



PEOPLE EXPERIENCE
IN FOCUS:

Content Accessible Anytime from Anywhere

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Executive Summary: Content Services for the Digital Enterprise

In response to the 2020 global pandemic, organizations worldwide have accelerated their investments in digital technology. IDC predicts that by the end of 2022, more than half of the global economy will be based on or influenced by digital. For many organizations, this means adopting digital processes and providing online access to business documents critical to the delivery of their products and services.

Content is a vastly important part of any organization's business — it forms the data and information that is consumed by employees, customers, and partners; it drives business processes; and if handled poorly, it can put the organization at risk. Unfortunately, enterprises are falling short in realizing the full potential of content in the new digital value chain.

The content must evolve from tactical and disconnected document repositories to a modern content services structure that is readily available to

employees and accessible to customers in real time at every stage of their journey. Organizations that can connect their dynamic experience-centric work environment to an engaging front-end digital customer experience (CX) will gain a competitive advantage through streamlined business operations and increased customer satisfaction.

Since the beginning of the 20th century, **the pace of innovation in self-service** has accelerated at an incredible rate. The level of autonomy that customers have grown accustomed places an increased demand on the level of access and control that end users want from their brand's online self-service sites. Basic personalization such as greeting a customer by name has become table stakes; it is the cohesive, data-driven selection of personalized content and experiences that develop strong customer relationships.

Companies are also addressing rising customer expectations for more convenience, customization, personalization, and control of data in tandem with **new future of work policies**. A smooth and happy employee experience (EX) and its tie to the customer experience (CX) depends on access to the information at every stage of the process.

There remains a significant portion of business information trapped in paper or obscure systems. Semistructured and unstructured documents remain largely inaccessible to workers and automated solutions. Organizations that are unable to link current and historical documents to the current task at hand will lose the ability to extract and utilize the insights for business automation initiatives.

When it is tedious for employees to search for items across siloed systems and switch from app to app to get their hands on the right information, it is time to consider how content can be automatically and immediately made available in the flow of work. There is a growing need to effectively connect content services to core business applications, such as Salesforce and SAP, for which content is a key component. Employees would benefit from artificial intelligence/machine learning (AI/ML) and modern design tools to organize work into a logical flow and automatically adapt the data in case of exceptions, and improve content discoverability across systems.

Despite the progression of integrating processes, content, and systems, the shift to a digital-first enterprise is still a challenge for many companies. Organizations must balance a customer's desire for personalization with secure data privacy measures such as the General Data Protection Regulation (GDPR). Today, legal teams are expected to run as a highperforming, customer-centric, and digital-first operation.

Keeping track of the regulations and audits can be overwhelming without the right tools to support you. Access to the legal archives can be strictly enforced based on the sensitivity of the information and requesting process. Fortunately, new content services platforms (CSPs) can help manage the legal archive including tasks such as legal discovery and automated legal holds.

45%

IDC research shows that 45% of organizations believe that hybrid and remote work models will be an embedded part of accepted work practices in 2022 and beyond. So the whole ecosystem needs to be connected and work together to promote a sharing of information to every person involved in the process.





In This White Paper

This IDC paper discusses the challenges that organizations face today regarding their business content—examples include invoices, billing statements, contracts, regulatory reports, welcome kits, and many other business-related documents—and the benefits that an intelligent content services solution can provide. Consideration is given to three key areas where a holistic approach to content services can be the most transformative.

A modern content strategy will include the distributed nature of work and increased customer expectations, which places high demands on companies to provide:

Self-service for customers and employees:

Deliver real-time, personalized employee and customer experiences through easy-to-use digital services and self-service

Enterprise content services for work:

Improve content access by connecting to core business applications like Salesforce, SAP, or Guidewire and ensuring secure access to data,

documents, and information for employees to work and collaborate across people and processes independent of their location or device in a new digital workplace

Data protection and content archiving for legal compliance:

Ensure legal compliance and security for all corporate content in line with growing data protection, compliance, and security guidelines

IDC reviews Papyrus Software as a supporting CSP technology that can handle content and processes in one platform, ensuring that business data and documents are available where needed, providing a single source of truth to the organization.

Finally, IDC provides essential guidance to defining a digital-first content strategy based on successful implementations of an intelligent content services solution.

Content Services Platforms

Provide the Foundation for your Digital Transformation

As the reliance on content grows, so does the need for a content strategy that covers the entire content life cycle — creating, accessing, capturing, processing, archiving, sharing, using, and deleting content — throughout the organization.

A modern content strategy ensures that the content is:

- ▶ **Always available everywhere**
- ▶ **Classified and contextualized** with extracted data and insights
- ▶ **Presented to the right user at the right time**
- ▶ **Protected** with security and privacy controls
- ▶ **Auditable** for regulatory compliance
- ▶ **Integrated into the core business systems** where the work is done

A modern content strategy accompanied by cutting-edge digital technology provides much needed accessibility, ease of use, and rapid time to value.

CSPs are proactive, serviced-based, and all-in-one systems that provide the aforementioned functionalities and serve multiple use cases across a company.

Integrated content services and components provide people with access points to the content in different business contexts. The content is made available everywhere — on a desktop, in a web portal, or on a mobile or conversational device.

IDC distinguishes the core capabilities of CSPs to include:

Capture turns paper into digital content and converts unstructured data coming through digital channels to structured information that can be consumed by a downstream task or process.

Content sharing and collaboration enable users to store, synchronize, and share content across designated devices, people, and applications.

Customer communication management enables users to create, author, edit, publish, and deliver documents, messages, and correspondence across traditional print and modern digital channels.

Enterprise content management provides a foundation for regulatory compliance in context of automating content-centric business processes and establishing a system of record.

eSignature in combination with edelivery of legal documents can request verified signatures across multiple digital documents.

Workflow/process management enables the configuration of workflow or process-driven applications for daily work tasks and approvals.

Current Content Challenges: Driving the Need for Intelligent CSP Solutions

Content challenges affect both the internal employee experience and the external customer experience alike. Organizations continue to struggle to consolidate content across the enterprise and provide the right content at the right moment — when and where it is needed.

Internal Challenges and Needs

From staff shortages to increased regulatory mandates of remote work, key internal challenges span people and technology resources across historically siloed data and services.

Moving from Manual Processes and Paper

Despite the many advances in technology and automation, the promise of a totally paperless business is not yet reality. There is minimal business orchestration across teams, systems, processes, or the content that fuels them. Employees are left dealing with manual workstreams using a patchwork of digitized forms of information.

Disconnected Data and Content Services

Difficulty in finding the information to perform job-specific tasks is one of the key drivers for organizations to digitize document workflows. The CSP needs to be integrated with all data

sources, and digital workplace technologies. Organizations benefit from the centralized content store that manages the complete life cycle of the content until expired or retired.

Shift to Business User Empowerment

If business users have not been empowered to do the work themselves, waiting for IT to become available adds another level of frustration and inefficiency. The way out is to enable nontechnical business users to self-serve their needs and create and improve content-centric communication, content, and processes as they see fit.

Support for Digital Collaboration

The CSP should focus on supporting hybrid work, efficiency, and productivity. Digital collaboration involves internal and external stakeholders creating, consuming, and sharing content to collectively achieve specific business outcomes. Content technologies should enable technology parity for



of organizations propagated the same content woes through digital versions of paper-based workflows offering limited connectivity or collaboration to the workers.

all members of the workforce, whether they are local, remote, or in the field.



Digital Business Operations— Business Value Streams

Business value streams are both internal, like employee onboarding, or customer facing, like claims handling. CSPs can automate value streams and include employee interaction for handling exceptions. A content service platform can connect each customer request along the journey as a one-stop service from request to closure across different channels, systems, and teams.

External Influence

Factors that influence a great digital experience include easy access to information across all device types, consistency of the user interface, and orchestrated operations across platforms. The effective use of self-service technologies like websites, chatbots, and personalized messaging services is instrumental in improving both the employee and customer experiences.



Customer Expectations

With the transition to digital first, customer communications shift from operational output to conversational experiences, and the customer experience becomes more engaging, consistent, and conversational. As organizations strive to become digital-first businesses, they must also reinvent the customer experience to be digital first. The consequences of a poor digital experience include lost sales or a decline in product or service

usage. To optimize the consistency of the digital experience, the content services platform should ensure that the same information found on the website is available to all other digital channels. Companies can go a step further and deliver effortless, high-quality experiences via a self-service site—customer service teams that previously were the bottleneck in change requests now turn the control over to customers themselves.



Unlocking Value and Insight

As organizations expand the level of personalization, the dependency on real-time data increases. A content services platform utilizes AI/ML to gain powerful insights about the content being used or the process bottlenecks that arise. Any data or content shortfalls will lead to ongoing issues in implementing personalized customer service due to an inability to understand on what channel and with what content the customer is engaging and what the customer's needs are at that moment. In the case of an aging technology stack, the ability to provide information transparency, understand the customer's intent, and respond in real time is limited.



Regulations and Legislation

The explosion of regulation and legislation, including the associated sensitivity and privacy of personal information, is one of the major factors in adoption of digital practices. Customer concerns about data privacy and how enterprises secure and use their data have been steadily rising. The regulatory landscape is shifting to ensure that firms use customer data appropriately and with proper consent.

Companies are Focusing on Next-Generation Content Services in Three Areas

Self-Service for Customers and Employees

IDC has found that the user experience is the top influencer in buying decisions. Customers want control of their information anytime and anywhere to update their address, submit and review claims, view past bills, and more. They expect a contextualized and personalized experience. When brands don't deliver on these expectations, it impacts the consumer's perception of the company and lowers consumers' level of satisfaction.



Next-Generation Self-Service for Personalized Experiences

A modern content services platform such as Papyrus offers a native self-service portal, which brings together all interactions and activities related to the customer's inquiry in a single place. The portal helps customers take quick action and view online

policies, contracts, invoices, or other personal data, all stored behind a secure digital front door.

Data such as customer engagement history and preferences is used to align products, services, and action with individual interests while building trusted relationships with customers by taking care of customer data and privacy. Self-service capabilities include instant electronic signature directly from within the portal and edelivery of documents with notification via SMS and/or email. Employees can generate a message to a customer and include the secure document link or integrate documents directly into an approval chain.

A wide range of functionalities, including digital value streams, can be offered as part of the self-service portal, allowing customers to start business transactions directly from there. Customers benefit from fast, seamless processes without media discontinuity, and companies reap the benefits of low-effort, time-saving, and cost-saving digital processing entirely without manual effort and paper.

CASE STUDY: Government Services

With approximately 800,000 invoices monthly, a leading provider of integrated electronic communications services makes use of the Papyrus Content Services Platform to improve customer service and modernize customer experience while leveraging the advantages of low-cost printing and mailing. The electronic invoicing program offers immediate bill notification by email and allows users to access, download, and/or print bills on a 24x7 basis for optimized customer experience and operational benefits of more than 500 organizations/business users.

“Content challenges were preventing us from delivering the right personalized experience to empower customers to move to a digital transaction.”

Enterprise Content Services for Work

With the hybrid work models and workers conducting business from diverse locations — at corporate facilities, in the field, and in home offices — modern work practices need to become more efficient and effortless. Problems with missing, incomplete, and inaccessible data must be finally solved, and employees enabled to respond to customer inquiries with speed and quality. They need to be able to author, collaborate, edit, repurpose, review, route, approve, and publish the content with ease.

Secure, seamless, and agile access to all services around the content life cycle is crucial for business success. To address the challenge of data silos, a content services platform solution needs to detach content from the lead business application and cut across all data repositories to find and surface information quickly.



Next-Generation Content Services for Collaborative Work

In a modern content services platform like Papyrus, employees work with a 360-degree view of the customer via synchronous channels (telephone, video call) and asynchronous channels (email, letter, etc.) in a single user interface.

Papyrus Business Designer empowers nontechnical users to create customer communications such as personalized interactive web forms, instant online letters, and contracts from the offer to the digital signing of the final contract. Keeping track of all customer interactions and content across channels and over time is a prerequisite for better customer service and provides full transparency to customers and employees. There is no need for employees to “switch” between systems and channels as all relevant content is accessible at any moment, ensuring frictionless work.

The solution allows employees working with business applications, such as Salesforce, Guidewire, or SAP to seamlessly access the content services platform. They can work on their sales or their clients’ insurance cases and claims applications, and when it comes to response documents, they can access the Papyrus system, browse through the library of business document templates, and write personalized documents or retrieve documents they need for both convenience and efficiency.

CASE STUDY: Insurance

An insurance company in the United Kingdom transitioned its legacy mainframe archives to a single modern server-based platform and self-service portal. The Papyrus business-led approach and enterprisewide workflow processes enabled the insurance teams to transform their customer service processes and respond to requests via digital and physical channels with high levels of employee and customer experience. The brand-new web and mobile self-service portal allows clients to access documents, update their information, and directly manage investments on their own. The CSP holds all electronic correspondence from across the company and serves as a repository for all documentation and correspondence to and from the policyholders, which is currently at 20 million documents and growing every day.

“Innovative content services solutions further digital transformation **for the internal business, placing intelligent insights at our fingertips.**”

Data Protection and Content Archiving for Legal Compliance

Balancing regulatory and privacy compliance is a critical element to architecting a good content services strategy. Many organizations have quality issues with incomplete data or access to older content, which are difficult to resolve.

Data visibility is also a major challenge facing enterprises and their ability to comply with data privacy regulations. This can be in the form of unstructured data, which is not indexed for easy compliance to data privacy requirements or future access.

Move beyond pure “document storage” and provide stakeholder with secure, selective access to any relevant information, such as business communications, outbound correspondence, incoming documents, emails with attachments, chat, fax, voice, video and any other content with meta-information. Organizations need the ability to monitor how content is flowing through the organization and limit who can access it while finding the right content quickly to comply with requests.



Next-Generation Archives for Legal Compliance

Legal and compliance teams need access to a wide range of corporate content for ediscovery purposes: revision-proofing, legally required deadlines, and automated document deletion upon expiration. Modern CSPs like Papyrus allow users to perform advanced searches and retrieve any stored communication for document viewing, reprinting, resending to the end customer, or for any other purpose, as needed.

By harnessing the potential of blockchain technology, Papyrus has created a blockchain ecosystem that guarantees the originality of every document, transaction, content, and message. With the blockchain ecosystem, companies can use the front-end user experience to access their contracts, mortgages, and agreements, which are seamlessly integrated with the Papyrus digital workplace on the back end. Documents can be drafted, generated, proposed, revised, executed, and signed, with multiple parties collaborating in a single case, sharing content, making decisions, and working on the final document version in real time. The blockchain process includes originality, authenticity, validity, and verifiability — the electronic signature is not required to sign intermediary contracts and agreements, eliminating the associated time delays and fees.

CASE STUDY: Payment System

A leading provider of electronic and cashless payment systems in Germany, responsible for cashless transactions for more than 1,100 member banks, uses Papyrus Software for its archival needs. The 25 archive nodes of the distributed archive handle critical payment scenarios and serve as a repository for all related business transactions. Due to the processing of credit card data, special consideration was given to PCI-DSS regulations, in particular to logging of user events, as well as data security, including high-level encryption and fully controlled and logged access to PCI-DSS relevant data such as account number, bank code, and credit card number. The system can be flexibly configured for legally required deadlines with automated document deletion upon expiration and provides transparent traceability, monitoring, and evaluation (who changed/edited what, when).

“Risk and compliance influence almost every business operation. Digital enterprises know how **to protect data privacy and architect their content services for immediate access to historical content without violating consumer trust.**”

Overview of Papyrus Software: All Three Scenarios in One Platform

The Papyrus platform accommodates all three use cases — self-service for customers and employees, enterprise content services for work, and data protection and archive for legal compliance — in a single solution.

Papyrus Software builds what it calls “Business First” technology, software that enables and facilitates creativity in business content processing, at the same time offering structure and control for regulatory or business mandates. “Business First” is supported by a single Business Designer tool that unifies document design, data capture design, process design, content design, and operations design in one.

The tool was built with the business user in mind and enables business teams to self-serve their needs to create and improve customer-centric communications, content, and processes for real-time digital and traditional business activities across the enterprise.

The Papyrus CSP addresses the entire content life cycle—from content creation to final archiving—acting as both an engagement-centric system for collaboration and a governance-centric system for legal—in a single platform. The solution provides content service applications and components to support a variety of business activities including customer communications, case management, contract life-cycle management, capture, and esignature provided via Papyrus Sign.

The CSP solution offers content services for versioning, metadata assignment, powerful search features, retention schedules, access control, privileges,

and flexible storage options for content in process, archived content, and content declared as a record.

Real-time, online collaboration is provided for both in-office and remote workers with a codeless visual interface to drag and drop fields from images into data elements and rich media, such as video, which can be annotated for clarity, allowing everyone across the digital value chain to stay informed. Workers can access all enterprise content via the desktop, browser, or mobile app for immediate self-service according to their security profile. All customer documents can be directly printed, faxed, or sent by email from the Papyrus WebArchive.

From a legal archive perspective, any type of content can be made revision-proof. This applies not only to PDF/A standards but also to Microsoft Office documents, email, web documents, chat, and more. For data protection, Papyrus supports long-term archiving with blockchain-secured contents to ensure that stored content cannot be corrupted and remains auditable on demand.

The system can be configured for legally required deadlines and set up to automatically delete the document upon expiration. Retention periods, as well as what happens to the content after the retention period is over, are fully configurable and can automatically generate notifications per email, SMS, and the Papyrus Inbox.

Essential Guidance to Executives and Decision Makers

Content services technologies will play a critical role in the transformation of a traditional business to one that is digital first.



Consider a Single Cohesive System That Is Intelligent, Scalable, and Extendable

Traditional legacy content management systems that are transactional in nature or limit access to data within their control will challenge employees who want a holistic view of their work processes and the customer's interaction. In 2022, IDC found that one out of three organizations will deploy their content services technology as a unified platform. Organizations should invest in a modern content services application that promotes the integration of siloed information from across the organization, streamlines operations with reusable content from a central repository accessible via a secure online web browser, portal, or mobile access point.



Improve Digital and Self-Service Effectiveness

In this new digital-first era, where the customer and employee desire control in creating, managing, and surfacing content in a fast and secure way, organizations can use a CSP to enable self-service 24 x 7 to appropriate content across business teams. Organizations also need to provide for personalization that uses data to dynamically update the tailored content, reflecting different life stages and needs. Empower the customer to initiate transactions, chat and receive notifications, view documents, and perform administration of their assets with full visibility into the process and their affairs at any moment in time.



Use Content Services to Access and Present Relevant Information

A system supporting customer experiences in tandem with the employee experience can support fact-based decision making and extend accountability by providing all decision makers with the right information at the right time. Automation can be used to handle the routine requests which gives knowledge workers the time and flexibility to handle exception cases and provide a personalized, individual service to the customer.



Seek a Solution That Is Secure and Governed

Every industry must support security certifications and appropriately apply governance controls with auditability to all content within its organizations. A CSP archive should record transactions and associated materials, then analyze them for opportunities to streamline operations and mitigate risk. Content that is shared across different departments requires a deeper level of control and flexibility that must be inherent to the archive architecture. The goal is to allow any object in the system to be archived at a specific point in time with support for specific storage and management attributes. Electronic archiving of documents and metadata can include legal attributes with blockchain notarization or certified digital signature, governed retention periods, and automatic document deletion by document category and type.

IDC Opinion

Organizations need a content services platform that supports technology parity for all members of their workforce, extending beyond desk workers to those in frontline and customer-facing positions.

In areas where investments have already been made, organizations should look to expand into other use cases where a connected content system would benefit—for example, utilizing blockchain for internal approval processes and partner onboarding where esignature was previously limited to the customer contract process.

Considerations:

- ▶ When making technology selections pertaining to their content services technology stack, buyers should choose a CSP solution with user experience in mind. At a minimum, it should be easy to use and eliminate context switching.
- ▶ Digital CSP solutions that are easy to deploy and provide self-service functions with rapid time to value can help promote leadership buy-in.
- ▶ Investing in modular, API-driven platforms, microservices, and purpose-built solutions can help future proof the overall content services platform and offer buyers the agility to address specific workflow use cases

through integrations, custom development, or plug-and-play of best-of-breed point solutions.

- ▶ Buyers should consider innovation accelerators such as analytics, machine learning, and natural language processing to automate tasks, improve productivity, reduce errors, and support improved customer and employee experience.

In the highly competitive digital market, being able to provide top-notch and fast customer service is essential to the organization's success. The ability to ingest data from any source, collaborate with colleagues, and converse with customers—all from a single environment—promotes business operational efficiency and customer satisfaction in a way that is both expected and possible to deliver today.

Papyrus Content Services is a modern CSP that makes content, information, processes, tasks, and activities available wherever and whenever they are needed, enabling employees to make data-driven decisions that improve the quality of work and serve the customer better.

About the Analyst



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Marci Maddox is Research Vice President for IDC's Digital Experience Management Software program, responsible for research related to content and media assets that drive relevant, personalized, and engaging digital experiences research. Leveraging 18 years in content and experience applications, Marci analyzes the impact that new technology entrants like AI and mobile have on the way organizations create and deliver persuasive content to improve customer lifetime value and user interaction. She conducts research on a worldwide scale including market sizing and forecasting, ROI models, case studies, and thought leadership projects.

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