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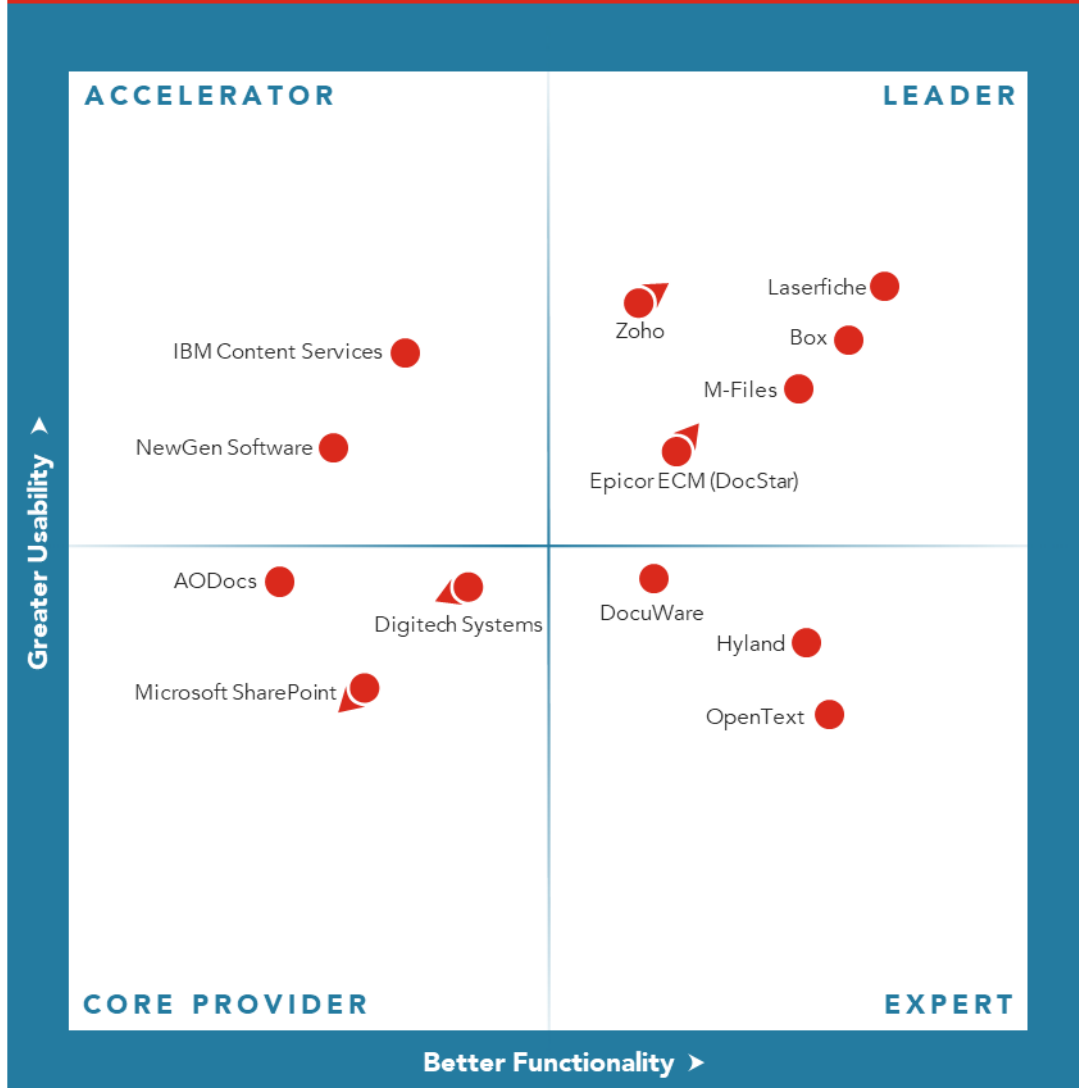
CSC TECHNOLOGY VALUE MATRIX™ 2024

ANALYST

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THE BOTTOM LINE

Content services and collaboration (CSC) solutions remain an essential part of an organization's technology infrastructure. Serving as a central hub for content management, process automation, and internal and external collaboration, these tools help add efficiency to cross-departmental processes while maintaining high levels of data security. The introduction of generative AI in a sparse market has given some providers a competitive advantage, as many rush to differentiate through their investments in the technology either through partnership, acquisition, or native development. The successful application and adoption of generative AI capabilities for CSC users relies on vendors' ability to demonstrate value in use, stay on top of security, and ease cloud migration for customers still operating in on-premises environments.



MARKET OVERVIEW

The Content Services and Collaboration market has not been immune to the rise of Generative AI, which has served as a differentiating point for leaders in a sparse market. While cloud migration remains at a steady pace, Nucleus expects the emergence of new functionality will be a push factor for organizations still operating on-premises deployments, with many vendors offering migration services.

Leaders in the CSC market are continuing to invest in AI and machine learning, with many partnering with large providers such as Google and Microsoft. However, specific R&D investments in generative AI have driven the release of tools that enable users to summarize and glean insights from their content. While adoption of the new technology has dragged across several SaaS markets due to security concerns, the historical emphasis that CSC providers have placed on compliance and data protection has given organizations higher levels of confidence. Other primary areas of investment include enhancements to low code process automation capabilities and internal and external asynchronous collaboration. While acquisitions have slowed over the past year, larger vendors continue to purchase smaller providers in areas such as process automation to quickly fill in functionality gaps.

In this year's Value Matrix, Nucleus evaluated content services and collaboration vendors based on the relative functionality and usability of their products, assessing the value that customers achieved from the solution's capabilities (Nucleus Research X222 – *Understanding the Value Matrix* – December 2023). The report is intended to serve as a snapshot of the Content Services technology market, inform customers about how vendors are delivering value, and take stock of what can be expected in the future based on current investments.

LEADERS

Leaders in the Value Matrix include Box, Epicor ECM (DocStar), Laserfiche, M-Files, and Zoho.

BOX

The Box Intelligent Content Cloud is a single platform that enables organizations to facilitate collaboration, manage the entire content lifecycle, secure content, and add efficiency to business workflows. The solution includes content capture, workflow automation, collaboration and whiteboarding, e-signature, security, governance, and compliance capabilities. Box also provides customers with more than 1,500 pre-built integrations, giving improved access to Box files across different business systems. Deep integration with other productivity suites from vendors, including Microsoft, Google, and Apple, facilitates open exchange of files between the services and enhanced business processes for joint customers. Further, Box has a set of APIs, developer tools, and community support that enable customers to build on Box and customize to the unique needs of their business.

The Box Trust Center details the vendor's privacy, security, and compliance certifications, which include ISO 27001, ISO 27018, ISO 27017, C5, TCDP, FedRAMP Moderate,

StateRAMP, HIPAA/HITECH Act, and SOC 1, 2, and 3. The vendor also offers the Box Trust Partner Program, a select group of security and compliance partners, to further extend the security and compliance functionality of the Content Cloud.

The vendor's e-signature solution, Box Sign, offers unlimited native e-signatures and is included with all Box Business Pricing plans. Specifically, features like 'batch send', 'ready-sign link,' and custom branding help address high-volume use cases, while new features like recipient group signing, customizable expiration dates, signer attachments, read-only and prefill fields, and introduction of radio buttons and dropdown menus enable senders and signers to unlock additional use cases and deliver a more seamless experience.

In terms of extensibility, Box introduced Box Sign-specific integrations with third-party apps like Salesforce, Workato, Slack, NetSuite, Jira, and more, enabling joint customers to send and track documents for e-signature in real-time directly from those applications. For those looking to extend Box Sign capabilities into custom apps, Box Sign offers flexible APIs and developer-friendly tools, enabling customers to extend the power of Box Sign wherever their business needs it. Recently, Box introduced the ability to embed the Box Sign signing experience within custom apps, as well as the ability to suppress email notifications and additional webhook support, enabling customers to use custom email templates and new communication channels to deliver signature request notifications.

Box AI is a new suite of capabilities that natively integrate advanced AI models into the Content Cloud, including generative AI, while maintaining security, compliance, and privacy standards. Box AI can already handle several tasks, including summarizing documents and generating content. Further, the Box AI API allows developers to use Box AI functionality within custom applications. The vendor continues to invest in building out new AI-driven capabilities to automate workflows and tasks and ultimately improve user productivity.

Recent updates and announcements include:

- In July 2023, Box announced its integration with Copilot for Microsoft 365, offering a connector via Microsoft Graph that enables users to summarize shared Box documents in Microsoft Teams, Microsoft365.com, and copilot.microsoft.com. and ask questions about shared content. Additionally, the vendor released updates to its integrations with the Microsoft 365 Office suite to provide joint customers with improved collaboration features across Teams as well as Word, Excel, and PowerPoint.
- In October 2023, the vendor announced Box Hubs, a new solution to ease the curation and publication of content across teams and departments. Currently in Beta, Hubs enables users to create shared content repositories, or "hubs" without IT or admin intervention, customize hubs with images and information, add existing content, and view built-in insights to better understand content performance trends.

Hubs also deeply integrates with Box AI, extending generative AI capabilities into the solution. For example, users can query content within a specific hub to more easily extract information, or generate new content based on information in a hub.

- In October 2023, the vendor announced the Box AI API and Box AI for UI Elements, currently in Beta, which will allow developers to extend the Box AI functionality to their custom applications and integrations. The vendor also announced the Box AI Dev Zone where developers can explore the Box AI API through interactive experiences and view use cases, example prompts and responses, and sample code.
- In November 2023, Box announced an expanded partnership with Google Cloud and integration with Vertex AI to bolster its generative AI capabilities.
- In January 2024, Box announced its acquisition of no-code business process application provider, Crooze. The move provides Box customers with no-code development capabilities, along with dashboards, metadata views, and preview experiences that can be customized for individual users. Crooze integrates with Box Relay for process automation and Box Sign for e-signatures.
- Also in January 2024, the vendor announced that it received FDA CFR Part 11 compliance, enabling Box Sign to be used to support clinical trials, approvals, process changes, readiness verification, and more. In tandem with Box's ability to support 21 CFR Part 11 compliance for electronics records and Box's GxP Validation offering, the introduction of 21 CFR Part 11 compliance for e-signatures in Box Sign provides life sciences customers with a comprehensive approach to address 21 CFR Part 11 compliance and leverage Box for multiple life sciences use cases.
- In March 2024, Box announced its collaboration with Microsoft with New Azure OpenAI Service Integration. This integration enables Box customers to benefit from the most advanced AI models in the world, while bringing Box and Microsoft's enterprise-grade standards for security, privacy, and compliance to this groundbreaking technology. Box also announced that Box AI is generally available to customers on Enterprise Plus plans.
- In June 2024, Box announced that end-user queries in Box AI for Hubs, Documents, and Notes will be unlimited for customers on its Enterprise Plus plan. Box also unveiled a new set of features in Box AI that includes an integration with GPT-4o, support for image and spreadsheet files, and the Box AI for Metadata API.

EPICOR ECM (DOCSTAR)

The Epicor ECM (DocStar) platform covers document management and business process automation across areas including accounts payable and sales orders. The solution can be deployed on-premises or in the cloud and includes specific capabilities for electronic form

creation, smart data capture, customizable workflows, analytics, and disaster recovery. A significant differentiator for DocStar is its ability to integrate with virtually any enterprise resource planning (ERP) solution.

DocStar provides customers with pre-built workflows for specific departments and use cases, including accounts payable, HR, and sales. Additionally, the vendor's WorkFlow Designer provides users with modern flowcharting elements and UI controls, facilitating quick adoption. The vendor also partners with IPaaS provider, Workato, enabling organizations to easily connect apps and automate processes between previously disparate systems easily and without the need for IT intervention.

Recent updates and announcements include:

- Epicor has updated the web and mobile user experiences for DocStar. For example, high-traffic pages such as Search and Viewer have been refactored on the web version, enabling users to find documents and execute tasks more quickly. Key document results on the mobile version now have a tile interface instead of the previous grid interface.
- The vendor's intelligent data capture (IDC) module now offers the Microsoft Azure OCR engine as an option alongside the Tesseract OCR engine.
- Integration between DocStar and Epicor's Building Supply ERP, BisTrack, allows BisTrack users to execute workflows, such as DocuSigning workflows for quotes and sales orders.
- DocStar has released new AI features for early adopters, including AI Predictive Data Entry and AI ChatECM. AI Predictive Data Entry uses predictive machine learning models to predict the value of fields that would normally be manually entered. AI ChatECM enables users to query content in their repository in natural language through a chat interface to surface generative AI-powered answers.

LASERFICHE

Laserfiche is a provider of enterprise content management and business process automation solutions with built-in data analytics, security, and AI-powered productivity tools. The vendor's SaaS platform, Laserfiche Cloud, is delivered through a multitenant cloud infrastructure. Laserfiche can also be self-hosted in a customer's cloud, on-premises, or hybrid environment.

The vendor's Solution Marketplace provides customers with industry and department-specific templates, enabling users to build, customize, and deploy automated workflows. Users can use Laserfiche's no-code process designer and WYSIWYG forms designer to adjust solution templates to departmental needs. For example, conditional branching,

parallel processing, notifications, and exception handling can all be used to streamline specific processes. The vendor's developer toolbox includes more than 150 no-code activities to bolster integrations and other backend processing tasks. These include AI-enabled capture, decision tables, and automated document creation. Any member of the Laserfiche community can submit a solution to be vetted and posted to the Solution Marketplace, which currently has more than 400 listings.

Laserfiche's content repository can be accessed across web and mobile interfaces and has drag-and-drop capabilities to ease the upload and organization of data. Information governance capabilities through Laserfiche's repository enable customers to retain a single source of truth records of content and metadata information after business processes are run.

Intelligent document processing enables customers to gain insights through the capture of process-relevant structured data from unstructured content. For example, data fields can be extracted through machine learning, pattern recognition or relative positioning from text generated from images through optical character recognition (OCR) or handwriting recognition or from audio and video files through transcription.

Recent updates and announcements include:

- Generative AI capabilities enable document summarization, enabling users to quickly understand the most important takeaways from documents and audio/video files. A RegEx Builder also using Generative AI helps users to natively build and update regular expressions while reducing the need for coding.
- Laserfiche Forms users interacting with large amounts of data now have the ability to take advantage of on-form table filtering and automatic conversion of radio buttons and checkboxes into dropdowns when the number of items reaches a limit. Additionally, dates and date ranges can now be specified more easily compared to the current date. For field workers, geolocations can now automatically be added to form submissions.
- Process design improvements include the ability for forms to automatically adjust their layout to fit on mobile device browsers. Additionally, lists of labels, values, and default selections can now be bulk-imported from CSV files. Forms can be designed to look up and display data from other enterprise applications through backend web service calls from within the Forms server.
- The vendor has added functionality to its repository APIs to aid in the migration of large amounts of data or large files into a Laserfiche repository. The vendor has also expanded the capacity for built-in data management, enabling developers to store data from external applications for use in Laserfiche business

processes. The Laserfiche SharePoint Online Integration is now available on Microsoft AppSource, enabling joint customers to archive SharePoint documents to Laserfiche for records retention.

- Laserfiche Direct Share for external collaboration has been enhanced for additional security, now offering the option to require one-time passcodes. The vendor has also achieved certification through the 2022 version of ISO/IEC 27001.

M-FILES

M-Files is a provider of information management technology, most notably its metadata-driven document management platform. The M-Files platform can be deployed on-premises or in the cloud and includes functionality for business process and document automation, document search, information control, and collaboration.

M-Files Ment is the vendor's no-code document automation offering, which enables users to build and manage automated templates without the need for coding or IT intervention. The clause library within Ment allows frequently accessed clauses to be saved and re-used across all templates. M-Files Hubshare brings all the necessary information required for digital client management into a centralized dashboard. Users can then create branded hubs for clients to allow for enhanced client communication. There is no limit to how many hubs an organization can manage within Hubshare, and granular security measures ensure that sensitive data is kept secure without inhibiting productivity and collaboration. When sharing documents with internal teams, organizations can use M-Files Links to create shareable links that work with their preferred M-Files client or integrated platform.

M-Files uses AI and machine learning to identify and create connections to documents across platforms and repositories. The vendor has also expanded its integrations. For example, the M-Files add-on for Microsoft Teams provides joint customers with a single source of record for all content types and enhances collaboration. The M-Files Advanced Outlook integration enables users to track important documents, capture e-mail threads as conversations, and find information based on context. The vendor also offers integration with Adobe Acrobat Sign E-signature to provide organizations with Adobe E-signature capabilities without the need for separate Adobe licensing.

Recent updates and announcements include:

- In September 2023, M-Files announced enhancements to its knowledge work automation platform, powered by the newly released M-Files Aino Generative AI.
- In May 2024, the vendor announced additional improvements to its Aino Generative AI product, as well as an M-Files connector for Microsoft Copilot for joint Microsoft 365 and M-Files customers.

ZOHO

Zoho WorkDrive is a cloud-based content management and collaboration application that is accessible via web, mobile, and desktop apps. WorkDrive includes capabilities for internal and external collaboration, workflow automation, e-signature, access permissions, document archiving, and data encryption. Administrative controls enable admin users to manage all shared content from a central location and include device management capabilities, which provide visibility into total storage, usage, and device activity. Administrators can also log out users or erase WorkDrive content from certain devices. WorkDrive Genie enables users to edit any file stored in WorkDrive with the native application on their desktop. For example, a PSD file can be opened directly in that app and saved back to their WorkDrive account.

Zoho WorkDrive is the underlying document management system across all Zoho business applications, enabling unified search and storage. This deep integration with other Zoho Applications provides users with a more seamless experience. However, the vendor also offers integration with more than 1,000 third-party solutions. Zoho WorkDrive is GDPR and HIPAA-compliant and meets SOC 2 Type II and ISO/IEC 27001 compliance standards.

Recent updates and announcements include:

- Zoho recently enhanced WorkDrive Snap, the application's communication and collaboration tool. Users can now mute and unmute their microphones, set cameras on or off during screen or video recordings, and set video resolution.
- WorkDrive now includes a workflow builder that can automate tasks involving content across departments and teams. Instead of being limited to an existing set of workflows, organizations can define triggers, transitions, and actions.
- Users can set up webhooks to simplify communication between WorkDrive and custom applications. When an action takes place in WorkDrive, a notification with relevant details will show up in the other app.
- The new WorkDrive add-on for Microsoft Outlook enables joint Outlook and WorkDrive users to work more efficiently across the two applications.
- WorkDrive now offers an integration with Open AI, enabling users to generate content ideas, draft e-mail replies, and identify visuals for different documents. Other usability improvements include the ability to upload large files in smaller "chunks", improved search and filter options, and the ability to store and manage code snippets in the solution's central repository.
- WorkDrive has expanded language support to cover all 22 official Indian languages.
- WorkDrive expanded its security controls, now enabling data loss prevention (DLP) which can identify sensitive data and prevent it from being accessed or shared by

unauthorized parties. This is especially valuable for users in industries such as healthcare that handle substantial amounts of PII and health data. Additionally, ManageEngine's RecoveryManager Plus (RMP) now enables backup support for WorkDrive, which can run daily, weekly, or monthly automated backups.

EXPERTS

Experts in the Value Matrix include DocuWare, Hyland, and OpenText.

DOCUWARE

DocuWare is a content services software provider with solutions that cover document capture and management (DocuWare DMS), business process automation (DocuWare Workflow), and metadata management and content indexing (DocuWare Intelligent Indexing). The vendor also offers preconfigured solutions for specific use cases, such as employee management and invoice processing. All DocuWare products can be deployed in the cloud, on-premises, or in hybrid cloud environments. Additionally, pre-built connectors, custom API programming, and iPaaS app connectors enable customers to easily integrate DocuWare with core systems, such as ERP.

The vendor's WorkFlow Manager can automate processes such as document routing and approval, index data manipulation, and content archival. Users can even copy workflows created in one department and configure them to fit different use cases. The WorkFlow Manager also has a drag-and-drop interface and Task Manager, which enables less technical users to quickly gain proficiency. DocuWare has ISO/IEC 27001 certification and is available across more than 178 countries and territories globally with support for 24 languages. The solution is best suited for the needs of small and mid-sized organizations that are looking to take advantage of advanced content management and workflow automation capabilities without the learning curve associated with some other enterprise platforms.

Recent updates and announcements include:

- In July 2023, DocuWare released version 7.8, which includes new features including automatic calculations for DocuWare Forms, Microsoft Teams integration, and improved support for mobile workflows through index tables.
- In September 2023, the vendor announced its partnership with Epson UK, expanding its partner network in the UK and Ireland.
- Also in September 2023, DocuWare version 7.9 was launched, enabling tables to be inserted into DocuWare Web forms to simplify structured data entry.

- In April 2024, Docuware announced its acquisition of natif.ai, a startup focused on document management and workflow automation. The move is expected to strengthen the vendor's AI capabilities.

HYLAND

Hyland is a global provider of intelligent content solutions. Hyland is innovating on its next-gen, cloud-native platform, Hyland Experience, and currently adds new capabilities to its content services platforms, Alfresco, Nuxeo, OnBase, and Perceptive Content.

Recently Hyland unveiled two upcoming additions to its suite of Hyland Experience services – Hyland Experience Automate (Hx Automate) and Hyland Experience Insight (Hx Insight). Hx Automate, launched in April, helps organizations integrate digital content across systems and enables users to efficiently build, deploy, and manage content-centric automation in the cloud. Hx Insight powers the synergies between generative AI, content, processes, and data to augment the human workforce and accelerate decisions and processes. Hx Insight leverages generative AI and unstructured data to generate answers to questions in natural language and conversational search.

Hyland's multi-product portfolio offers intelligent content solutions to meet the needs of customers across its core industry verticals, including public sector, healthcare, financial services, education, insurance, retail, and manufacturing. Additionally, Hyland supports on-premises, private, public, SaaS, and PaaS deployments, providing customers with a full range of options. The vendor also continues to focus on offering deep integrations with other business systems from enterprise vendors, including SAP, Salesforce, Workday, and EHR provider Epic.

Recent updates and announcements include:

- In September 2023, Hyland released more than 40 enhancements to its OnBase platform, including the launch of the OnBase App Builder.
- In November 2023, the vendor announced the release of its Intelligent Document Processing (IDP) product, which provides customers with AI-driven document capture, separation, classification, and intelligent data extraction capabilities. The vendor also launched new customization options to the Alfresco platform and enhanced capabilities within the Nuxeo platform.
- In March 2024, Hyland launched OnBase integration for the Encompass digital lending platform, enabling accelerated loan document archiving and compliance support for users in the mortgage lending industry.
- In May 2024, Hyland achieved TX-RAMP Level 2 certification, the data security standard for Texas state agencies.

- In May 2024, Hyland welcomed new President and CEO Jitesh Ghai to lead their organization. This follows the announcement of their new CPO Leonard Kim in August of 2023.

OPENTEXT

OpenText offers several content and information management solutions with functionality for content management, enterprise governance, and records management with built-in analytics and reporting capabilities. The OpenText Core Content platform is the vendor's multitenant cloud offering which enables ease of configuration for specific use cases. Integration continues to be a strength for OpenText, which has a partnership with Google that establishes the Core Content platform as a service on Google Cloud. OpenText is also a close partner to SAP, offering deep integration with SAP products. The vendor continues to be highly acquisitive, with its recent acquisition of KineMatik taking place in 2023. Nucleus expects OpenText to continue to buy rather than build, growing its market presence and customer footprint through acquisition of smaller providers.

Recent updates and announcements include:

- In August 2023, OpenText announced opentext.ai, the company's AI strategy into how customers can accelerate productivity by applying large language models (LLMs) and artificial intelligence alongside their OpenText Information Management software. OpenText Aviator was also announced, which enables secure information management and governance across knowledge bases for customers without them needing to move their data.
- Also in August 2023, the vendor acquired KineMatik, a provider of automated business process and project management solutions, which will integrate with OpenText Content Cloud products.
- In May 2024, OpenText acquired Pillr, a managed detection and response (MDR) platform for managed service providers, which is now integrated with OpenText's Cybersecurity solutions.

ACCELERATORS

Accelerators in the Value Matrix include IBM Content Services and NewGen Software.

IBM CONTENT SERVICES

The IBM Content Services platform can be deployed in the cloud, on-premises, or in hybrid cloud environments, providing customers with document classification and processing, metadata management, governance and security, and robotic process automation (RPA) capabilities. The solution primarily acts as a configurable, centralized content repository, enabling users to search, browse, view, and collaborate on content. IBM Watson, the vendor's AI engine, is also built into the platform, with tools that can automatically classify documents, extract metadata, and extract content and workflow data for data mining and data science use cases.

NEWGEN SOFTWARE

NewGen Software provides technology for the management of enterprise content, business processes, and customer communications. The vendor's contextual content services platform includes capabilities for content capture and management, workflow automation, robotic process automation (RPA), content analytics, collaboration, records management, remote imaging, and security and compliance. AI capabilities within the platform enable users to quickly extract and classify content and avoid inaccuracies typically associated with manual content processes. The solution is also available in several vendor marketplaces to ease integration with solutions from providers, including AWS, Microsoft Azure, Salesforce, and Temenos. NewGen offers cloud migration services for net-new customers that are transitioning from legacy, on-premises solutions, making it an attractive choice for organizations looking to take advantage of cloud-based content management while reducing the burden on internal teams.

CORE PROVIDERS

Core Providers in the Value Matrix include AODocs, Digitech Systems, and Microsoft SharePoint.

AODOCS

The AODocs content services platform is cloud-based and covers functional areas, including process automation, electronic signatures, file recovery and conversion, version control, OCR, collaboration, compliance, and document archiving, indexing, and retention. The solution is part of the Google Cloud marketplace and offers pre-built integrations with solutions from Salesforce, DocuSign, and Google Drive. The AODocs Knowledge Management solution can be scaled across the platform and uses AI to analyze content and

ensure that versioning is accurate. The software is especially prevalent in industries such as financial services, manufacturing, and the public sector.

DIGITECH SYSTEMS

The Digitech Systems platform includes capabilities for content management and collaboration, secure content storage, data capture, and business process automation and offers cloud, on-premises, and hybrid deployments. PaperVision Direct, the vendor's document digitization and upload tool, integrates closely with its PaperVision.com web-based cloud repository. This combination accelerates implementation while ensuring compliance with an organization's existing security measures. For example, PaperVision Folder Monitor automatically applies cybersecurity and access settings to uploaded files. Additionally, metadata is captured during upload to allow for enhanced search capability.

MICROSOFT SHAREPOINT

Microsoft SharePoint functionality spans document storage, content management, and collaboration. The vendor's content management capabilities are part of SharePoint Syntex, an intelligent content services layer that facilitates the creation, sharing, management, and security of content across an organization.

SharePoint runs on Microsoft's cloud infrastructure, which helps customers to remain compliant with changing regulations. Additionally, the solution's native integration with other Microsoft products, including OneDrive for Business, Office 365, Microsoft Viva, and Microsoft Teams, makes it a common choice for organizations with a substantial Microsoft Ecosystem. However, many organizations noted the need to supplement their use of the solution with other standalone content services tools due to a lack of advanced capabilities.