



NUCLEUS
RESEARCH

CSC TECHNOLOGY VALUE MATRIX 2021

ANALYST

Evelyn McMullen

THE BOTTOM LINE

Events of the past year have led to a widespread transition to remote and hybrid work structures. This shift highlighted the need for organizations to modernize their content management and collaboration tech stacks to ensure their ability to remain productive both in and out of the physical office. Leaders in the content services space are making investments in internal and external collaboration, workflow automation, and security to meet customer's requirements and remain competitive amid a shrinking market. Nucleus expects standalone, niche providers to either be acquired by full-suite players or cease to exist over the next year.



MARKET OVERVIEW

The events of this past year have put to rest any argument for the continued use of traditional, on-premises content management and storage systems. A planned transition to permanent remote and hybrid work structures has pushed organizations of all sizes to

modernize their content management and collaboration infrastructures to maximize efficiency and end-user productivity.

Nucleus interviewed users and found that they continue to view agnostic repositories, flexible and hybrid implementations, and automated taxonomy as critical factors driving selection and ROI in CSC deployments. Key investment areas over the course of the pandemic include:

- **Collaboration.** To enable users to maintain productivity among teams despite physical and technical barriers to communication.
- **Automation.** Robotic process automation and machine learning manage high-volume, repetitive tasks and workflows to avoid manual errors and add efficiency to specific processes such as invoicing.
- **Security.** Content security has become table stakes in CSC deployments, especially as remote work increases the risk of both end-user and third-party security breaches. Features such as access permissions, activity alerts, and data encryption have seen greater ubiquity into 2021.

An uptick in cloud migration prompted by work from home (WFH) has occurred among many industries that have faced initial skepticism to cloud infrastructures. For example, organizations in the public sector with strict regulatory compliance policies. Nucleus expects that vendors that offer Software-as-a-Service delivery models or hybrid cloud on-premise deployments and prove that they can effectively manage the complex needs of these organizations will be poised to amass new customers as the transition to the “new normal” continues.

The CSC market has seen a definite shift over the past year, with increased mergers and acquisitions. For example, Hyland’s acquisition of Nuxeo and Alfresco. Nucleus expects that the market will continue to shrink until only a few major players dominate the entire space. Organizations now expect a full breadth of content services functionality that can integrate with existing business software and meet emerging needs and will not consider smaller, niche providers for a solution. These standalone content platforms will begin to disappear, either by absorption into a larger competitor or a complete halt of operations.

For this Value Matrix, Nucleus evaluated content services vendors based on the relative usability and functionality of their solutions, as well as the value that customers realized from each product’s capabilities (Nucleus Research v67 – *Understanding the Value Matrix* – April 2021). The research is intended to serve as a snapshot of the ECM technology market, help inform customers about how vendors are delivering value, and assess what can be expected in the future based on current investments.

LEADERS

Leaders in the Value Matrix include Box, Digitech Systems, Epicor ECM, Laserfiche, and M-Files.

BOX

Box is a cloud content management platform covering the breadth of an organization's users, apps, and processes, enabling users to work both on-site and remotely without interruption. Capabilities of the solution include built-in collaboration, workflow automation, security, governance, and compliance. Additionally, the Box integrations network allows users to access more than 1,500 third-party solutions to add extra functionality while maintaining Box as a central content core. Over the past year, the vendor has made increased investments in mobile capabilities, including the ability to scan documents, convert to PDF, and upload to Box from within the app with OCR capabilities to identify searchable text. Box updated the user interface (UI) to facilitate improved end-user adoption and help users maintain productivity.

Additionally, the platform increased machine learning functionality to increase content intelligence and bolster its security and compliance. The vendor's advanced add-on products, Box Shield and Box Relay, add functionality to security and workflow management areas. Box Shield is focused on preventing data leakage and providing access permissions that alert end-users of malware risk and notify administrators of suspicious user behavior. Box Relay features an updated workflow engine with a menu of triggers, conditions, and outcomes to simplify business processes across an organization.

Updates and announcements since the last Value Matrix include:

- **Box Governance.** Box has rearchitected the application of its legal hold and retention policies, enabling users to reduce time spent enforcing various regulations. The vendor also allows event-based retention in addition to global, folder, and metadata-based retention policies. For example, customers can now associate the start date of a retention policy with a metadata value.
- **Box Shield** can now manually and automatically classify new and existing content based on detecting PII and other custom terms. The tool also integrates with Microsoft Information Protection (MIP) and gives users the ability to import MIP sensitivity labels and apply them as Box classification labels.
- **Workflows** through Box Relay can be scheduled periodically, e.g., daily, weekly, or monthly. Additionally, Box Relay includes a library of 24 pre-built templates for workflows in sales, HR, legal, finance, marketing, and operations departments. Users can also create, publish and re-use custom templates.

- The vendor deepened integrations with Microsoft Teams to enable users to change the Box folders that their chats and channels map to and detect and update file permissions based on which chat or channel the file is shared. Box will also launch a new Box interface within teams to deliver a more embedded experience, with functionality such as creating, sharing, and opening Box files to edit within the Teams platform. Additional integrations include Box for Google Workspace Essentials and Adobe Acrobat for Box.
- Platform updates include new functionality for Custom App lifecycle management, a new Metadata Query toolkit, and a Box Sign API.
- In February, Box announced the acquisition of SignRequest and the upcoming launch of Box Sign, which will enable users to use secure e-signatures within the Box Content Cloud.
- The vendor also announced significant updates to Box Shuttle, a content-migration solution that leverages its recent acquisition of Cloud FastPath to move content to the cloud. Box Shuttle offers free self-service tooling for simple migrations of 10TB or less, paid services at \$500/TB, or managed services.

DIGITECH SYSTEMS

Digitech Systems is a longstanding provider of content management solutions that offers an end-to-end content platform that can be deployed on-premises, in the cloud, or in hybrid infrastructures. The solution covers functionality in data capture, content management and collaboration, secure content storage, and automated business processes that leverage patented AI-driven algorithms to differentiate and classify data. Papervision.com is a new cloud-based service that allows more customers to take advantage of Digitech's cloud content management capabilities. Additionally, PaperVision ScanPro is another new addition that will enable users to transfer data into the cloud quickly and securely and create metadata to improve search. The vendor delivers its solutions through independent software vendors (ISV) to focus on R&D, which serves as a critical differentiator to providers that dedicate more effort to sales and marketing.

EPICOR ECM

The Epicor ECM platform is entirely browser-based and includes functionality for document management, accounts payable automation, and sales order automation. Additional capabilities include smart data capture, buildable workflows, electronic forms, and disaster recovery, as well as integrations, analytics, and mobile usability. Machine-learning-driven intelligent data capture through the solution eliminates the need for templates and programming, while the solution's business automation reduces manual processes and

associated errors. Additionally, the platform has a workflow engine that allows for content validation against business system data and a multi-level approval process. The vendor's established expertise in ERP and deep integration with its respective ERP, Finance, and other industry-specific solutions make it an attractive choice for organizations looking for end-to-end business management through a single provider.

Updates and announcements since the last value matrix include:

- In October, Epicor ECM released an update that included a new inbound purchase order acknowledgment workflow for distributors, to be stored in the ECM repository and accessible via links in the business system PO records. Additionally, e-mail batch import through the solution now supports Exchange Web Services (EWS) and can extract metadata from e-mail attachments.
- In June, Epicor ECM released an update that included approvals re-verification and versioning enhancements which will help medical device and aerospace & defense customers, as well as other industrial sectors with requirements for exacting documentation and certification of items.

LASERFICHE

Laserfiche has expertise in multiple spaces, including finance and wealth management, health care, education, manufacturing, and the public sector. The platform can be SaaS-delivered, deployed on-premises, or in hybrid and private cloud infrastructures, and covers areas of content management, business process automation, and data analytics. Business process automation is a sustained focus of the vendor's investments. The Laserfiche Business Process Library provides users with industry and department-specific templates that enable them to get started quickly building automated workflows. Additionally, the platform includes a toolbox for developers that includes over 150 activities to aid systems integrations and backend processing tasks. These include bots, capture profiles, decision tables, and automated document creation. The vendor's cloud content repository enables web and mobile access and has drag-and-drop operations for organizing or adding content in the repository from desktop or Outlook. Built-in records management capabilities store content according to lifecycle rules and can include the Laserfiche Vault feature to adhere to policies such as SEC Rule 17a-4(f). Users can also share or revoke cloud access to specific content and track usage with proper permissions.

Laserfiche has integrations with Microsoft 365 that allow users to save or retrieve content to the Laserfiche repository through an add-in within 365 web content authoring applications. Microsoft web authoring is also available for directly editing content within Laserfiche. The vendor offers a configurable portal site that enables the secure publishing of content, with pre-built searches and links that can quickly guide users.

Updates and announcements since the last Value Matrix include:

- Laserfiche added new process automation functionality, including File Sets, Smart Invoice Capture, the ability to merge data to a PDF form. A Process Operational Dashboard enables users to track the progress of all in-flight processes and task statuses in a summary view. Additionally, the Process Promotion Tool allows testing of process applications in a separate environment before production.
- The vendor announced an integration with Microsoft Teams that enables users to edit and annotate Laserfiche documents within Teams chats and channels. File storage is achieved quickly to Laserfiche to ensure compliance with regulatory policies. The vendor also released new RESTful web APIs to allow users to access Laserfiche content from any programming language.
- Laserfiche self-hosted customers can leverage SaaS features, including cloud sharing of documents. The vendor is working to make other cloud capabilities, such as integrations and RPA bot coordination, available to self-hosted customers.

M-FILES

M-Files' metadata-based, repository agnostic information management platform enables users to manage and search for data regardless of where it is stored. The solution leverages automation to improve the efficiency and speed of various tasks and workflows such as invoice processing and contract approvals, analyzing content, and automatically classifying, securing, tag, surface, and applying governance policies. Additionally, M-Files can be accessed within many common interfaces, including Microsoft 365, Teams, SharePoint, and Salesforce, to reduce time spent toggling between solutions to look for documents. M-Files Ground Link is a newer solution that connects M-Files cloud instances to on-premises content sources. The platform's configurable client portal improves external communications.

The vendor's data security features include access control and permissions, automated audit trails, federated authentication, file encryption, intrusion detection, and data loss prevention. The platform is frequently updated and does not require extra IT support to enable access to new features. M-Files licensure for cloud deployments is also the same as that of on-premises, enabling more organizations to move to a cloud infrastructure at their own pace gradually.

Updates and announcements since the last Value Matrix include:

- In January, M-Files released M-Files Web, a redesigned user interface built to help end-users adopt the solution more quickly. The new web architecture also supports improved embedded user experience in applications including Salesforce, SharePoint, Teams, and ESRI. The M-Files Manage portal was also released to

enable customers to manage and provision users, vaults, and licenses with additional insight into solution activity, usage, and vault data metrics.

- The vendor introduced a new cloud infrastructure based on the Microsoft Azure Service Fabric architecture. This improved scalability and performance while giving customers the ability to gain fuller control of their solution.
- M-Files released signature integration with Adobe Sign to expand electronic signature options for customers and improve embedment in the workflow.
- The vendor acquired Hubshare, a digital client experience and collaborative workspace solution to promote collaboration among internal and external teams. Co-authoring support is also available to M-Files' Desktop, Web, and Embedded UI clients, allowing documents to be co-authored in-place by integrating with Microsoft Office or the web.

FACILITATORS

Facilitators in the Value Matrix include IBM, NewGen Software, and Zoho WorkDrive.

IBM CONTENT SERVICES

IBM Content Services provides a single platform for integrated Content, Workflow, Capture, Decisions, Process Mining, and Robotic Process Automation (RPA). The vendor's AI engine, Watson, is present throughout the solution, with AI-driven tools for document classification, data extraction, mobile capture, and visual search. Users can also access operational insights on content added to the repository through a visual dashboard. Flexible deployments enable organizations to access the solution in the cloud, on-premises, or in hybrid cloud environments. IBM continues to build out functionality, such as deepened integrations with third-party applications, improved automation, and enhancements to external collaboration.

NEWGEN OMNIDOCs

NewGen OmniDocs is the vendor's platform for contextual content services. Functionality includes content capture and management, workflow automation, content analytics, RPA, collaboration, security and compliance, records management, and remote imaging. Artificial intelligence capabilities are present throughout the OmniDocs platform and enable users to extract and classify content quickly and accurately while providing sentiment analysis. The vendor also offers a cloud migration service to help on-premises customers transition their content and operations into a cloud infrastructure and take advantage of the functionality.

ZOHO WORKDRIVE

Zoho Workdrive is a cloud-based content management and collaboration platform accessible via the web and mobile apps for iOS and Android. The WorkDrive suite has use cases across several industries and organizational sizes and can scale across departments, including HR, Operations, and Sales. Key features of the solution include internal and external collaboration, e-signature functionality, access permissions, data encryption, file recovery and conversion, document archiving, and real-time synchronization that allows users to work online or offline without losing their work. WorkDrive integrates with third-party apps, including Office 365, enabling users to edit files in Microsoft Office and store them in the WorkDrive repository. The solution also integrates with other Zoho apps such as Projects and can provide users with necessary documents without requiring them to switch between programs.

Updates and announcements since the last Value Matrix include:

- Customizability. Users can now build a template library in WorkDrive for different tasks, teams, and processes. Additionally, the vendor introduced customizable data retention policies, enabling users and administrators to set limits on the lifecycle of specific files.
- Management/security. New capabilities for device management give administrators a broad overview of total storage, usage, and device activity. Administrators can log out and wipe WorkDrive content off certain devices and reduce end-user security risk.

CORE PROVIDERS

Core Providers in the Value Matrix include AODOcs, Microsoft, OpenText, and Oracle.

AODOCS

AODOcs provides customers with a cloud-based platform that is fully scalable. Functionality includes collaboration, compliance tracking, OCR, version control, and document management capabilities such as archiving, indexing, and retention. Electronic signatures, file recovery, file type conversion, offline access, and process automation are also key features. AODOcs offers a Knowledge Management solution that scales across the platform and leverages AI to view content and ensure that users are accessing the correct versions. The vendor has integrations with Salesforce, DocuSign, and Google Drive and is best equipped to serve organizations of all sizes in industries such as financial services, the public sector, and manufacturing.

Updates and announcements since the last Value Matrix include:

- In December 2020, AODocs announced that it would be joining the Google Cloud Marketplace.

MICROSOFT SHAREPOINT

SharePoint is Microsoft's system for document storage, collaboration, and content management. The platform has evolved from on-premises storage to a flexible solution that can be deployed in the cloud or hybrid cloud environments. SharePoint runs on Microsoft's cloud infrastructure, giving customers the ability to enable regional data residency and maintain compliance with changing regulatory policies. Content management through SharePoint is a part of its intelligent content services layer, which facilitates access, creation, sharing, management, and security of content across an enterprise. The solution has seamless integrations with other Microsoft products, including OneDrive for Business, Microsoft Teams, and Flow.

OPENTEXT

OpenText provides customers with several scalable, end-to-end solutions for lifecycle content and information management. The vendor's offerings include out-of-the-box functionality for content management, records management, enterprise governance, and analytics and reporting. The vendor recently announced the release of OpenText Core Content, a multitenant cloud offering that is easy to deploy and configure based on the needs of specific industries, organizations, and departments. Core Content integrates with an organizations' existing applications, such as SAP S/4HANA. The vendor also launched Core Case Management, another multitenant cloud solution that manages unstructured and complex processes such as processing claims. Users report that the user interface and strong integration with other OpenText solutions and third-party applications were key factors in their decision to deploy the vendor's content management systems. OpenText's growth has been primarily attributed to acquisitions that fill out specific functionality needs, making it perform more like a private equity firm than a software provider.

ORACLE CONTENT AND EXPERIENCE CLOUD

Oracle Content and Experience Cloud (OCE) serves as a central cloud-based hub for ECM and web content management (WCM). Key features include full-text search, capture, and video content storage. The vendor's WCM capabilities also include digital asset management, omnichannel content delivery, and the ability for users to create and launch microsites without the help of an IT team. This past year, OCE announced a partnership with Box, enabling users to connect applications from Oracle and other third-party providers to

Box with Oracle integration. IT resources are required to automate workflows across the platforms, but the connector can simplify the integration of everyday content management processes on its own. Users continue to note the platform's user experience as intuitive and best suited for the needs of midsized organizations. As OCE builds out gaps in functionality, Nucleus expects it to be a competitive offering for existing enterprise customers and other businesses looking to implement a single-vendor solution.

EXPERTS

Experts in the Value Matrix include DocuWare, Hyland, and Micro Focus.

DOCUWARE

DocuWare's content services offerings include DocuWare for document capture and management, DocuWare Workflow for business processing, and DocuWare Intelligent Indexing for metadata management and content indexing. The solutions can be deployed on-premises, in the cloud, or in hybrid environments. The DocuWare platform is well-suited to the needs of small and midsized businesses looking to take advantage of enterprise-grade functionality in areas of automation, indexing, content capture, document management, and workflow intelligence. The vendor also offers preconfigured solutions for use cases, including invoice processing, employee management, and secure document archiving with short, simple deployments. The DocuWare Workflow Manager automates processes such as document routing and approval, index data manipulation, and content archival. The tool can now be copied between electronic file cabinets, allowing the workflows created in one department to be adapted to fit others. The drag and drop interface of the Workflow Manager, along with a Task Manager, enables less-technical users to build automated workflows without the need for additional IT resources.

Updates and announcements since the last Value Matrix include:

- Version 7.4 release. Updates to the platform include a preconfigured solution for Smart Document Control, the ability to collaborate live on Microsoft Office documents, electronic signatures, and highlight search. Additional improvements include automatic validation of workflow dependencies and deeper web-services integration.

HYLAND

Hyland serves multiple verticals in the content services market, including government, healthcare, education, financial services (including insurance), and manufacturing. The

company appeals to a broad spectrum of technology buyers, from line of business buyers looking for pre-packaged solutions to technical IT buyers looking for an open-source platform to custom-develop solutions – with the ability to scale to the enterprise regardless of the point of entry. Hyland has shown leadership in vertical solutions and expertise in modernizing legacy systems, with a cloud-first platform for improved scale and cost reduction. Hyland has become a very acquisitive vendor over the past few years and now has several content services platforms in its portfolio, including its OnBase platform. The vendor also recently acquired the open-source Alfresco Digital Business Platform (DBP) and Nuxeo Content Services and DAM.

In addition to Alfresco and Nuxeo, Hyland has made a number of acquisitions of complementary applications over the past 12 months, including Learning Machine, a blockchain-anchored digital credentialing company, and Another Monday, which provides robotic process automation (RPA), helping it to expand its capabilities.

MICRO FOCUS

The Micro Focus Secure Content Management (SCM) suite is comprised of three product offerings. Control Point and Structured Data Manager enable users to access, analyze, and classify both structured and unstructured data. Micro Focus Content Manager facilitates policy-based data lifecycle management. The vendor's solutions include advanced analytics and governance capabilities and organizes business operations into Enterprise DevOps, Hybrid IT, Predictive Analytics, and Security Risk Governance (SRG). The vendor continues to heavily focus its investments on security and compliance, as evidenced by its Voltage SmartCipher solution, which includes Transparent File Encryption technology that prevents unauthorized access to file data. The vendor has also adjusted its business model to be more holistic when dealing with product development and customer service.

Updates and announcements since the last Value Matrix include:

- In April, the vendor announced its global partnership with SaaS provider, Citadel to expand its Content Management product offerings to include Content Manager Select Software as a Service. The new managed service enables customers to access Micro Focus functionalities in the cloud.