



The Aragon Research Globe™ for Digital Transaction Management, 2021

The Remote Work Era Means Eliminating Paper

Author: Jim Lundy

Topic: Digital transaction management (DTM)

Issue: Who are the DTM providers and how are they evolving?

January 21, 2021 | Research Note 2021-04



SUMMARY

Aragon Research releases its fifth Aragon Research Globe™ for Digital Transaction Management (DTM), a market that has enabled paperless transactions during the COVID era. The DTM Globe examines 21 major providers who are helping to digitize both customer and employee transactions.

TABLE OF CONTENTS

Introduction.....	3
COVID Shifted Work to Be Fully Remote—The Role of DTM.....	3
Focus on Use Cases to Eliminate Paper—Internal vs. External.....	3
Electronic Signatures vs. Digital Signatures—A Shift Is Coming	4
The Rise of Clickwrap Transaction Platforms.....	5
The Expansion of DTM Platforms.....	5
Remote Work Causes a Surge in Demand for DTM	6
The Post-Pandemic Race to Becoming a Digital Enterprise Means Focusing on Content Automation	7
The Race to Digital Means Doubling Down on Content Automation	7
Document, Image, and Video Analytics Enables Document Understanding and Better Security	8
Document Assistants and Content Process Bots—A Slow Roll to Production.....	9
Payments, Apps, and Customer Journey Simplification	10
APIs Will Power a new Generation of Digital Applications	10
The Race to a Digital Identity.....	11
DTM, Hybrid, Multi-Cloud, and Data Residency	12
DTM Market Overview	12
Digital Transaction Management Basic and Advanced Capabilities	12
The Aragon Research Globe™ for Digital Transaction Management, 2021	14
Leaders	15
Contenders	24
Innovators	30
Specialists	30
Aragon Advisory	35
Bottom Line	35
Aragon Research Globe Overview.....	36
Dimensions of Analysis.....	36
The Four Sectors of the Globe	37
Inclusion Criteria.....	37
Inclusions:.....	38
Exclusions:.....	38

Copyright © 2021 Aragon Research Inc. and/or its affiliates. All rights reserved. Aragon Research and the Aragon Research Globe are trademarks of Aragon Research Inc. All other trademarks are the property of their respective owners. This publication may not be distributed in any form without Aragon Research's prior written permission. The information contained in this publication has been obtained from sources believed to be reliable. Nevertheless, Aragon Research provides this publication and the information contained in it "AS IS," without warranty of any kind. To the maximum extent allowed by law, Aragon Research expressly disclaims all warranties as to the accuracy, completeness or adequacy of such information and shall have no liability for errors, omissions or inadequacies in such information.

This publication consists of the opinions of Aragon Research and Advisory Services organization and should not be construed as statements of fact. The opinions expressed here-in are subject to change without notice. Although Aragon Research may include a discussion of related legal issues, Aragon Research does not provide legal advice or services and its research should not be construed or used as such. Aragon Research is a private company and its clients may include firms or financial institutions that have financial interests in entities covered by Aragon Research. Further information about the objectivity of Aragon Research can be found at aragonresearch.com

Introduction

COVID produced significant pressure on enterprises to accelerate their digital transformation plans. Further, the pandemic has created a situation in which paper can no longer be relied upon as a safe medium. The combination of the need to be fully digital and the need to eliminate paper has put digital transaction management at the top of best practices for remote work. It simply helps people get work done faster and conclude agreements quicker.

While DTM providers saw significant revenue growth in 2020 due to COVID, paper processes are still a significant part of daily business. Even this year, as the DTM market continued to expand, paper processes are still being migrated to basic DTM (eSignature). Enterprises that have shifted away from paper have gained an advantage, and for the rest, there is still a race to digitize during the current remote work era. Enterprises know that they must shift more of their processes to digital processes, a transition that often starts with paper. This 2021 Aragon Research Globe evaluates 21 major DTM providers.

COVID Shifted Work to Be Fully Remote—The Role of DTM

The DTM market saw rapid growth in 2020 because of COVID and remote work. Many enterprises that leverage basic DTM transactions saw consistent and then later accelerated revenue growth.

The shift to digital has been pushed forward due to COVID-19, and many enterprises are now planning to accelerate towards being all digital by 2023 instead of later timelines. Additionally, in a post-pandemic world, enterprises are planning on investing in more tools to help them automate all of their business processes. Automating the creation of documents and contracts is not trivial, and the growth of the category shows that this transformational shift is well underway.

The organizations that have deployed DTM continue to outperform their competitors by offering a simplified customer journey that makes signing up for a service or completing a new purchase completely digital.

Focus on Use Cases to Eliminate Paper—Internal vs. External

The fastest way to accelerate transactions is to use digital transaction management and either electronic or digital signatures. When it comes to customer experience and employee engagement, the name of the game is simplicity and a better digital experience. Paper is now a liability due to COVID and it should be avoided whenever possible. Paper processes are also slow, and it becomes an issue for the overall speed of processes and the perception of the enterprise. The race to offer a digital onboarding experience to new customers in retail and financial services has quickly escalated; delivering new, low-code mobile experiences that allow for a seamless and paperless experience are a must.

Employees face a similar dilemma, with mounds of paperwork during the recruiting and onboarding process—versus a new, mobile, DTM-enabled paperless process. Because of the

fact that almost everyone is working from home, the need for DTM has exploded internally. Onboarding of new employees should be a completely paperless experience. Unfortunately, for some it is not. For those that have started to use DTM, the experience during the initial onboarding process (i.e., fully digital) will create a lasting impression with new associates.

Sales contracts are often the first step in a DTM rollout but even for non-disclosures, the process should be fully digital. Eliminating paper in each of the stages of a sale can accelerate booked revenue and accounts receivable. Many firms that have deployed basic eSignatures have seen a dramatic reduction in the time it takes to get a contract signed.

The internal and external use cases that have the biggest impact include:

Customer Experienter



- Sales Contracts
- Supplier Contracts
- Non-Disclosure Agreements
- Onboarding
- Partner and Supplier Onboarding
- Offline Purchases (via eSignature or Clickwrap)

Employee Engagement



- Employment Applications
- Offer Letters
- Confidentiality Agreements
- Stock Options
- Compensation Agreements
- Privacy Notices

Figure 1: Internal and external use cases for digitizing paper processes.

Electronic Signatures vs. Digital Signatures—A Shift Is Coming

Much of the shift and focus on digital transaction management has been on electronic signatures because of the fact that they can mimic a paper transaction. Aragon feels that over the next five years digital signatures will become a higher portion of overall online agreements, due in part to the rise of new technologies such as clickwrap transactions (see below).

Aragon estimates that a majority of DTM transactions will use electronic signatures. By 2025 we estimate that up to half of the market could use digital signatures and clickwrap technology where no signature is required. Aragon has identified a new sub-market that is tied to digital transaction management called clickwrap transactions.

The Rise of Clickwrap Transaction Platforms

Clickwrap transaction platforms (CTPs) combine the ability to create, deliver, manage, track, and archive all the online terms and conditions that consumers and businesses agree to with a specified entity. Clickwrap transaction platforms have similarities to both digital transaction management (DTM) and enterprise content management (ECM). In fact, CTPs have characteristics of both. Many times, CTPs help enterprises streamline manual, labor intensive processes for legal teams

CTPs are purpose-built to speed up and simplify high volume contracts that need customization but don't require negotiation. Examples include terms of service, purchase orders, insurance policy acceptance documents, non-disclosure agreements, etc. The volumes of agreements are sometimes substantially higher, which means there needs to be more capabilities to manage both the volume and the subtleties of each type of agreement.

Additional to these DTM applications, CTPs are useful for parties that need to deal with an agreement privately. With CTP there is still a two-party nature to the agreement; however, it is often done online and often without an actual signature (e.g., a click on the terms to signify approval). This puts pressure on CTP providers to be able to offer features that allow the enterprise to prove that a legal document's set of terms were presented, and the entity accepted those terms, whether by signature or by online acceptance.

The Expansion of DTM Platforms

Digital transaction management is not only about managing the transaction but also about automating it. Digital transaction management platforms provide both content automation workflow and electronic and digital signatures. They're also about adding intelligence to processes, but to be clear we are still in the early stages of intelligent content analytics (see below).

The big addition to DTM is clickwrap transactions, a response to the sheer growth of ecommerce transactions and the need to verify and ensure the terms of each transaction. While clickwrap is new, there are two providers, DocuSign and PactSafe, who both offer clickwrap as one of their product offerings.

Note 1: Digital Transaction Management and Clickwrap Transactions

Aragon identified the digital transaction management market in 2014, and since that time, it has grown significantly, with a focus on the process of taking paper-based document transactions and making them digital, including the electronic or digital signature process.

Clickwrap transaction platforms offer some of the same capabilities but are focused more on online transactions, which requires advanced content automation, click or signature approvals, and recording and archiving of the actual online transaction.

So, while DTM is the overall category, CTP is unique given the minimum capabilities as outlined in this Research Note.

Enterprises are creating DTM departments that focus on content automation, transaction speed, and accuracy by leveraging technology. Because enterprises process so much paper, the need for a robust platform approach should be evaluated.

This also means that given the demand for DTM, many enterprises will have multiple products due to the ad hoc nature of purchasing SaaS applications.

DTM providers have seen significant demand by providing basic DTM capabilities (eSignature). However, large enterprises need more and are looking to consolidate tools for content creation and workflow by shifting to DTM platforms. DTM platforms consist of basic DTM (e-Signing), advanced DTM (workflow and content automation), content analytics, and now clickwrap (see Figure 2).

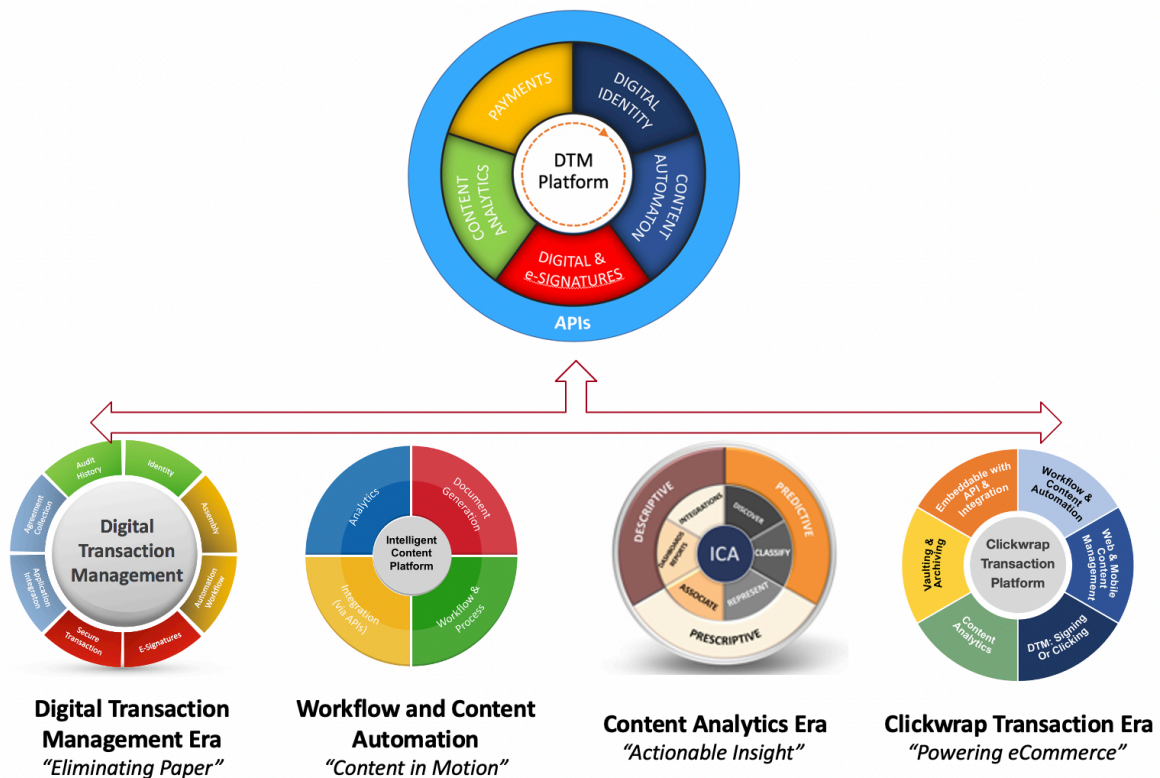


Figure 2: DTM platforms are emerging that leverage automation and AI-based analytics.

Remote Work Causes a Surge in Demand for DTM

Enterprises have a new dilemma—changing their business approach to support a fully remote work environment. The reasons for DTM were here before COVID. Now, however, the sense of urgency to migrate away from paper is clearly evident. Enterprises that have eliminated paper

have seen surges in productivity and revenue. On top of that, the time it takes to complete a transaction is reduced from days to hours. Still, as we enter 2021, Aragon estimates that *less than 45%* of all document processes are fully digital.

The challenge for enterprises is to look at all paper-based transactions. Customer-facing processes came first and now employee-facing documents need to be enabled with DTM. As with customer engagement, employee engagement can be enhanced with DTM. With one leading DTM provider, 84% of its customers' agreements are signed and completed the same day; 62% within an hour; and 51% within 15 minutes or less. These numbers are also being reflected in employee engagement scenarios. Offer letters are often signed within 30 minutes of the final offer being agreed to.

For enterprises that have implemented basic DTM, the next step is to automate the creation of the documents themselves. [Workflow and content automation](#) and the rise of asset management are forcing providers to focus more on the document lifecycle of the content that it is tied to—or that comprises—the transaction.

The Post-Pandemic Race to Becoming a Digital Enterprise Means Focusing on Content Automation

The shift to WCA was already underway before the pandemic. Now, it is shifting into high gear as most enterprises clearly understand that to remain competitive, they must go fully digital with customer-facing documents and processes related to those documents. New account openings for banks are a great example. The old forms-based approach is giving way to guided interviews for information capture, accompanied by people that assist customers via chat or phone. Besides financial services, industries that are transforming include retail, healthcare, and government. Many services need to be offered remotely and, as such, there is an even higher expectation from buyers of a seamless customer experience. There is a demand for leveraging modern content platforms that can perform at higher levels of scalability and integration, and this means that a new class of providers has emerged.

Hybrid cloud offerings are increasing and, with them, the ability to do content automation in the cloud or on local servers that are containerized. The multi-cloud approach has arrived and now enterprises with large volumes of content being produced can still do so in a local data center and have the applications managed by the vendor they select. This choice for enterprises now means they can move faster with content automation projects. Note: not all vendors offer hybrid cloud containerized services.

The Race to Digital Means Doubling Down on Content Automation

Process automation is growing at a fast rate, but so is content automation. Many enterprises started with content automation with backend customer-facing documents, such as statements or bills, and then shifted to areas such as sales.

Enterprise content—the vital documents that are tied to conducting business—needs to be looked at critically for its potential to be fully automated. While some providers can automatically generate

documents, it really is about the entire process, which includes the workflow, proceeding from start to finish in an automated or semi-automated way.

Part of the race to become a digital business is being able to process all the documents that are tied to a business transaction. Enterprises need to be able to automate the creation of the contract, the signing, and the completion of the orders, such as routing, in order to provide customer success/support.

Document, Image, and Video Analytics Enables Document Understanding and Better Security

The last year has seen tremendous advancement in the era of document image and overall content analytics. The ability of algorithms to accurately read and understand what should be in the document will help to inform WCA platforms of suggestions to humans on how to improve current or future documents.

One of the key shifts in the use of AI for document and content analytics is the ability for a business analyst to tune algorithms to focus on a certain type of document or a certain part of the document. Aragon feels that document/text analytics is poised to become embedded in nearly every WCA process by YE 2023. This race to intelligence represents a new component of the race to digitally-enabled business processes.

The areas where intelligent content analytics is making a difference include documents, images, and video. Here we will focus primarily on the impact of content analytics on documents/contracts, where AI can speed up a process or improve security (signature fraud).

Documents—document analytics, also referred to as text analytics, is the ability of machine and deep learning applications to read and understand documents. There are tremendous opportunities in the document creation phase, particularly for contracts, as close analysis can provide a success or failure prediction on whether a clause should be used or not.

We expect many of the WCA providers to leverage document analytics by partnering with large cloud providers such as Google, IBM, Amazon, or Microsoft. Each of these providers has strong document analytics capabilities. The importance of understanding content is also non-trivial: there is a growing compliance risk (when you consider GDPR, LIBOR, and other regulatory frameworks), so we recommend ensuring that the vendors you evaluate have taken this into consideration. There are many ways to use ML to understand the contents of a document. In some cases, a content assistant may assist a user in locating and analyzing a set of documents.

Images—increasingly, enterprises need to interpret images and distinguish real images from fake images. This will become important for areas such as insurance claims processing, retail shopping, and/or signature authentication. For DTM, while document analytics are important for contract understanding, image analytics will be important for fraud detection and for verification of both identity of a person and for verification of their electronic signature. Image analytics will also be important for vertical markets such as insurance and real estate, inspections and claims can be sped up significantly by adding image analytics to a business process.

Video—for Online eNotary: Today, video verification with eNotary is done by the authorized eNotary looking at the person online and comparing that image to their picture on a government issued ID.

With video analytics enterprises can use facial identification verification. The person on the video can be compared to the person who shows their ID for a confirmation to determine that they are the same person. Video analytics is closely related to image analytics and with more AI coming online, including new services from Nvidia, enterprises should look for more opportunities to analyze video, as it is tied to identity verification for a digital transaction.

Document Assistants and Content Process Bots—A Slow Roll to Production

While the march to virtual assistants, also called chatbots is undeniable, in DTM, it has been a slow evolution. Process bots have become more of the norm among providers that offer content automation—they help to move information around and also help to enter data. However, Aragon continues to predict that some providers will offer what we call a 'content virtual assistant' by end of year 2021.

Conversational AI is here to stay and with some work, a content assistant can be constructed that can chat with a human and perform tasks such as locate a document just by asking a question. The timeline for a DTM virtual agent projects that 2021-2022 are pilot stages. Full production of DTM virtual assistants will be in the 2023-2025 timeframe.

While interview assistants are becoming more common, Aragon feels that a document assistant will help a business user with more of their document creation needs (see Figure 3).

Prediction: *By YE 2022, DTM providers will offer a DTM virtual assistant to assist users with the automatic generation of content or the signing of a contract (50% probability).*

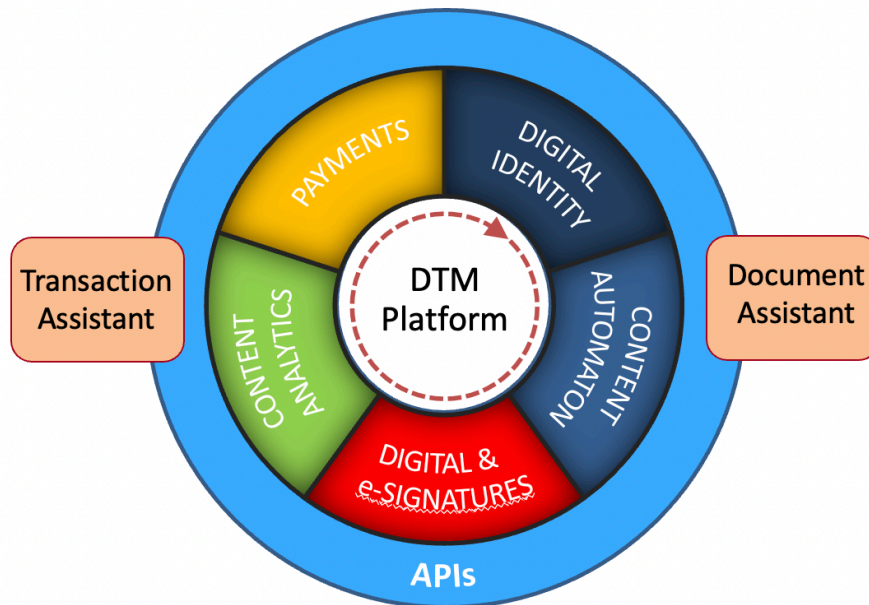


Figure 3: Transaction and document assistants will help people create documents and process transactions.

This is why, when it comes to vertical markets, we see DTM with integrated payments as important for many types of transactions, including real estate and many forms of online subscriptions.

Payments, Apps, and Customer Journey Simplification

Many DTM transactions include an initial payment. This is one of the bottlenecks of digital transactions. A growing number of providers are including payments as part of their solution. There are two approaches to doing this: adding a payment to a document agreement or building applications that leverage DTM provider APIs.

When it comes to vertical markets, we see DTM having integrated payments as being important for many types of transactions, including real estate and many forms of online subscriptions. Providers such as Loan Depot and Rocket Mortgage are offering a completely mobile-first experience, and both are having a significant impact on the consumer mortgage market. One of the providers in this report, eOriginal, helps to power digital loan applications. Increasingly, many firms are also taking the extra step to design entirely new digital services by leveraging a digital platform approach (see Figure 4).

APIs Will Power a New Generation of Digital Applications

While APIs are not new, what is new is a low code approach to building new apps and services. Low code enables non-programmers to create digital apps that are ready to run on a mobile

device. These citizen developers represent a new trend in DTM—and this makes APIs even more important.

Because APIs serve as the gears of interoperability and provide the underpinnings for integration and interoperability, they are strategic. However, the ease of use of APIs—via low code interfaces—is what needs to be evaluated. Pluggability and drag and drop interfaces is what this is all about. The fact that so many DTM providers are already part of existing app stores, such as Google, Microsoft, and Salesforce is an example of pre-configured integrations.

More DTM providers have embraced APIs, and as a result, APIs have become a key evaluation criterion. The ability to leverage APIs to invoke features seamlessly and deliver a new digital experience will be key. In looking at automating customer journeys, embedding DTM capabilities into an existing application or designing a new digital journey will be key to winning in 2021 and beyond (See Figure 4).

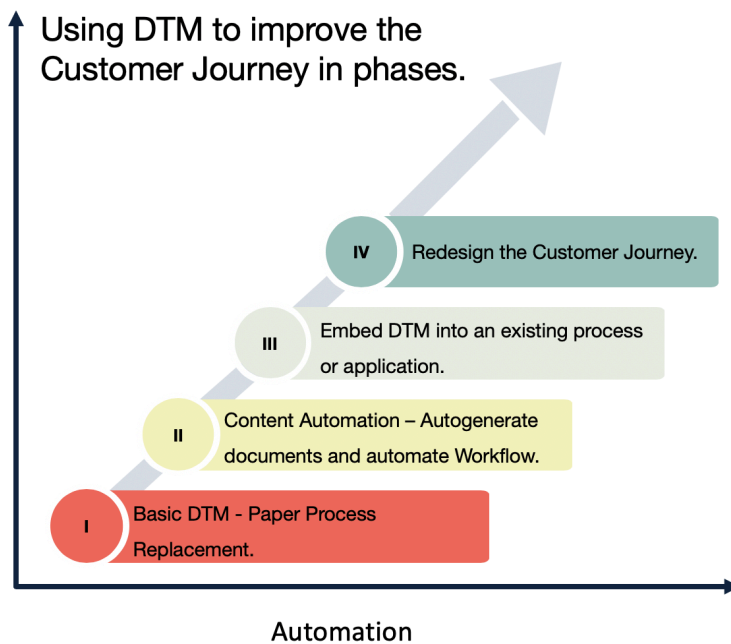


Figure 4: DTM plays a significant role in the journey to become a digital enterprise.

The Race to a Digital Identity

One of the last arenas that is proving tough to overcome is a common digital identity. Electronic signatures are still the number one type of signature, but now digital signatures have become a must-have option in Europe. eIDAS (electronic identification and trust services for electronic transactions in the internal market) has been a European standard for electronic and digital

signatures since 2016. We have also seen new privacy laws emerge, such as Europe's GDPR and the California Consumer Privacy Act, which went into effect on January 1, 2020.

eIDAS remains the most robust set of standards and is now required for companies doing business in Europe. Today, eIDAS offers four different types of verification that span from advanced electronic signature to full trust services.

While there is interest in blockchain, the Digital Identity Foundation (DIF) has an increased number of technology providers that have joined its ranks and there are a number of working groups focusing on pilot developments. In the meantime, biometric signatures, which use fingerprint, retina, iris, or voice to verify a person's identity, have seen increased use. They are ideal in critical transactions where identity must be verified and certified.

Because the shift to a common digital identity is still a work in progress, each country still requires and accepts different types of identity. Europe remains ahead of the U.S. and Asia in what it will accept for a digital signature.

DTM, Hybrid, Multi-Cloud, and Data Residency

Multi-cloud—the ability to leverage different cloud environments—and hybrid cloud—leveraging public and private clouds—are now here. For many reasons, more countries are requiring data to stay in their country, and that is forcing enterprises to look more closely at their DTM provider's capabilities.

While many providers offer a SaaS-based offering, the reality is that many large enterprises do not want to store all of their content in the cloud. If they do, they want it in a data center that is approved in their country and/or region. Enterprises often still keep mission-critical content processes in a private cloud, but the focus has shifted to containerization. With the advent of containerization, enterprises can now have more choices for keeping their content co-resident in their data center.

Given all the recent issues with cyber warfare, understanding where your documents are being stored is a larger issue. Choosing between types of clouds is a deployment choice, and given the need for private cloud (on-premise) for content storage, this may impact the DTM provider who is selected.

DTM Market Overview

Digital Transaction Management Basic and Advanced Capabilities

There are now multiple approaches to automating transactions. Form replacement is being balanced against new digital services. Deployment choices are increasing as the various forms of cloud (public, private, hybrid) services to digitally manage a wide range of document-centric business processes are evolving quickly. Data governance will often dictate keeping content and data in the country of origin.

DTM goes beyond content and document management to include eSignatures, authentication, and nonrepudiation; document transfer and certification; workflow; data and forms integration and management; secure archiving that goes beyond records management; and a variety of

meta-processes around managing electronic transactions and the documents associated with them.

The key things that buyers are looking for in a basic DTM offering include:

- Core eSignature capabilities.
- Ability to assemble a document or a series of documents for signature.
- Document routing and workflow automation.
- Basic and advanced analytics based on organizational level.
- Integration with leading content management and other line of business (LOB) platforms and systems.
- Mobile apps (remote, in-person and offline signing, managing).

Advanced DTM includes:

- Asset management, including transaction management, and trust services.
- Workflow and content automation (WCA).
- Clickwrap—this is an emerging subset of DTM, and we expect it to grow significantly over the next five years.

The need to look at which document processes should be all-digital is a critical step. Making it easy for end users is also critical. That is why it is important to separate the technical backbone of how things happen vs. what users need to accomplish.

The Aragon Research Globe™ for Digital Transaction Management, 2021
(As of 1/21/21)

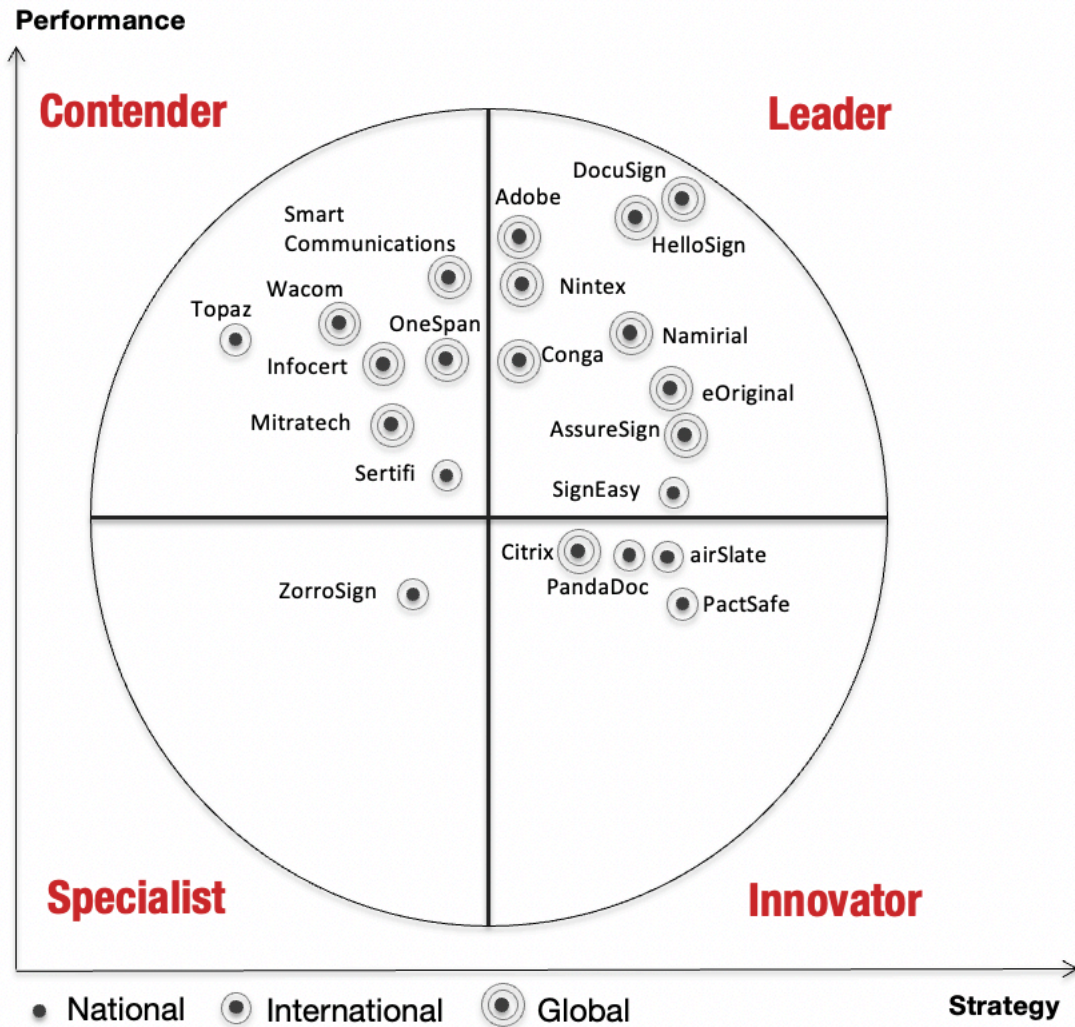


Figure 5: The Aragon Research Globe for Digital Transaction Management, 2021.

Leaders

Adobe

Adobe has continued to invest in content solution offerings for the enterprise. Adobe offers its DTM platform that consists of Adobe Document Cloud with Acrobat Pro and Adobe Sign. It offers Adobe Sign with Adobe Experience Manager (AEM) Forms and Document Cloud. At the center of Document Cloud is the complete focus on PDF-based documents as one of the overall standards. Adobe Sensei is now more integrated with PDFs with its document analytics offering released in 2020 called Liquid Mode. Liquid Mode provides a mobile-optimized experience for PDFs by understanding and identifying parts of a PDF such as headings, paragraphs, images, lists, and tables.

Adobe continues to lead with its PDF and adaptive forms capabilities that can be found in multiple product offerings, including Adobe Experience Manager Forms and Adobe Document Cloud.

The Adobe Experience Manager platform offers an automated forms conversion feature that supports batch conversion of PDF or XDP forms into mobile-friendly adaptive forms at scale. Its strengths in increasing efficiency and digital experiences in paper-intensive industries, including financial services, government, and healthcare continue to allow Adobe to do well. With the strength of its traditional PDF-based forms business, and its web and mobile-responsive forms and documents capabilities, Adobe is well-positioned to take on a number of DTM initiatives.

Strengths

- Brand and financial stability
- SMB offering with Acrobat Pro
- Advanced DTM capabilities
- Partner network
- Broad set of digitization components

Challenges

- Balancing native vs. partner capabilities

AssureSign

AssureSign, which announced an investment round from Recurring Capital Partners, continued its growth trajectory in 2020 as demand for DTM soared. AssureSign offers enterprises the ability to position their own brand front-and-center with DTM platform white labeling. AssureSign also differentiates itself with multiple ways to sign, including signing documents via SMS/text message via short codes. Open APIs provision integrations with nearly any document management system or data infrastructure, making AssureSign a viable vendor regardless of industry or vertical.

Other advantages of AssureSign includes deployment flexibility, including public, private, and hybrid cloud options. AssureSign offers customers additional features such as integrated payment solutions and the option to sign via voice, which expand usability. Salesforce and Microsoft Dynamics CRM, plus multiple proprietary systems are easily integrated for a superior customer experience and improved workflows.

Strengths

- SMB and enterprise focus
- Cloud deployment options
- SMS/text support
- Partner channel
- U.S., Canada, and EU hosting
- APIs

Challenges

- Market awareness outside of the U.S.

Conga

Conga merged with Apttus in 2020 and kept the Conga name. It named Noel Goggin as the new Conga CEO in September 2020. Conga Sign is its DTM capability that complements its flagship WCA platform. Conga now offers Quote to Cash, Conga Composer, Conga Collaborate, Conga Contract Life Cycle Management, and Conga Sign. With Conga Sign, Conga now has a complete DTM platform to compete in the market.

Conga continues to be one of the leading solutions in the Salesforce AppExchange. Its Digital Document Transformation Suite has been gaining traction and has a record number of users. Conga leverages a combination of best-in-class contract analysis AI provided by Kira and our own in-house proprietary AI to analyze contracts, streamline workflows, and then proactively provide actionable insights and recommendations to users.

Conga's contract lifecycle management capabilities, when combined with its quote-to-cash offerings, make it a strong choice for revenue operation teams. Its growing DTM and WCA portfolio also make it a candidate in multiple industries—and it should benefit from its partner Salesforce, which has a growing focus on industries such as healthcare, financial services, and media/communications. Conga has proven to be effective at attracting new customers via the Salesforce AppExchange, which has contributed to its growth.

Strengths

- Salesforce integration
- Document generation
- Contract lifecycle management
- Analytics
- Ease of use

Challenges

- Awareness outside of Salesforce Ecosystem

DocuSign

DocuSign has continued to grow, powered by continued demand for digital transaction management solutions that feature its core eSignature and CLM offerings. It acquired former partner Seal Software in May 2020, which gives it more AI and document analytics capabilities for document understanding and contract-related use cases. Additionally, the company acquired Liveoak Technologies in June 2020 to accelerate the launch of DocuSign Notary. Its Agreement Cloud is a suite of products that helps companies connect and automate the way they prepare, sign, act on, and manage agreements. As part of this, DocuSign now offers DocuSign Gen, which offers a document-generation experience from within Salesforce, and DocuSign Negotiate, which layers on the ability to redline and track documents as part of sales negotiation.

DocuSign's AI offering is now called DocuSign Insight, and as part of its expanded offering, in September 2020, it announced DocuSign Analyzer, which reads inbound agreements and helps enterprises with negotiations of a contract. DocuSign CLM combines DocuSign Gen with a workflow engine, Word-accessible clause library, and centralized searchable repository. The company also offers identity verification as well as clickwrap agreements. While DocuSign now has a complete portfolio of WCA capabilities, it continues to generate most of its revenue from its core eSignature offering.

Strengths

- Expanded agreement cloud platform
- Ease of use
- Brand recognition
- Mobile experience
- Security
- APIs and developer community focus

Challenges

- Complex DTM processes

eOriginal

eOriginal, which recently announced that it was acquired by Wolters Kluwer for \$231 Million Euros, continues to lead with its advanced DTM solutions, including its ClosingCenter digital loan platform that is powering a growing number of financial enterprises. ClosingCenter is a cloud-based solution to deliver a simple and intuitive closing experience for mortgage lenders, borrowers, and settlement agents. eOriginal provides digital certainty of secured party interest perfection throughout the entire digital financial asset lifecycle: create, store, assign, sell, and securitize. Its trusted approach ensures that all ESIGN, UETA, and UCC legal requirements and recommendations are fully met to establish a burden of proof for an authoritative copy that is legally enforceable (i.e., Digital Original™ documents).

In November 2020, eOriginal announced a new Remote Online Notary hub capability as part of ClosingCenter 2.3. eOriginal has continued to expand its leadership position in digital mortgage and enhanced liquidity in the industry with customers across the ecosystem: Quicken Loans, Wells Fargo, Fannie Mae, Fairway Independent, and Ginnie Mae. eOriginal has also continued to have success in auto financing, and it now enables auto lenders such as Carvana, Ally, Westlake Financial, and others.

Strengths

- DTM platform
- Asset management
- Deep experience with digital assets on the secondary market
- Digital mortgage solution
- Integration with other eSignature providers

Challenges

- Awareness outside of financial services

HelloSign

In 2019, HelloSign, a Dropbox company, has continued to expand its integration of HelloSign with the core Dropbox platform. In July 2020, the first signs of integration between Dropbox and HelloSign were launched with a seamless signing capability that is now native within Dropbox. Finally, in June 2020, HelloSign launched its offerings in 21 different languages and offered support for European Data Residency.

Its flagship WCA offering is HelloWorks. HelloWorks automates document-based workflows with a no-code user interface that is seamless and easy to use. Its low-code approach will attract firms that have aspirations of doing more content automation design work. Part of the WCA progress was also driven by tighter integration with Dropbox and its new offerings, like Dropbox Spaces.

HelloSign also launched new integrations with Google Workplace, Oracle, and others. HelloSign offers HelloFax, which serves as a digital on-ramp for many firms that still depend on fax to assist firms with digital transformation. HelloSign will be able to take advantage of Dropbox's growing AI capabilities, which include a focus on image analytics. The Dropbox native integration with HelloSign makes Dropbox a complete content automation platform.

Strengths

- Native integration in Dropbox and all major FSS providers
- Ease of use with Google Drive
- Workflow and content automation
- Salesforce integration
- Oracle integration
- Global infrastructure with Dropbox
- APIs
- Ease of Integration

Challenges

- Overall awareness

Namirial

Namirial took on a new majority investor Ambienta in 2020, and also named a new CEO, Max Pellegrini, to help accelerate its growth. Namirial continues to offer its DTM-based Trust Services, offering all electronic signature creation methods (including digital and biometric), as well as workflow and content automation. Besides electronic signatures, Namirial is providing digital certificates wherever creation of eIDAS-compliant advanced or qualified e-signatures or e-seals are required or desired. In 2020, Namirial has expanded its customer base by major wins in regulated industries and the public sector thanks to its omnichannel capabilities, including remote identification.

In addition to eSignAnyWhere, Namirial offers its eIDAnyWhere, an omni-channel digital onboarding platform enabling KYC processes at different level of assurance via live video chat, video selfie, electronic identity documents, and digital identities. The digital identities are provided by several central governments and via strategic partnerships with key identity providers.

In 2020, Namirial announced a new partnership with ViewSonic that will bundle eSignAnyWhere with its tablet-based offerings. The ViewSonic partnership along with a partnership with JobRouter will help its expansion in North America. Namirial offers an expanded set of biometric signatures capabilities in Spain, Portugal, and Latin America via its partnership with Serban Biometrics. With its expanded leadership team and strengths in regulated environments, Namirial is well positioned for continued growth.

Strengths

- DTM platform
- Growing number of use cases
- Deployment flexibility: SaaS (private/public) and on-premise
- Complete, fully integrated eSignature portfolio
- Security and compliance (e. g., eIDAS)
- Support for signing pads
- Handwritten biometric authentication

Challenges

- Awareness in U.S.

Nintex

Nintex has continued its strong track record of growth in both WCA and as an overall digital business platform (DBP). Nintex offers integrated eSignature capabilities, known as Nintex Sign, via its partnership with Adobe, and document automation with Nintex Drawloop DocGen, a top paid app in the Salesforce AppExchange, which is leveraged by organizations who want to quickly and easily automate the assembly and digital distribution of documents. Nintex continues to innovate in WCA and advanced DTM, including adding intelligent process automation (IPA) capabilities to its product. In October 2020, Nintex completed its most recent acquisition—K2 Software, Inc., a close competitor in the digital process automation space. K2 is Nintex’s third acquisition in three years with Thoma Bravo as its majority investor.

Nintex Workflow Generator—a built-in automation capability within Nintex Promapp, the platform’s visual and easy-to-use process mapping tool—when combined with document generation, enables a nearly unattended automation scenario. The October 2020 edition of Nintex Workflow Cloud platform, which includes new process mapping and automation targeting capabilities; object support with permission management to enable more automated document and data processes; and integrations with Google, Salesforce, and Microsoft. Nintex also offers advanced workflow and content analytics that help enterprises understand what is happening in their automated workflow and content processes in real-time. This enables a complete end-to-end routing of data and content, with minimal human intervention.

The company’s estimated annual revenue is now greater than \$200 Million and makes Nintex one of the largest privately held process automation software vendors and one of the larger independent digital business providers. Nintex remains one to watch.

Strengths

- Ease of use
- Advanced workflow and content automation
- No-to low-code approach
- Visual business process management
- Robotic process automation with fast time to value
- Automated document generation
- Automated workflow generation
- Microsoft and Salesforce integrations

Challenges

- Partnering for eSignature

SignEasy

SignEasy has become one of the top DTM offerings in Apple's App Store in North America and Europe. SignEasy features intuitive mobile and web experiences for eSigning and document workflows. As a mobile-native product, SignEasy is ideal for sending and signing documents on iOS and Android devices and being browser-agnostic makes laptop and desktop use equally straightforward. SignEasy includes biometric security features such as fingerprint and Face ID, as well as encryption. It also offers reusable templates and in-person signing (with an Apple App Clips-enabled contactless option).

Besides Apple App Store and Google Play Store, SignEasy is available on the Google Workspace Marketplace and is fully integrated with Microsoft Teams. In 2020, SignEasy also completed an integration with Zapier, increasing the number of integrations that SignEasy can be enabled for. Additional expansions are anticipated in Q1. SignEasy is available in 24 languages, supports all major document formats, and offers a centralized dashboard for user management in its business plan. For storage and archiving, SignEasy integrates with Box, Google Drive, Dropbox, and Microsoft OneDrive and provides a rich and flexible API platform for developers to integrate eSignatures into their software and business workflows. SignEasy took on its first funding round of an undisclosed amount and also named Kyle Flowers as Chief Operating Officer. With new executives in its senior management team and continued growth due to its mobile friendly use cases, SignEasy is a provider to watch.

Strengths

- Mobile apps (iOS and Android)
- Web-based app
- Ease of use
- Microsoft Teams support
- Google G Suite support
- Global language support
- Security

Challenges

- Market awareness outside of Apple ecosystem

Contenders

InfoCert

InfoCert, a subsidiary of Tinexta S.p.A. focuses on electronic and digital signatures as well as digital trust services. GoSign is InfoCert's flagship DTM offering and it has gained traction as part of the overall InfoCert Portfolio. With its focus on financial services, InfoCert has been building a complete eIDAS compliant digital identity solution. In 2019, InfoCert announced DIMZE, its new digital identity offering, which is currently in beta.

InfoCert offers its Digital Trust Services platform which, in addition to identity, also offers signing, auditing, and long-term archiving. The ability to add time-stamping when archiving helps enterprises when it comes to compliance. Finally, InfoCert is also a digital certificate supplier and is one of the largest providers of certificate suppliers in Europe.

Strengths

- Digital certificates
- eIDAS compliant
- Digital identity
- APIs and integration

Challenges

- Market awareness outside of Europe

Mitratech

Mitratech, which added a number of new executives to its management team in 2020, focuses on software solutions for legal operations, offers a full WCA platform that it calls TAP Workflow Automation. Mitratech TAP provides native eSignature support, but is also integrated with Adobe Sign, DocuSign, Namirial and others. TAP Workflow Automation provides solutions spanning multiple industries, including specialty apps designed for legal, compliance, human resources, procurement, and finance. Mitratech has also been acquiring firms in related markets. In July 2020, it acquired Tracker Corp, which manages all aspects of immigration-focused I-9 forms, making it a vertical WCA offering. In addition to Tracker, Mitratech also acquired five other firms in the last year.

Mitratech has continued to expand the TAP platform with new features and modules, including advanced document generation capabilities, collaboration capabilities, and dynamic, multi-language support for intake forms. In 2020, Mitratech made seven of its TAP Automation templates available at no charge to assist enterprises in dealing with COVID. TAP has a robust set of APIs for integration with third-party apps, including Microsoft, Salesforce, and Mitratech's growing portfolio of solutions. For law firms and for corporate legal teams, Mitratech has embraced content automation as one of its core planks.

Strengths

- Workflow and content automation
- Drag-and-drop design tools
- APIs and integrations
- Ease of use
- Custom interfaces
- Real-time collaboration
- Security

Challenges

- Awareness outside of legal departments

OneSpan

OneSpan focuses on identity verification, authentication, mobile security, and eSignatures. OneSpan has continued its focus on multiple authentication offerings that include adaptive, cloud, and mobile solutions. OneSpan also offers its Qualified Electronic Signature capabilities through its TSP Program, which enables all three forms of eIDAS signature types. OneSpan's e-signature solution, paired with digital identity verification capabilities, focuses on digitizing account opening and onboarding processes—and is based on technology acquired from automation provider DealFlo.

OneSpan continues to be one of the few DTM vendors to obtain the U.S. Federal Government FedRAMP Cloud Certification. OneSpan has a robust partner ecosystem that includes partnerships with Pegasystems, Laserfiche, Guidewire, Salesforce, nCino, and 90 others. As security and identity continue to grow in importance, this positions OneSpan well for markets such as government and financial services.

Strengths

- government
- Asset management
- FedRAMP Certification
- Salesforce & CPQ integration
- Advanced authentication capabilities (e.g., mobile biometrics)

Challenges

- Balancing focus on identity vs DTM

Smart Communications

Smart Communications has continued to evolve its offering and has continued to grow. It rebranded Intelledox, which it acquired in July 2019, as SmartIQ. Smart Communications now has three main product offerings: SmartCOMM, SmartIQ, and SmartDX. SmartCOMM is the traditional CCM platform, which uses modern templates to enable communications to customers via multiple channels. For basic DTM, Smart Communications continues to partner with DocuSign and leverages DocuSign eSignature capabilities in some of its deals.

SmartIQ enables adaptive interviews that collect information—connecting to third-party systems of record—and then uses new and existing data to automatically generate personalized digital content and documents on-demand via its intuitive user experience. SmartIQ's low-code approach allowed it to work with financial institutions to offer a complete Paycheck Protection Program (PPP) in record time. SmartDX provides trading documentation generation and collaboration for leading investment banks.

Smart Communications has now rationalized its offerings, which can now deliver a variety of solutions based on customer need and the type of device and channel that needs to be leveraged. Smart Communications has its own data centers and is also leveraging Amazon AWS. Smart Communications has also been innovating and has shown previews of chatbots and conversational AI interfaces for future document-based assistants. The Smart Communications Conversation Cloud platform provides enterprises with a robust set of capabilities designed to enable a full customer conversation including onboarding, workflow, collaboration, and content automation.

Strengths

- Journey-based document creation and workflow
- Content automation
- Data collection
- Ease of use
- Intelligent user experiences
- Journey analytics
- Partnerships

Challenges

- Partners for eSignature

Topaz Systems

Privately held Topaz Systems continues to offer dedicated Signature Tablets and LCD Signature Tablets for e-Signing. Use cases include pen-based signing and fingerprint based biometric signing. The Topaz GemView 7 tablet that has a 7-inch diagonal view and is ideal for uTopaz has seen success in industries, including healthcare, insurance, government, and retail. Topaz offers a wide array of integrations via its SDKs. These include support for Adobe Acrobat, FoxPro, Microsoft Office, and leading web browsers.

While Topaz continues to offer its gDoc Signer, which allows for signing on Google Docs and Sheets, it appears that its primary innovation will be via Euronovate—which it acquired in 2017. Euronovate offers a full set of electronic and digital signature capabilities. Topaz has a strong partner ecosystem that includes over fifteen different go-to-market partners in the Americas—many of which have a significant focus on healthcare and automotive. Euronovate is helping Topaz in the European market.

Strengths

- Brand
- Focus on tablets
- Install base
- Reseller network

Challenges

- Primarily known for its tablet-based Signature Pads

Wacom

Wacom is known primarily for its range of tablet solutions. Its global Wacom for Business group includes its DTM offerings that focus on an easy signing process that leverages its Tablet family. Offerings include sign pro PDF, signature verification, form processing, and digital ink APIs, which now can be digitally verified. The Wacom for Business DTM products are fully integrated with Wacom's hardware portfolio of signature pads, interactive displays, smart pads, and digital pens.

The Wacom product suite includes the STU-540 Color Signature Pad and DTH-1152 Pen & Touch Display, which are ideal for banks and hospitals where security and encryption are key. Wacom's Ink Layer Language provides a level of understanding on signatures that few can match due to its ability to understand embedded meta-data, biometrics, and semantic/contextual ink data. It connects hardware, software, and applications to render an electronic signature that mimics the look and feel of handwritten signatures.

Wacom has seen success in multiple industries, including banking, healthcare, retail, and insurance—where signature fidelity and security are key. Wacom provides its proprietary sign pro PDF API and a full suite of software development kits (SDKs) to allow enterprises and partners to develop unique solutions that integrate with legacy applications.

Strengths

- Brand
- Tablets and smart pads
- Signature verification capabilities
- Industry solutions
- Reseller network

Challenges

- Market awareness in DTM

Innovators

Citrix

Citrix has continued to invest in its RightSignature offering. It focuses on basic DTM and is sold on a standalone basis or with its flagship Citrix ShareFile for cloud content management, as well as Citrix Podo and Citrix Workspace. Citrix Content Collaboration includes integrated workflow and integrated eSignature, which makes this a solid choice for enterprises. Citrix has made significant investments in Citrix Workspace and continued integrations

RightSignature continues to offer a payments option, which, by integrating with Stripe, allows for SMBs to collect a payment right at the time of the transaction. RightSignature provides a fully featured eSignature offering. Integrations with Citrix Podio and Citrix Workspace offer enterprises new ways to manage work and all of the document-based transactions that are increasingly digital. Citrix offers a number of ways that enterprises can engage for both content and collaboration with RightSignature. Increasingly, it looks like Citrix Workspace with Podio will be one of the main ways to manage the growing number of transactions managers face.

Strengths

- Brand
- Cloud content management
- Payments
- Multi-party signatures
- Digital workplace focus

Challenges

- Awareness of DTM offering

PandaDoc

PandaDoc has continued to grow, in part due to a new \$20M in funding it received in August 2020. PandaDoc offers eSignature as well as an easy-to-use cloud-native workflow and content automation platform. PandaDoc enables easy creation of documents, which once created, can be signed electronically. PandaDoc is used in a number of use cases, including sales-focused cases, proposals, and contracts. It also added a payments option so that documents can be signed with a payment added for use cases like apartment rentals.

In 2020, PandaDoc introduced a new editor that simplifies document creation and features built-in collaboration. Advanced analytics allow users to know what documents are being accessed and viewed and enables a better understanding of their impact.

One of the key aspects PandaDoc focuses on is the speed of the document creation process, using templates and the easy-to-use agreements generated by the PandaDoc platform. PandaDoc also integrates with a broad number of CRM offerings, including Copper, HubSpot, Pipedrive, Salesforce, and Zoho.

Strengths

- Ease of use
- Document generation
- eSignature
- Integrations
- Payments
- Analytics

Challenges

- Market awareness

airSlate

airSlate, which acquired signNow, provides a full set of capabilities for basic and advanced DTM. The company's diversified suite of cloud solutions spans pdfFiller, signNow, and airSlate to meet customers at any stage of their digital transformation journey. signNow is an e-signature solution that works on desktops as well as on iOS and Android devices. signNow is also available via the Salesforce AppExchange partner network. airSlate also supports integrations with Box, Dropbox, Egnyte, Google Drive, Microsoft OneDrive, and NetSuite,

pdfFiller, an end-to-end document management solution, it transforms static PDFs into interactive documents. Its flexibility and feature set help digitize a multitude of use cases— from sales to operations to accounting and legal.

airSlate is an all-in-one, no-code platform that allows anyone to create, automate, and deploy business processes. The solution combines web forms, e-signature workflows, pre-built document templates, and 100+ no-code Bots to help individuals and teams digitize their own automated interactions. Its integrated payments capability will make it popular in DTM markets such as real estate and sales.

Strengths

- Pricing
- Mobile app
- In-app purchase option
- Workflow and content automation
- API
- Allows for company branding

Challenges

- Market awareness outside of the U.S.

SignEasy

SignEasy has become one of the top DTM offerings in Apple's App Store in North America and Europe. SignEasy features intuitive mobile and web experiences for eSigning and document workflows. As a mobile-native product, SignEasy is ideal for sending and signing documents on iOS and Android devices, and being browser-agnostic makes laptop and desktop use equally straightforward. SignEasy includes biometric security features such as fingerprint and Face ID, as well as encryption. It also offers reusable templates and in-person signing (with an Apple App Clips-enabled contactless option).

Besides Apple App Store and Google Play Store, SignEasy is available on the Google Workspace Marketplace and is fully integrated with Microsoft Teams. In 2020, SignEasy also completed an integration with Zapier, increasing the number of integrations that SignEasy can be enabled for. Additional expansions are anticipated in Q1. SignEasy is available in 24 languages, supports all major document formats, and offers a centralized dashboard for user management in its business plan. For storage and archiving, SignEasy integrates with Box, Google Drive, Dropbox, and Microsoft OneDrive and provides a rich and flexible API platform for developers to integrate eSignatures into their software and business workflows. SignEasy took on its first funding round of an undisclosed amount and also named Kyle Flowers as Chief Operating Officer. With new executives in its senior management team and continued growth due to its mobile friendly use cases, SignEasy is a provider to watch.

Strengths

- Mobile apps (iOS and Android)
- Web-based app
- Ease of use
- Microsoft Teams support
- Google G Suite support
- Global language support
- Security

Challenges

- Market awareness outside of Apple ecosystem

Specialists

ZorroSign

ZorroSign added a new CMO Akbar Jaffer in 2020 to focus on an expanded go to market set of initiatives. It offers its patented electronic signatures technology as its core DTM offering, which is now focused on the mid-market. It also offers ZorroSign 4n6 (read: Forensics) Token Technology, a unique, built-in advanced security feature that detects document fraud and signature forgery and eliminates the need to purchase yearly digital security certificates. In 2019, ZorroSign announced enhancements to its mobile app as well as new security features, including multi-factor authentication and optional mobile biometrics.

ZorroSign has continued to innovate and now offers ZorroFill, turning eForms into intelligent forms using artificial intelligence and machine learning. It also offers workflow and a full content repository and document management system for storage and archiving. ZorroSign also offers the ZorroSign API so enterprises can embed all of its capabilities into their business applications. The DTM platform capabilities, combined with its advanced security, will make ZorroSign attractive in markets such as government, real estate, insurance, and legal.

Strengths

- Real electronic signature
- Token-based security
- Mobile biometrics
- APIs and integrations
- Ease of use

Challenges

- Market awareness

Aragon Advisory

- With COVID still being present, enterprises should continue to accelerate their shift from paper to electronic processes.
- Automation of documents that are used in high frequency use cases should be evaluated.
- Security continues to be one of the looming issues for transactions. Understand provider roadmaps as it pertains to security.
- Usability, including the mobile signing experience, should be evaluated before making a purchase decision.

Bottom Line

COVID has accelerated the shift to electronic-based digital transactions. While customer experience is still the DTM focus area that can impact revenue, COVID has also forced enterprises to automate and digitize the employee experience—particularly for onboarding. The simple act of making a transaction digital and frictionless can completely change a customer's or an employees' perception of the enterprise. Enterprises need to look at quick wins for DTM to eliminate paper processes and then evolve the way they automate the entire document process.

Aragon Research Globe Overview

The Aragon Research Globe graphically represents our analysis of a specific market and its component vendors. We do a rigorous analysis of each vendor, using three dimensions that enable comparative evaluation of the participants in a given market.

The Aragon Research Globe looks beyond size and market share, which often dominate this type of analysis, and instead uses those as comparative factors in evaluating providers' product-oriented capabilities. Positioning in the Globe will reflect how complete a provider's future strategy is, relative to their performance in fulfilling that strategy in the market.

A further differentiating factor is the global market reach of each vendor. This allows all vendors with similar strategy and performance to be compared regardless of their size and market share. It will improve recognition of providers with a comprehensive strategy and strong performance but limited or targeted global penetration, which will be compared more directly to others with similar perspectives.

Dimensions of Analysis

The following parameters are tracked in this analysis:

Strategy reflects the degree to which a vendor has the market understanding and strategic intent that are at the forefront of market direction. That includes providing the capabilities that customers want in the current offering and recognizing where the market is headed. The strategy evaluation includes:

- Product
- Product strategy
- Market understanding and how well product roadmaps reflect that understanding
- Marketing
- Management team, including time in the job and understanding of the market

Performance represents a vendor's effectiveness in executing its defined strategy. This includes selling and supporting the defined product offering or service. The performance evaluation includes:

- **Awareness:** Market awareness of the firm and its product.
- **Customer experience:** Feedback on the product, installs, upgrades and overall satisfaction.
- **Viability:** Financial viability of the provider as measured by financial statements.
- **Pricing and Packaging:** Is the offering priced and packaged competitively?
- **Product:** The mix of features tied to the frequency and quality of releases and updates.
- **R&D:** Investment in research and development as evidenced by overall architecture.

Reach is a measure of the global capability that a vendor can deliver. Reach can have one of three values: *national*, *international* or *global*. Being able to offer products and services in one of the following three regions is the third dimension of the Globe analysis:

- **Americas** (North America and Latin America)
- **EMEA** (Europe, Middle East and Africa)
- **APAC** (Asia Pacific: including but not limited to Australia, China, India, Japan, Korea, Russia, Singapore, etc.)

The market reach evaluation includes:

- Sales and support offices worldwide
- Time zone and location of support centers
- Support for languages
- References in respective hemispheres
- Data center locations

The Four Sectors of the Globe

The Globe is segmented into four sectors, representing high and low in both the strategy and performance dimensions. When the analysis is complete, each vendor will be in one of four groups: *leaders*, *contenders*, *innovators* or *specialists*. We define these as follows:

- **Leaders** have comprehensive strategies that align with industry direction and market demand, and effectively perform against those strategies.
- **Contenders** have strong performance, but more limited or less complete strategies. Their performance positions them well to challenge for leadership by expanding their strategic focus.
- **Innovators** have strong strategic understanding and objectives but have yet to perform effectively across all elements of that strategy.
- **Specialists** fulfill their strategy well but have a narrower or more targeted emphasis with regard to overall industry and user expectations. Specialists may excel in a certain market or vertical application.

Inclusion Criteria

- A minimum of U.S. \$4 million in primary revenue for digital transaction management or a minimum of \$10 million in revenue in a related market (content management, workflow, or portal/UX software).
- Shipping product. Product must be announced and available.
- Customer References. Vendor must produce a minimum of three customer references in each hemisphere that the vendor participates in.

Inclusions:

The following vendors were added to this report:

- ***PactSafe***
- ***PandaDoc***

Exclusions:

The following vendors were not included in the report but are notable:

- ***Legalesign***
- ***SigningHub***
- ***SIGNiX***
- ***skySignature***
- ***indorse Services***