Cleo

# The Common-Sense Guide to IT Systems Modernization

## Enable enterprise agility, insulate your organization from disruption, and design a successful digital business journey

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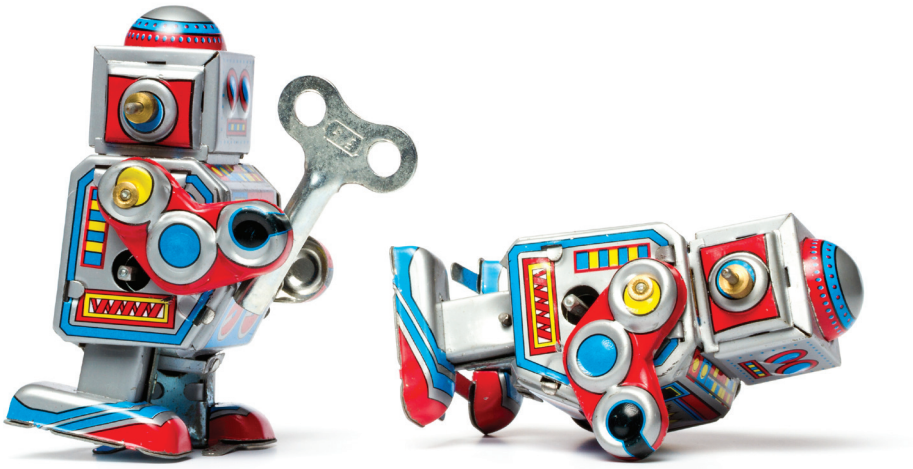
Organizations modernize because they cannot afford to support technologies that are anchors keeping the business from going anywhere. Or worse, these legacy technologies are causing the organization to take on water in the rough seas of digital transformation.

There comes a time when every enterprise must proactively adapt to meet evolving business needs, and it's important for companies to gain the ability – and the agility – to adapt when that time comes. But given the number of people, systems, applications, and processes turning the wheels behind an organization's proverbial curtain, quickly integrating new solutions is difficult. And it's this realization that points to why so many companies are hesitant to make any drastic changes to existing IT stacks.

When current integration systems fail to provide the necessary business agility to rapidly adapt within the context of digital transformation, enterprises can and should turn to new technologies. However, even if you recognize the need to upgrade your systems to support new solutions, and even if you understand that doing so is critical to moving your business forward, how do you ensure a successful modernization effort?

## ABOUT THIS WHITE PAPER

Digital transformation isn't just a buzzy marketing term; it's a real business goal with implicit opportunity costs if you are slow to transform. Becoming a digital business, however, requires a comprehensive digital business platform. IT systems modernization is the ongoing strategy for improving technologies and solutions to better enable business outcomes, and integration is core to that strategy because it connects the entire business ecosystem. This white paper outlines the risks facing companies that don't modernize, the importance of integration in modernization, and the capabilities required to modernize and enable your business goals.



Could you support existing EDI and B2B requirements while also integrating cloud and SaaS applications to meet fully-modern, hybrid integration requirements? Could you stand up a new ERP or eCommerce platform and seamlessly connect to legacy systems and applications at the digital core of your business?

This is the crux of any IT systems modernization initiative. Modernization isn't about refreshing systems simply because they are old or inflexible. If existing technologies adequately meet your business needs, then there is little reason to change. Enterprises modernize because these systems they've relied on for so many years can no longer support the speed and agility the business is looking for.

Modernizing IT systems is more than a tactical rip-and-replace of your aging ERP application or, even making the move to an integration platform that supports EDI with API extensibility. It's a comprehensive enterprise-wide strategy that arms your business with the integration versatility to enable dynamic business ecosystems, improve revenue-generating business outcomes, and better compete in the age of the cloud.

Gartner

**EXPERT OPINION**

**Through 2020, integration work will account for 50 percent of the time and cost of building a digital platform. Moreover, the complex challenges posed by digital business transformation require a radical change in the integration technology platform and in the way [that] organizations deal with integration."** [1]

– Massimo Pezzini,
Gartner Research
Vice President

1 "Use a Hybrid Integration Approach to Empower Digital Transformation," 26 April 2018, https://www.gartner.com/smarterwithgartner/use-a-hybrid-integration-approach-to-empower-digital-transformation/

## The Costs of Not Modernizing

Often companies resist upgrading their IT infrastructure. It's an overwhelming process that involves numerous stakeholders, spans months or even years, takes significant budget and resources, and threatens business disruption. Many businesses also have invested significant time and money into their legacy systems that it's imperative to get all the mileage they can out of them, especially if these solutions still get the job done.

Maintaining outdated legacy systems only increases the risk of data process latency and the propensity for costly errors. The decision to not modernize often means organizations will:

- Lack speed in delivering IT projects to enable digital transformation
- Have rigid and inflexible IT systems that require custom code and developers to maintain
- Face challenges in supporting the "application explosion" and cloud integration
- Miss opportunities to invest in projects that propel the business forward

Organizations who decide not to modernize fail to digitally transform their business and leave money on the table — creating opportunities for their competition.

The heart of any IT system is its integration framework, which enables organizations to drive revenue by connecting data flows between its ecosystem of partners, suppliers, and customers with internal applications and systems. Modernizing your integration is critical to gaining flexibility and agility – two key elements for creating new revenue streams. Organizations cannot afford to miss opportunities to grow and must consider upgrading their integration platform as a cornerstone of any modernization effort.

### THE CONSEQUENCES OF INACTION

- Limited integration capabilities
- Siloed, unwieldy integrations
- Inability to scale the architecture
- Inability to support DevOps strategies
- Poor security posture
- High degree of manual administration
- Unique skillsets required to manage systems
- Increased technology and maintenance costs
- Low visibility over data transactions

If these issues persist, organizations will lose out on a business environment that requires flexibility and agility for sustained market competitiveness.

## Six Common IT Modernization Scenarios

> **Up to 75% of all ERP projects fail to meet their objectives." [2]**

From upgrading a single application in HR or finance to a complete overhaul of your integration platform, modernization can take a lot of different shapes. Here are six common IT modernization scenarios:

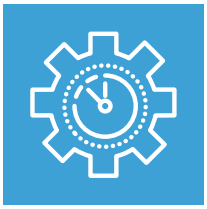
1. **System migration,** such as moving from the AS/400 to a more modern platform
2. **EDI implementation,** perhaps as part of a mandate from a large trading partner.
3. **ERP upgrades,** such as implementation of SAP S/4HANA
4. **Cloud adoption,** where APIs are required to connect a SaaS application like Salesforce
5. **VAN replacement,** to bring B2B communications back in-house, regain control, and lower costs
6. **System consolidation,** to streamline overlapping systems and processes acquired in a merger or acquisition

So, how do you know whether modernization is right for your organization? For some, it might be a simple "aha!" moment when they can't integrate with a new ERP, WMS, or TMS application; for others, it's an accumulation of frustrations and manual processes that finally push them to take the plunge.

When technology is a barrier to progress, it is time to modernize. To connect cloud applications, interact with critical business processes in real time, enable your partner ecosystem, and orchestrate workflows to support revenue-generating business outcomes, IT modernization must employ the consolidated integration of all internal and partner systems and applications.

> **Nine out of 10 companies will have some part of their applications or infrastructure in the cloud by 2019, and the rest expect to follow by 2021." [3]**

To mitigate any downstream effect of IT modernization on people, technologies, and systems, integration must be treated as the core of every modernization initiative.



### COMMON DRIVERS FOR MODERNIZATION

- Speed up partner and application onboarding processes
- Achieve consistent SLA and mandate compliance
- Lower the cost of maintaining purpose-built integrations
- Increase data security and visibility
- Maintain support and compliance for end-of-life solutions
- Take control over existing applications and infrastructure
- Provide better, faster service and offerings to customers
- Achieve real-time visibility into organizational cash flows

2 "Your Guide to a Successful ERP Journey," Deloitte, https://www2.deloitte.com/ca/en/pages/human-capital/articles/successful-ERP-journey.html
3 2018 Cloud Computing Survey, IDG, http://resources.idg.com/download/executive-summary/cloud-computing-2018

USE CASE:

# Application Modernization

## HOW RANA QUICKLY COMPLIED WITH PARTNER REQUESTS BY ACCELERATING ERP ONBOARDING AND INTEGRATION PROCESSES

Rana Meal Solutions, the Chicago-based manufacturer and distributor of Italy's Giovanni Rana Fresh Pasta and Sauces, had an ERP project to help it become data compliant with its various warehouse and logistics providers. The initiative had been delayed for years because it required seamless EDI integration with the J.D. Edwards (JDE) EnterpriseOne software, one of the leading ERP platforms for logistics organizations.

Rana's IT team did not have the time nor the expertise to devote to such a manual integration for its critical B2B data exchanges. So instead of wasting valuable time custom coding to interface JDE into a basic EDI platform, Rana deployed the Cleo Integration Cloud platform and its JDE adapter, which automated Rana's EDI processing and interchange between external trading partners and the JDE application right out of the box.

## MODERNIZATION BENEFITS

- Seamless integration with its ERP platform, J.D. Edwards EnterpriseOne
- The ability to maintain compliance among its trading partners
- A fully connected supply chain, with simplified onboarding processes

## CUSTOMER IMPACT

"Cleo Integration Cloud's ease of use and advanced application integration capabilities will help Rana ensure better long-term value and quality products for its customers."

Read the full Rana case study

## Integration and Modernization

Typical integration scenarios today include various applications and data flows communicating with multiple systems across a business ecosystem. The problem is traditional integrations are often one-off or ad-hoc, designed only to connect point-to-point internal systems and external trading partners, and not the entire ecosystem.

So what happens, for instance, when you want to open up a new line of revenue and connect a new platform? With yet another system to manage, it introduces new complexities into the already-convoluted integration infrastructure.

Let's say you've built out a growing e-commerce business and you want to expand your reach via Amazon. You might have an existing integration between SAP, Salesforce, and Shopify, but you now are introducing Amazon Marketplace. If you've integrated SAP and Salesforce directly into the Shopify e-commerce platform, then you would have to do the same for Amazon Marketplace. The same goes for integrating into your workflows an HR app like Taleo to better manage the growing e-commerce team.

But building that additional one-off integration for Amazon Marketplace outside your core platform slows data processes and complicates integration management. Any configuration errors or mapping changes can lead to corruptions, session time-outs, and additional charges if there are missed SLAs. And even if you have the bandwidth to fix these errors, can you support the entire process for the next external system you integrate with, and the one after that?

This tired ritual of ad-hoc integration is outdated and does not deliver the agility required to support your growing e-commerce business – or any other modern digital business for that matter. For companies using a modern integration platform, however, the above integration is as easy as plugging in the new Amazon connector to get going.

Consolidated integrations via a single, flexible platform enable seamless data flows between existing and modern cloud applications with real-time control and visibility. Modernizing to such a platform enables you to elegantly integrate systems, eliminate disjointed processes, and connect your ecosystem in a more sustainable, scalable way.

### KEY CAPABILITIES NEEDED FOR IT MODERNIZATION

**End-to-end integration:**
Streamline processes for data transformation, orchestration, and movement

**Real-time control and visibility:**
Monitor and manage all data exchanges moving through your business

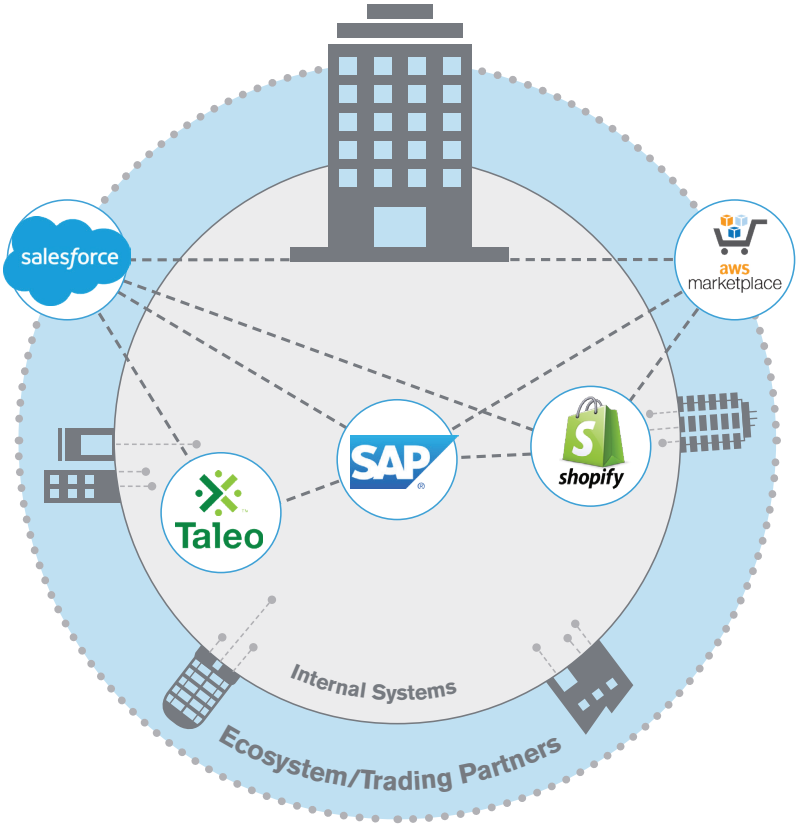
**Hybrid flexibility:**
Deploy and govern integrations both on-premise and in the cloud

**DevOps capabilities:**
Enable best-in-class infrastructure and advanced DevOps management

**Cloud migration support:**
Easily move data and integration processes to a secure cloud environment

**Automated partner onboarding:**
Rapidly add trading partner, infrastructure, and application connections with reusable project templates to accelerate configuration

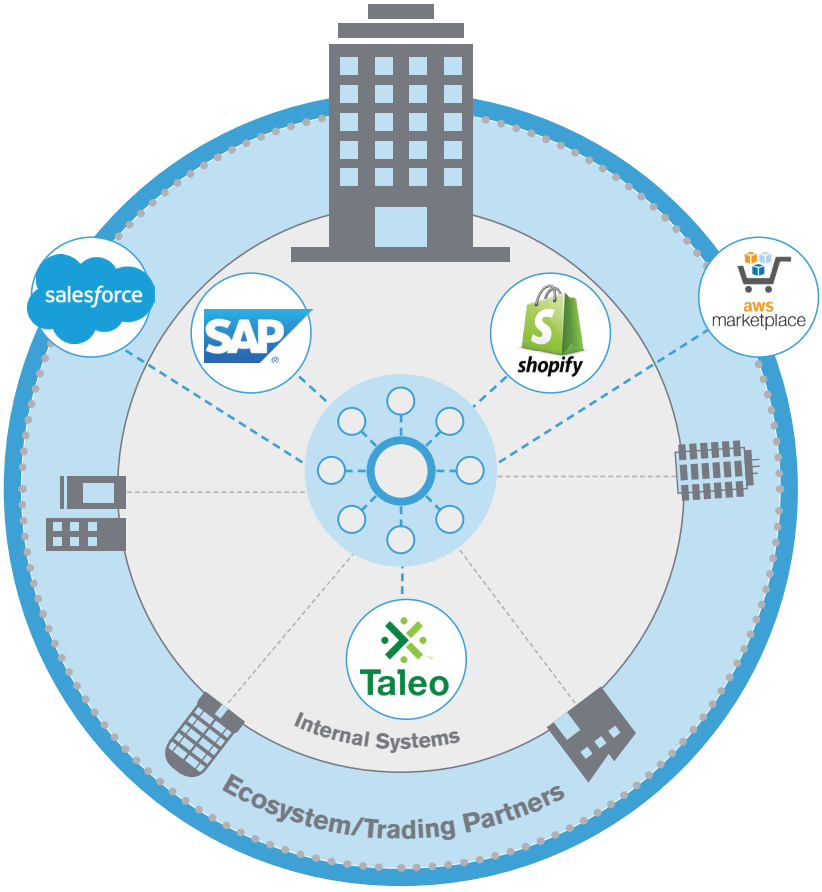
**Governance capabilities:**
Reduce the risk of costly SLA and compliance violations




## One-Off Integrations

Typical integrations focus on integrating only internal systems and external trading partners.

Adding additional one-off integrations slows data processes and complicates integration management.




## Modernized Integration

Consolidated integrations enable seamless data flows between existing and modern cloud applications with real-time control and visibility.

This approach supports consistent integration of your CRM, ERP, and e-commerce applications and can easily scale to integrate additional applications, such as Taleo.

# Four Benefits of IT Modernization

> Six in 10 organizations say they are unable to meet customers' digital demands." [4]

When you modernize your integration platform to consolidate and streamline integrations, it benefits those both in IT and those in more business-centric positions. A modern solution not only securely and reliably delivers data, it provides customizable views of information about that data and the core business flows that the data represents. This combination of capability and visibility provides a variety of business benefits, including:

- Faster time to revenue
- Operational excellence
- Resource optimization
- Process efficiency

### BUSINESS BENEFITS OF IT SYSTEMS MODERNIZATION

Line-of-business managers gain visibility into the systems that deliver outcomes specific to their roles.

| Faster Time to Revenue | Operational Excellence |
|---|---|
| Exchange data with partners faster | Provide seamless end-to-end data flows |
| Increase business transaction volume | Onboard new applications and partners faster |
| Reduce infrastructure and maintenance costs | Better meet customer SLAs |
| Easily scale to meet new use case requirements | Decrease time for error resolution |
| Remove risk of costly non-compliance | Easily handle data processing peaks |
| Reallocate resources to other business needs | Access real-time visibility to all data transactions |

### TECHNICAL BENEFITS OF IT SYSTEMS MODERNIZATION

Modernization offers technical users a dynamic solution that can flexibly and reliably connect and deliver.

| Resource Optimization | Process Efficiency |
|---|---|
| Elastic, scalable architecture | Consolidated integration strategy |
| Reduced skills dependence/requirements | Legacy and cloud integration capabilities |
| Lower infrastructure and maintenance costs | Easier system management and provisioning |
| More secure infrastructure | Enhanced workflow automation |
| Flexible partner and data support | Centralized control and visibility |

4 Embracing a Digital Future, 2016, https://www.delltechnologies.com/content/dam/delltechnologies/assets/promotions/resources/Digital_Future_Executive_Summary.pdf

USE CASE:

# Call Center Modernization

## HOW AT&T CAN SECURELY AND SWIFTLY MOVE 51 TERABYTES OF DATA DAILY TO COMPLY WITH A FEDERAL MANDATE

IT modernization today also can mean upgrading call center technologies, something AT&T had to do to when a Federal Trade Commission mandate required AT&T to maintain business records, including call center data, for longer periods. But the volume of audio data and the size of those files required AT&T to re-evaluate its data movement technology, which had to support large file transfers from its 17 call center vendors to data centers in Dallas, Texas, and Fairfield, California.

As you might imagine, AT&T's network of call centers was generating hundreds of thousands of files per day, and a number of those audio files – roughly 1 to 3 TBs of data per call center – had to be transferred to a data center every night without overrunning the partner network. AT&T decided to modernize and replaced its various homegrown products, a legacy managed file transfer (MFT) solution, and a proprietary high-speed file transfer protocol with the Cleo Integration Cloud platform.

## MODERNIZATION BENEFITS

- Ability to efficiently move thousands of files – terabytes of data – every night
- Support for multiple protocols, including SFTP and accelerated file transfer
- Advanced encryption and security

## CUSTOMER IMPACT

"The Cleo Integration Cloud, along with the team, was instrumental in making the AT&T project work for the federal mandate. Without Cleo, AT&T would have had firewall issues, vendor protocol and encryption incompatibilities, and design process difficulties."

– Robert Breivogel, IT project manager, AT&T

**Read the full AT&T case study**

## Strategic Recommendations

When you're ready to move past the technologies that are holding your business back to gain the speed and agility you're looking for, there's a unique integration approach to better support your modernization initiatives: Ecosystem-driven integration.

An ecosystem-driven view of integration prioritizes your business processes – the ones that occur at the edges of the ecosystem where customers, partners, suppliers, marketplaces, and other external systems connect. These connection points are critical for organizations and drives the efficiency of revenue streams through your ecosystem.

This approach challenges how we've viewed the enterprise. Before, we had separate internal application-to-application (A2A) and external business-to-business (B2B) processes where you had the application guys and the B2B and B2B resources working on their own projects.. But your external B2B interactions and your internal A2A processes are actually quite dependent on each other, and you need to govern both in a sustainable end-to-end manner.

> **"The ability to reliably interact with systems and applications you may not own or control drives your business."**

The scope of ecosystem integration, then, extends beyond traditional B2B processes, such as EDI, and ties together partners, internal systems, cloud applications, e-commerce platforms, insights and intelligence around the data, and so many other modern business requirements, in a meaningful way. When you seamlessly connect data across all of these entities, you gain a consolidated view of the business and a clear understanding of the interactions happening across your systems, regardless of where they are happening. It's this ability to reliably interact with systems and applications you may not own or control that's driving your business.

A holistic view of the interactive business landscape insulates businesses from changes to their digital networks as they modernize IT infrastructures. With this approach, you can support a mix of new and legacy technologies to achieve digital transformation, streamline your important processes, and future-proof the organization against requirements coming down the road.

### BEST PRACTICES FOR IT MODERNIZATION

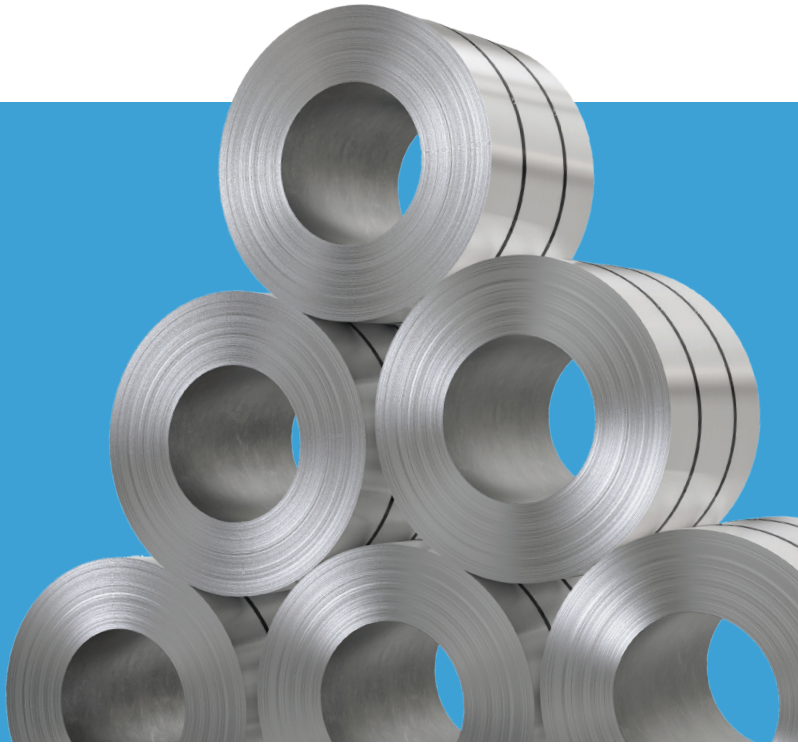
Before any IT modernization happens, it's critically important to understand the source system to properly implement the new one and plan for any downstream effects. Only then can businesses effectively evaluate project and business needs, and lay out the goals, timeline, and overall vision for the modernization initiative, so they can advance their business.

Once these are fully understood and the migration roadmap becomes clear, organizations can dedicate time and resources to:

- Develop new processes that fit your company's current and desired future business patterns and culture
- Design and orchestrate workflows to seamlessly integrate with applications and maximize resources
- Define benchmarks for agility and the ability to integrate
- Consult with partners and thoroughly scope the extent of ecosystem integration map development
- Go through various development iterations and testing cycles to ensure a successful go-live

USE CASE:

# EDI Modernization



## HOW STEEL TECHNOLOGIES IMPROVED ORDER-TO-CASH PROCESSES BY ACCELERATING ERROR HANDLING

Steel Technologies plays a key role in the global manufacturing supply chain, and much of its business growth depends on building long-lasting relationships with its customers. However, the communications layer on Steel Technologies' EDI system wasn't very user-friendly and was disrupting its ability to nurture and expand these relationships.

The solution lacked adequate monitoring and error handling capabilities, and when transfers failed, resending those files triggered a host of manual processes. It also required substantial customization for any upgrade. Steel Technologies modernized its EDI communications with Cleo Integration Cloud and gained a secure, scalable platform that enabled the steel processing giant to accelerate exception management, meet customer SLAs and improve order-to-cash cycles.

## MODERNIZATION BENEFITS

- Improved ease of use and trading partner setup
- Efficient, intuitive error handling when communications drop
- Email alerts and notifications, and document tracking and reporting

## CUSTOMER IMPACT

"Steel Technologies gained the EDI solution we've been wanting for a long time. It's a secure, end-to-end solution that provides automation, data orchestration, and file movement on a single platform. We're no longer in the dark on reporting and audit trail capabilities, and proactive alerts and notifications will help us better serve our customers."

– Mike Hoben, senior software engineer, Steel Technologies

**Read the full Steel Technologies case study**

## Conclusions

When IT systems can no longer provide business speed and agility, it's increasingly difficult for companies to support how business is done today. This is why companies, in the age of the cloud, are taking steps to modernize their IT infrastructure and transform into a digital business sooner than later. But how will you know when you have "accomplished" IT modernization?

Well, you may never totally "accomplish" IT systems modernization because it's an ongoing strategy to enable positive business outcomes. But your business will be more agile and competitive when it can:

- Quickly integrate with new applications, like ERP, WMS, and TMS, whether on-premise of in the cloud
- Migrate a legacy EDI system into a modern integration platform that supports APIs, DevOps, and other agile requirements
- Deliver visibility to all business and IT stakeholders to support data-driven decision making and enhanced business outcomes

Cleo Integration Cloud is an ecosystem-driven integration platform that delivers a breath of capabilities to enable IT modernization and empowers your organization to compete and adapt to changing market dynamics. With a centralized integration platform, you will improve operational agility to drive digital transformation initiatives that strengthen partner and customer relationships and accelerate new revenue opportunities.

### TOP 5 BENEFITS OF CLEO INTEGRATION CLOUD

**1**

**Complete**
Gain seamless end-to-end data transformation, orchestration, and secure data movement

**2**

**Centralized**
Consolidate integrations for streamlined data flows and centralized control and visibility

**3**

**Compatible**
Enable and comply with current technical and DevOps management strategies

**4**

**Scalable**
Easily support new integration use cases without requiring new resources

**5**

**Flexible**
Handle any number of new partners, applications, data types and size

# About the Authors

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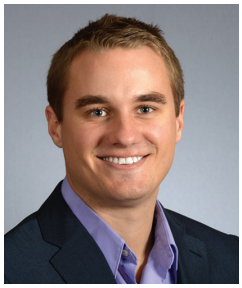
Dave Brunswick leads Cleo's global pre-sales and solution support. With more than 25 years of experience in technical sales, pre-sales, technology strategy, engineering, product management, and product development, Dave has held senior consulting and architecture roles throughout the managed file transfer software market, serving as a senior technology leader at Axway and Tumbleweed Communications. He also has led systems research and development teams for a range of government, manufacturing, and transportation customers. He holds an M.A. in mathematics from Oxford University.



## Jacob Olson

Jacob Olson is a principal solution architect providing global pre-sales and solution support for Cleo. With more than 10 years of experience in solution selling, pre-sales, technical strategy, and product management, Jacob has held senior architecture and solutions roles in the data movement and integration markets, serving a variety of industry verticals and an extensive list of customers. He holds a B.S. in Computer Science from the University of Wisconsin – Milwaukee.

### RESOURCES

For more information on how ecosystem-driven cloud integration delivers enhanced business outcomes, visit [www.cleo.com/cleo-integration-cloud/](www.cleo.com/cleo-integration-cloud/)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