Digital Transaction Management: The New Way Ahead for Digital Business

Abstract: Aragon Research is observing the emergence of a new, transformative category: Digital Transaction Management.

Executive Summary
Enterprises need to produce results faster, and that means eliminating paper and transitioning to fully digital processes. Digital transactions have become the new currency. Cloud, mobile and digital technologies such as e-signatures automate analog processes. This research note introduces digital transaction management (DTM) as a new way to conduct business.

DTM has already established itself in several industries because the results are so immediate. Digitizing the process of conducting a transaction, including all the paperwork and signatures, has been the ‘last mile’ until now. Executives are recognizing the benefits and pushing forward with DTM initiatives faster than we have seen with other emerging business categories.

In 2014, DTM will be one of the major initiatives to automate these critical document-intensive processes. In the history of business transformation, ERP and CRM took years to get established and realize major business benefits. Aragon Research estimates that by YE 2016, 70% of large enterprises will have a DTM initiative underway or fully implemented.

Given this approach, DocuSign and others are working to establish a new standard for trust and connectivity around digital transaction management, called xDTM. While still early, we expect xDTM to be a galvanizing force that begins to fully automate time-consuming paper-based business processes. Millions of transactions take place every day with paper. DTM is the way forward to automate and speed up the entire business lifecycle.

Topics: Digital Business, Transaction Management

Issue: How will enterprises innovate business processes using documented transactions?

KEY PREDICTIONS
• Currently a $500-700 million market, DTM will grow to $30 billion by YE 2020.
• By YE 2015 DTM will be a strategic imperative at large enterprises, due to its impact on virtually all aspects of how a firm is measured and evaluated for business success.
• 70% of large enterprises will have a DTM initiative underway or fully implemented by YE 2016.
• Some verticals will move even more rapidly to an all-digital arena. For example, in the key financial services vertical, 90% of providers will offer DTM to consumers and business customers by YE 2017.
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1.0 Introduction

Digital Transaction Management (DTM) is a new category that focuses on the digital execution of business transactions. Paper has been the way business has been conducted for hundreds of years. Two years ago, Aragon Research predicted the end of the paper era due to a number of factors, such as mobile computing, cloud-based services and new technologies that have raced onto the scene such as e-signatures.

Things have progressed to a point where now, in 2014, enterprises are touting their new way to conduct business. Digitally enabled businesses are moving faster. The introduction of DTM, while a new name and term, quantifies what enterprises have been seeking to do – digitize their business processes. Except for the explosion of tablet computing, DTM is expected to grow faster than almost any other category of business. Aragon Research estimates that DTM will grow from US $500-700 million in 2014 to $30 billion by 2020 (see Figure 1).

![Figure 1: DTM Growth Rate Relative to Other Markets](image)

This is mainly due to the fact that most business processes will go digital and paper processes will decline. While most business transactions are still conducted with paper in 2014, the balance will shift to a DTM approach by 2020.

DTM will also subsume parts of other markets, such as business process management (BPM), enterprise content management (ECM), workflow and other document applications. Because DTM
will include more workflow, less money will be spent on legacy infrastructure applications.

2.0 DTM Defined

DTM is a new type of business application that uses cloud-based software and services to digitally manage a wide range of document-centric business processes involving people, documents, data and transactions both inside and outside the firewall.

DTM started with a simple approach, but it is growing rapidly, and we expect it to embrace and consume many parts of the document lifecycle. We see DTM seamlessly and securely combining nine major digital elements:

• **Automation/Workflow.** Automates and controls transaction processes. This includes workflow that can be configured by a business user.

• **Assembly.** Manages the creation, assembly and delivery of data and documents into and out of key applications and processes.

• **E-Signatures.** Enables parties to securely sign a document.

• **Agreement Collection and Management.** Supports collection of digital agreements.

• **Identity.** Provides identity proofing for all participants.

• **Application and Services Integration.** Integrates key applications and cloud based document sources.

• **Secure Transaction.** Provides a centralized secure transaction center.

• **Audit History.** Full, tamper-proof audit trail of transaction that meets evidentiary standards and is admissible in court proceedings.

• **Enterprise Administration & Control.** Enables enterprise provisioning, permissioning, management, and reporting.

With a DTM approach, organizations can infuse DTM into existing business processes and go entirely digital. It’s no longer a question of whether to implement DTM, but when and for which processes.
Use Cases
Enterprises have already used DTM in areas that traditionally were very paper-intensive. Some of the use cases that have already become established include:

- **Lines of Business**
  In many enterprises, DTM starts out in a business unit or department. Sales is often the killer use case. Faster sales contracts can be a very visible indicator of DTM success, because delays in getting contracts signed are so detrimental. The improvement can be dramatic (see Note 1).

  Human Resources is also a growing area where DTM is being embraced. Onboarding is not an easy task and there are often multiple document processes that a new employee has to be taken through. Inventorizing these and streamlining them using the DTM framework is becoming a new best practice.

- **Transaction and High Volume**
  We expect to see many high-volume transaction-related uses of DTM in B2C environments. This will be true for financial transactions – such as 401K signups, IRA transfers, checking accounts and insurance. Again, dramatic changes can occur (see Note 2).

  A number of leading institutions have focused on DTM for the past twelve months or so, but over the next three years this will become a race that enterprises play for keeps. Those that cannot take their processes digital will risk becoming noncompetitive.

  *Aragon Research estimates that by YE 2017, 90% of all leading insurance and banking providers will offer DTM to consumers and business customers.*

- **Enterprise Wide**
  The learning that happens at an enterprise that starts with DTM in a department or LOB is often fast. The fully digital enterprise will have DTM as a strategic plank.

  Before an enterprise embraces DTM, there is usually a starting point – a key business process that DTM is applied to. The lessons from the first successful application of DTM then help the enterprise automate, simplify and speed up more of their...
processes – and realize the benefits in parallel across multiple business units.

Enterprises that execute their business transactions digitally – that is, those that embrace DTM – will see their overall business accelerate. Enterprises that conduct any kind of business will gravitate toward DTM, which has an inherent multiplication effect. A DTM-enabled process is often so smooth that people enjoy it and tell others.

3.0 Key Trends Driving DTM

**Digital Consumer**

Digital consumers want to get things done. They have become the touch and click generation – from college graduates to people in their fifties. These people are not afraid of technology, they expect it, embrace it, and leverage it. Many of these digital consumers work at enterprises, and will be drawn to the ease and simplicity of what DTM promises and delivers.

**Cloud**

Two key aspects of the cloud are central to DTM. Behind the growing acceptance of electronic and digital signatures is the ability to connect people across organizations in a secure manner. The widespread accessibility of cloud services makes it easy to connect the participants in decisions and agreements. On top of that, the ability to interconnect cloud-based applications in a configuration instead of a deep integration means that configuring advanced workflows is easier and faster.

**Mobile**

Touch-based mobile systems, especially a tablet with a pressure-sensitive display, a camera, and the right document apps, can now embody documents more effectively than traditional laptops (see Research Note 2013-04, *Learning with Tablets: Five Reasons the Tablet is the Ultimate Learning Tool*). One reason for the increasing use of electronic signatures is that a person with a phone or tablet can use a stylus or even a finger to securely sign a contract without any additional digitizing technology.

As mobile devices take on a primary role in transacting business, the nature of business documents and their function in defining and closing transactions will change. Apps, and the document representations they support and enable, are the foundation of a
new business-process paradigm. Mobile devices and the apps that run on them are also changing how documents and the content in them are used.

Today, a mobile app can scan and deposit paper checks. More apps that automate previously paper-based processes (e.g., insurance claims) arrive every month. Apps now do what expensive, complex business process management software used to do. As their skills improve, developers will reduce more and more business processes to simple, easy-to-use apps that appear completely transparent to users, who can then focus entirely on the underlying transaction.

**Security and Compliance**

In business, the document has always been the proof of a business relationship. Each transaction is recorded on a piece of paper, which serves as a business record and it is signed in a secure location with verification of the people signing the document.

With DTM, the process is secured, the people are identified and verified and the process is guaranteed with the right level of security including the actual signing process and encryption of the signature and the file. The simplicity of new software tools, and the increasing ubiquity of digital devices that can record secure signatures, are helping to fuel this shift.

**Speed and Flexibility**

Digital business is all about speed and flexibility. There are key shifts in business happening at the speed of digital that we have not experienced before. New roles are emerging within the business to deal with this shift to digital. IT is no longer in control as lines of business leaders are at the frontlines of this new frontier. Digital business is driven by multiple types of transactions that need to be mobile enabled, real-time and with the right analytics in context.

**Digital Enterprise: The Next Major Trend in Productivity**

Digitally enabled enterprises are emerging. While there is a lot of focus on many major technologies, we see this shift as one of the most critical for enterprises conducting business.

Shifting a business from analog to digital will be the next big race. We expect enterprises to make this shift a strategic imperative.
DTM is poised to be at the forefront of this shift – in part because it embraces the concept of being digital.

**DTM Enables Business Acceleration**

For many, the approval, documentation and signature processes require multiple steps and interactions from multiple signatories. Plans, agreements and other documents are easily created electronically. They can be distributed and reviewed on many different PCs and mobile devices. Then, however, they are often printed, signed, scanned, faxed, updated, resigned, reprinted and rescanned. The overhead, loss of productivity and extended cycle times of all this can often justify the investment needed to tie the pieces together into an integrated digital document approval and signature system (see Figure 2).

![Figure 2: Phases of the Document Lifecycle](source: Aragon Research)

### 4.0 DTM vs. Traditional Processes

A big shift Aragon is seeing is movement away from heavy custom development projects that take years to develop and deploy. This has often been what enterprise content management and business process management entailed. In many cases document assembly and or workflow was automated, but often at a very high cost and a very long time consuming process. The last part of the process was often not automated, so the document had to be printed, transmitted and signed. This is where DTM goes further and offers a full lifecycle approach.

So while traditional process focused on one or two aspects of the document lifecycle, DTM becomes the unifying approach that can work across between organizations and individuals. DTM leverages document composition, document assembly and document management, but putting it together to enable the outcomes to occur. This focus on the result is one of the reasons DTM will be on a par and often positioned at a higher level than some legacy application categories such as ERP or CRM. DTM represents the new generation of business applications that
leverage IT investments but are focused on business outcomes versus the IT systems themselves.

**DTM and Paper**

Today, people are printing less as display quality improves and as mobile devices offer more user-friendly alternatives, but many users still have an instinctive urge to print documents. As content becomes more interactive, however, printing a document will reduce its functionality to the point where it becomes impractical.

At the same time, printing a document incurs costs and provides fewer benefits than ever. The visual quality of modern high-end screens approaches that of paper. Mobile devices, particularly tablets, make electronic documents much easier to access and use. The tablet, with its 8-10 hour battery life, is an ideal display source for electronic documents. Having those documents available on the device and also backed up in a content management repository makes it much easier to keep the content accurate and current. In addition, users benefit from features like desktop sync, which manages versions, bookmarks and comments across multiple devices and venues (e.g., home, car, client office, etc.).

For all these reasons, the value proposition for paper documents is beginning to diminish. In particular, users are beginning to see the unnecessary cost and risk of moving back and forth between a digital document and multiple paper instances – not all of which may be identical, accurate or current, and none of which retain the real-time interactivity of the digital version.

DTM embraces the capabilities of many previous investments in document management and business process management. That said, even for enterprises that have not enabled high-end document automation and work flow processes, DTM can enable a faster way to the bottom line – digital transactions that allow the business to execute contracts and documents faster.

**5.0 The New Role of Business Applications**

One of the great benefits of today’s increasingly digital and mobile world, is that business executives understand the things that are slowing them down. Technology is a weapon. As this understanding takes hold, business executives often push for faster outcomes – ones where technology is the enabler, not an
inhibitor. When the business process itself can be managed digitally, everything speeds up.

DTM represents this new era of business applications that have an immediate impact on the bottom line. The outcome is understood and in many cases mobile apps, mobile devices, cloud applications and services can be synergized in a relatively fast fashion to offer a DTM approach that keeps a business application digital from beginning to end.

Because DTM can increase speed for both revenue growth and cash acquisition, it jumps ahead of many other imperatives.

**DTM as a C-Level Strategic Imperative**

When we think of strategic imperatives, we think of companies having 3-5 corporate strategic imperatives such as:

- Accelerating revenue
- Driving efficiencies
- Improving profitability
- Enhancing the customer experience
- Ensuring compliance

They may frame in terms of things like “Become more customer centric” or “Go mobile” or “Go digital” or “Go paperless.” Similarly, departments usually have strategic imperatives as well. We’re finding that DTM invariably supports one if not multiple strategic imperatives.

We see DTM delivering against three primary value pillars:

- **Return on Investment**
  
  ROI includes both hard and soft dollar savings. The increase in speed, the reductions in costs and the increased accuracy all combine to make DTM a C-level initiative. ROI benefits can reach tens of millions of dollars per year, or from $5 to $100 per document, depending on use case and current processes, and translate into earnings-per-share benefits.

- **Customer Experience**
  
  DTM often dramatically improves the customer experience, due the ease and simplicity of the process. When people talk about a better experience, as they do with DTM-enabled processes, this becomes a competitive differentiator.
• **Compliance**

Ensuring that transactions are done safely and securely and that they comply with industry and government regulations isn’t optional. The fact that DTM is already there makes the shift to DTM more of a priority.

Aragon Research predicts that *DTM will become a strategic imperative at large enterprises by YE 2015*. The reason is simple: DTM affects virtually all aspects of how a firm is measured and evaluated for business success. Few technologies have such an impact. The impact is transformational and goes across most lines of business.

**Departmental Benefits**

The key departments that benefit from DTM include:

- Sales
- Finance
- Legal
- Facilities
- Product Management
- Human Resources
- IT Operations
- Marketing
- Support
- Procurement

See Figure 3 for a list of the key processes for each department.

<table>
<thead>
<tr>
<th>Sales</th>
<th>HR / HCM</th>
<th>Finance</th>
<th>IT Operations</th>
<th>Legal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales Order Processing</td>
<td>New Hire Paperwork</td>
<td>Invoice Processing</td>
<td>Asset Tracking</td>
<td>NDAs</td>
</tr>
<tr>
<td>Account Provisioning</td>
<td>Candidate NDA</td>
<td>Expense Reporting</td>
<td>Change Requests</td>
<td>Contract Management</td>
</tr>
<tr>
<td>Sales Compensation Agreements</td>
<td>On/Off-boarding Checklist</td>
<td>Capitalization Management</td>
<td>Requirements Sign Off</td>
<td>Internal Compliance</td>
</tr>
<tr>
<td>Referral Agreements</td>
<td>Employee Policy Distribution &amp; Signature</td>
<td>Asset Sign Off</td>
<td>Access Management</td>
<td>IP Licensing</td>
</tr>
<tr>
<td>Reseller Agreements</td>
<td>Contractor Agreements</td>
<td>Policy Management</td>
<td>Incident Reporting</td>
<td>Patent Applications</td>
</tr>
<tr>
<td>Field Sales Agreements</td>
<td>Non-disclosure</td>
<td>Inventory Signoff</td>
<td>Production Change Authorization</td>
<td>Board Minutes</td>
</tr>
<tr>
<td>New Customer Sign Ups</td>
<td>PTO Management</td>
<td>Asset Transfer/Retirement</td>
<td>Maintenance Authorization</td>
<td>Trade Name Assignment</td>
</tr>
<tr>
<td>Terms and Conditions</td>
<td>Payroll Forms</td>
<td>Hiring Freeze Exemption</td>
<td>Order Fulfillment</td>
<td>Trademark Assignment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>M&amp;A Documentation</td>
<td></td>
<td>Finance Agreements</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Marketing</th>
<th>Facilities</th>
<th>Support</th>
<th>Product Management</th>
<th>Procurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Event Registration</td>
<td>Front Desk Sign-in</td>
<td>Account Changes</td>
<td>Change Management</td>
<td>Purchase Orders</td>
</tr>
<tr>
<td>Mass Mailing / Email Approvals</td>
<td>Work Orders</td>
<td>Service / Work Orders</td>
<td>Release Management</td>
<td>Statements of Work</td>
</tr>
<tr>
<td>Customer Communication Approvals</td>
<td>Lease Agreements</td>
<td>Term Changes</td>
<td>Code Review Reporting</td>
<td>Master Service Agreement</td>
</tr>
<tr>
<td>Brand Compliance/Audits</td>
<td>Move In / Out Requests</td>
<td>Self Service Requests</td>
<td>Requirement Acceptance</td>
<td>RFP Sign Off</td>
</tr>
<tr>
<td>Event / Vendor Approvals</td>
<td>Parking Permits</td>
<td>Compliance</td>
<td>Release Scope</td>
<td>Supplier Compliance</td>
</tr>
<tr>
<td></td>
<td>Equipment Rentals</td>
<td>Field Service</td>
<td>Commitments</td>
<td>Competitive Procurement</td>
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<td>Lien Releases</td>
<td>Cancellation Requests</td>
<td>Project Charter Templates</td>
<td>Summaries</td>
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<td>Site Fasses and Onsite Waivers</td>
<td>Internal Cancellation Processing</td>
<td></td>
<td>Sale-Source Justifications</td>
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<tr>
<td></td>
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<td></td>
<td></td>
<td>Procurement Card Applications</td>
</tr>
</tbody>
</table>

*Figure 3: List of Key Departments and Business Documents*
When evaluating the departments and the use cases in each, it is important to look at two things, the volume of transactions and the return on them. Figure 4 helps to identify the high payback document processes that can be faster to implement.

Figure 4: DTM Use Case Value Matrix  
Source: DocuSign, Inc.

6.0 xDTM: Where It Started

DocuSign, a pioneer in e-Signatures (see Note 3), is facilitating the creation of the xDTM Standard in partnership with leading firms. The purpose of the xDTM Standard is to outline key requirements for DTM solutions around the following key elements.

- Security
- Privacy
- Compliance
- Enforceability
- Availability
- Openness
- Universality
- Scalability

The xDTM Standard and xDTM Governing Board (see Note 4) are just being formed. For more detail on the xDTM Standard, see the Appendix.

Note 3: DocuSign
DocuSign is one of the fastest-growing technology companies in Silicon Valley. It got its start in e-signatures – originally building solutions enabling real estate agents to conduct time-sensitive, high-value transactions between multiple parties. Agents, and their clients, loved the ease and speed with which they could complete high value transactions.

As a result, word quickly spread within the real estate community and adoption of DocuSign solutions took off virally, making DocuSign the number one e-signature solution for real estate in the world and driving broad awareness for the company.

Today DocuSign is driving the creation of a new category of solutions called Digital Transaction Management.

DocuSign highlights include:
- More than 40M users worldwide
- More than 95,000 customers, ranging from individual professionals to Global 100 companies deploying DS worldwide
- Extensive penetration in verticals and horizontals

Note 4: The xDTM Governing Board
The xDTM Governing Body includes executives from ten leading commercial, university and government institutions. They include:
- Blue Cross / Blue Shield of Minnesota
- DocuSign
- FedEx
- Hewlett-Packard
- National Science Foundation
- NBCUniversal Inc.
- Mandiant, a FireEye company
- Purdue University
- Stanford University
7.0 DTM in the Enterprise

Enterprises embark on different technology initiatives to help make the business better or more efficient. Over the years, as technology has shifted enterprises have adapted and invested. The investments have not always paid off or if they have, it has come at an extremely high cost.

The investment in enterprise resource planning (ERP) and related markets such as supply chain management (SCM) is an attempt to manage the supply chain and the manufacturing process. Companies have spent millions, often hundreds of millions of dollars to make these initiatives successful.

The issue with many of these traditional technology investments is that the tools or the software often had to be adjusted or customized to fit the needs of the enterprise. This often meant time and money. Upgrades then became very expensive due to the customizations.

On top of that, external parties, such as customers, partners and suppliers needed to interact with these systems, some of which were not designed to operate very well outside of the enterprise firewall.

Many of these systems dealt with data and workflows but they did not and often do not deal with the last step of a process, when there is a need to execute a business transaction. The point at which a document needs to be executed to consummate a relationship – buying something or hiring someone – is when the analog paper process kicks in.

Paper processes can be fraught with errors and costs. There are several things that impact these traditional paper/analog processes.

Printing Costs

First, printing and faxing isn’t cheap. Aragon Research estimates that imaging and printing still costs an enterprise 1-2% of revenues. This has to do with printing and faxing in all areas of the business. Some insurance companies spend far more – up to a billion dollars a year to print policies and contracts. For a firm with $10 billion in revenue, 2% spent on printing and imaging amounts to $200,000,000. Many of those costs can be avoided by using a digital process such as DTM.
Shipping Costs

Distributing documents physically, especially via overnight delivery, is expensive. Costs are also incurred both ways – from the sender to the recipient and then back again.

Productivity Costs

Manually handling paper is costly as well. Taking the time to print, email/fax/send, ensure delivery, track down document status, retrieve documents, and then image or re-key info back into systems and store documents is highly time intensive. It is also often time intensive for individuals to manually retrieve documents at a later date – if they can even be found.

Errors Due to Humans and Analog Processes

A second hazard of analog processes is the possibility of errors. Individuals incorrectly input information into documents prior to signing, or subsequently incorrectly transfer information from signed documents back into systems. Fully digital processes enabled by DTM reduce or eliminate entirely human-based errors.

Core Benefits of the Shift to Digitally Based Transactions

Going digital with DTM solutions can deliver tremendous benefits to an organization, including:

• Lower direct costs due to not printing, distributing, manually handling paper
• Greater revenues through faster transactions and higher close rates
• Reduced error rates due to less manual handling
• Improved customer experiences thru purely digital transactions anywhere, anytime, on nearly any device
• Improved compliance thru adherence to process requirements

8.0 Migrating to DTM

Migrating to DTM starts with an understanding of your current processes. It involves a critical process-by-process evaluation and assessment to determine the use cases where DTM can be applied.

Document Inventory

An enterprise needs to understand: what are the critical documents that are involved with their processes. Often the answer is simple:
these are all the documents that need to be signed. Processes can involve individual documents, or sometimes multiple documents.

**DTM Pilot and Value**

In many cases enterprises will want to do a pilot to see how DTM will impact their enterprise.

Start by looking at the high return documents – those used most often – that can also have a high payback. Do the DTM implementation and validate the results.

DTM will be one of the fastest growing categories primarily due the tremendous ROI that it returns. However, DTM delivers other benefits as well.

On top of ROI, the most significant external factor that will drive enterprises to DTM is the fact that external parties enjoy the process and the experience. It doesn’t mean that every experience will be trouble free, but people that get to use DTM based processes on a regular basis are generally delighted with the overall experience.

**9.0 Aragon Advisory**

- If possible, identify department-level or corporate-level initiative(s) to which you can align your DTM efforts. These initiatives are often funded. Initiatives focused on revenue acceleration, improving customer experiences, cost cutting and better compliance are good candidates.

- Inventory and prioritize candidate processes to take 100% digital. Balance “quick wins” with highest ROI impact processes.

- Market and build upon success internally. Organizations often find they are able to accelerate rollout and adoption when sharing results with colleagues.

**Bottom Line**

Digital Transaction Management (DTM) is a new category of business application that is focused on helping enterprises manage their transactions in a full digital manner. It isn’t a matter of if enterprises will go digital, it is when. Harnessing DTM as an approach to manage internal and external transactions is what is needed.
APPENDIX: The xDTM Standard

The xDTM standard enables organizations and consumers to feel confident in transacting digitally. The xDTM standard includes these components:

Security – Secure xDTM transactions have best in class technical protection, highly secure access, and proactive protection policies.

- **Best-in-class technical protection**
  - Sensitive customer data is encrypted at rest
  - Data centers are fire-wall protected, dedicated environments with border routers configured to defend against network attacks like Distributed Denial of Service (DDoS) attacks

- **Highly secure access**
  - Industry-leading security systems at data centers
  - Offers best-in-class encryption key management
  - Ability to impose multi-factor authentication methods

- **Proactive protection policies**
  - Periodic penetration testing by qualified third parties
  - Best efforts focus on intelligence collection leading to security breach prevention before events happen (such as by membership in an ISAC - Information Sharing and Analysis Center – organization, membership in local or national law enforcement community meetings, by actively monitoring US-CERT notifications, and the like)

Privacy - Private xDTM transactions allow a person or company to reveal information selectively, at their discretion.

- Personal data (including personal identifiable information) is not sold or shared with third parties
- Company has a written privacy policy that is compliant with best industry practices
- Provides continuous monitoring for fraud and malicious activity
- Maintains a Trust Center to provide transparency into service performance, availability, and technical best practices.
**Compliance** – Compliant xDTM transactions conform to industry policies, standards and laws. Recurring third party auditing is engaged to verify compliance.

- **Compliant with and follow controls related to key standards and laws, including at a minimum:**
  - ISO 27001 (including operations, engineering, QA processes, and cloud data centers)
  - SSAE 16
  - HIPAA
  - PCI DSS
  - ESIGN Act
- **Adheres to industry-relevant processes & certifications, including:**
  - US and EU Safe Harbor
  - TRUSTe
  - Skyhigh CloudTrust

**Enforceability** – An enforceable xDTM transaction is reliable. It is transparent and has an audit trail.

- **Transparent**
  - Transactions include information such as message origin, author, content, and time of transmission
  - Transactions contain verifiable chain of custody that includes document/transaction, meta data, and history
- **Audit trail**
  - Auto generated, digitally signed, and tamper-evident

**Availability** – xDTM transactions are always accessible and obtainable.

- **Transaction availability at 99.99%**
- No scheduled downtime
- Redundant and geo-dispersed data centers
- Minimal data loss occurs during a disruption, as evidenced by a low value for recovery point objective (RPO) across geographically distributed data centers
• Quick time to restoring service level after a disruption, as evidenced by a low value for recovery time objective (RTO)

**Open** – Open xDTM transactions are supported by collaborative service environments.

• Releases published API’s (such as REST and SOAP) that are easily accessible to developers looking to integrate
• Includes open gateways that allow information to be passed to different computing networks
• Supports openness with embedded features, to provide for the ability for use directly in third-party applications
• Facilitates openness with resources such as robust sandbox environment allowing for rapid development, testing and deployment of applications

**Universal** – Universal xDTM transactions work across heterogeneous computing environments, devices, and support multiple languages.

• Functions across heterogeneous computing platforms
• Works across online/offline devices, including laptops, tablets and smart phones
• Accessible in a variety of languages for users around the globe

**Scalable** – Scalable xDTM transactions are facilitated by a system that accepts increased volume without impacting performance.

• Capacity modeling of systems conducted on an ongoing basis in order to project the impact of future demand on the infrastructure
• Proactively implements architectural changes and makes purchasing decisions with appropriate lead time to support systems