

U.S. Adoption of ISO 20022

Prepared by the Business Payment's Coalition
ISO 20022 Education and Promotion Work Group

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Introduction

The Business Payments Coalition (formerly known as the Remittance Coalition) is a volunteer organization whose objective is to increase the efficiency with which business-to-business (B2B) payments are made and reconciled by all types and sizes of U.S. businesses across the end-to-end process. The Coalition accomplishes this objective by advocating ways to overcome barriers to straight-through-processing and promoting standards, processes and common automated tools that support using more electronic payments for B2B transactions, and originating and delivering electronic remittance data that can be associated easily with the payment.

A 2016 high priority objective of the Business Payments Coalition was to:

“Collaborate with other industry groups to provide education about the ISO 20022 standard and encourage its adoption; define the perceived challenges of corporate practitioners and their service providers related to ISO 20022 standards adoption; and describe the value proposition to U.S. corporations and their service providers to support the transition to ISO 20022 through case studies and/or examples of positive impacts on ROI.”

The Business Payments Coalition has a subgroup, the Vendor Forum, which formed an ISO 20022 Education and Promotion Work Group. In 2016 the work group published the document *Understanding ISO 20022: A Resource Guide for Financial Institutions, Corporations, and the Public* which is available as a free download at this link: <https://fedpaymentsimprovement.org/wp-content/uploads/understanding-iso-20022.pdf>. In the course of this effort, the work group found additional resources which were added to the *Understanding ISO 20022* document referenced above. This document provides a rich source of information and education about ISO 20022.

This white paper, which is a companion document to the above referenced Resource Guide, provides evidence of U.S. adoption of ISO 20022 for corporate to bank payment operations.

Note: These materials have been created by the Business Payments Coalition and are intended to be used as resources. Views expressed here are not necessarily those of, and should not be attributed to, any particular Business Payments Coalition participant or organization. They are not intended to provide business or legal advice, nor are they intended to promote or advocate a specific action, payment strategy or product. Readers should consult with their own business and legal advisors.

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I. Executive Summary

The purpose of this white paper is to demonstrate that ISO 20022¹ is being adopted in the U.S. for corporate to bank operations, explain why, and provide substantiating evidence. Methodology included secondary research and an online survey of members of Business Payments Coalition, Accredited Standards Committee X9 and select LinkedIn groups.

There is ample evidence that U.S. corporations and banks are using ISO 20022. Adopters tend to be large corporations, including multi-national corporations, with operations that process multiple payment types (e.g. wire, ACH and check) and/or process domestic and cross border payments in multiple countries. In addition, our secondary research identified multiple banks with U.S. presences that have implemented ISO 20022.

In addition to highlighting best practices and lessons learned, case studies of U.S. corporates detailed in this report identify these key drivers for and benefits from adopting ISO 20022:

- 1) Implement standard processes across multiple business units and geographies
 - Using ISO 20022 allows standardization and simplification of both infrastructure and processes for treasury, AP and AR functions
- 2) Improve global cash management and payments
- 3) Achieve cost reduction and other financial benefits
- 4) Garner efficiency and productivity improvements
- 5) Improve global risk management
- 6) Address compliance considerations

The drivers derived from the case studies align with findings from the survey conducted by the work group. The most popular reasons cited by survey respondents for adopting ISO 20022 include:

- Future-proof payment operations (ISO 20022 is adaptable to emerging technologies)
- Align with international requirements or regulations for certain payments (e.g., SEPA compliance)
- Communicate with multiple banks using common set of standards
- Implement standard payment processes across multiple business units and geographies
- Achieve greater straight-through-processing, automation, efficiency or cost savings

Next Steps:

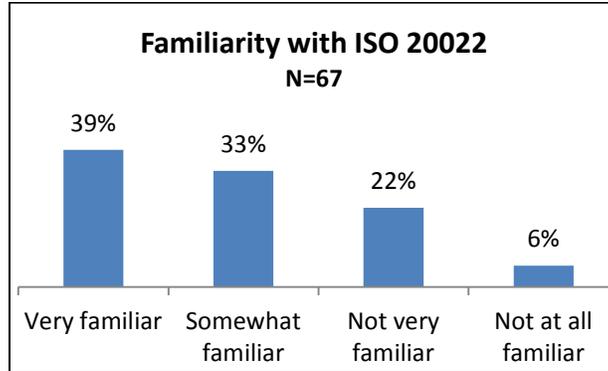
- 1) The low level of corporate familiarity with ISO 20022 indicates more education is needed. The Business Payments Coalition's comprehensive document *Understanding ISO 20022: A Resource Guide for Financial Institutions, Corporations, and the Public* provides a useful starting point for those who want to learn more about the standard. The Coalition should continue to include education on ISO 20022 in its webinar series, too.
- 2) The Business Payments Coalition should consider developing a new reference that lists U.S. providers (software and technology vendors, financial institutions, consultants and others) that offer payment and cash management products or implementation services related to ISO 20022. Such a directory would provide valuable guidance to prospective adopters of the standard.

¹ ISO 20022 is a standards framework that enables a common global "language" for messaging in payments, cash management reporting, securities, cards, foreign exchange and trade services. The standard defines the message structure and content for the exchange of financial data.

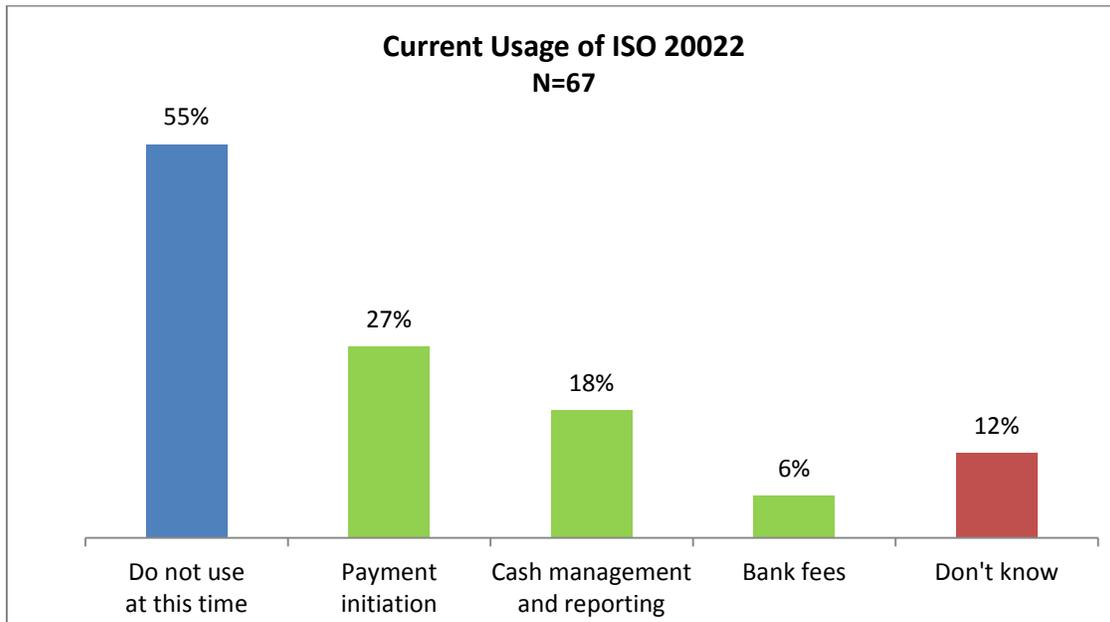
II. Findings from Q1 2017 Survey on U.S. Adoption of ISO 20022

Members of the Business Payments Coalition and Accredited Standards Committee X9 were invited to participate in an online survey fielded from January 12 through February 8, 2017. Notices were also distributed to various LinkedIn groups. Sixty-seven individuals responded.

The majority of survey respondents said they were very or somewhat familiar with ISO 20022.



Twenty-four organizations said they use ISO 20022. Areas/departments that use ISO 20022 include accounts payable (59%), treasury settlement (47%), and accounts receivable collections (24%), and other (35%). Note that over half of the respondents indicated their organizations do not use ISO 20022 at this time.



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In a later question survey respondents were asked if their organization provides systems or services to others based on ISO 20022. Nearly one-quarter (15 respondents) said they do.

The following nine ISO 20022 users or service providers granted permission to share their names.

- ACI Worldwide (Corporate)
- NLECO New Levels Entertainment CO LLC/PUB (Corporate)
- BAT (Corporate)
- Tecsec, Inc. (Corporate)
- Oracle (Technology provider)
- ABC (Technology provider)
- EFTLAB Inc. (Technology provider)
- Push Payments (Technology provider)
- Desjardins Group (FI)

The table below ranks the reasons for adopting ISO 20022. Respondents could check as many reasons as were applicable to their organization. The most popular reason is to future-proof payment operations, followed by aligning with international requirements or regulations for certain payments.

Rank	Reasons for Using ISO 20022	%
1	Future-proof payment operations (ISO 20022 can adapt to emerging technologies)	72%
2	Align with international requirements or regulations for certain payments (e.g., SEPA compliance)	67%
3*	Communicate with multiple banks using common set of standards	61%
3*	Implement standard payment processes across multiple business units and geographies	61%
5	Greater straight-through-processing, automation, efficiency or cost savings	50%
6*	Greater transaction detail and data	44%
6*	Enable multiple payment types in the same file (e.g., wires, ACH, check)	44%
8	Improved communications of quality of message data and remittance information	39%
9*	Improved transparency and control of payments	28%
9*	Improved data quality	28%
11*	Reduce manual errors and rekeying	17%
11	Other	17%

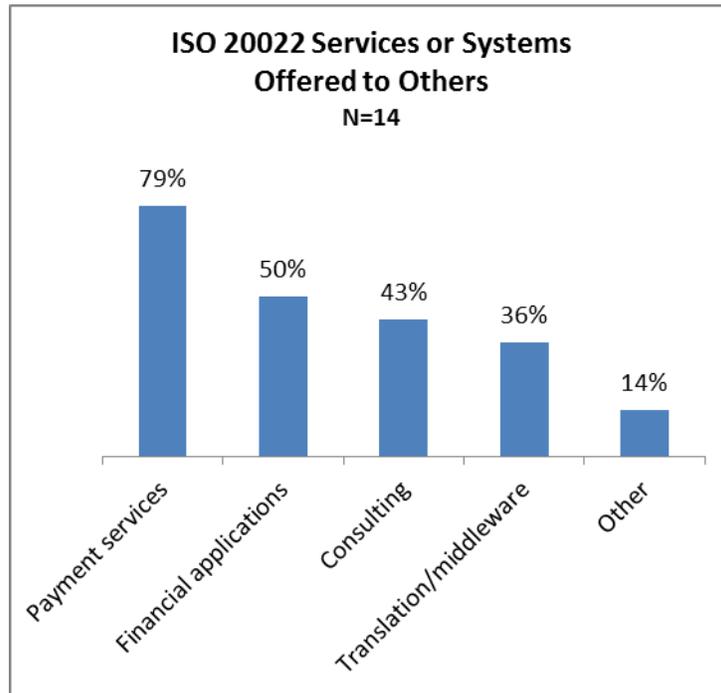
*Indicates tie

Future use of ISO 20022: Fifteen survey respondents said they have plans to start using ISO 20022 for payment initiation in the future. As far as timing, 40% of these fifteen respondents said their organization plans to start using ISO 20022 for payment initiation “within the next 12 months” and another 40% said “within the next 12 to 24 months.”

Almost half (47%) said they don’t know whether their organization plans to start using ISO 20022 for payment initiation in the future.

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ISO 20022 service providers offer the following services or systems to others.



Nine respondents said they plan to start providing services or systems based on ISO 20022 in the future. Two respondents each indicated timing as “within the next 12 months”, “within the next 12 to 24 months” or “beyond 24 months” – the other three said they don’t know.

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Profile of Survey Respondents

(Note that percentages may not add to 100% due to rounding)

Organization Type	
Corporation	30%
Bank/Financial Institution	30%
Technology Provider	25%
Government	2%
Other	14%

N=57; 12 skipped this question

ERP and Corporate Accounting Systems Used by Your Organization	
SAP	39%
Oracle	31%
Microsoft-Great Plains Dynamics	15%
NetSuite	8%
SAGE	8%
Other	12%
Don't know	27%

N=24; 43 skipped this question

Treasury Management Systems Used by Your Organization	
SAP	33%
Oracle	21%
FIS	4%
ION	4%
Kyriba	4%
Other	25%
Don't know	33%

N=24; 43 skipped this question

Annual Revenue of Your Organization	
Over \$5 billion	31%
\$1 to \$5 billion	9%
\$701 million to \$1 billion	4%
\$101 to \$700 million	9%
\$100 million or less	31%
Don't know	16%

N=55; 12 skipped this question

Functional Area of Survey Respondents	
Product management or development	38%
Treasury	22%
Accounts receivable	5%
Sales	2%
Finance	2%
Other	31%

N=55; 12 skipped this question

III. Common Themes from Case Studies and Secondary Literature Search Regarding ISO 20022 Implementation

Appendix 1 contains highlights of case studies demonstrating adoption of ISO 20022 by these U.S corporates:

Bayer	Microsoft
Cargill	Proctor and Gamble
Itron	Tableau Software
Merck	

This section summarizes common themes from these case studies and others found in our secondary literature search. Common themes are organized into two areas:

- Key drivers for and benefits from implementing ISO 20022
- Best practices and lessons learned from adopting ISO 20022

Key Drivers for and Benefits from Implementing ISO 20022

A number of key drivers were cited for implementing ISO 20022. The following table summarizes the drivers and related benefits realized from adopting ISO 20022. Overall, using ISO 20022 leads to standardization and simplification of infrastructure and processes for treasury, accounts payable and accounts receivable functions.

Driver	Benefits
<p>1) Implement standard processes across multiple business units, banks and geographies</p>	<p>Simplifies bank and system interfaces</p> <ul style="list-style-type: none"> • Streamline interfaces and communications with banks • Migrate from bank proprietary and country-specific file formats to SWIFT/ISO XML • Bank-agnostic connection; easier to set up a new bank or transition from one bank to another • One file format for all companies around the world • Reduce number of bank interfaces while achieving enhanced network security • Enable automation and eliminate need for customization <p>Centralization and geographic benefits</p> <ul style="list-style-type: none"> • Centralize processes across multiple countries • One centralized payment processing team instead of having hubs around the world • Improve visibility into treasury, accounts receivable (AR), accounts payable (AP) and payroll activities in multiple countries • Report all banking transactions consistently and efficiently in one standard format; provide a common language to

Driver	Benefits
	<p>receive electronic bank statements from global banking providers</p> <ul style="list-style-type: none"> • Establish a centralized infrastructure through which all collection runs and payment flows would be routed • ISO 20022 architecture allows quick onboarding of business units in multiple geographies
<p>2) Improve global cash management and payments</p>	<p>Improved cash management</p> <ul style="list-style-type: none"> • Streamline and automate cash management processes, results in efficiency gains and time savings including daily global auto-reconciliation • Leverage the CAMT.053.001.02.xml prior day format to receive more enriched statement and transaction level data in a structured format • Greater visibility and control of payments, cash and risk • Achieve real-time visibility of transactions and daily and short-term cash positions • Forecasting and understanding of daily/weekly/monthly liquidity (cash) needs which reduces costs & improves financial performance • Reduce number of users needing access to banking portals <p>Enhanced straight-through-processing</p> <ul style="list-style-type: none"> • Enriched data and remittance information improves auto reconciliations and posting rates for AP and AR teams • Achieve flexibility to support extended, more complex messages (including remittance information) • Automate general ledger (G/L) posting and cash application • Optimize straight-through-processing and automate reconciliation <p>Payments</p> <ul style="list-style-type: none"> • Global standard for payments in all countries • More efficient payment routing decisions, lower costs and reduced risks from multiple bank interfaces and proprietary formats
<p>3) Cost reduction</p>	<p>Cost savings and other financial benefits</p> <ul style="list-style-type: none"> • Reduce operating costs associated with transactions, including bank fees • Less IT support required due to standardization of formats and connectivity points • Influence payment behavior to reduce costs

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Driver	Benefits
	<ul style="list-style-type: none"> • Route payments to least possible cost • Improvements in Days Sales Outstanding, Days Payables Outstanding and Days Inventory Outstanding • Foreign exchange improvements • Streamline and reduce transactional costs (least cost routing)
<p>4) Efficiency and productivity</p>	<p>Improve efficiency and productivity</p> <ul style="list-style-type: none"> • ISO 20022 employs flexible and modern technologies resulting in simpler translation, plus faster troubleshooting and maintenance • Fewer processing errors due to use of consistent standards • A standard format allows faster deployment with less customization per bank • Moving to systemic analytics with standardized financial data frees people from managing transactions and conducting manual analysis, allowing focus on higher value added activities • Business process improvements • Eliminate manual wire and foreign exchange (FX) payments • Obtain more flexibility within working day and among team members <p>Information to make better decisions</p> <ul style="list-style-type: none"> • ISO 20022 allowed use of rich data sets to drive compelling business intelligence • Facilitates business intelligence
<p>5) Improve global risk management</p>	<ul style="list-style-type: none"> • Significantly reduced risk associated with payment processing
<p>6) Compliance</p>	<ul style="list-style-type: none"> • Comply with changing global requirements (SEPA, FATF recommendations, AML/KYC, extended remittance data, etc.)

Best Practices and Lessons Learned from Adopting ISO 20022

1) Working with banks

- As timelines become more aggressive, negotiating power with banks diminishes
- Bank selection strategy is key; select banks that have the ability to utilize ISO 20022 standard; not all banks are ISO capable across all transaction types
- Set up internal controls, authorizations, and instructions for vendors' banks
- Ask banks and solution providers to share best practices gleaned from other organizations who adopted ISO 20022
- Understand the capabilities and limitations of your banks and solution providers:
 - What messages do they support?
 - What versions do they support?
 - Which business processes are supported?
 - How is data exchanged?

2) Develop a banking “master data management” strategy

- Consistency of data following country rule books is paramount to having successful payments processed timely and at the lowest all-in cost
- Consider reliable & certified third party data services (such as SWIFTRef.com) for sourcing banking master data
- Highly structured banking and beneficiary master data allow payments & vendor lists to be more easily screened against sanction filtering/watch lists

3) Bank statement reporting best practices:

- Consider use of CAMT.053.001.02.xml prior day statements in lieu of BAI2 or MT940 in your ERP and Treasury Management System
- Capture more enriched data in order to automate reconciliation and allow for advanced analytics
- Have all payments reported back individually on the bank statements vs. batch

4) Some customization may be required

Moving into certain geographies requires some level of customizations

5) Receivers may not be equipped to accept all the information sent in ISO 20022 messages

- Some links in the channels cannot handle all the information which means intended receivers may not get this information or information isn't received properly

6) Overpopulate the message with all available data

- Completely overpopulate the message and include all available data to accommodate variances in local payment infrastructure requirements. Supplying all the information that is necessary to make any type of payment resulted in significant maintenance and cost reductions for one organization. Note that Travel Rules and related regulation need to be observed and can impose restrictions on this practice for cross border wire payments.

7) Change management challenges

- The sheer scale of change management within the organization can be daunting, especially if the organization is decentralized
- Organize a cross-functional team with a project manager from your organization who is responsible for keeping project on task
- Hold weekly status calls with team
- Be prepared for a long process
- Managing time zone differences is challenging
- Expect a learning curve in getting acquainted with XML
- File formatting was challenging for FX files

8) Ensure business information is delivered to appropriate entities in your organization

- Localize the delivery of business information to subsidiaries and business groups as needed

9) Leverage CGI-MP

- Keep up with CGI-MP working groups to ensure your requirements are socialized with SWIFT and your banks
- Collaborate with SWIFT and your banks on market practice
- Push your banks to follow the CGI rule books and to populate the data with what they have and that you need in their CAMT.053.001.02.xml statements

10) Pay attention to the details

- Full automation yields benefits - Acknowledgements processing to confirm receipt and processing status, duplicate checking, handling rejected files
- Develop procedures for handling individual payments
- Be mindful of corporate space and storage limits
- Establish access and data management protocols

11) Seek out all opportunities in your organization

- Beyond treasury, include AR and AP too
- Identify all areas in which ISO 20022 can help streamline and simplify processes

IV. Findings from other sources on ISO 20022 familiarity and adoption

Summary of Findings from International Survey of Chief Executives on ISO 20022 Implementation

Advantages or Benefits of Implementing ISO 20022	Disadvantages or Challenges of Implementing ISO 20022	Best Practices and Lessons Learned	Recommendations for Implementing ISO 20022
Global interoperability	Difficulty of building a business case to adopt ISO 20022 ²	Centralize management, set clear goals, and provide clarity on the entire end-to-end process chain	Focus on the strategy, not the business case
Rich remittance data	Different implementations of the standard within the same payments system	Secure broad stakeholder involvement and early buy-in for ISO 20022	Use ISO 20022 for new systems or link ISO adoption to a major IT upgrade
Uniform and reusable messages	Increased bandwidth needed for ISO 20022 messages	Leverage outside organizations	Make the migration period as short as possible
Politically neutral ³		Standardize the implementation of ISO 20022	Create generic business processes to cover most use cases
Wide availability of IT fixes		Set a mandatory end date with a limited migration period	Draft tight technical specifications and implementation guidelines and provide validation tools
Lower overall operating costs after the initial investment		Migrate all old capabilities from legacy standard	Take future needs into account
Use as a strategic platform for innovation		Use the opportunity of wider system uptake of ISO 20022 to update internal processes and add other new services	Engage with like-minded payment communities to create uniform, reusable message sets
		Use standards tools, conversion tools and validation portals	

Source: International Council of Payment Association Chief Executives ISO 20022 Implementation Best Practices, Researched and written by Lipis Advisors, 2014.

² Work Group observation: As the case studies show, the business case is almost never specific to migrating to ISO 20022 in its own right, but is part of a larger business strategy to achieve objectives that ISO 20022 enables or complements.

³ Politically neutral: "In systems like SEPA and SADC that consolidate the national payment systems of multiple countries, ISO 20022 is a politically neutral choice. Selecting one of the existing national standards would give some players an advantage over others. Choosing a new, internationally recognized, and modern standard requires everyone to change, but on a level playing field." Source: Page 16 of the above referenced report.

Familiarity with ISO 20022 among U.S. Corporates

Source: *The 2016 AFP Electronic Payments Survey Report of Survey Results*, September 2016

“...many of the benefits of faster-payments systems, such as straight-through-processing, will only be possible if organizations’ business partners use standardized formats for their payment files. New payment systems developed around the world, such as SEPA, rely on the ISO 20022 payments standard. The ISO 20022 is basically a global dictionary of standardized messages that can be used for payments. Any new payments system developed for U.S. businesses will most likely be based on this standard. Consequently, it may be wise for finance professionals to stay tuned into what this may mean for them and their organizations’ internal systems going forward.”

When asked to share their views regarding the adoption of the ISO 20022 payments standard in a new faster payments system, one-third of survey respondents report they are “not familiar with the ISO 20022 standard”. However, 13 percent said they have a “very favorable” view and 27 percent have a “somewhat favorable” view regarding the adoption of this new messaging payments standard in a new faster payments system.

In terms of usage, 3 percent of survey respondents said they use ISO 20022 to send ACH remittance information and 3 percent said they use ISO 20022 to receive ACH remittance information.

V. Appendices

Appendix 1 - Case Studies of U.S. Corporates that Have Adopted ISO 20022

Bayer	Bayer is a German multinational chemical, pharmaceutical and life sciences company.
ISO 20022 Usage	Adopted ISO 20022 XML as a global initiative to centralize payments for all Bayer entities around the world. Began live payments in August 2013 with implementation completed in April 2014
Drivers	Have a global standard for all countries for payment processing. Implementing ISO 20022 XML created a standard that could be used with banks worldwide that accept this format, and replaced the need to have country-specific file formats
Benefits Achieved	Benefits to Bayer Group: <ul style="list-style-type: none"> • One standard file format for all Bayer companies around the world • Implementing a new bank or transitioning from one bank to another is easier now • Ability to have a centralized payment processing team instead of hubs Benefits to local treasury groups: <ul style="list-style-type: none"> • Eliminated manual payments • Enhanced flexibility in working day and among team members • Focus on value added activities
Challenges / Lessons Learned	Challenges identified: <ul style="list-style-type: none"> • Managing time difference between Germany and U.S. • Newness of XML • Determining how to handle acknowledgement files • Handling rejected files • Handling individual payments • Establishing internal controls, including authorizations and instructions for vendors' banks • File formatting, especially with FX files • Adapting to impact on internal processes and infrastructure
References	Presentation "How Bayer Stopped Payments Pain with ISO 20022" at AFP 2015 Annual Conference. Presenters: Nasreen Quibria of Q insights; Michael Sweeney, Manager of Treasury Services at Bayer Corporation; and Lisa Hays, Vice President, Product Manager of Treasury Services at BNY Mellon.

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Cargill	Cargill brings food, agricultural, financial and industrial products to people who need them all around the world, serving customers and communities in 70 countries.
ISO 20022 Usage	<p>Payments and debits initiation have been live since 2010.</p> <p>Insights:</p> <p>“Indeed, the drivers of payments standards and initiatives likely will be large corporations making payments to suppliers around the globe, noted Jeremy Kidd, IT and business manager in the global treasury and insurance section of Cargill, the international food and agricultural concern. Cargill structures its financial information using ISO 20022 so that all data can move through the entire financial chain, from the initial payment through bank account reconciliation.</p> <p>This ‘superstructure of information,’ as Kidd called it, allows each entity along the way to have access to whatever information it needs for automated processing, without requiring any one entity or supplier to process or accept anything unless they choose to. The exception, however, is that every entity in the financial supply chain must accept and pass through all of the formatted data, whether they need it.</p> <p>The biggest problem we face is that some links in the [payments] channel can’t handle all of the information we send,” Kidd said. “With payments to Europe, all of the XML information is lost in the clearing system, so it isn’t available [to receivers] on the other end of the pipe. It only works to its full extent if everyone supports it, and if everyone doesn’t support it, it isn’t a standard.”</p> <p>According to Jennifer Thorson, EDI Process Architect, Treasury and Customs at Cargill, “Cargill first implemented the ISO 20022 standard for payments and debits in 2010 as part of our strategic ERP implementation project. The project allowed us to use a clean slate approach, rather than trying to convert existing banking interfaces. Going to a standard format has allowed us to deploy faster and with less customization. The project also let us to be strategic in selecting banking partners who were receptive to making the standard work as directed by Cargill versus applying per bank customization requirements.”</p>
Drivers	<p>Initiated as part of a global ERP implementation which was an ideal opportunity to negotiate use of the ISO 20022 standard with multiple banking partners</p> <p>Goals of ISO 20022 adoption aligned with goals of the ERP project, which was to implement standard processes across multiple business units and geographies</p>
Benefits Achieved	<ul style="list-style-type: none"> • Architecture allowed for quick onboarding of business units in multiple geographies • Standard format of messages • Reuse of maps and connectivity • Repeatable process for implementations • Banking partners willingness to adopt
Challenges / Lessons Learned	<p>Bank strategy was key; selected banks needed to have the ability to utilize ISO 20022 standard, and all selected banks had to be able to accommodate the same standard format down to the field level. Use of a service bureau for connectivity allowed for seamless integration with multiple banking partners.</p> <p>Moving into certain geographies requires some level of customizations</p> <p>As timelines become more aggressive, negotiating power with banks diminishes</p> <p>Moving to new versions of ISO 20022 formats will be a challenge</p> <p>Some links in the [payments] channels can’t handle all of the information Cargill sends and may not be available to receivers on the other end of the pipe.</p> <p>Some entities don’t support the new standard so some of the information isn’t received properly.</p>
References	<p>http://www.fintechrising.net/payments-standards-a-dispatch-from-sibos-2010/</p> <p>“Successful Corporate Adoption of ISO 20022 Standards” presentation at the 2016 AFP annual conference featuring Jennifer Thorson of Cargill</p> <p>http://www.fintechrising.net/payments-standards-a-dispatch-from-sibos-2010/</p> <p>https://www.youtube.com/watch?v=VTyoUYQ7K0</p>

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Itron	Itron is an American technology company that offers products and services on energy and water resource management. Itron is the world leader in designing, manufacturing, marketing, installing and servicing systems and fixed communication networks for automatic and electronic meter reading.
ISO 20022 Usage	<p>“In 2007, Itron had ballooned through a transformational, international acquisition that created a decentralized business with 150 legal entities in 40 countries. The company had FX exposure to more than 30 currencies and a lack of visibility into its banking AP/AR and payroll activities. Its technology architecture comprised multiple ERP systems, proprietary banking interfaces, accounts with nearly 60 banks, and there was no centralized intercompany lending and no multi-currency netting or cross-border pooling for euros. In short, it had a very complex, highly inefficient, sub-optimal technical and operational architecture.” Part of its centralization strategy included the adoption of ISO 20022.</p> <p>Insights:</p> <p>‘Our main challenge was around the sheer scale of the change management within the organization,’ explains Edward Barrie, Assistant Treasurer. ‘This was a global project that had scale and complexity, which has now enabled the definition of standard global processes and provided full visibility and transparency of transactions in addition to using information to make better informed decisions. This solution leverages technology to the max, to free people from managing transactions and manual analysis to systemic analytics with standardised financial data to optimise financial and operational efficiencies,’ explains Barrie. “This global strategic initiative has delivered best-in-class cash management architecture for Itron,” concludes Barrie.</p>
Drivers	<p>Deliver an architecture that simplifies, standardizes and centralizes all treasury processes across 130 countries</p> <p>Ensure a best-in-class automated straight through reconciliation model</p> <p>Achieve real-time visibility of daily and short-term cash positions through the importing of ISO 20022 XML payment files generated from Oracle, along with current day statement reporting received via SWIFT into the IT2 application</p> <p>Migration from bank proprietary to SWIFT/ISO XML for A/P and A/R processes, enabling greater automation, standardization and simplification</p>
Benefits Achieved	<ul style="list-style-type: none"> • Cost savings • ROI • Time taken to implement solution and realize benefits • Productivity gains • Process efficiencies • Improvements in Days Sales Outstanding, Days Payables Outstanding and Days Inventory Outstanding • Foreign exchange gains • Risk removed or mitigated
References	<p>http://treasurytoday.com/adamsmith/2014/winners/itron-inc-winner-best-process-re-engineering-solution</p>

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Merck	Merck is one of the largest biopharmaceutical companies in the world. It has annual revenue of nearly \$40 billion, approximately 68,000 employees and operates in more than 140 countries.
ISO 20022 Usage	<p>Leveraged the international messaging standard ISO 20022 XML starting in 2005 to execute all payment types – from ACH to wires and checks. Merck installed a standardized, global SAP ERP platform and implemented the ISO 20022 XML standard across the globe to streamline its interaction with its banks. In the course of the rollout, the company re-engineered its processes worldwide to establish a centralized infrastructure through which it routed all collection runs and payment flows.</p> <p>Insights:</p> <p>“It would be great to have a single message, meaning a single interpretation of the payment file around the globe. I wanted my U.S. message to have exactly the same information as a Chilean message or a Japanese message and the bank would derive what is needed to satisfy the various clearing systems. That sounds like utopia – and it was.” Hans Maarten van den Nouland, Director of International Treasury Services, Merck</p>
Drivers	Multiple bank interfaces and proprietary formats contributed to inefficient payment routing decisions, higher costs and enhanced risks
Benefits Achieved	<p>Cost reduction (maintenance, labor, bank fees, etc.)</p> <p>Optimized payment routing with lower cost ACH</p> <p>Streamlined and automated cash management processes, resulting in efficiency gains and time savings including daily global auto-reconciliation often within half an hour</p> <p>95 percent of payments flow through three global banks processing 200,000 to 250,000 payments a month</p> <p>Reduced over 450 bank interfaces to an enhanced network security with just one bank interface</p> <p>Focus on higher value added treasury activities</p> <p>Bank agnostic connection</p> <p>Enables control and visibility to the entire infrastructure which optimizes payments and influenced payments behavior to reduce costs</p>
Challenges / Lessons Learned	<p>With an extensive global footprint, Merck faced over 450 different bank interfaces, dozens of proprietary formats, and a myriad of bank connection options. Previously, transactional banking activities had to be tailored to meet local market needs and local banking processes.</p> <p>A best practice Merck found is to completely overpopulate the message and include all available data to accommodate variances in local payment infrastructure requirements. For example, Merck will provide a BBAN (basic bank account number), an IBAN (international bank account number), local bank code, and SWIFT BIC (Bank Identifier Code). If the bank needs to send a wire, they can use an IBAN or SWIFT BIC; if it is an ACH payment, the bank will take the local account code and local bank code. Merck supplies all the information that is necessary to make any type of payment, which has translated to significant maintenance and cost cuts for the company.</p>
References	2017, https://www.nacha.org/system/files/resources/MERCK_ISO20022_Case%20Study_FINAL.pdf

U.S Adoption of ISO 20022

Microsoft	Microsoft Corporation is an American multinational technology company headquartered in Redmond, Washington, that develops, manufactures, licenses, supports and sells computer software, consumer electronics and personal computers and services.
ISO 20022 Usage	<p>In 2011 Microsoft implemented Extensible Markup Language (XML) standard ISO 20022, camt.052 and camt.053 version two, the new international standard for cash management financial messaging. Microsoft implemented this solution with Bank of America Merrill Lynch and Citi to provide a common language for Microsoft to receive electronic bank statements from its global banking providers.</p> <p>Insights:</p> <p>“The use of the common standard opens up tremendous benefits for all parties involved,” said George Zinn, Vice President and Treasurer. “For example, the reduction in current shortcomings — such as maintaining multiple customized pipes; fewer processing errors thanks to consistent formatting standards; and the flexibility to support extended, more complex messages versus the fixed format of yesterday — means that both my team and our banking partners are spending less time on maintenance and more on higher value-add analysis, leading to higher impact and deeper relationships.”</p> <p>Eileen Dignen, Managing Director, Banking Initiatives and Accounts, SWIFT: “In developing the ISO 20022 account reporting messages with SWIFT, Microsoft and its banking partners are leveraging a secure global network and a common message standard to take advantage of the latest technologies and reduce operating costs associated with banking transactions. Now, all of Microsoft’s banking transactions will be reported in one standard format.”</p> <p>In 2012, ISO 20022 XML PAIN.001 and .002 for Treasury payments via SWIFT</p> <p>Jayna Bundy, Director of Treasury Operation for Microsoft Corporation: “In 2012, Microsoft implemented ISO 20022 CAMT messages for statements in 2010 and ISO 20022 PAIN messages for credit transfers and direct debits. Our goal was a standardized format through a common implementation for consistent and efficient communication across all banks. ISO 20022 adoption leveraged enriched data and remittance information for improving auto reconciliations and posting rates for AP and AR teams. It decreased IT support required to maintain multiple formats and connectivity points using standardization to reduce costs. Finally, ISO 20022 allowed use of rich data sets to drive compelling business intelligence.”</p> <p>In 2014, implemented ISO 20022 XML PAIN.008 for Direct Debits/SEPA.</p> <p>In 2015, ISO XML rollout began.</p>
Drivers	<p>In 2010, the driver was to provide a common language for Microsoft to receive electronic bank statements from its global banking providers</p> <p>In 2012, Microsoft was seeking a standardized format through a common implementation for consistent and efficient communications across all banks globally</p> <p>Overall drivers:</p> <ul style="list-style-type: none"> • Improved visibility of electronic bank statements • Improved mobility of wire payments • Reduce costs • Simplify infrastructure and process • Improved global risk management

U.S Adoption of ISO 20022

Benefits Achieved	<p>As a result of its efforts, Microsoft treasury has achieved a number of major benefits, including operational efficiencies and risk mitigation, cost savings, significant risk reduction, and improved efficiency and productivity:</p> <ul style="list-style-type: none"> • No longer have to maintain multiple customized message pipelines • Fewer processing errors thanks to consistent formatting standards • Able to support extended, more complex messages • Less time spent on maintenance leading to more time spent on value-added analysis • Reduction in operating costs associated with transactions • Easier to manage banking relationships across multiple banks • Gives Microsoft a competitive advantage • Can better serve customers
Challenges/ Lessons Learned	<p>The key to leveraging ISO 20022 is to:</p> <ul style="list-style-type: none"> • Understand the deltas (legacy vs. ISO data elements) and focus on the usability of analytics • Normalize the data into common standards via ISO 20022 • Localize the delivery of BI to subsidiaries and business groups as needed • Organize a cross-functional team with a project manager • Collaborate with SWIFT and your banks on market practice • Keep up with CGI-MP working groups to ensure your requirements are socialized with SWIFT and your banks
References	<p>https://news.microsoft.com/2011/09/19/microsoft-drives-iso-xml-messaging-development-initiative-with-bank-of-america-merrill-lynch-citi-and-swift/#sm.00001dv8mrdxztv6q36timxo8vxa (must copy and paste link)</p> <p>Presentation at 2016 AFP national conference: “Successful Corporate Adoption of ISO 20022 Standards” featuring Jayna Bundy, Director Treasury Operations, Microsoft</p>

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Proctor and Gamble	Proctor and Gamble (P & G) is a multinational manufacturer of personal care, household cleaning, laundry detergents, prescription drugs and disposable diaper products.
ISO 20022 Usage	<p>Insights:</p> <p>“P and G firmly believes that cost efficiencies and business process improvements are achieved through standardization and partnership with vendors and providers,” said Susan Meeks, who is responsible for Global Payments and Banking Services at Procter and Gamble. “With respect to cash management we are achieving this by consolidating all our transactional data flows on the ISO 20022 XML standard with Citi and our other CGI compliant banks.”</p>
Drivers	<p>The availability of ISO 20022 XML messaging eliminates the need for customization</p> <p>It provides simplified business rules that allow corporations to easily integrate data with their banks as appropriate</p>
Benefits Achieved	<p>Lower costs</p> <p>Lower maintenance cash management environments</p> <p>Enhanced straight through processing</p>
References	<p>http://www.businesswire.com/news/home/20130206005227/en/Citi-Reaches-Significant-Milestone-Adoption-ISO-20022)</p>

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Tableau Software	Tableau Software is a software company headquartered in Seattle which produces interactive data visualization products focused on business intelligence.
ISO 20022 Usage	<p>Leveraged ISO 20022 XML to enhance and streamline global payments as part of implementing NetSuite standardized electronic payments processing</p> <p>Insights from Ed Barrie, Director Treasury:</p> <ul style="list-style-type: none"> • Use of ISO 20022 XML is where most payment infrastructures are headed • Invest in understanding ISO 20022 XML now • Most ERP vendors support ISO 20022 XML for Payments and Direct Debits • ISO 20022 XML framework is used beyond payments including statement reporting, securities messaging, corporate actions, trade services, etc.
Drivers	<p>Seeking more consistent file formats and communication channels between each bank and sometimes within the same bank</p> <p>Wanted a central “source of truth” for payments data to maximize value for Tableau</p> <p>Goal was to optimize straight-through-processing, automate reconciliation and achieve least cost routing for payments</p> <p>Comply with changing global requirements (SEPA, FATF recommendations, AML\KYC, extended remittance data, etc.)</p> <p>Legacy methodology was not scalable or agile, which limited global visibility and ability to comply with changing global compliance requirements and impaired liquidity planning and automation</p>
Benefits Achieved	<p>Succeeded in initiating eligible payments in NetSuite and automatically routed them to banks over SWIFT FileAct using standardized ISO 20022 XML formats</p> <p>Leveraged the CAMT.053.001.02.xml prior day format to receive more enriched statement and transaction level data in a structured format</p> <p>Improved the payment processing framework as follows:</p> <ul style="list-style-type: none"> • Greater straight-through-processing and automatic reconciliation in NetSuite • Processed and routed payments at least possible cost to Tableau • Processed payments on a standardized global schedule (i.e. schedule (i.e. transmitted to banks on Wednesdays for value Fridays) <p>Benefits attributed to implementing NetSuite for electronic payments processing:</p> <ul style="list-style-type: none"> • Improved IT control and operational risk management through the use of a predictable and standardized process • Reduces manual exception handling & re-keying of data, including potential data entry errors (allow payment data to be shared across systems) • Increases straight-through-processing (STP) and automatic reconciliation in NetSuite by leveraging new data elements (i.e. EndToEndID) • Allow for a more effective control framework including SOX compliance • Greater visibility and control of payments, cash and risk including • Forecasting and understanding of daily\weekly\monthly liquidity (cash) needs which reduces costs & improves financial performance • Streamlining and reducing transactional costs (least cost routing) • Reduce number of users needing access to banking portals • Centralizing of payments allows simplified and optimized future cash pooling structures • Improves employee productivity by moving from ‘managing transactions’ to managing ‘assets’ • Manual payments take two times (if not 3X) the level of effort and time to process and reconcile in NetSuite vs. electronic payments and can lead to data entry errors and late recording of transactions
Challenges/ Lessons	<p>Develop a Banking Master Data Management strategy</p> <p>Consistency of data following country rule books is paramount to having successful payments processed</p>

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Learned	<p>timely and at the lowest all-in cost</p> <p>Consider reliable & certified third party data services like SWIFTRef.com for sourcing banking master data</p> <p>Highly structured banking and beneficiary master data allow payments & vendor lists to be more easily screened against sanction filtering\watch lists</p> <p>Statement reporting is just as important</p> <p>Consider use of CAMT.053.001.02.xml prior day statements in lieu of BAI2 or MT940 in your ERP and Treasury Management System</p> <p>Capture more enriched data in order to automate reconciliation and allow for advanced analytics</p> <p>Have all payments reported back individually on the bank statements vs. batch</p> <p>Push your banks to follow the CGI rule books and to populate the data that they have and that you need in their CAMT.053.001.02.xml statements</p>
References	<p>Presentation "Remittance Coalition: ISO 20022 in U.S. Payments" to Business Payments Coalition by Ed Barrie, Director Treasury Tableau Software and Bob Blair, Accredited Standards Committee X9, July 27, 2016 conference call.</p>

U.S Adoption of ISO 20022

U.S. Users and/or Service Providers of ISO 20022

In researching adoption of ISO 20022 by U.S. entities, public sources various revealed that more and more corporates and service providers with offices in the U.S. have adopted the standard. In addition, some organizations that participated in the survey (see Section II above) indicated they are using ISO 20022. Readers should consider the following list a partial list of U.S. users and service providers who have adopted ISO 20022; there are undoubtedly many more.

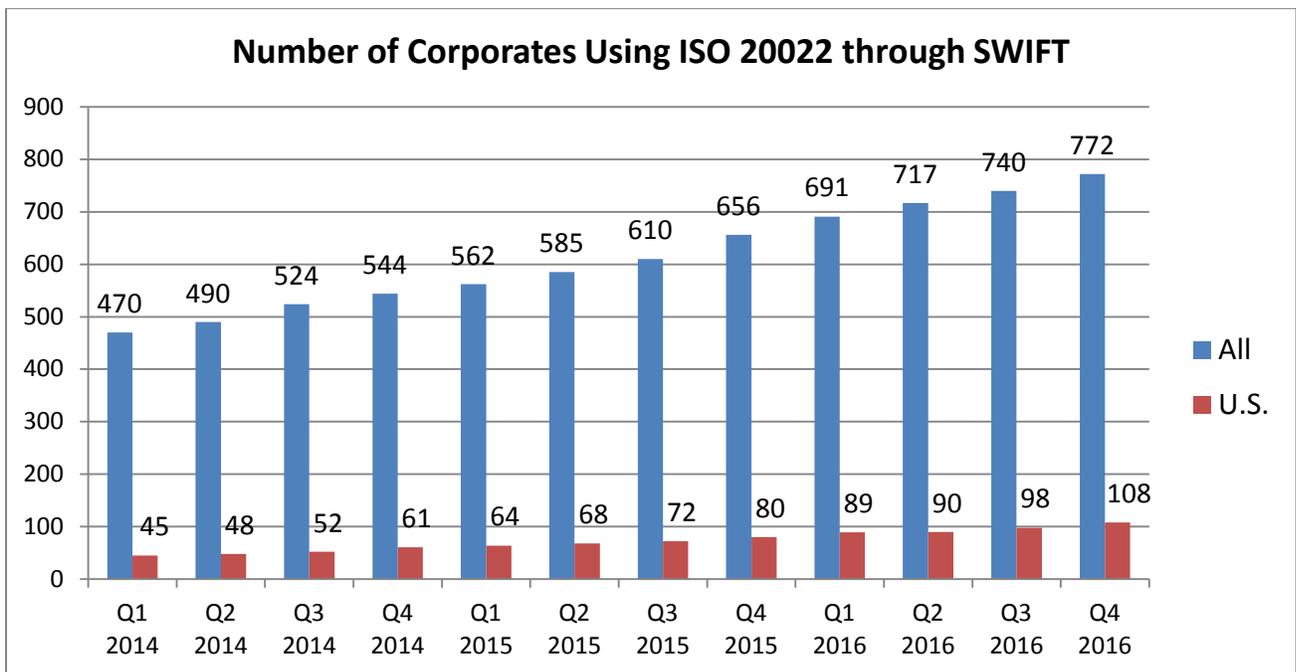
U.S. Corporates that are Users and/or Service Providers of ISO 20022			
1	ABC	46	IT2 Treasury Solutions
2	ACI Worldwide	47	Itron
3	Alliance Bernstein	48	JACCOO
4	American Express	49	Kyriba
5	American International Group	50	LVMH
6	Atlantic Fund Services	51	Maersk
7	Axletree	52	Mentor Graphics
8	BAT	53	Merck Group
9	Bayer	54	MetLife
10	BBVA Compass	55	Microsoft Corporation
11	Bellin	56	National Financial Services
12	Benefit Trust Co.	57	NLECO New Levels Entertainment CO LLC/PUB
13	BOK Financial	58	NTT DATA Getronics Corporation
14	Bottomline Technologies	59	Online Banking Solutions
15	Brocade	60	Oracle
16	Brown Brothers Harriman	61	Pega Systems
17	CA-Cib	62	Proctor and Gamble
18	Cargill	63	Push Payments
19	Caterpillar	64	SAP SE
20	Cigna	65	SEB
21	CLS Group	66	Shell
22	Conoco Phillips	67	Siemens
23	Daimler AG	68	Starbucks
24	Desjardins Group	69	Statoil ASA
25	Dion Global	70	Sun Tec
26	Dovetail	71	SunGard
27	DuPont	72	Sungard (recently acquired by FIS)
28	e5 Solutions	73	SWIFT
29	EFTLAB Inc.	74	Swiss RE
30	Exalog	75	Tableau Software
31	ExxonMobil Corp.	76	TCS Financial Services
32	FIS	77	Tecsec, Inc.
33	Fiserv	78	Texas Instruments
34	Fluor	79	Tipco
35	Fundtech	80	TIS
36	General Electric	81	T-Mobile
37	GFI Payment Services	82	United Health Group
38	Google	83	United Technologies
39	GXS	84	USI Holdings Inc.
40	Handelsbanken	85	Viacom
41	Hanse Orga	86	Virtusa
42	Hoffmann-La Roche	87	Volante Technologies
43	IBM	88	Wall Street Systems
44	IdenTrust	89	Wuerth
45	IKEA		

Appendix 2 - Evidence of ISO 20022 Adoption from SWIFT

SWIFT tracks corporate adoption of ISO 20022 and publishes data on a quarterly basis. Overall SWIFT reports a 28 percent increase in ISO 20022 traffic sent by corporates and a 48 percent increase in ISO 20022 live files received by corporates from FY 2015 to FY 2016. This includes live ISO 20022 files from all sources, i.e., both U.S. and non-U.S. traffic.

The top request type for ISO 20022 traffic handled by SWIFT is the pain.001.001 Customer Credit Transfer Initiation: it represents about nine-tenths of ISO 20022 global traffic sent. The pain.002.001 Customer Payment Status Report currently accounts for over three-quarters of ISO 20022 traffic received over the SWIFT network.

As the chart below depicts, there is steady growth in ISO 20022 adoption: 772 corporates worldwide sent and/or received ISO 20022 formatted messages in Q4 2016. Overall adoption by corporates located in any country grew 18 percent from FY 2015 to FY 2016. Of these, 108 are U.S. corporates. The number of U.S. corporates that adopted ISO 20022 grew 35 percent from FY 2015 to FY 2016.



Source: SWIFT for Corporates ISO 20022 Adoption, March 2017. Used with permission.

SWIFT counts 3,207 relationships between corporates and banks in which ISO 20022 messages are exchanged globally.

Adoption of ISO 20022 by Banks with a U.S. Presence

There are 17 banks with a U.S. presence that submitted their product capabilities to SWIFT as a part of SWIFT’s Bank Readiness (self) Certification Program. Each of the banks listed in the table below offers the following payment services to corporates:

- Credit transfers (MT 101)
- Cash reporting (MT 940)
- FileAct
- Pain.001

Banks with a U.S. Presence That Have ISO 20022 Product Offerings for Corporates
1. Banco Bilbao Vizcaya Argentaria S.A.
2. Bank of America N.A.
3. Bank of Tokyo-Mitsubishi UFJ
4. BNP-Paribas S.A.
5. Citibank N.A.
6. Commerzbank A.G.
7. Deutsche Bank A.G.
8. HSBC Bank P.L.C.
9. JP Morgan Chase Bank, N.A.
10. KeyBank N.A.
11. PNC Bank N.A.
12. Shinhan Bank
13. Societe Generale
14. Standard Chartered Bank Limited
15. Bank of New York Mellon
16. Fifth Third Bank
17. Wells Fargo Bank N.A.

Source: <https://www.swift.com/topic/34641/certification/country/united%20states>, November 2016. Used with permission.

This list includes only banks that have chosen to list their capabilities and self-certify; undoubtedly there are many other banks with a U.S. presence that offer ISO 20022 capabilities. Thus, this is not an inclusive list.

Note: We welcome feedback on this white paper. Email your comments and suggestions to the ISO 20022 Education and Promotion Work Group at business.payments.smb@mpls.frb.org