



NUCLEUS
RESEARCH

CSC TECHNOLOGY VALUE MATRIX 2022

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THE BOTTOM LINE

As organizations either shift back to in-person work or implement hybrid or fully remote policies, the need for modern content services and collaboration technology has grown. The complexities of a dispersed workforce underscore the need for a central repository that enables users to maintain productivity while reducing security risks typically associated with telecommuting. Leaders in the CSC market are focusing investments on building out functionality gaps in areas such as collaboration and automation. Nucleus expects the ability to differentiate in these functional areas to be critical to vendor survival over the next 18 months as the CSC space continues to consolidate.



MARKET OVERVIEW

Over the past three years, digitization has become a core component of business survival across organizational sizes and industry types. Now, the ongoing prevalence of fully remote and hybrid work structures has highlighted the importance of having modern solutions for content management and collaboration in place to ensure maintained efficiency and end-user productivity.

Nucleus interviewed content management users and found that collaboration, automation, and security continue to be the primary value-driving factors of CSC deployment. However, demand for collaboration capabilities has surpassed that for security and compliance functionality. Increased vendor investment in security across the board has eased many of the previous concerns facing highly regulated industries considering cloud migration. Leaders in the space continue to move on-premises customers onto their cloud infrastructures due to their proven ability to manage the complex requirements of industries such as healthcare and the public sector.

Nucleus found that a majority of users reported the value of their CSC solution increasing or remaining the same over the past 18 months. However, almost half of the users surveyed would move to another system if given the opportunity due to little market differentiation and low levels of loyalty. While the consolidation of the CSC market continues, innovation in collaboration and further investment in automation will be crucial to vendor survival. Leaders are currently focused on R&D and partnerships to attract prospective customers and build out niche functionality to differentiate from competitors.

For this Value Matrix, Nucleus evaluated content services vendors based on the relative usability and functionality of their solutions, and the value that customers realized from the product capabilities (Nucleus Research V67 – *Understanding the Value Matrix* – April 2021.) The research is intended to serve as a snapshot of the CSC technology market, inform customers about how vendors in the space 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, Digitech Systems, Epicor ECM, Laserfiche, and M-Files.

BOX

The Box Content Cloud platform covers the entirety of an organization's users, apps, and processes and can be accessed on any device. The solution's functionality includes built-in collaboration, content capture, workflow automation, e-signature, security, governance, and compliance. Add-on products include Box Shield, Box Governance, Box Platform, Box Zones, and Box KeySafe for organizations that require additional workflow and security capabilities as well as Box Shuttle for content migration. Box also has a comprehensive integrations network through the Box App Center that enables users to access more than 1,500 third-party solutions to add extra functionality while maintaining Box as a central

content core. Developers can also leverage APIs in the App Center to easily build, submit, and preview custom apps and workflow automation; or use Box core APIs to create fully custom integrations and applications for their own use. The vendor's deep integration with other productivity suites from providers such as Microsoft, Google, and Apple allows for the open exchange of files between different services and promotes more seamless business processes. The Box Trust Partner Program is made up of a select group of security and compliance partners that extends the power of the Content Cloud. The Box Trust Center details Box's privacy, security, and compliance certifications, including ISO 27001, ISO27018, ISO27017, C5, TCDP, FedRAMP Moderate, StateRAMP, HIPAA/HITECH Act, SOC 1,2 and 3. Box Consulting offers standardized consulting services that give customers guidance and training to deploy the content cloud and get the most out of their existing implementation. The vendor also provides customized consulting services for organizations that want to design their experience to meet specific goals. Over the past 12 months, Box has continued to focus its investment and product innovation on security and compliance, collaboration and workflow capabilities, and integrations.

Recent updates and announcements include:

- **Malware Deep Scan for Box Shield.** This capability reduces the risk of ransomware by scanning files as they are uploaded to Box, leveraging deep learning technology and external threat intelligence to analyze files in near real-time and identify malware before it has a chance to cause disruption. The solution can apply deep scan to additional file types, including Microsoft Office files, and add automatic watermarking to classified documents. The tool can also monitor how access policies can interfere with end-users prior to being applied to help admins understand the impact of security controls and give them the ability to refine them before enforcing them. Box Shield also uses advanced machine learning to help prevent accidental data leaks through a system of manual and automated security classifications for files, folders, and classification-based access policies. Auto-classification in Box Shield intelligently applies labels to files based on content inside, enabling customers to discover and label sensitive files at scale.
- **Box Canvas.** The introduction of Box Canvas in the fall of 2022 will give all customers access to a new, virtual whiteboarding and visual collaboration tool within the platform they already use to get work done securely at no additional cost. Users can keep teams informed by inviting coworkers and external collaborators to an unlimited number of Canvases to brainstorm in real-time or at their own pace, regardless of location and time zones. The tool includes premade templates and can alert collaborators in real-time with notifications and @mentions. Users will have the flexibility to use free-form drawing and text, and present data easily and clearly with

diagrams, wireframes, and process flows using visual elements like shapes and connectors. Customers can also run meetings and workshops with timer tools, create presentable slides directly from Canvas, offer interactive feedback using sticky notes and comments, and drive consensus by voting on ideas with emojis.

- **Box Notes.** The all-new Box Notes, which began its release in July 2022, to further improve collaboration as many organizations adopt remote or hybrid work structures. For example, marketing teams can create project plans to track progress and author launch announcements while collaborating in real-time across internal teams and external partners. The solution includes call-out boxes to help users better highlight content, code blocks to simplify the technical collaboration process, enhanced table capabilities, and in-line cursors to help users keep track of real-time collaborator edits. Security and control capabilities, such as permissions, are also included.
- **New Mobile App Experience.** Box recently launched an improved mobile app experience, giving users the flexibility to do more regardless of their physical location. Updates include a new capture mode that enables users to scan and upload photos, audio, and documents from their mobile device, and OCR technology that automatically recognizes text and turns scanned documents into searchable PDFs. The vendor also released a redesigned iPad experience with a simplified layout and new drag and drop capabilities.
- **Box Sign.** In July 2021, Box released Box Sign, the vendor's native e-signature solution that is included in all Business and Enterprise plans at no additional cost. The tool delivers unlimited signatures from within the web application, integrated with Salesforce, and has a set of APIs to streamline the way agreements are managed and governed. New security functionality was added since the official launch, including signer authentication via SMS and password protection for documents sent out for signature. Box Sign inherits the Box security and compliance profile, including HIPAA, SOC, ISO, and FedRAMP.
- **Box Relay Updates.** In April 2022, Box announced deeper integration between Box Relay and Box Sign, including the ability to trigger new workflows based on a document being completed, canceled, expired, or declined in Box Sign. Users can then automate the next steps by selecting a combination of file, folder, task, metadata, and notification outcomes in Relay.
- **Integrations.** Box has deepened a number of third-party integrations, including those with Microsoft Office, Microsoft Teams, Salesforce, Slack, and Zoom for enhanced collaboration.

DIGITECH SYSTEMS

Digitech Systems offers an end-to-end content platform that can be deployed on-premises, in the cloud, or in hybrid environments. The solution's capabilities include data capture, content management and collaboration, secure content storage, and automated business processes that utilize patented AI algorithms to classify data. The vendor's web-based cloud repository, PaperVision.com, enables existing hybrid or on-premises customers to leverage cloud content management capabilities. PaperVision Direct is Digitech's document digitization and upload tool, which works in tandem with PaperVision.com. The paired solutions facilitate quick implementation and compliance with existing cybersecurity measures while capturing metadata to enhance future searches.

Recent updates and announcements include:

- In May, the vendor released PaperVision Folder Monitor, an automated service that instantly applies cybersecurity and access settings to uploaded files. The solution works with most scanners and eliminates manual processes in the data capture process.
- Also in May, Digitech Systems partnered with large format scanning provider, Contex. Customers of both vendors can use PaperVision.com, along with PaperVision Folder Monitor to add cybersecurity measures to scanned images as they are captured from Contex large format scanners.

EPICOR ECM

The web-based Epicor ECM platform includes capabilities for document management and automation of processes in areas such as sales orders and accounts payable. The solution also enables smart data capture, buildable workflows, electronic forms, disaster recovery, integrations, analytics, and mobile accessibility. Business process automation throughout the platform removes manual repetitive tasks and associated errors while including validation of information and approval routing based on criteria. The Validate feature adds efficiency to content capture, generating an encrypted hashcode for uploaded files that acts as a "digital fingerprint. ValiDate then helps to ensure that documents are tamper-proof and valid, reducing security risks associated with telecommuting. Epicor's PackageWorks module creates relationships between different types of content, facilitating consistent, complete document packages for use cases including onboarding new hires, managing student records in educational institutions, and closing documents for real estate transactions. The vendor's main strength continues to be its deep integration with its ERP solution.

Recent updates and announcements include:

- Epicor released a new mobile app experience, including new functionality for document capture, content field entry, and workflow tasks. The app is now more in-line with the web interface, giving users a more cohesive experience. The release also added support for the Simplified Chinese language.
- The vendor launched Exago Cloud Reporting within the Epicor ECM profile to help customers monitor their document and workflow KPIs. The Epicor 22.1 release includes runtime reports in Exago, that can be used with cloud or on-premises Epicor ECM deployments.
- Epicor's 22.1 release also launched the capability to ingest XML invoice documents into ECM, enabling the invoices to be stored in the repository and run through the ECM AP Automation workflows for two and three-way matching and approvals.
- The vendor added enhancements to customer support, including completing its top 15 user requests, for example, the option to auto-purge deleted documents from the purge folder. Customers can make requests through the Betterizer menu item in Epicor ECM.

LASERFICHE

The Laserfiche platform can be SaaS-delivered, deployed on-premises or in hybrid environments, and includes functionality for content management, business process automation, and data analytics, with automation remaining a key area of investment. The vendor's Solution Marketplace provides users with industry- and department-specific templates that enable them to quickly build and deploy automated workflows. Laserfiche's deep industry expertise in finance and wealth management, health care, education, manufacturing, and the public sector further bolsters the quality of the templates and breadth of use cases. The platform also includes a developer toolbox that includes more than 150 no-code activities to aid integrations and other backend processing tasks, including bots, capture profiles, decision tables, and automated document creation. Drag-and-drop capabilities within the content repository across web and mobile interfaces enable simpler upload and organization of data. Additionally, built-in records management stores content according to lifecycle rules and can include the Laserfiche Vault feature to adhere to specific regulations.

Recent updates and announcements include:

- **Solution Marketplace.** Laserfiche launched a new solution marketplace, featuring more than 100 horizontal and vertical process solution templates. These templates are available to be viewed by the public.
- **Form design updates.** New form field rules enable form designers to configure common field rule requirements based on complex criteria without the need for

coding. Additionally, optionally extending form behavior through JavaScript code can now use the built-in JavaScript API. Customization examples include changing field values based on the input value of another field or preventing form submission if a field is not filled out correctly.

- **Survey Dashboard.** The vendor launched a survey dashboard, enabling administrators to design and monitor surveys easily. The dashboard provides admins with an overview of survey information and data and gives the option to download reports of all submissions and provide a variety of data visualizations for analysis.
- **Handwriting recognition.** Laserfiche released machine-learning-driven recognition of invoice fields that enables capture of handwritten fields in addition to machine-print fields.
- **Transcription of audio.** Laserfiche automatically transcribes audio in many languages when video and audio files are imported. Full-text search of the repository will find spoken audio content and allow users to jump directly to the relevant part of the media file.
- **Task inbox bulk actions.** Users can select multiple tasks from the task inbox to approve or reject in a single bulk action. Tasks are grouped by process so that users have more visibility into how many tasks are selected and eligible for each process.
- **Security enhancements.** Business processes, rules, lookup tables, and other resources can be grouped into projects that are governed by access control. Users can now also be added, updated, or removed from Laserfiche Cloud automatically when administrators make changes in Azure Active Directory or Okta. The Laserfiche API for Laserfiche Cloud now supports industry-standard OAuth 2.0 for authorization.

M-FILES

The M-Files metadata-driven document management platform enables knowledge workers to instantly find the right information in any context, automate business processes, and enforce information control.

M-Files uses artificial intelligence and machine learning to find and create connections to documents across every platform and repository, regardless of the location. Through workflow automation, M-Files increases the consistency of work and reduces errors by automating key business processes and guiding daily work.

M-Files helps organizations augment internal and external content collaboration and reap operational saving benefits enhanced by the vendor's acquisition of Hubshare. M-Files provides customers with enterprise-level security to guarantee the security and privacy of client documents and data - ensuring that it stays in one place and is not synchronized or

duplicated outside of M-Files. Relevant information can be shared securely so that the company providing services is compliant with laws, regulations, and rules governing client interactions. In addition, M-Files seamlessly integrates with Microsoft 365—Teams or SharePoint—as well as Salesforce, Google Workspace, electronic signature apps, network folders, and more.

M-Files continues to deliver new capabilities through its M-Files desktop and web apps, as well as through embedded UI through integrations with Microsoft Office, including M-Files Smart Migration - a service that helps customers migrate on-premises information onto the vendor's platform cost-effectively, Co-authoring for Web, which allows users of M-Files Web to simultaneously collaborate on M-Files managed content using the familiar Microsoft Office applications, and enhanced DocuSign integration, where users can take better advantage of DocuSign's security and compliance features

EXPERTS

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

DOCUWARE

DocuWare's product offerings for content services include DocuWare for document capture and management, DocuWare Workflow for business processing, and DocuWare Intelligent Indexing for metadata management and content indexing. All solutions can be deployed in the cloud, on-premises, or in hybrid cloud infrastructures, and are an attractive choice for small and mid-sized businesses that wish to take advantage of enterprise-grade functionality, such as automation, indexing, document management, and workflow intelligence.

DocuWare also offers preconfigured "plug and play" solutions for specific use cases, including employee management and invoice processing with short, simple implementation. A preconfigured solution for Smart Document Control enables live collaboration of Microsoft Office documents, as well as highlight search and electronic signature functionality. The vendor's WorkFlow Manager automates processes including document routing and approval, index data manipulation, and content archival. The solution can copy workflows created in one department and adapt them to fit others, reducing time spent building workflows from scratch. The Workflow Manager also has a drag-and-drop interface and Task Manager, both of which enable less technical users to build automated workflows without IT intervention or support.

Recent updates and announcements include:

- DocuWare's version 7.5 update launched support for 20 new languages and enhancements in filing and editing table fields in store and index dialogs and workflow tasks. E-mail attachments can now be automatically scanned and transferred to the DocuWare file cabinet without the need for manual intervention or data entry. Additionally, the solution now supports three additional lightweight directory access protocol (LDAP) attributes: common name, display name, and name.

HYLAND

Hyland takes a vertical approach to content services, with expertise in industries including government, healthcare, education, financial services, insurance, and manufacturing. The vendor also has experience in developing solutions for departmental use cases, such as in HR and accounts payable. The vendor's cloud-first platforms have proven attractive for organizations looking to migrate to the cloud for improved scale and cost reduction, or to take advantage of Hyland's fully managed services for its cloud-native, highly secure PaaS offering. Additionally, the offering of pre-packaged and configurable, open-source solutions gives it an edge in the market. Hyland remains a highly acquisitive company, with purchases of Alfresco, Nuxeo, Learning Machine, and Another Monday. Nucleus expects the breadth of offerings under the Hyland umbrella to help it maintain its market position as it fills out functionality gaps while enabling prospective customers to choose a product that best suits their needs.

Hyland has continued to focus on integrations to its content services platforms with other business systems, enabling users to streamline tasks across departments without having to toggle between disparate tools and data sources. For example, Alfresco integrates with SAP and Microsoft Teams, and OnBase integrates with Salesforce, Epic Hyperdrive, and Adobe Sign. Hyland also provides robotic process automation to streamline repetitive, high-volume tasks.

Recent updates and announcements include:

- Last year, Hyland released Alfresco Content Services 7.0, which added enhancements and new capabilities to meet expanding needs for content services platforms. Functionality updates include enterprise search services, the ability to federate legacy data sources, improved integration with Microsoft Office 365, which includes coauthoring, and new developer tools.
- In the past year, Hyland released the Hyland Content Portal for Accounts Payable, providing users with a central web portal to digitally submit documents and track processes in real-time.

OPENTEXT

OpenText provides customers with several, scalable solutions for lifecycle content and information management. The vendor's product offerings include out-of-the-box functionality that covers content management, enterprise governance, and records management, with built-in analytics and reporting. OpenText Core Content was recently launched as a multitenant cloud offering with easy implementation and configuration based on the needs of specific industries and departments. Core Content integrates with existing business applications, including SAP S/4HANA. Strong integration with other OpenText solutions and third-party applications remain key factors in its selection by business leaders. The vendor continues to build out functionality gaps through acquisition, most recently with its acquisition of Zix Corporation, a SaaS-based provider of e-mail encryption, threat protection, and compliance cloud solutions for SMBs.

Recent updates and announcements include:

- In February, OpenText announced a deepened partnership with Google Cloud, launching its Core Content solution as a service on Google Cloud.

FACILITATORS

Facilitators in the Value Matrix include IBM Content Services, NewGen OmniDocs, and Zoho WorkDrive.

IBM CONTENT SERVICES

The IBM Content Services platform provides customers with a single location to search, browse, view, and collaborate on content. Key capabilities include document classification, metadata management, intelligent document processing, and granular security measures. The solution also includes robotic process automation (RPA), built-in governance capabilities, developer tools, and a configurable user experience that enables organizations to tailor the solution to specific needs. IBM Watson, the vendor's AI engine, is present across the solution, providing users with tools for automated document classification, mobile capture, visual search, and data extraction. Users can automatically classify documents and extract content and metadata and use the output of content and workflow events in data mining and data science applications. Deployment of the solution is flexible, and organizations can access the solution either on-premises, in hybrid-cloud environments, or fully in the cloud, which includes non-IBM cloud infrastructures.

NEWGEN OMNIDOCs

Newgen Software is a global provider of business process management, enterprise content management, and customer communication management. The vendor's OmniDocs platform provides organizations with contextual content services, including functionality for content capture and management, workflow automation, RPA, content analytics, collaboration, security and compliance, records management, and remote imaging. AI is present throughout the solution enabling users to extract and classify content quickly and accurately. Newgen offers customers a cloud migration service to help those in on-premises environments to migrate content and operations into a cloud infrastructure and reap the benefits of SaaS-based deployment, including access to new features as they become available.

Recent updates and announcements include:

- In December 2021, Newgen announced that it acquired a patent for its integrated capture and analysis of documents.

ZOHO WORKDRIVE

Zoho WorkDrive is a cloud-based content management and collaboration platform that is accessible via the web and mobile apps for iOS and Android. The solution can be used across a multitude of use cases across industries and departments, including HR, operations, and sales. Capabilities include internal and external collaboration, e-signature functionality, access permissions, file recovering and conversion, document archiving, data encryption, and real-time synchronization that enables users to work on or offline without losing their work. WorkDrive deeply integrates with and comes built-in with other Zoho applications, such as the Zoho Office Suite and Zoho Projects, and can provide users with necessary content without the need to toggle between different systems. Additionally, the platform can integrate with third-party solutions, including Office 365. Device management capabilities within WorkDrive allow administrators to view total storage, usage, and device activity, as well as log out and wipe WorkDrive content off of certain devices. Users can build a template library within the platform based on different tasks, teams, and processes to add a greater degree of organization and customizability.

Recent updates and announcements include:

- **Security enhancements.** Zoho WorkDrive now includes HIPAA compliance, the ability to set custom data retention policies and custom domains, and TrueSync, which enables the synchronization of multiple accounts.
- **Data storage.** Zoho recently introduced support for advanced file properties such as metadata, and advanced team folder capabilities, such as pinning, duplication, and

archiving. The vendor also launched PDF, image, and video annotations, new mobile app enhancements including widgets and offline folders, and the WorkDrive Genie for Mac Support.

- **Data Classification.** The vendor launched new data classification elements, including labels, templates, and custom fields. Additionally, users can preview enhancements through a compact view, which supports preview of more than 10 raw image file formats and can be zoomed in or out.
- **Data Sharing.** The vendor released new file-sharing capabilities, including e-mail sharing with OTP authentication. An external sharing list also gives external, non-Zoho users, such as client users, to access, edit, and comment on files in WorkDrive. External access can also be restricted based on specific needs.
- **Integrations.** New integrations over the past 12 months include the WorkDrive API and enhanced integration with Zoho Projects and Zoho Cliq,

CORE PROVIDERS

Core Providers in the Value Matrix include AODOcs, Micro Focus, Microsoft SharePoint, and Oracle.

AODOCS

The AODOcs platform is cloud-based and scalable, with functionality for collaboration, compliance tracking, OCR, electronic signatures, file recovery and conversion, process automation, and version control. Other document management capabilities include archiving, indexing, and retention. The vendor's Knowledge Management solution can scale across the solution and leverages AI to analyze content and ensure that users are accessing the correct versions of documents. AODOcs is part of the Google Cloud Marketplace and has pre-built integrations with Salesforce, DocuSign, and Google Drive. The platform is best suited for organizations in industries such as financial services, manufacturing, and the public sector.

MICRO FOCUS

The Micro Focus Secure Content Management (SCM) suite includes three products: Control Point, Structured Data Manager, and Micro Focus Content Manager. All of the solutions include advanced analytics and governance capabilities, with the ability to organize business operations into Enterprise DevOps, Hybrid IT, Predictive Analytics, and Security Risk

Governance. The vendor's Voltage SmartCipher solution includes transparent file encryption technology that prevents unauthorized access. The vendor partners with Citadel to provide customers with a managed service for content management, enabling them to access Micro Focus functionality in the cloud.

MICROSOFT SHAREPOINT

Microsoft SharePoint can be deployed in on-premises, cloud, or hybrid environments and includes functionality for document storage, collaboration, and content management. The solution runs on Microsoft's cloud infrastructure, giving customers the ability to enable regional data residency to remain compliant with changing regulations and policies. SharePoint's content management capabilities are part of its intelligent content services layer, called SharePoint Syntex, which enables ease of access, creation, sharing, management, and security across an entire enterprise. The solution's largest benefit is its seamless integrations with other Microsoft products, including OneDrive for Business, Office 365, Microsoft Viva Topics, and Microsoft Teams. For example, SharePoint News provides users with a channel for announcements and other business communications, leveraging content from the SharePoint repository to publish and distribute across the organization.

ORACLE

Oracle Content and Experience Cloud (OCE) is a centralized, cloud-based platform for ECM and web content management (WCM). Capabilities include capture, full-text search, and video content storage. OCE partners 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 cross-platform workflows, but the connector can add efficiency to day-to-day content processes. The user interface is reported to be intuitive and is well-suited for the needs of midsized organizations. As OCE continues to build out functionality gaps, it is poised to become a contender in the market, especially as organizations look to implement single-vendor solutions across departments.