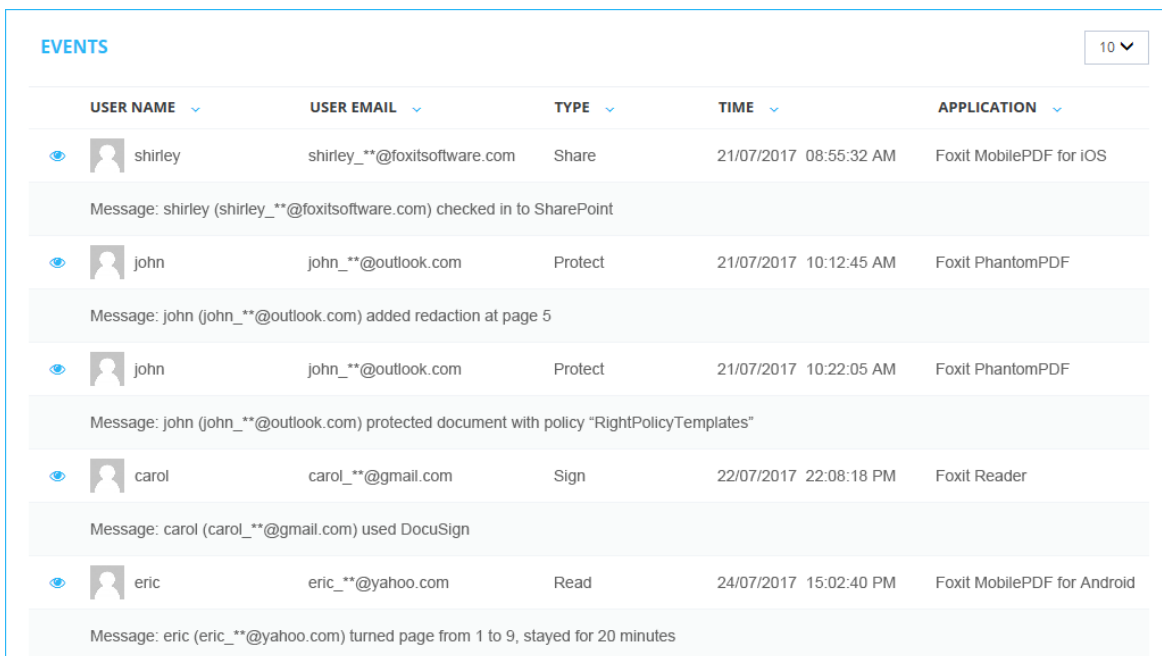


Figure 2: New Document Version Notification

ConnectedPDF Document Intelligence

Document intelligence is a way to track two things, 1) the file itself, 2) user actions to the contents of the file. Document owners have insight on when the document is opened, when it was last edited, including page-by-page engagement intelligence to ensure there is no malicious activities as well as insights to help improve the document contents.

Also knowing what actions the recipient of the document is doing with the file contents is important and can provide some valuable insight. Some examples include how much time is spent on a page, how many times has a page been viewed, what pages were skipped, if PDF sign was added, if an offline copy was made, if protection was removed, if redaction to sensitive data was applied, or if the document was sent for a shared review.



USER NAME	USER EMAIL	TYPE	TIME	APPLICATION
shirley	shirley_**@foxitsoftware.com	Share	21/07/2017 08:55:32 AM	Foxit MobilePDF for iOS
Message: shirley (shirley_**@foxitsoftware.com) checked in to SharePoint				
john	john_**@outlook.com	Protect	21/07/2017 10:12:45 AM	Foxit PhantomPDF
Message: john (john_**@outlook.com) added redaction at page 5				
john	john_**@outlook.com	Protect	21/07/2017 10:22:05 AM	Foxit PhantomPDF
Message: john (john_**@outlook.com) protected document with policy "RightPolicyTemplates"				
carol	carol_**@gmail.com	Sign	22/07/2017 22:08:18 PM	Foxit Reader
Message: carol (carol_**@gmail.com) used DocuSign				
eric	eric_**@yahoo.com	Read	24/07/2017 15:02:40 PM	Foxit MobilePDF for Android
Message: eric (eric_**@yahoo.com) turned page from 1 to 9, stayed for 20 minutes				

Figure 3: Document Intelligence

Document intelligence is used for security purposes or to improve readership. Page-by-page analytics tell you which topics are most engaging for specific audiences so you can optimize content length, organization, and flow. Imagine sending out a marketing asset such as case study or customer presentation, and now seeing whether it was read, OCR'd, bookmarked, or passed along to any colleagues. It's like getting Google analytics on your documents.

Tracked File Events:

- Opened
- Closed
- Turned Page (Entry time, leave time, Page from, Page to)
- Copied
- Printed
- Created Form
- Created PDF Portfolio
- Converted to DF/A/E/X
- Removed PDF/A/E/X
- OCR'd
- Edited Object
- Reduced File Size
- PDF Optimize (image, fonts)
- Added, Deleted, Edited Bookmark
- Performed Form recognition
- Form Design - Added, Deleted, Edited pushbuttons, checkboxes, radio buttons, signature field, etc.
- Recorded Static XFA form
- Registered new version
- Advanced Setting - enable non-Foxit, enable cPDF
- Deleted page range
- Extracted page range
- Added, Deleted, Edited watermarks
- Added, Deleted, Edited bates numbering
- Added, Deleted, Edited Comments
- Used Eraser Pencil
- Added, Deleted, Edited Redaction
- Protected redactions
- Sanitized Document
- Whether to Password Protect
- Whether to use encryption certificate
- What policy to protect docs (password or certificate)
- Whether to remove security
- Whether to RMS Protect doc
- Whether to Access Control file
- When downloading the office Copy and with what device
- Whether enforce tracking was used
- Whether to use DRM protected document
- Whether the document configuration access connected DRM protection
- Saved offline copy mode (device or password)
- Removed protection
- Added, Applied, Edited, Deleted PDF sign
- Whether to use DocuSign
- Validated signature page
- Time stamped document
- If sent via email
- If sent via Evernote
- If checked into SharePoint
- If checked out of SharePoint
- If sent for Shared Review on internal server
- If sent for Shared Review on Foxit Cloud
- If sent for Shared Review via email
- Start, end, join, leave Connected Review
- Whether to track the review results
- Exported form data
- Exported comments
- Save As (file path)
- Forked document
- Filled in form (pushbutton, checkbox, radio button, etc).
- Whether the form was reset
- Whether form data was imported

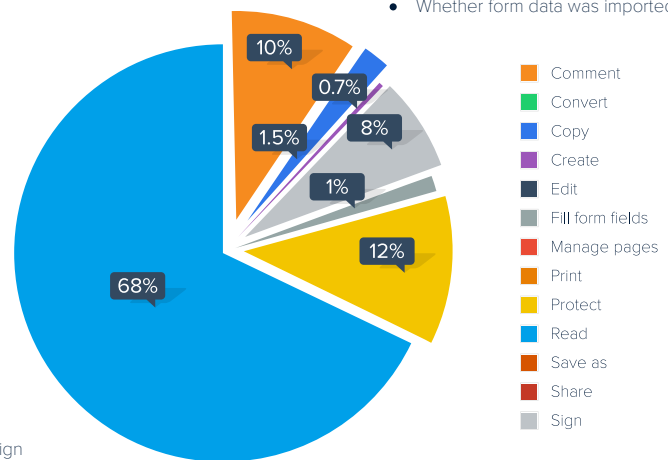


Figure 4: Number of times actions were taken on document in last 7 days

Additional ConnectedPDF benefits:

- **No software download required for reviewers** - Connected PDF documents are viewed and annotated with any PDF solution. If you apply certain types of protection such as “enforced tracking”, if a user tries to open such a document with a non-Foxit product, a message will appear notifying them that a ConnectedPDF Powered application is required, and a simple click will take them to the Foxit Reader Online to view, comment, etc. – no software is required to download. Other products enabled with cPDF include Foxit PhantomPDF, Foxit MobilePDF, and Foxit Reader.
- **No Change to File Format** - The file format is never changed so your backups, links, e-discovery rules, etc. all remain intact.
- **Private or Public Cloud deployments** - Foxit ConnectedPDF is freely available as a public service or for securing highly sensitive data, Foxit ConnectedPDF Enterprise Server is deployed as a private cloud on-premises or private hosted cloud managed by Foxit via Amazon Web Services.
- **Connect to Existing On-Premises or Cloud Storage** - ConnectedPDF documents remain storage agnostic (e.g. works with many ECMs and CCMs), and files do not have to be uploaded to the Foxit Drive—only metadata is stored there (attributes such as version history, events, connections associated with a document, and shared comments). ConnectedPDF documents remain on your local device or in your existing content management system (e.g. SharePoint, Box, etc.).
- **Document Protection For Offline Access** - Although cPDF requires an internet connection to communicate with ConnectedPDF server, document owners grant whether reviewers can create an offline copy. To keep security in place, you set the offline rights to expire after a set number of days so that there’s no rogue, unprotected version of your contract floating around.

ConnectedPDF Completes the Document Lifecycle

By combining PhantomPDF Business with ConnectedPDF, document owners have an end-to-end solution for building a document, to publishing and sharing a document, and now to optimizing the document to improve readership. With ConnectedPDF technology documents travel safely in a connected world.

Build - The initial phase of a document lifecycle is creation. Foxit PhantomPDF Business is a full-featured PDF editor that the professional user has come to expect. The user interface is modern, intuitive and easy to use with a familiar Microsoft Office interface. Foxit PhantomPDF empowers knowledge workers to build better smart documents by providing a full solution that supports the complete document lifecycle (create, review, edit, manage, share, and secure) in an affordable and easy to use application. Out of box integration with DocuSign, Active Directory Rights Management Services, SharePoint as well as integration with Foxit Drive, Box, Dropbox and more allow users to collaborate, share, and annotate with ease and speed.

Review - The next phase of a document lifecycle is the review process. Connected reviews are the most collaborative form of review because participants read and reply to the comments of others in real-time. ConnectedPDF extends internal shared reviews to people outside of the organization. Desktop, mobile and web users use PhantomPDF, MobilePDF, or Foxit Reader, and all comments are sync'd through an on-premises, private cloud repository.

Approve and Publish - After reviews are complete, apply digital signatures to speed up approval processes and reduce paper by signing PDF files electronically. To sign a PDF document or form, you type, draw, or insert an image

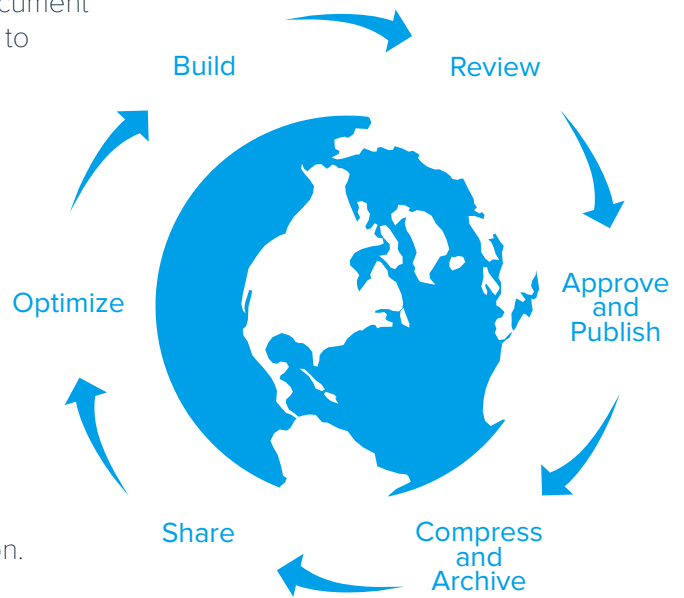


Figure 5: The Document Lifecycle

of your handwritten signature. The creator of a PDF also encrypts the document with a certificate for verifying digital signatures, and integration with DocuSign enables legal departments to collect, track, and archive legally binding signatures from one or multiple signers quickly.

Compress and Archive - Compress documents and convert/archive to PDF A/E/X to ensure the preservation of their contents over an extended period of time such that retrieving and rendering would remain consistent and predictable in the future.

Securely Share - ConnectedPDF technology embeds rights management into documents which make them secure as they travel outside of firewalls, outside internal and cloud-based content management systems, through unsecured email servers, unsecured networks, even when documents that are downloaded to mobile devices. Document owners have full remote access control to decide who can open, who can edit, etc, with revocation control anytime. ConnectedPDF provides the ability for ad hoc file requests that are granted/denied remotely without the need to set up complex trust certificate exchanges. Recipients simply click on one button to send a request to the author. Protected information is accessed in the browser without the need to install any new software. Files can also be accessed offline since the whole document is cached at once, eliminating the need for more page requests and network traffic.

Optimize - ConnectedPDF technology provides document intelligence into actions taken on documents so authors can effectively optimize the parts needed to improve readership. Know when the document is opened, printed, converted, optimized, edited, sanitized, password enabled or disabled, redacted, sent for shared review, even saved, including the file path.

Summary

The ConnectedPDF technology included with PhantomPDF combines the best of DRM, document intelligence, and collaboration into one easy to use service. Document owners maintain full control of their document so that IT can spend more time on other IT-related issues instead of installing more products for secure collaboration, file sharing, access control, etc. ConnectedPDF protects your documents when they're in your hands and after they leave your possession. In today's connected world, it's the right kind of protection.