



Document & Content Services for Microsoft SharePoint®

Easily add innovative functions to your
SharePoint Sites and Workflows



SharePoint remains the world's leading ECM platform

Content Services for
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Microsoft SharePoint continues to be recognized as the world's leading ECM (Enterprise Content Management) platform.

More than 190 million users in more than 200.000 organizations around the world are staggering numbers.

And Microsoft's assertive, cloud-first Office 365 strategy will continue to compel many more organizations to choose SharePoint as their cloud solution for ECM.

SharePoint offers a wide range of functionality and is used in many use cases. But with so many users and the fast pace of technology, there is a constant demand for new features and integrations.

As a result, SharePoint is supported by a big ecosystem with more than a million software developers and over 50.000 partner companies around the world.

SharePoint offers many integration capabilities for these developers and partners to further enhance SharePoint.

SharePoint numbers:

- **190+ million paid seats**
- **200.000+ organizations**
- **1+ million developers**
- **50.000+ partners**

(Nielsen, 2016)

From ECM to Content Services

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Content Services

Analyst firm Gartner last year retired the term ECM as a market definition, replacing it with Content Services.

Their reasoning is that achieving all the goals of a full ECM implementation has proven to be too complex and time-consuming.

Gartner states that organizations are better off with a Content Services Platform approach, like Sphereon offers.

Services can be seen as small applications that perform one or more specific functions.

Sphereon delivers powerful Content Services as a standard Add-in to SharePoint and Office 365.

This approach enables us to deliver new functions and functionality quickly: *in minutes, not months!*

Adopt emerging technology and business innovations, such as Blockchain for authentication or Artificial Intelligence for recognition and auto-tagging, quickly as well as cost effective.

Business buyers want quick wins and actual solutions to business problems now, not platforms that will deliver a compromised solution in 6 months time.

Gartner (March 2017)

Sphereon is an API-driven Content Services platform

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Sphereon Content Services Platform

Sphereon offers a unique platform that allows you to use Content Services for Information Management and Document Processing.

Content Services to capture and extract data from objects, such as emails, images, photos, posts and documents. Content Services that use Artificial Intelligence to automatically classify these objects.

For example, use our Blockchain service to digitally sign emails, objects and documents. Or to log transactions, data or objects as immutable and independent verifiable records.

And we make it very easy to integrate, without the need of low level programming. This is one of the keys of our success.

Sphereon is very scalable because it is build on an micro-services container architecture that allows for dynamic up- and downscaling depending on the workload.

Our Blockchain Service enables you to add Authenticity to all Content you create, capture, process, store or distribute.

Sphereon APIs and Content Services

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Sphereon offers several extensions for both SharePoint and Office 365.

These services integrate at several levels with SharePoint. From a no-code, out-of-the-box, standard Add-in, to tight integration using our Software Development Kits (SDKs) and Application Programming Interfaces (APIs).

Some examples that Sphereon will provide are:

- **Capture** to capture emails with attachments, posts, images, multimedia and scans.
- **Automatic Classification** using AI/Deep Learning to assign the right content type
- **Data Extraction** using rules to extract data and tags from unstructured content
- **Barcode Detection and Recognition** to detect if a document has barcodes and extract their values
- **Multi-engine OCR** using multiple OCR engines to get the best OCR results
- **Handwriting Recognition** to recognize and extract handwritten data from documents
- **Vision Recognition** using AI to recognize and auto-tag images, photos and videos
- **Migration** of content from different types of legacy ECM or DMS systems and Enterprise Files Shares to SharePoint & Office 365
- **Blockchain Proof** to register and verify data, records and objects on a Blockchain, and thus adding indisputable Proof of Authenticity to all content you store, process and share
- **Easy Blockchain** to create, search, browse and read data-structures across multiple Blockchains
- **Cloud Storage** provides cloud storage on AWS, Azure, Google and ECM systems
- **Mail-merge** to create documents from a data source and a MS Word template
- **Template Processor** to create data files from a JSON data source and a FreeMarker template
- **PDF/A Conversion** to convert MS Office documents, images, AutoCAD to PDF/A
- **Digital Signature** to digitally sign a PDF with an EIDAS-compatible electronic signature

All Content Services are available through our API Gateway.

Integrating Sphereon and Microsoft SharePoint

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Just a standard SharePoint Add-in

The Sphereon Content Services can easily be implemented as a standard SharePoint Add-in.

The Sphereon Add-in fits into SharePoint as Workflow actions or UI commands that extend the standard SharePoint ribbons and menus for lists, documents, and more.

Besides a menu-item for executing the specific Sphereon function, for example converting a document to a Searchable PDF/A, a Sphereon Add-in can have a menu-item for configuration, that allows the user or administrator to set specific parameters for the Sphereon function.

All of the functionality from the Add-in is also available as Workflow Actions.

The Sphereon Add-in has support to create a Sharepoint Workflow Solution file for you on the fly (WPS), that is automatically registered with the Sphereon Add-in provider. Meaning it is a breeze to create complex workflows with document conversion and blockchain registration.

SharePoint Add-ins

Add-ins are self-contained extensions of SharePoint that will extend the capabilities of SharePoint websites to perform specific well-defined functions.

They are installed and run without coding on your SharePoint server.

We'll keep custom code off your SharePoint servers, by using a so called Provider Hosted Add-in, that just calls our Services.

This provides you with reassurance that our Add-ins can't harm your servers or reduce the performance of your SharePoint Online websites.

It also makes sure that updates and upgrades of the Add-in are seamless, without your IT department needing to change anything.

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Uploading and checking-in objects

Sphereon offers a robust function to upload objects, such as documents, images, media, etc., to a SharePoint Library.

This function uses the standard Microsoft SharePoint Web services to upload and check-in an object.

Emails, with and without attachments, can be captured and processed. Paper documents can be scanned. Posted or submitted objects can automatically be uploaded. Directories containing files can be monitored and files uploaded through (secure) FTP.

With support for using and dynamically setting Site Collections, Sites, Sub-sites, Libraries, Folders, Contenttypes, Columns, Versioning, etc.

No-code

This Sphereon Upload function is available as part of the Sphereon BPM task component, requiring no coding.

In this mode Sphereon uses interactive logins just like any normal user, with ADFS of course fully supported.

Sphereon supports all SharePoint versions from Sharepoint 2010, upward, as well as the latest versions of Office 365 SharePoint Online.

Sphereon SDKs for SharePoint

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Sphereon Software Development Kits

Sphereon also offers SDKs for all the major development languages and frameworks to enable developers to more tightly integrate Sphereon functions into SharePoint.

These SDKs are used for when you want to extend SharePoint with more specific functions.

For example, a Full-Page SharePoint app experience, with the look and feel of a SharePoint page.

Or as a part of a webpage, using a special kind of control, an add-in part, to surface an iframe element that contains the Sphereon Add-in function.

Our SDKs also make it easy to integrate Sphereon API functions into workflows.

When you have a process that needs a specific Sphereon API function, such as OCR or Blockchain, simply use our SDK to integrate the function into a workflow step.



You can use this in your workflow solution of choice: use them in Visual Studio, K2, Nintex, or another solution.

Connecting Sphereon and SharePoint

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In many use cases Sphereon needs to push data, in the background, to SharePoint.

However, because of security or policy constraints, it is not always possible to directly connect your SharePoint environment with the Sphereon cloud.

For those situations Sphereon offers five different types of connections to SharePoint.

These five connection types between Sphereon Cloud and your corporate SharePoint are (in preferred order):

1. A direct connection with SharePoint Online
2. A direct connection with your corporate SharePoint server
3. An Azure Hybrid Connection to your corporate SharePoint server
4. A browser based Bridge to your corporate SharePoint server
5. An On-premise installation of the Sphereon SharePoint Add-in providers and APIs

Direct connection with SharePoint (Online) are of course the easiest from the Sphereon and end user perspective.

The Sphereon SharePoint Add-in is a so-called Provider Hosted Add-in, meaning it is not necessary to host the Add-in within SharePoint itself (or on premise).

Each of these connection types are described in detail in a separate Technical Brief that can be downloaded from our website and API store.

Sphereon Content Services Use cases

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One of the main benefits of an API platform is that it enables you to choose (and pay) only those Services that you need and use.

You can look at your specific situation and design an optimal solution.

And another important benefit is Agility. Content Services and APIs give you the flexibility you need to quickly adjust to changes. Both in scalability as well as the functionality.

Some examples of use cases are:

- **Audit-trails (Proof of Process)**

Sphereon Content Services enable you to create an independent audit-trail, using Blockchain, that is tamper-proof and independently verifiable by all stakeholders.

Use cases are Record Management, Compliance and providing Transparency for external stakeholders.

- **Digital Signatures (Proof of Authenticity)**

The Sphereon Content Services enable you to sign and register any object or document that you store, process and share, using a Blockchain to provide independent verifiable, tamper-proof, Proof of Authenticity.

Use cases are Contract Management and Digital Certification for digital objects, such as statements, titles, claims, registrations, certificates, diplomas and file transfers.

- **Classification and Keyword extraction**

Automatically determine the correct Content Type and extract Keywords with AI-driven, self-learning, automatic classification and keyword service.

Use cases are streamlining CRM, HRM, KYC, Student-, Supplier-, and Customer-onboarding or implementing a Digital Mailroom.

- **Data extraction**

Extract data from paper and digital documents using our superior OCR, Barcode, QR-code, and handwritten data recognition services.

Use cases are on-boarding, creating search-able archives, streamlining document processing and indexing content stores.

- **Digital Preservation**

Convert Microsoft Office documents, emails, text files, images, AutoCAD drawings and scans to the ISO-standard PDF/A archive format.

Use cases are Archives, Record Management and Compliance.

Use case for Archiving and Retrieval

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SharePoint is often used as a storage or archiving system for documents. Either straightforward as a Document Management System (DMS) or as a workflow/case management system, where documents are collected, or created, and processed.

Rules and regulations, as well as common sense, requires documents to be kept for certain periods of time and to remain readable.

For many documents these retention periods are relatively short: about 80% of the documents can, or must, be destroyed within 7 years.

However, rapid changes in technology mean that file formats become obsolete quickly and cause problems for your records management and compliance.

Even within just a few years the original software, with which these documents were created, has often changed, migrated or has even become obsolete.

In many cases, newer versions of a program offer support for older versions, but this is certainly not always the case.

For example when an organization switches to another vendor or the vendor is acquired or fails.

This requires a records management strategy that documents and data cannot only be retrieved, but can also be read.

Digital Preservation

Best suited for preservation of documents is converting them to the Portable Document Format (PDF).

To be more precise, the special archival version, PDF/A, which is and has been an ISO standard since 2005.

PDF/A has also been evolving with a version 1, 2 and 3. But it being an ISO standard guarantees backwards compatibility.

For long-term preservation and use of data files, the best choice is converting those data files to eXtensible Markup Language (XML).

XML is a so-called flat text file, where all data is identified (marked) using tags. This format is both human-readable and machine-readable.

Conversion to PDF/A standard

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So, for archiving, a common use case is to enhance SharePoint with functions that allows conversion of documents to the PDF/A format.

This can easily be achieved by installing the Sphereon Add-in for SharePoint.

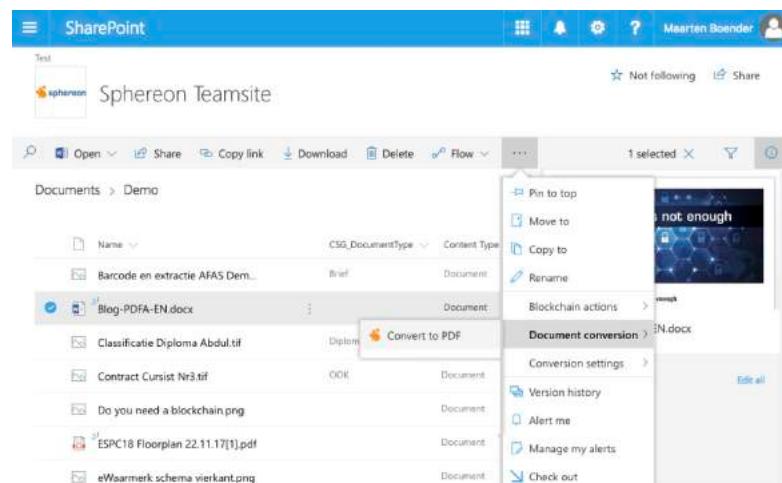
This allows a user to select one or more files in a list and then use the Document Action menu-item for 'Convert document' to convert these files on the fly.

But it makes much more sense to implement this function as part of a workflow.

For example, when a document is uploaded and checked-in, an automatic action can be triggered that automatically converts the document to a PDF/A using the Sphereon PDF API.

Or, when a certain case is completed and must be archived for record management and compliance policies, the last step in the workflow will take all of the attached documents and convert each document to a PDF/A format and migrates the case and documents to the record management sub-system.

At the same time you can certify this document for authentication by registering it on Blockchain.



A better Electronic Signature using Blockchain

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There are several Electronic Signature solutions available on the market today. These solutions allow you to add legally binding signatures to documents.

But the traditional solutions also have several disadvantages.

Disadvantages

First of all, these traditional signatures can only be added to PDF documents. Only the PDF format offers support for storing the signed certificates.

You will need to get an expensive certificate from only a limited group of Adobe approved *central* Certification Authorities (CA).

Besides this dependency on a central CA, you are also dependent on a central Time-stamping server.

Another drawback is that the digital signature is stored *inside* the document. This means that whoever needs to check if a document is signed, will have full read access to all the content in the document.

Also, because the document changes with each signature, signing documents in parallel is not possible: everybody needs to sign the document sequentially.

Create better Electronic Signature solutions

Our eSignum API offers the same functionality and the same legal basis, plus we add important functionalities to create much better solutions.

Sign any digital object

First of all, we support Digital Signatures for any type of digital object, not just PDF and MS office documents: pictures, videos, audio, or just data.

Additional information on Blockchain

We also enable you to add additional information to the transaction on Blockchain, for example who signed or a status or any other value.

Independent verification

With the registration on a Blockchain, the Digital Signature also lives independently of the object, which enables independent verification, with or without having access to the object itself.

Parallel signing of documents

Since the object is not changed by the signature, it also enables you to sign documents in parallel and implement business rules based on mandates, 4-eyes, majority vote, seniority, etc.

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From Archiving to First Touch

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And why wait until archiving? There are big benefits to register documents and transactions right from the first moment they touch a process.

For example, you receive an email with 3 attached files, which triggers a workflow case.

Then start certifying the email and the attachments as soon as it is received and enters the system.

Now you will always be able to proof the date and time this email and the attachments were received. And you will also be able to proof that the email as well as all of the attachments are authentic and have not been tampered with.

The same is true for every document you create and every email you send.

You will always be able to proof the authenticity of each of the documents and the date and time they were send.

Automatically certify your documents and email, at every step in a process, and you will have a complete audit-trail that is tamper-proof and can be independently verified by all stakeholders.



Use case for Tamper-proof Audit Trails

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When you already keep metadata information about documents, like date of registration, why not add user context to the registration?

Any organization that has important documents or makes decisions with a group of people (a board for instance) can easily create a workflow where the decision making, including all the document versions, are recorded on a Blockchain.

This way you create a complete audit trail that is fully tamper-proof and verifiable where you and others can track the whole process.

This allows you to implement your own solutions for compliance checks. Beginning with a simple app that presents where the document currently is in the process (even outside of SharePoint) and is unaltered - or not.

Or take it a little further and retrieve the complete Audit history for the current document.

Proof-of-Existence

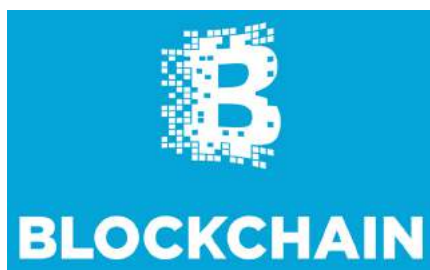
Create an unalterable date and time stamp for a specific object – like an email, file, document, phone-call or video.

Proof-of-Authenticity

Create a independently verifiable record to provide proof that an object is the original version that it has not been altered since the first registration.

Independently verifiable audit trails

Create a independently verifiable chain of transactions that provides proof of all the actions for a specific case in a specific process.



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About Sphereon

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Sphereon is an innovative software company based in The Netherlands.

Sphereon was founded in 2015 by experienced industry veterans and a young CEO, with a mission to develop the Sphereon platform.

Sphereon provides an API-driven cloud platform for Document Processing and Blockchain.

The Sphereon platform is built using modern Micro-services technologies, while the functionality is based on our industry experience and the input and feedback from our partners and customers.

APIs are a crucial building-block in today's API economy. Where it is all about agility and co-creation is the name of the game. Adapt or Die.

This API-first, Cloud-first, approach allows us to offer our customers a very close integration with their projects and quickly adapt to their ever-changing needs.

*It is our mission to help you quickly build specific content-oriented solutions that are relevant to your business.
Adapt, Adapt, Improve.*

Our success is a result of the solutions that we build together with you, our customers. We provide the software platform and you have the knowledge and experience in your market domains.



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