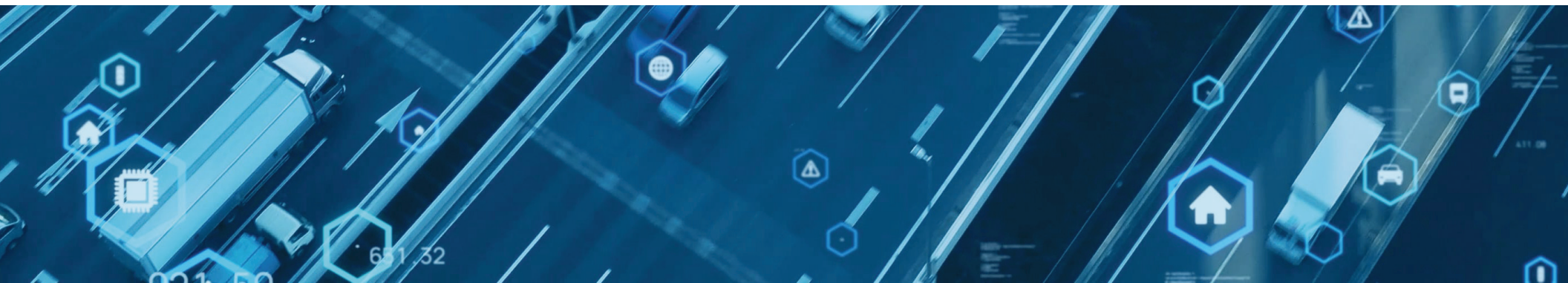


Cleo

A White Paper brought to you by Cleo & Logistics Management

Maximize Your TMS Investment

*How addressing your integration strategy before
implementing your TMS increases ROI*



In this Cleo and Logistics Management White Paper, you'll learn why addressing your integration strategy prior to modernizing your TMS will produce greater financial returns.



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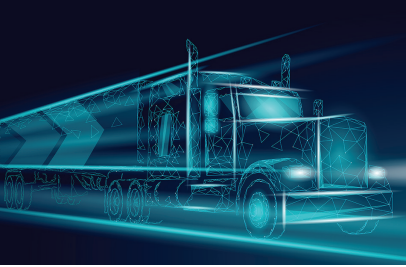
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SECTION I

The Importance of TMS



The Evolution of TMS

Transportation management systems (TMS) have been around for decades, but it was not until relatively recently that the technology saw major advances. The need for TMS came from the logistics industry. Logistics companies needed a solution to manage all order activity within their supply chain and to automate the exchange of information between parties involved in the business ecosystem.

TMS occurred more in silos during the early 2000s. Specially designed tools and platforms were made for each step and process in the supply chain, making it a hassle to constantly switch between programs. Two other major drawbacks of the early TMS technology were large amounts of manual data entry and the lack of integration options with other software and platforms.

Over the next two decades, the world experienced a boom in technological advancements and widespread internet adoption. This boom required a major overhaul of transportation management systems to accommodate new demands and systems.

Cloud-based solutions started cropping up, which made TMS more affordable for smaller companies. Smaller companies could utilize TMS technology to automate processes, compare freight carrier rates, manage execution, gain visibility into the supply chain, and more. Features such as instant data exchanges through APIs, and extensive integration capabilities were critical advancements that helped propel TMS technology to where it is today.

What Exactly is TMS?

So, what is a modern TMS? A TMS is an integral aspect of supply chain. TMS is a software commonly used by logistics companies, that enables them to plan, execute, and optimize shipments. The technology also verifies that shipments are compliant and properly documented. Essentially, a TMS streamlines the shipping process while guaranteeing a company's shipments meet customer demands—arriving on time, correct order, tracking options, etc.

Different industries utilize transportation management systems, but they are predominantly utilized by companies that routinely move freight. Examples include Third-Party Logistics (3PL), Carriers, Trucking, Distributors, Manufacturers, eCommerce companies and retailers.

Modern transportation management systems offer a wide breadth of features, including but not limited to:

- Billing
- Carrier management
- Demand forecasting
- Freight & parcel auditing
- Freight settlement
- Order consolidation
- Order entry
- KPI reporting & analytics
- Route optimization
- Shipment execution & tracking
- Shipping mode selection



KEY TAKEAWAY:

When comparing capabilities of modern TMS versus first editions, one can notice the large number of features that have been added. TMS technology will evolve to keep up with the onslaught of future demands from supply chain and logistics industries.



SECTION II

Choosing the Right TMS for Your Business



Selecting which TMS is best for your business is a big decision, as you will invest time, money, and human capital into its implementation. Choosing the perfect TMS the first time will ensure that you avoid redoing the entire process. To circumvent this scenario, there are a few steps your team can take to ensure you choose the best platform. These include identifying the business and technology goals you want to accomplish with a TMS, establishing a list of questions to ask potential TMS providers, and determining must-have features.

Picking the Right TMS in Three Steps

1. DETERMINE GOALS

First, a company should identify the goals they wish to accomplish with the TMS. This will help guide your team when researching solutions, and help the next two steps in this process, which we'll cover shortly.

When coming up with business performance and technology optimization goals for your future TMS, be sure to look at current shortcomings and weaknesses in your processes. This will help you identify areas that need improvement and can benefit from a modern TMS.

Examples of goals may include:

- Increase shipping efficiency
- Reduce shipping-related costs and fees
- Improve customer satisfaction
- Obtain real-time supply chain visibility

2. CREATE A LIST OF QUESTIONS

Next, a company needs to determine what questions they have for potential TMS providers. Being prepared with pertinent questions will help your company gather key information from prospective vendors so you can make a more informed decision. Additionally, probing ever deeper and asking about their product may uncover additional questions you may have, or open the conversation to other areas you have not considered.

Coming prepared with a list of questions is a great tool to kick-start conversations, collect comparative research, gain insight into the provider's operations, and assess if you would want to work with the provider on a consistent basis.

Questions may include:

- Does this TMS work for my processes?
- How much time do you foresee us saving?
- What are your integration capabilities?
- How much ROI is expected in the first year?
- What is the annual cost of ownership for your TMS?
- How long is the onboarding process, from signing the contract to processing our first order?
- What steps are in the onboarding process?
- Do you provide software updates?
- If so, how frequently, how are they distributed, and are there additional fees?
- Are you a relationship-oriented software company that will actually be there if and when we have questions, issues, or challenges?





3. IDENTIFY MUST-HAVE FEATURES

Lastly, you should list all the must-have features you want in a TMS. These features will likely depend on your company's business performance and technology optimization goals.

The list of must-have features may be revised once your team starts holding conversations with TMS providers. The more you learn about the solutions on the market, the more insight your team will have into what features are possible, which come standard, and which are essential to your team.

These features may include:

- General Functionalities
- Strategic and Tactical Planning
- Operational Planning and Execution
- Planning and Route Optimization
- Reporting Visibility & Dashboard
- Analytics Insight
- Freight Settlement
- Cloud-based portals for trading partners, carriers, brokers, and third-party logistics partners

Defining company goals with TMS software, drafting a list of questions to ask providers, and creating a list of must-have features are great first steps when researching TMS solutions.



KEY TAKEAWAY:

Deciding which TMS to go with is a big decision that will impact numerous operations and processes within your company. Be sure to thoroughly vet TMS providers so you find the best solution for your needs.



SECTION III

Your Integration Platform Shouldn't Dictate Which TMS You Choose



Prior to selecting your TMS, your team needs to address its EDI (electronic data interchange) requirements and determine what your company needs in the way of an integration platform. More often than you would surmise, this critical step is completely overlooked by companies selecting a new TMS, and missing it can have costly and debilitating consequences. Contrariwise, if chosen correctly, implementing the right integration platform will dramatically enhance and extend the capabilities of whichever TMS you choose, making it more efficient.

Certain integration platforms also enable companies to communicate using EDI and other integration technologies, adding invaluable automation features to order processing.

Above all, your integration platform should not limit your TMS options and hold you back. An integration platform should have widespread integration capabilities so it can connect with countless TMS solutions, as well as other applications and data as your business grows and evolves.

Put another way, instead of selecting a TMS based on its compatibility with your existing integration platform, look at integration platforms before or in parallel with choosing your new TMS. This will give your team more choices and flexibility when implementing whichever TMS solution is right for you.

Maximize Your TMS ROI

Pairing an integration platform with a TMS creates the ultimate technology to handle today's rapidly changing supply chain processes and needs. Adding an integration platform to a TMS will not only maximize the power of both technologies but will also maximize your ROI. This is achieved in a few ways.

EDI TRANSACTIONS

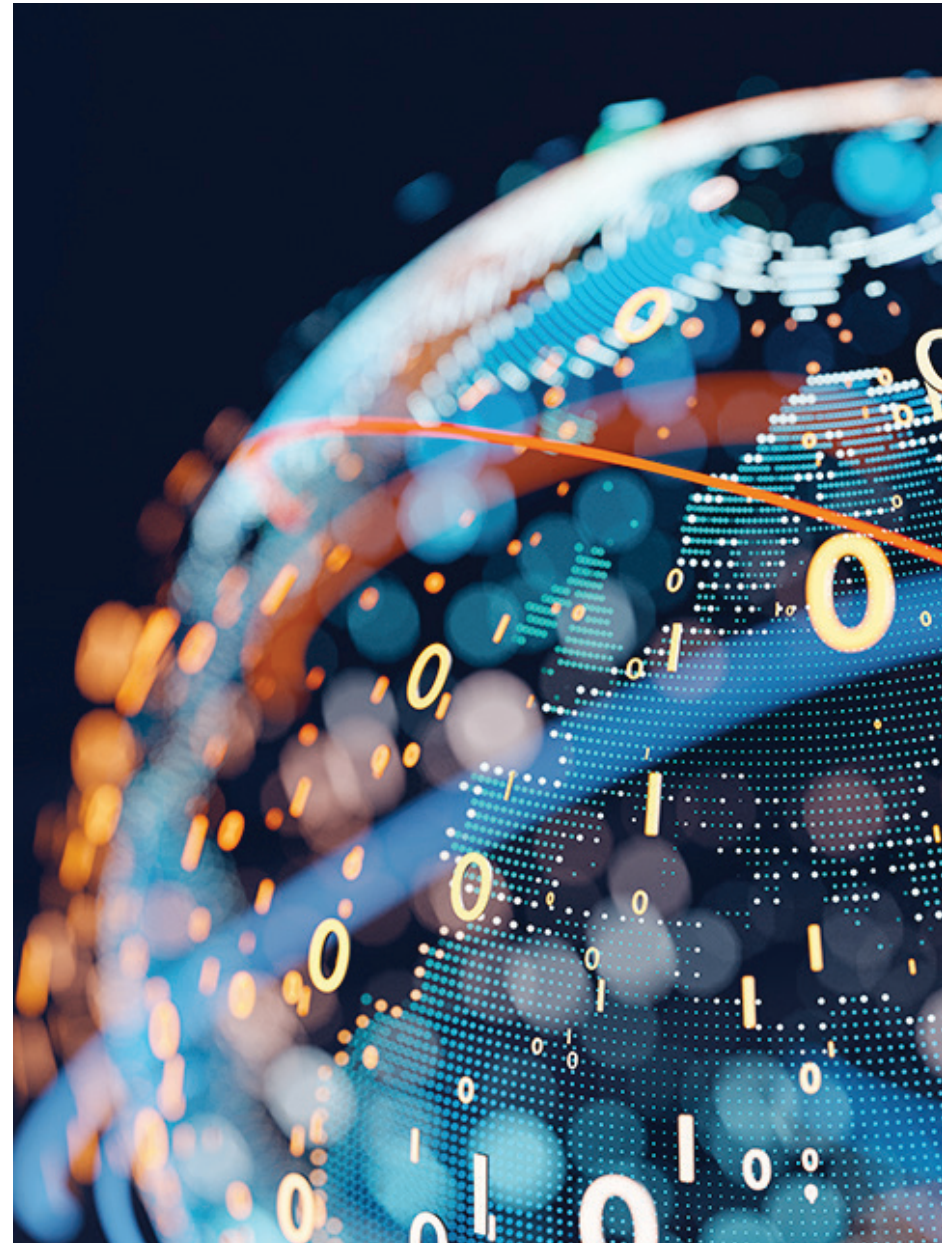
TMS systems do not handle EDI transactions. EDI is a computer-to-computer exchange of business documents in a standard electronic format between different business partners, usually regarding order processing and invoices.

The main benefit of EDI is that it automates business processes so your company can onboard new partners fast and thus take on new business, and quickly respond to customer and trading partner requests.

Choosing an integration platform that can be integrated into TMS and also has EDI capabilities, will allow your company to become more efficient, reduce costs, and improve customer relationships.

MANAGE IN A CENTRAL LOCATION

One benefit of connecting a TMS and integration platform is it creates a central location to manage processes, orders, data, alerts, communication, and more. Instead of constantly toggling between various platforms to hunt for information (perpetuating the "data silos" problem we mentioned earlier), an integrated TMS collects all the information and displays it in one location. Spend less time gathering and compiling data, and more time analyzing KPIs and making informed, strategic decisions.





HARNESS AUTOMATION

Automation improves efficiency. Integrated TMS can automate a multitude of steps and processes. One area for example that can be automated is carrier selection. The TMS selects a carrier based on real-time data, which is provided by both the integration platform and TMS. With this data, the TMS predicts the financial cost associated with each carrier, then selects the optimal carrier for each order.

There is also the realm of automating order processing, paying trading partners, and invoicing. This is done through using an integration platform with EDI technology, which we covered above. Historically, these tasks were completed manually. Integrating your TMS can automate these tasks, greatly reducing the time it takes to complete them since they will not be human-reliant (machines do not require breaks and work around the clock).

Furthermore, automating order processing cuts down on human-prone errors that result in large fees, delayed shipments, incorrect orders, and damaged customer relationships.

INCREASE VISIBILITY

Businesses can garner increased visibility by integrating their TMS system. As we mentioned earlier, connecting a TMS system to an integration platform provides a central location to manage data, information, communication, etc. There is also the added benefit of intuitive dashboards that compile and highlight key data in a central location. Users can easily get a quick snapshot of KPIs, order updates, shipment statuses, and in the case of some platforms, data can be presented to users based on their role in the business, further amplifying the ROI of the overall technology investment.

An integration platform can also offer greater visibility surrounding end-to-end business processes, for instance, the extensive Load Tender-to-Invoice process. This equates to real-time visibility into orders, processes, and data. Moreover, some integration platforms provide error notifications and will inform users where in the process an error is occurring. Therefore, users do not have to waste time pinpointing where the issue is happening, but rather they can focus on fixing the error as fast as possible.



IMPROVE CUSTOMER SUPPORT AND RELATIONSHIPS

Not only does pairing a TMS with an integration platform help your business, but it also benefits your customers' businesses. Integrating the systems allows for smaller and quicker delivery windows, along with the ability to specify exact pickup and delivery locations.

There are also TMS customer portals featuring information and data that's been integrated from various platforms, such as project44 or FourKites. Customers can use these portals to access relevant information, such as shipment tracking. Additionally, customers can perform a multitude of actions in these portals. For example, customers can add new orders, communicate with your company, and manage documents. Maintaining and improving customer relationships through TMS ensures repeat business and positive word-of-mouth recommendations.

BETTER TRANSPORTATION PLANNING

The analytics and reporting provided by an integration platform and TMS aid transportation planning. Users can combine orders by assessing factors such as shipment capacity, and load and route optimization. This lowers freight costs by reducing the number of required shipments.

SUPPLY CHAIN EXECUTION

Managing inventory is crucial for suppliers, but can be difficult to govern since inventory levels constantly fluctuate. By linking a TMS to an integration platform, suppliers gain an in-depth view of their end-to-end processes, such as assessing inventory levels and warehouse capacity. This allows users to better manage the inbound and outbound shipments so they can optimize their supply chain.



KEY TAKEAWAY:

An integration platform is necessary to get the most out of a TMS. However, while the integration platform should not dictate which TMS you choose, your choice of integration platform should be directly related and should happen first. It is better to opt for an integration platform with rich capabilities and widespread compatibility, so your TMS options are not limited.



SECTION IV

Business Scenario: The Role of Integration Platforms & TMS

So far we have covered the importance of a TMS, how to choose the correct system, why your integration platform should not dictate which TMS you select, and how to maximize the ROI. But what does a business process look like when adding an integration platform to a TMS? Let's dive into an example.

For this scenario, we'll use the fictional third-party logistics (3PL) company, RAVEN. Let's say a clothing manufacturer needs to ship 13 pallets of jackets to a department store. RAVEN is the chosen 3PL for the manufacturer and handles all warehousing and shipping responsibilities. The manufacturer communicates the shipment needs to RAVEN, who accepts the proposal using EDI. RAVEN then selects a carrier to fulfill the order by physically picking up and delivering the jackets.



STEP 1: EDI 204-MOTOR CARRIER LOAD TENDER

RAVEN first needs to send the carrier an EDI 204 Motor Carrier Load Tender. To do this, RAVEN will use its EDI integration platform to create an EDI 204 document. To fill in the necessary information, RAVEN will use data collected and stored in its integration platform and TMS.

The EDI 204 may include the following information:

- Shipper and receiver identification like names, addresses, and vendor ID numbers
- Information on consignees
- Scheduling information including pickup and delivery window, along with any unique pickup or delivery requirements
- Requirements for equipment such as truck length or carriage size
- Load details, including lading qualities, dimensions, and weight

In order for RAVEN's EDI 204 to reach the carrier, the EDI 204 is sent using RAVEN's EDI integration platform. The integration platform will convert the EDI 204 using a transfer protocol that complies with the carrier's systems. This step essentially translates the data in the file so the carrier's system file can comprehend it. After the file is translated, it is sent to the carrier for retrieval.



STEP 2: EDI 990-RESPONSE TO THE LOAD TENDER

Upon receiving the EDI 204, the carrier's system responds to RAVEN with an EDI 990 Response to a Load Tender. EDI 990 states whether the carrier accepts or declines the offer to ship the goods.

STEP 3: EDI 211-BILL OF LADING

If the carrier accepts the tender in the EDI 990, RAVEN will then send an EDI 211 Bill of Lading (BOL). This document contains the details regarding the shipment in the EDI 204.

STEP 4: EDI 212-DELIVERY TRAILER MANIFEST

The carrier will send an EDI 212 Delivery Trailer Manifest to RAVEN. Carriers use EDI 212 to inform consignees or other parties of a trailer's contents. They are sent when a trailer contains multiple shipments from different companies tendered for delivery.

STEP 5: EDI 214-SHIPMENT STATUS MESSAGE

Once the shipment is in progress, the carrier will send RAVEN an EDI 214 Shipment Status Report. This document informs RAVEN of the pick-up and delivery information and status.

STEP 6: EDI 210-MOTOR CARRIER FREIGHT DETAIL

After the shipment is delivered, the carrier sends an EDI 210 Motor Carrier Freight Detail and Invoice to RAVEN. The 210 requests payment for freight charges. This replaces the use of a paper invoice.

STEP 7: EDI 820-PAYMENT ORDER/REMITTANCE

RAVEN responds with an EDI 820 Payment Order/Remittance. This document includes payment information such as payment method, account number, routing information, and payment amount.



KEY TAKEAWAY:

The EDI integration platform played a pivotal role in these seven steps. TMS alone cannot perform the EDI functions integration platforms provide. The integration platform is the middleman between RAVEN's TMS and the transportation provider's ERP, facilitating communication, and translating the data so each party can understand the information being communicated.



SECTION V

Alternative Integration Use Cases

To improve communication and efficiency surrounding order processing, EDI integration is a vital addition to a TMS. There are other essential and helpful integrations that TMS can benefit from. Two examples are project44 and a company's WMS (warehouse management system).



SUPPLY CHAIN VISIBILITY PLATFORMS

Modern visibility platforms use cloud-based APIs to instantly connect shippers and third-party logistics companies to carriers. Using customer freight APIs allows shippers to pull rate quotes in seconds, automate dispatch requests, track shipments, and receive delivery confirmation in real-time. Carriers connected to their network can get rates in front of new customers and dynamically set their pricing based on market conditions. These are all great features, but how do visibility platforms connect to a TMS?

In order for a company to ingest data into their TMS, they need to link the two platforms using API integration. One of the easiest methods of doing this is by utilizing an integration platform to link the systems. Again, an integration platform is a middleman between the two systems, allowing information to flow freely from one to the other. Without the integration platform in place, the two systems would otherwise not be able to connect and share information.



WMS

Similar in nature to a TMS, there is also a WMS (warehouse management system). The purpose of a WMS is to keep up with customer demands while simultaneously reducing costs. This is done by increasing inventory accuracy and order fulfillment, decreasing inventory levels and order cycle time, and moving goods through the warehouse quicker.

Companies that have a TMS and WMS in place can reap huge benefits by integrating the two platforms. Integrating both results in even greater data and analytics, real-time visibility across the supply chain, resource management, and more.

An integration platform can integrate TMS and WMS so they can share relevant information that will influence decision-making, improve operations and efficiency, and reduce costs.



SECTION VI

Summary



Implementing a TMS is a great tool to help your company plan, execute, and optimize product shipping. Adding an integration platform into the mix further enhances TMS features which maximize the ROI and unlock its full capabilities. Some key points to remember are:

When considering switching, upgrading, or implementing a TMS, it is helpful to complete the following early in the discovery process:

- Determine the goals you want to achieve with the TMS
- Create a list of questions to ask potential TMS providers
- Identify must-have features

Performing these three steps will guide your research and decision-making process, helping you sift through all the options on the market.

Next, it is highly beneficial to address your integration platform needs before your TMS.

Selecting an integration platform with widespread compatibility ensures your company does not limit its options when choosing a TMS.

It also allows your business to experience minimal disruption when you implement or switch TMS. Once your TMS is up and running, it can immediately connect to your integration platform, instantly providing access to critical information and automation features.

Lastly, an integration platform is also necessary to maximize the features and ROI of your TMS. When the two platforms are integrated, numerous benefits emerge.

These include:

- Managing systems and data in a central location
- Harnessing automation
- Increasing visibility in processes and data
- Improving customer support and relationships
- Superior transportation planning
- Better supply chain execution

These benefits boost efficiency, cut costs, and create happier customers.

So which integration platforms best maximize your significant investment in a TMS? One of the leading solutions is Cleo Integration Cloud.





SECTION VII

About Cleo Integration Cloud


Cleo Integration Cloud (CIC) is a leading ecosystem integration platform that can connect to countless systems. CIC is purpose-built for logistics and transportation, which makes it an excellent choice for growing businesses and those looking to modernize their processes.

Cleo's logistics and transportation customers use CIC for data orchestration, API integration, EDI integration, visibility, governance, and more. Cleo has more than 4,100 customers worldwide, with more than 500 being industry-leading transportation and logistics providers.

Upon implementation, Cleo's logistics & transportation customer outcomes gain the following outcomes:

- Consolidation of all EDI solutions on one platform
- Accept or reject load tenders within seconds
- Accelerated times for response & resolution by 60%
- Connection to all business locations effortlessly

Cleo Integration Cloud unifies the best B2B integration capabilities onto a single platform to help your business thrive in this ever-changing world. Combine CIC with your TMS of choice and your company will gain greater insights into data and analytics, have more visibility into your supply chain, and the ability to automate tasks.



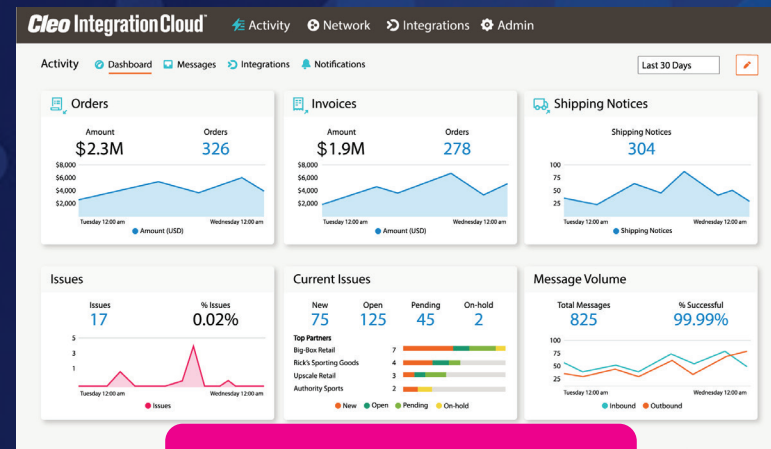
Our Users Love Us
 Recognized "Leader" in
 iPaaS & EDI categories on G2

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Cleo Integration Cloud™

- 
Meet elevated performance expectations
- 
Be proactive against long-term supply shocks
- 
Meet any customer and carrier needs with format, syntax and protocol depth
- 
Break through application silos and consolidate integrations
- 
Pinpoint exceptions, address route cause, and quickly address issues
- 
Accelerate trading partner onboarding for faster time to revenue



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