ISO 20022: Taking it to the Next Level – U.S. and Global

Fred Cousin

Nordson

George Hoffman

CTP, CertICM

PNC

Sharon Jablon

AAP

The Clearing House

Sharon Jablon
Director, Product Specialist

The Clearing House®

Corporate Information

- Nation's first payments company and bank trade association

- Operates:
  - Private-sector ACH network: Electronic Payments Network (EPN)
  - CHIPS: High-value payments (wires)
  - SVPCO: Image network
  - RTP ® : Launched real-time payments network
  - TCH Payments Authority (TCHPA)

- Clears ≈$2 trillion daily through ACH, wire and check image services

Role

- Cross product lines
  - ACH and CHIPS (wires)

- B2B payments
  - UPI C ®
  - STP 820 – design and rollout

- Standards
  - X12, X9
  - Business Payments Coalition (previously Remittance Coalition)
  - ISO 20022

- Tokenization

# Fred Cousin

## Project Manager

Nordson

Corporate Information

- Established 1954, headquartered in Westlake, Ohio.

- Engineers, manufactures and markets precision dispensing, fluid management and related technologies.

- Offers products and systems for managing adhesives, industrial coatings, sealants, paints, polymers fluids and biomaterials

- Solutions also include test and inspection equipment and curing and surface preparation systems.

- Operating in over 30 countries

Role

- In charge of Nordson's banking re-engineering initiative

- 24 years SAP experience

- Since 2012, implementing ISO 20022 across the globe
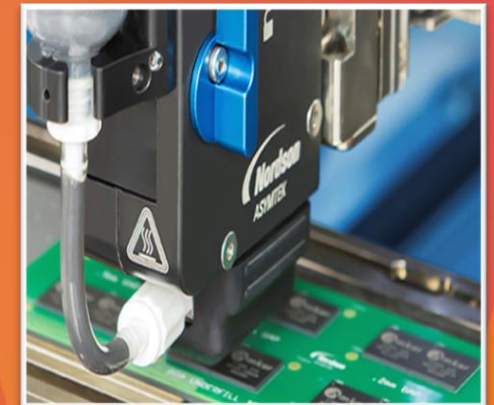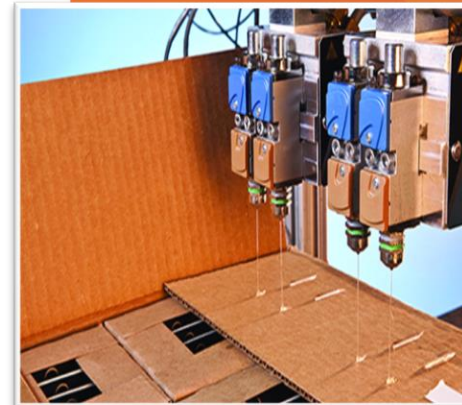
George Hoffman

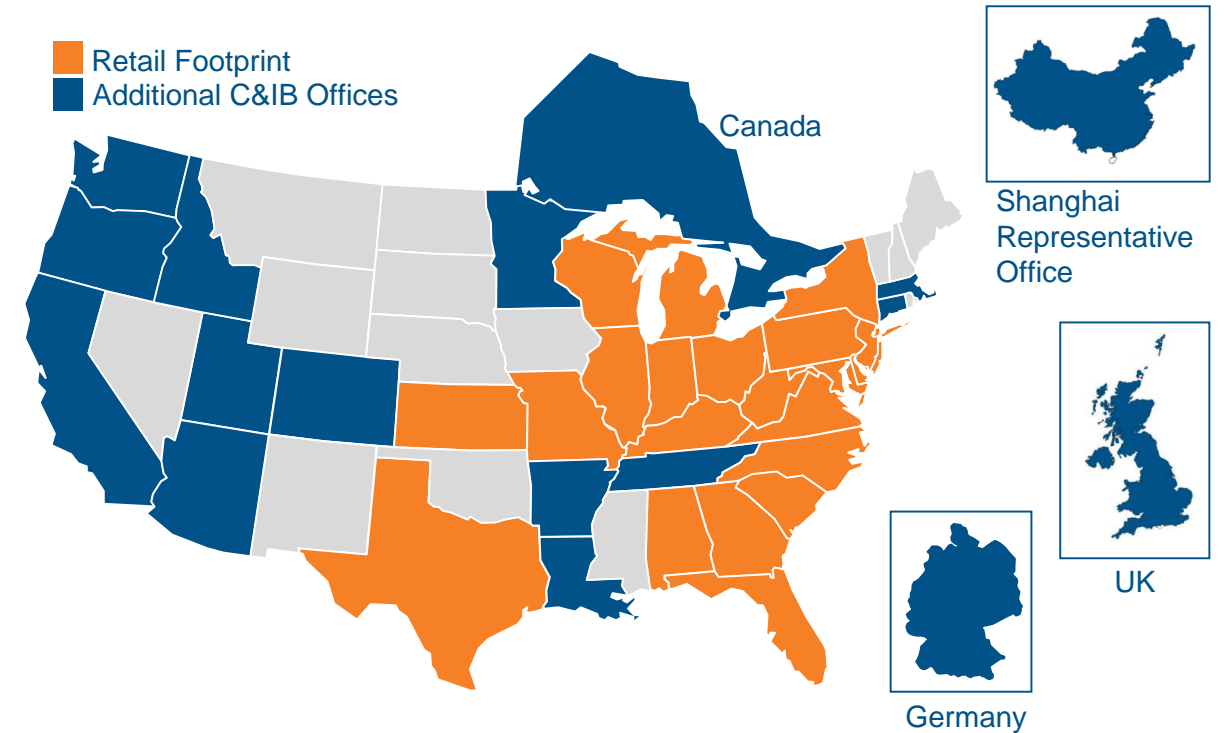## SVP, International Advisory Manager

Corporate Information

- One of the largest diversified financial services institutions in the U.S.

- Assets of $406 billion as of June 3, 2019

Role

- Lead a team of international treasury management advisors across North America, Europe and China

- Consulted on ISO 20022 sales and implementation process for Nordson in North America

PNC Locations Worldwide

- Retail Footprint
- Additional C&IB Offices

Canada

Shanghai Representative Office

UK

Germany

PNC Business Segments

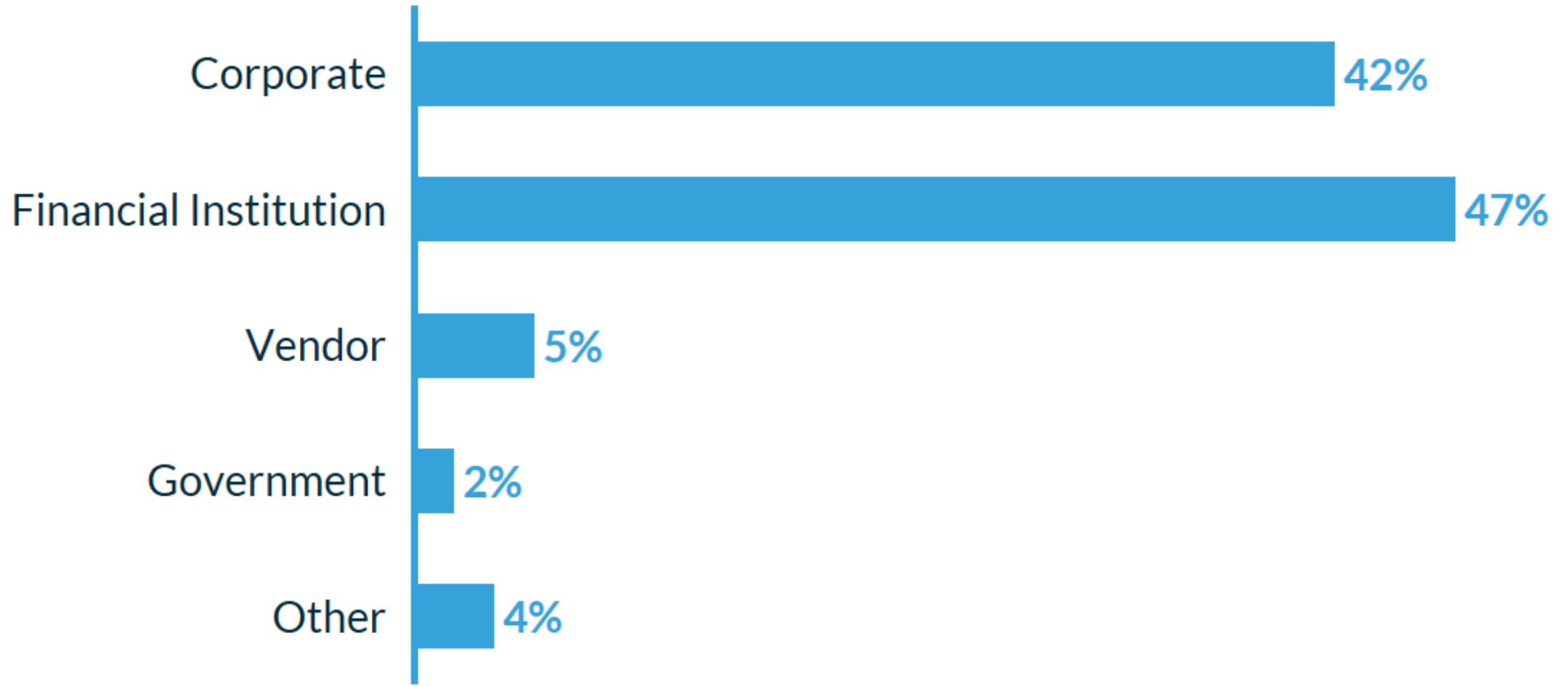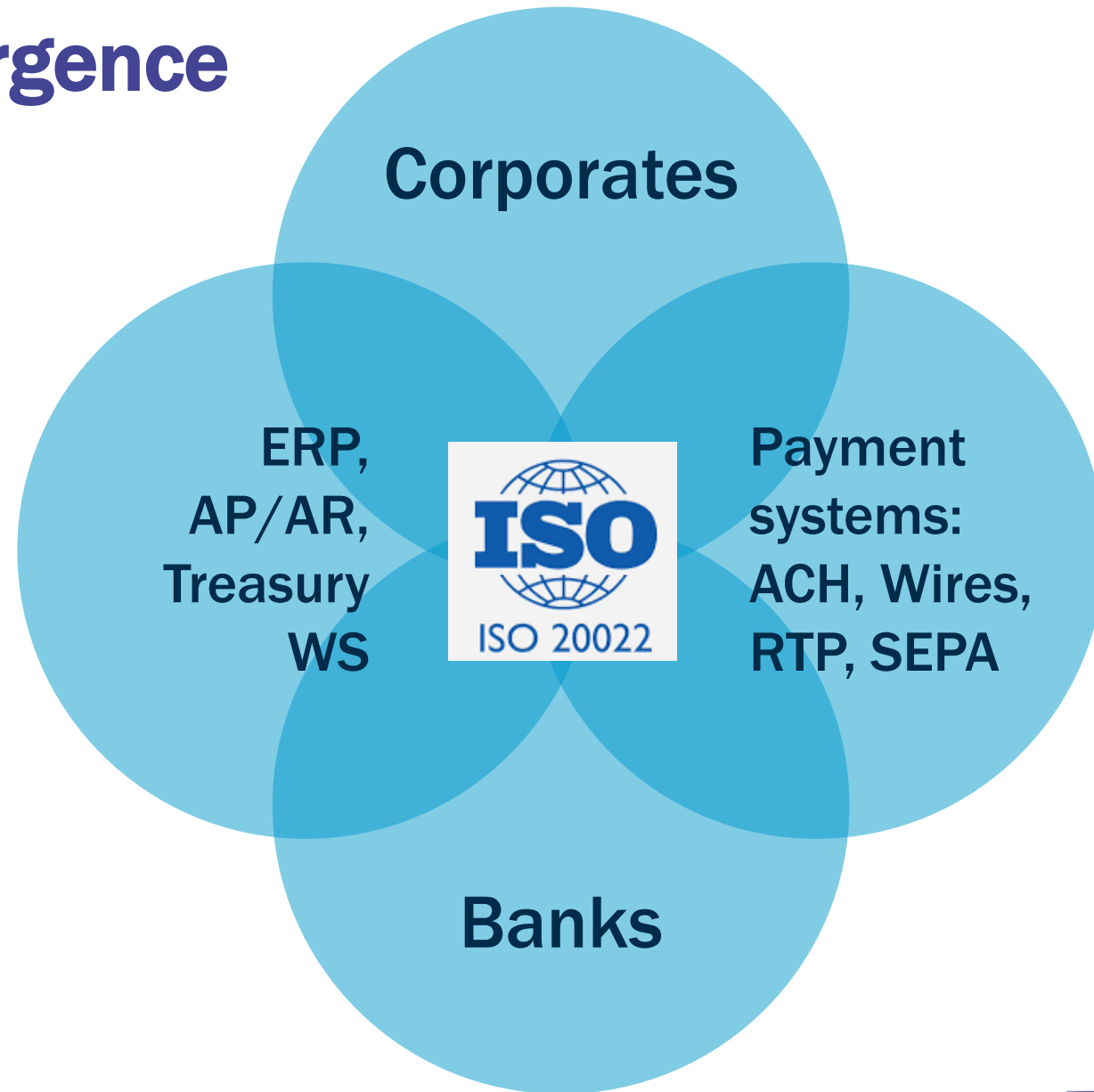| Corporate & Institutional Banking | Asset Management Group | Retail Banking | BlackRock Ownership Stake |

Poll 1

Please categorize yourselves:

A. Corporate
B. Financial Institution
C. Vendor
D. Government
E. Other

Please categorize yourselves:

- Corporate — 42%
- Financial Institution — 47%
- Vendor — 5%
- Government — 2%
- Other — 4%

ISO 20022 Convergence

Corporates

ERP, AP/AR, Treasury WS

ISO
ISO 20022

Payment systems: ACH, Wires, RTP, SEPA

Banks

Poll 2

Are you....

A. An ISO 20022 user
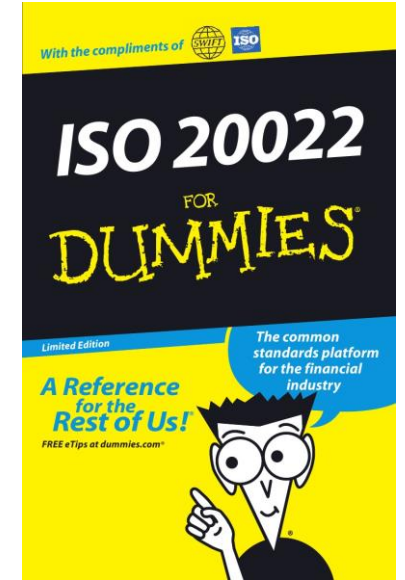
B. An ISO 20022 explorer

C. Have no idea

Are you...

An ISO 20022 user **27%**

An ISO 20022 explorer **55%**

Have no idea **18%**
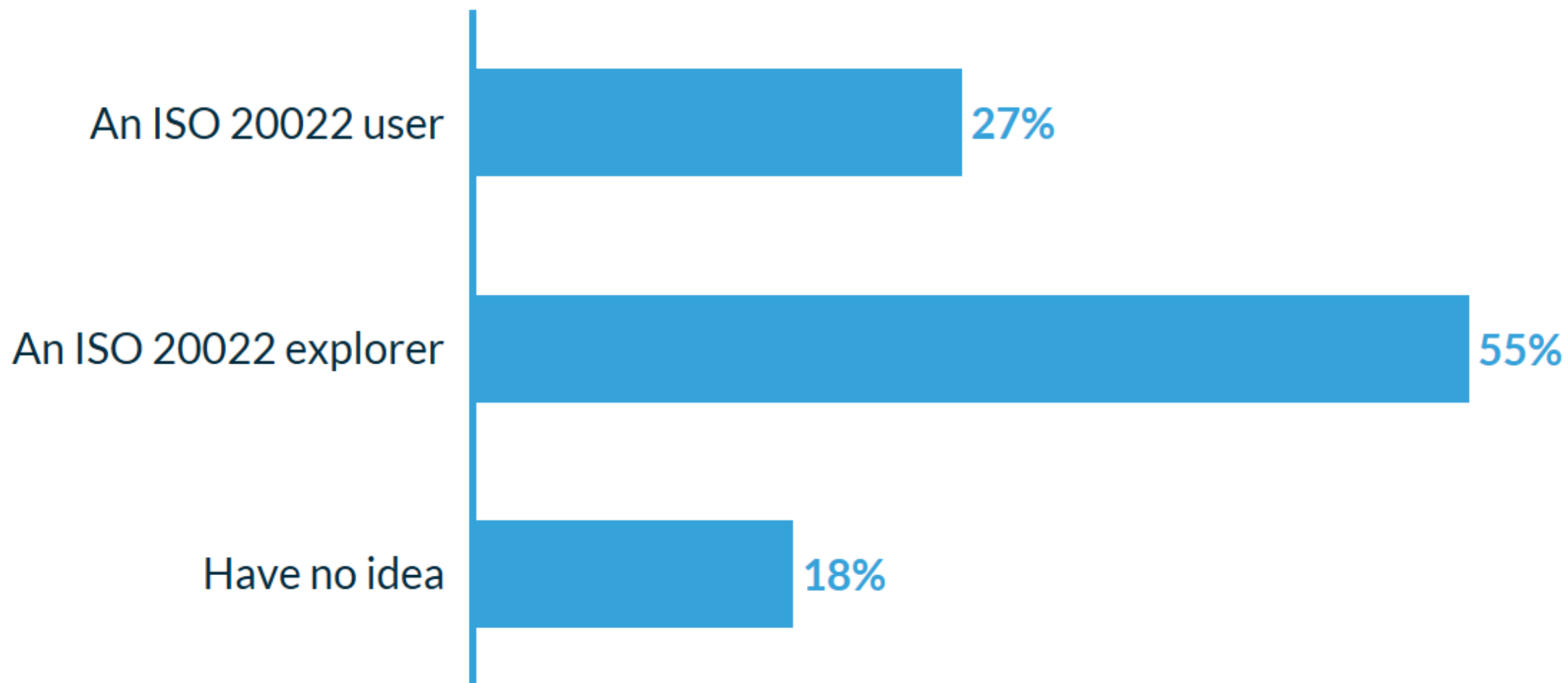
What is ISO 20022?

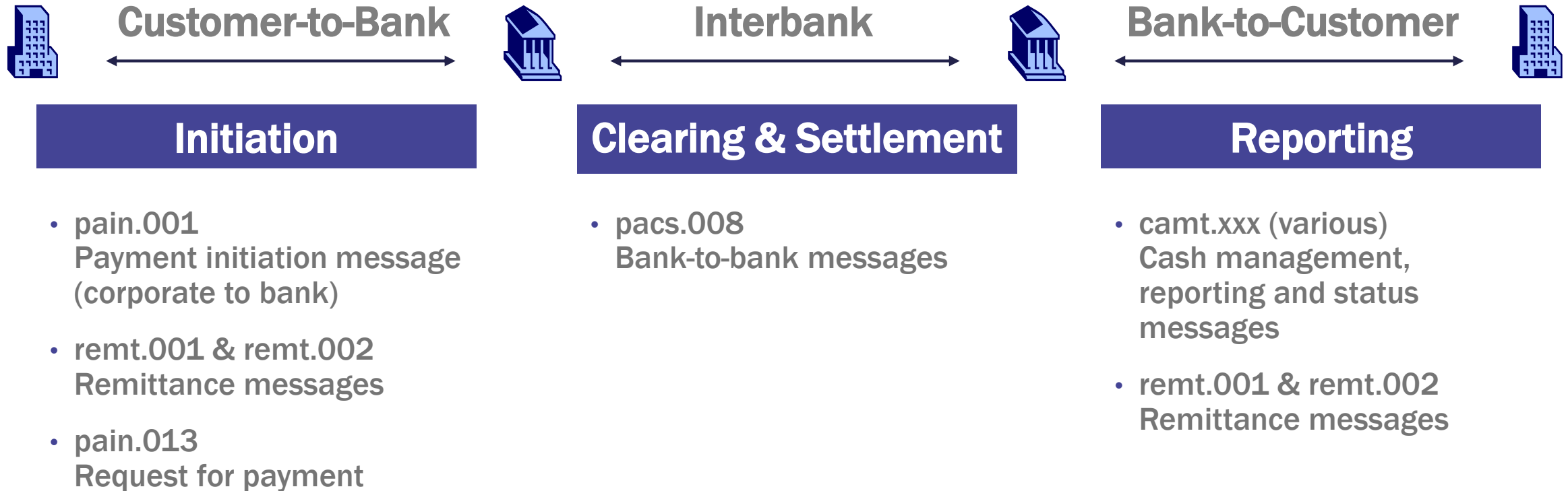- Governance structure

- A data dictionary (repository)

- Provides rules for how to develop messages and documentation

- Describes messages, elements and characteristics

- Contains descriptions of business processes

- Syntax independent, currently implemented in XML

- Provides vehicle to use data elements and message definitions in the same way…same meaning, less translation and mapping….

EDI vs. ISO 20022 XML

Syntax	EDI Structure Data elements are positional within Data Segments	ISO 20022 with XML Structure Data elements have prior and ending tags presented in a hierarchy

Customer Account Number	N104
	N1*PR*ABC Corporation*91*C1234567\
		<Invcee>
		  <OrgId>…
		    <Id>C1234567</Id>

Customer Name	N102 N1*PR*ABC Corporation*91*C1234567\	<Nm>ABC Corporation</Nm>

Invoice Number	RMR 01
	IV = Invoice Number
	RMR*IV*4562121**9500.00*10000.00*500.00\
		<RfrdDocInf>
		  <Tp>
		    <CDOrPrtry>
		      <Cd>CINV</Cd>
		    </CdOrPrtry>
		  </Tp>
		  <Nb>4562121</Nb>
		  <RltdDt>2014-09-08</RltdDt>
		</RfrdDocInf>

Invoice Data	DTM02 DTM*003*20140908\	<RltdDt>2014-09-08</RltdDt>
Invoice Gross Amount/ Amount Before Discounts	RMR05 RMR*IV*4562121**9500.00*10000.00*500.00\	<RfrdDocAmt> <DuePyblAmt Ccy="USD">10000.00</DuePyblAmt> </RfrdDocAmt>

Discount Amount	RMR06
	RMR*IV*4562121**9500.00*10000.00*500.00\
		<RfrdDocAmt>
		  <DscntApldAmt>
		    <Amt Ccy="USD">500.00</Amt>
		  </DscntApldAmt>
		</RfrdDocAmt>

ISO 20022 Message Names

Customer-to-Bank ←→ **Interbank** ←→ **Bank-to-Customer**

Initiation	Clearing & Settlement	Reporting

Initiation
- pain.001
  Payment initiation message (corporate to bank)
- remt.001 & remt.002
  Remittance messages
- pain.013
  Request for payment

Clearing & Settlement
- pacs.008
  Bank-to-bank messages

Reporting
- camt.xxx (various)
  Cash management, reporting and status messages
- remt.001 & remt.002
  Remittance messages

ISO 20022 Globally

- Global companies instructing banks with ISO 20022 'PAIN' message

- PAIN = payment initiation

- Make me an ACH, wire, check, SEPA, FasterPayments, etc.

  - ✓ Sending comingled ISO 20022 files, instead of...

    - EDI 820 in U.S.

    - SWIFT FIN (MT) in Europe and other

    - Other formats around world (e.g. CSV, IDoc, bank proprietary)

# Nordson's Vision for ISO 20022
Building a business case

- Infrastructure globalization
  - Bank partners selection (across the globe)
  - Communication and connectivity (OpenText)
  - Protocol (ISO 20022)
  - Additional tools implementation

- Processes standardization and globalization

- Risk mitigation

- European implementation completed
  - Reviewing landscape based on experience and existing gaps
  - Embarking a new banking partner for "niche" needs.

- North America implementation completed
  - Implementation of a global disbursement platform concept

- Asia implementation in progress

- Mexico implementation in progress

Poll 3

What are/were your pain points/obstacles for implementing ISO20022?

A. Cost

B. Systems & IT Support

C. Internal Company Knowledge

D. Bank Collaboration and Knowledge

E. We don't feel ISO20022 has gained critical mass in the U.S.

F. All of the above

What are/were your pain points/obstacles for implementing ISO20022?

Category	Percentage
Cost	0%
Systems & IT Support	27%
Internal Company Knowle...	18%
Bank Collaboration and K...	14%
We don't feel ISO20022 h...	4%
All of the above	38%
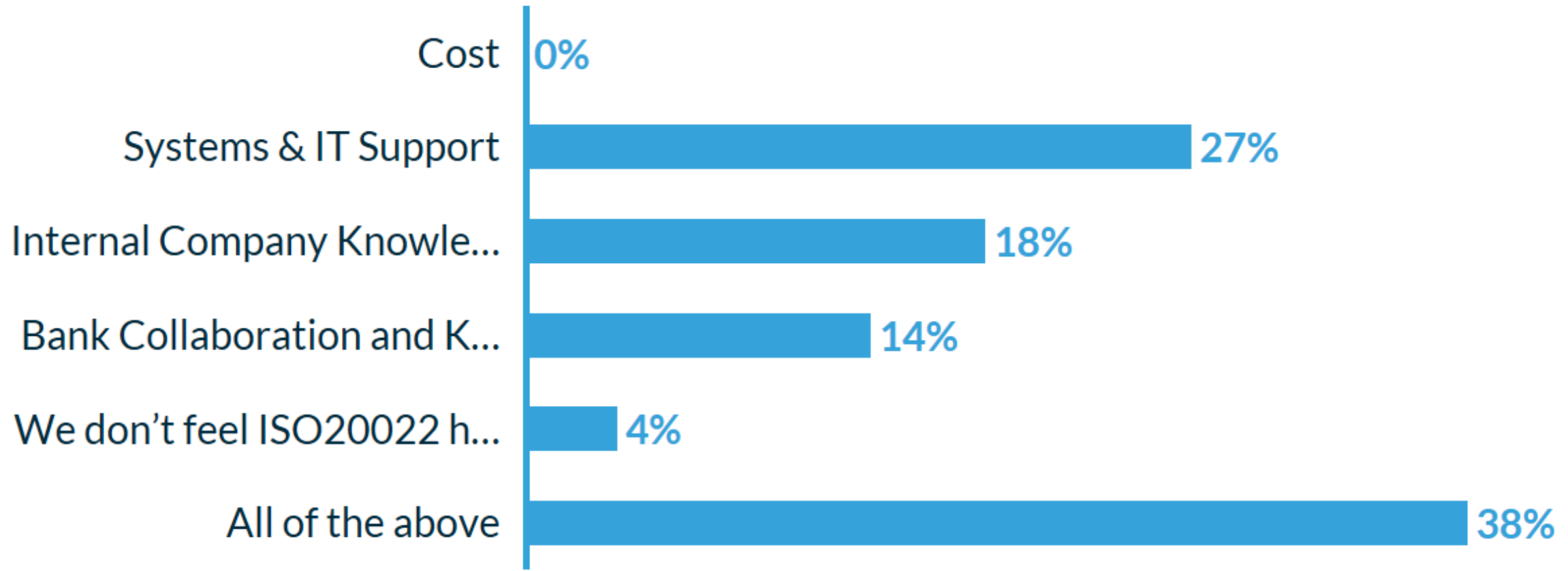
Scope of ISO Implementations

Reporting

North America
- Prior day Reporting (camt.053)
- Lockbox (camt.054)
- Payment Acknowledgement (pain.002)

Europe
- Prior day Reporting (camt.053)
- Payment Acknowledgement (pain.002)

Asia
- Prior day Reporting (camt.053)
- Payment Acknowledgement (pain.002)

Mexico
- Prior-day Reporting (camt.053)
- Payment Acknowledgement (pain.002)

Payments

North America
- ACH (CTX, CCD, CCD+)
- Fedwire
- CHIPS
- Checks

Europe
- SEPA
- Cross Border Wire
- BACS
- UK Fast Payments
- Customer Direct Debits

Asia
- Telegraphic transfers
- Cross Border Wire
- Checks

Mexico
- ACH
- High Value
- SPID
- Fedwire
- Taxes
- Utilities
- xCurrency
- xBorder

Business Rationale: U.S. and Globally

- Lack of standardization

- Lack of automation

- Inherent risks

- System maintenance difficulties

- Banks dependencies
  - Proprietary formats
  - Technical limitations
  - Specific connections
  - Talk different languages (protocol)

ISO 20022 in the U.S.

- U.S. Wire Payment systems (CHIPS and Fedwire) have embarked on plan

  - Target date is 2022–23

- U.S. ACH Network

  - ISO 20022 in CTX (remt.001 and remt.002), opt-in
  - NACHA mapping guides
  - Afinis - APIs

- TCH Real-Time Payments (RTP) System

  - Utilizes ISO 20022 formats and messaging
  - Request for Payment (ISO 20022 messages), confirmations...
  - In production – November 2017; 17 banks in production
  - 50% of U.S. deposit accounts reachable end 2018
  - Targeting ubiquity 2020
  - International adoption of ISO 20022 for real time payments (RTPG)

- FedNow[SM]

  - Implications

ISO 20022 in Canada

- ACH (low-value): Messages designed, set up as an opt-in to use messages

- RTP: Have selected a vendor to develop new system

- Wire System: messages being designed
  - Plan to dovetail with SWIFT MT migration and U.S. (CHIPS & Fedwire) live in 2023

- Open Access
  - API capability and fintech innovation

- Rules framework modernization

- Alignment with global regulatory standards
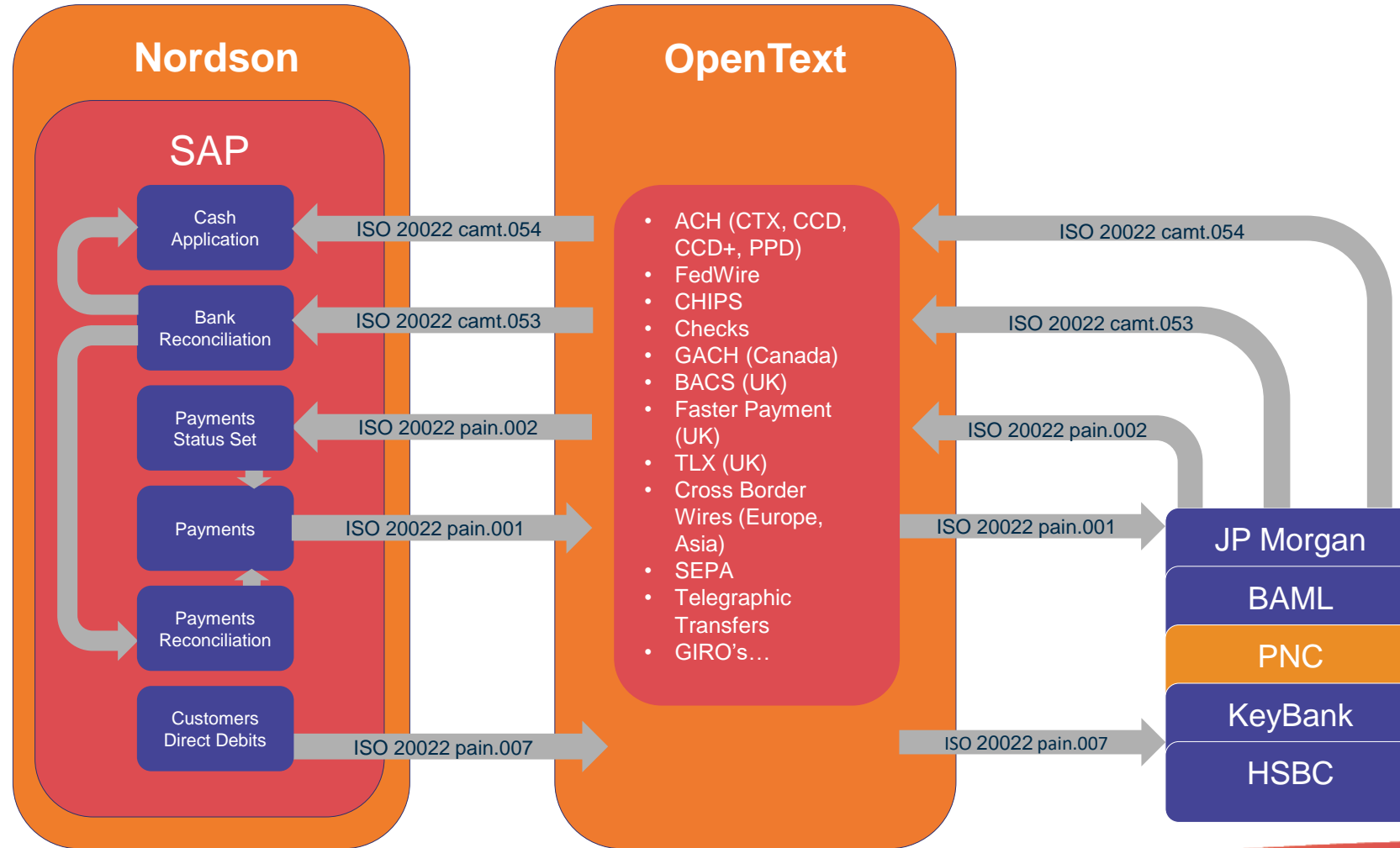
ISO 20022 Adoption: Payments Initiatives
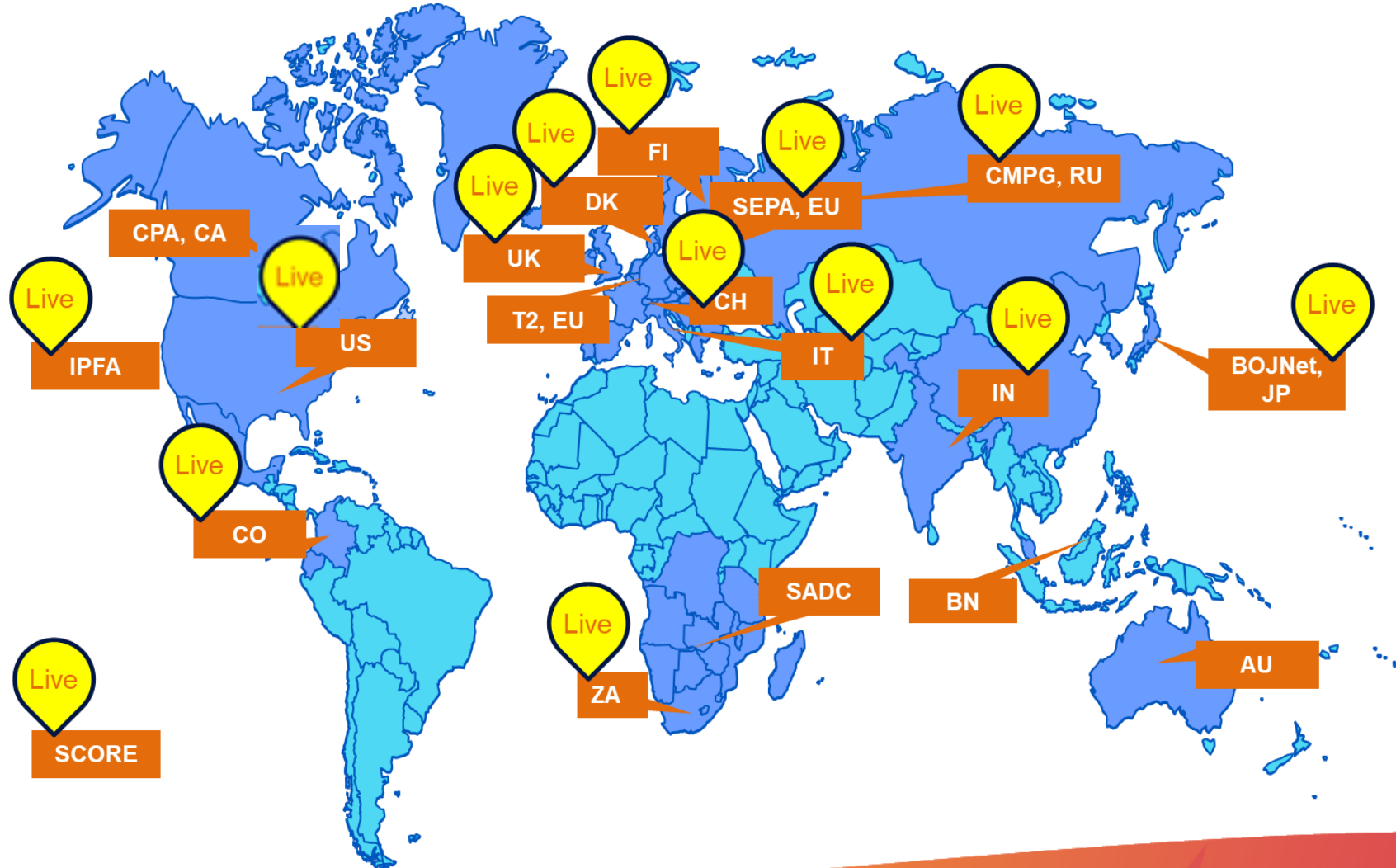
PNC's Payments Ecosystem

- Distributed application utilizing ISO 20022 formats

- Architectural foundation for enhanced flexibility

- Implemented RTP, ILV (International Low Value), ePayments

- Ability to take in multiple format types and transform accordingly

- Flexibility in file formats (NACHA, EDI, ISO 20022, CSV, custom)

- Consistent workflow and support model, regardless of payment type

- Intelligent Routing

- APIs

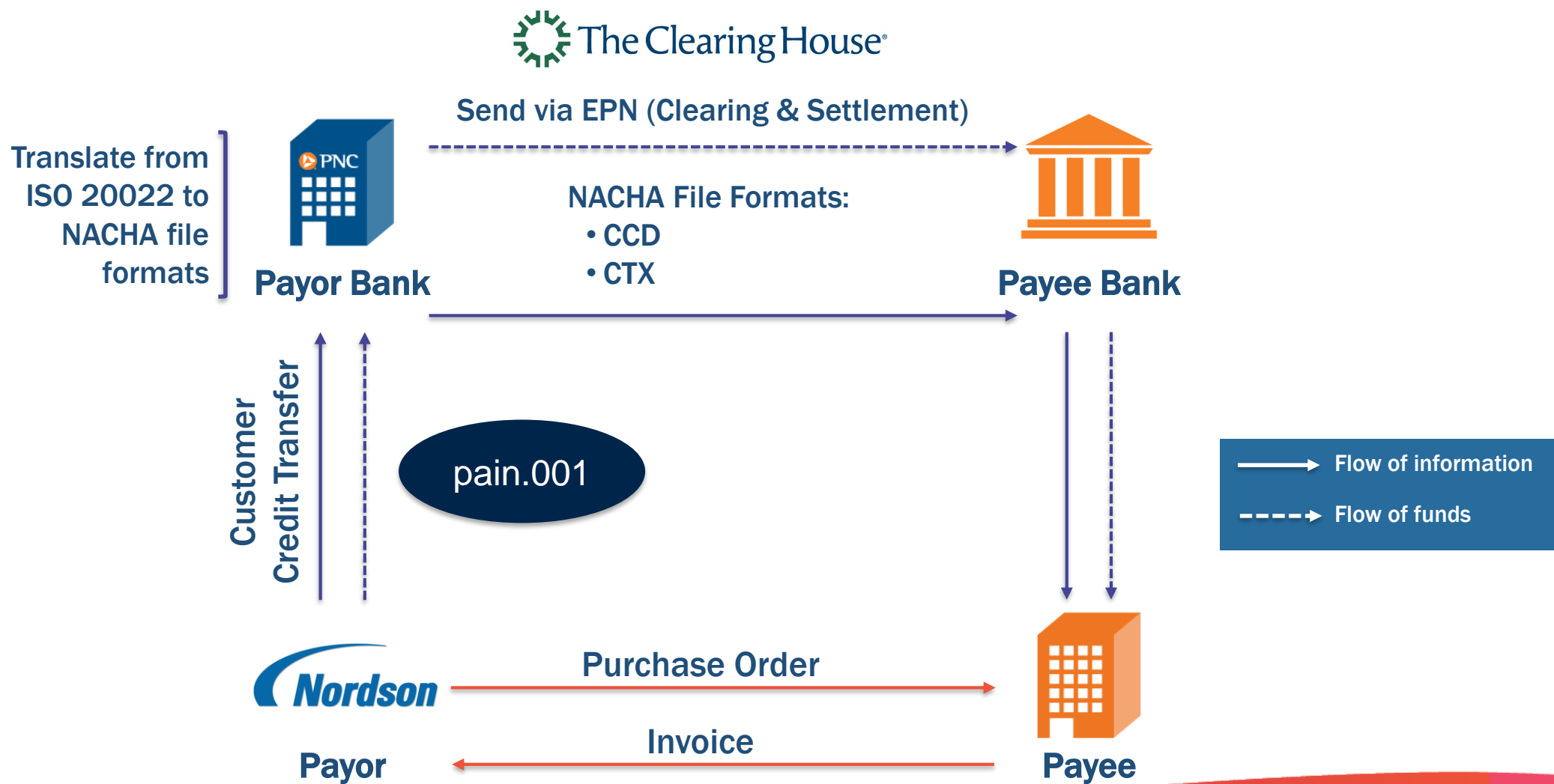- Payments Canada Modernization

How We Partnered...

- Nordson was first North American client for pain and camt messages

- Newly established lockbox standard (camt.054)

- Mapping challenges with U.S. and Canadian payment networks

- Alignment and planning
  - Dedicated project leads
  - Information gathering upfront
  - Recurring meetings to review project status
  - Careful monitoring of tasks and deliverables
  - Issue identification, escalation process and problem resolution
  - Testing, testing, testing...
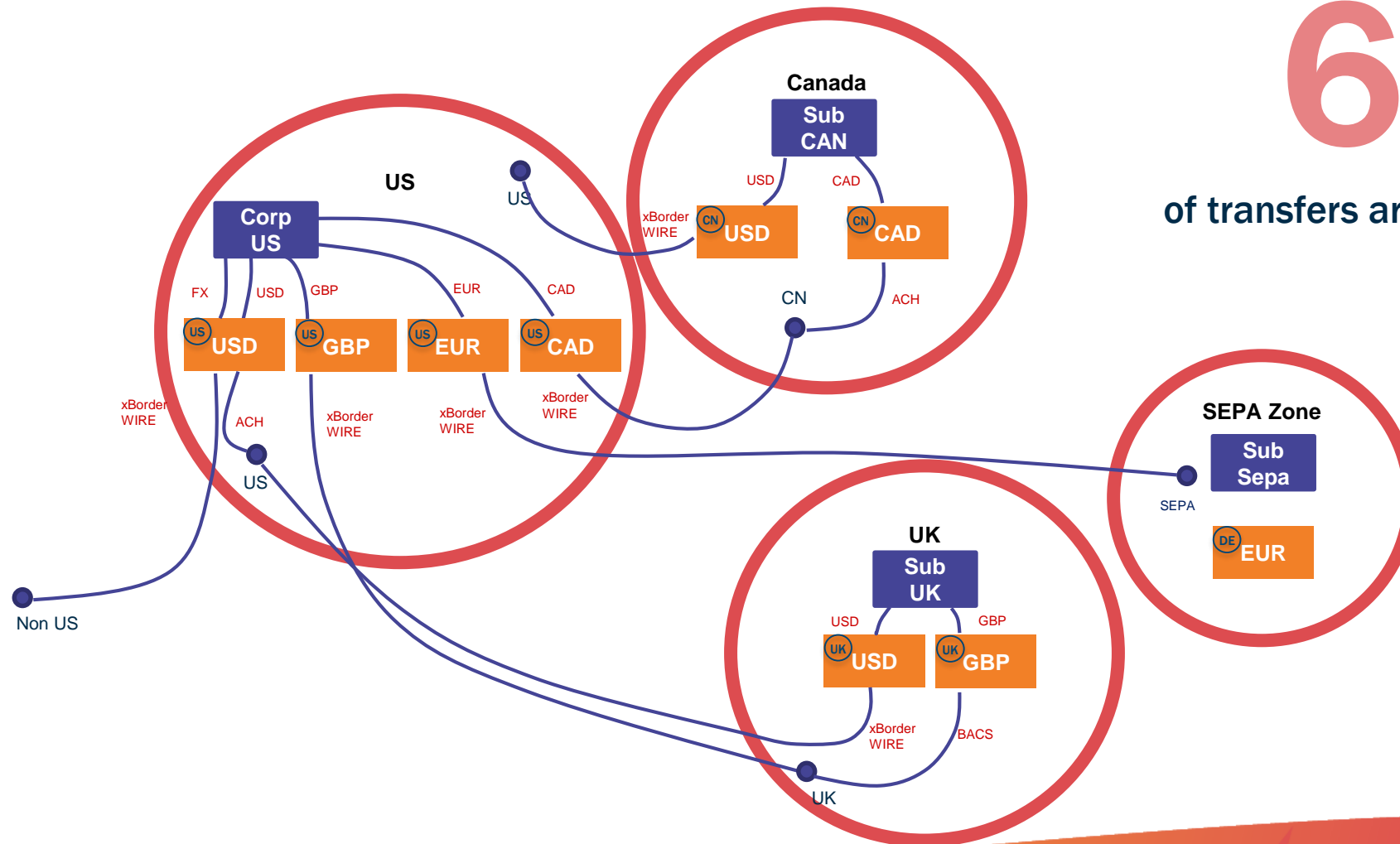
Nordson's ISO 20022 Implementation

Execution of Nordson ACH payment

The Clearing House®

Send via EPN (Clearing & Settlement)

PNC

Translate from ISO 20022 to NACHA file formats

Payor Bank

NACHA File Formats:
- CCD
- CTX

Payee Bank

Customer Credit Transfer

pain.001

Flow of information

Flow of funds

Nordson

Purchase Order

Invoice

Payor

Payee

ISO20022 as a global disbursement platform
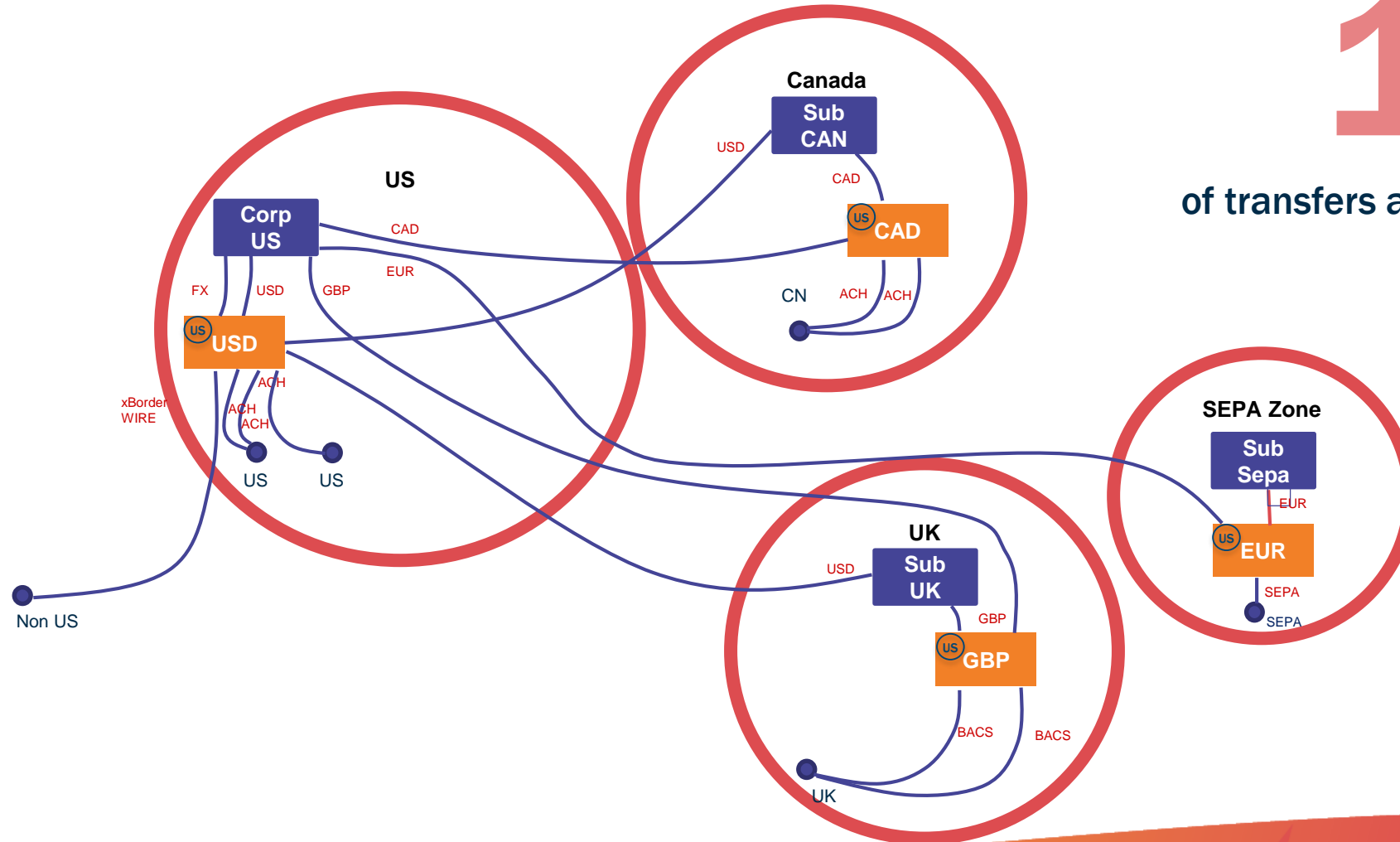**Typical setup**

66%

of transfers are cross border transfers

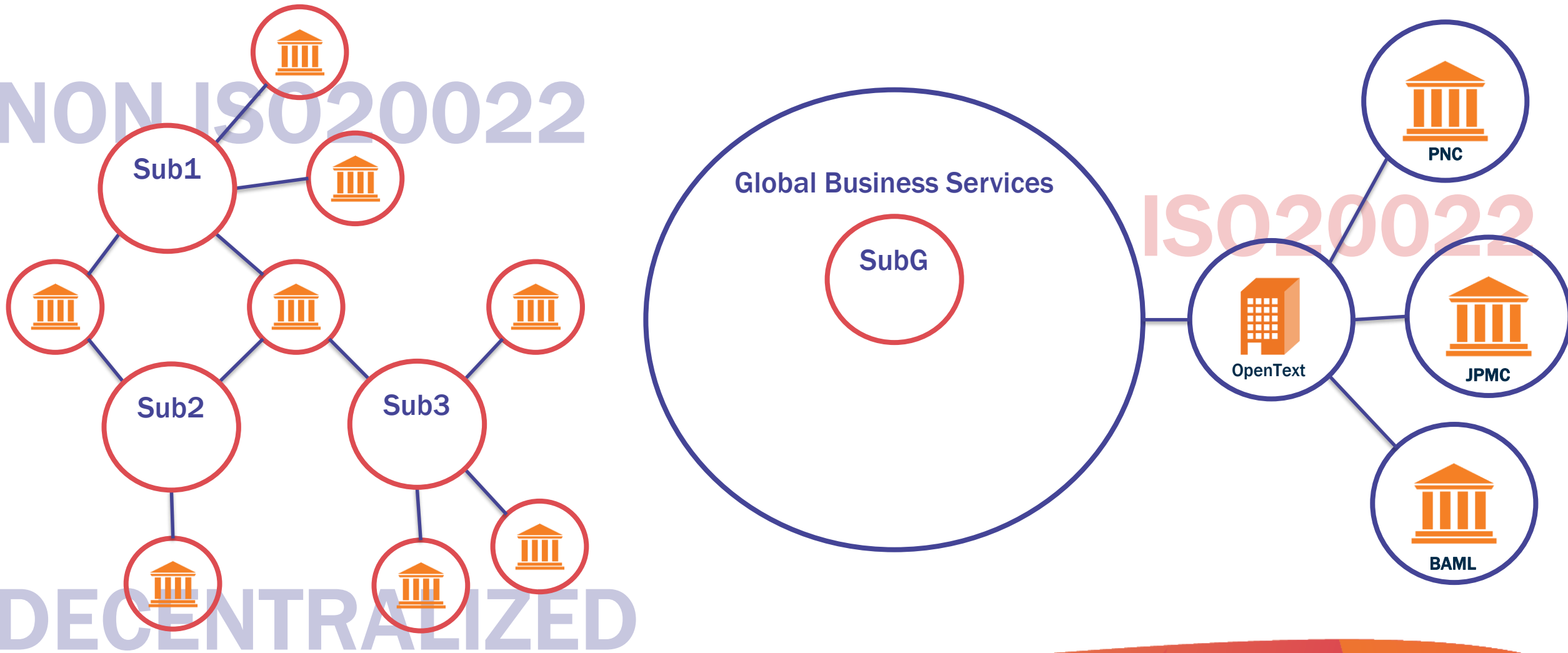# ISO20022 as a global disbursement platform
Global setup

11%

of transfers are cross border transfers

Globalization and Centralization through Standardization

ISO 20022 – APIs and JSON

- Lots of chatter, lots of interest

  - JSON is flat

  - XML is hierarchical (bigger, broader)

- JSON not an ISO 20022 approved syntax

  - ISO PaySeg API WG scheduled to determine scope

- Furthermore... to think about

  - Nordson runs in a batch mode

  - APIs are transactional

Project Evolution

- Roll out to Asia in progress

- Revisit underlying banking processes to reach global objectives

- Leverage new partners in new regions

- Leverage local clearing houses to settle in country payments

- Avoid FX impacts as much as possible

- Roll out of new global accounts to new regions (Europe, Asia)

Lessons Learned: Collaboration

- ISO is great tool to harmonize treasury functions and processes

- Constant development of ISO 20022 offers new functionalities

- 20022 is standard but subject to interpretation

- U.S. Payments systems unlike Europe (e.g. ACH, Wire not ISO 20022 based), cause disconnects

- Not all banks support ISO 20022

- Nordson worked with several banks to develop their infrastructure for the U.S. Market

Lessons Learned: Collaboration *(continued)*

- Supporting ISO 20022, RTPs, payment systems globally requires major investments in banks' payments ecosystem

- Surround yourself with strong knowledgeable resources (technical, business, banking partners...)

- Run bank screening to determine true capabilities

- Do not rely on promises of future compliance

- Consistency in infrastructure and system maintenance

Lessons Learned: Collaboration *(continued)*

- Bank agnostic (to the extent possible)

- Processes standardized (as a result of the entire scope)

- Control of associated risks (as a result of the entire scope)

- Ability to consistently process ACHs, Fedwire, CHIPS and checks in North America

AFP 2019

ISO 20022 Convergence

Corporates

ERP, AP/AR, Treasury WS

Payment systems: ACH, Wires, RTP, SEPA
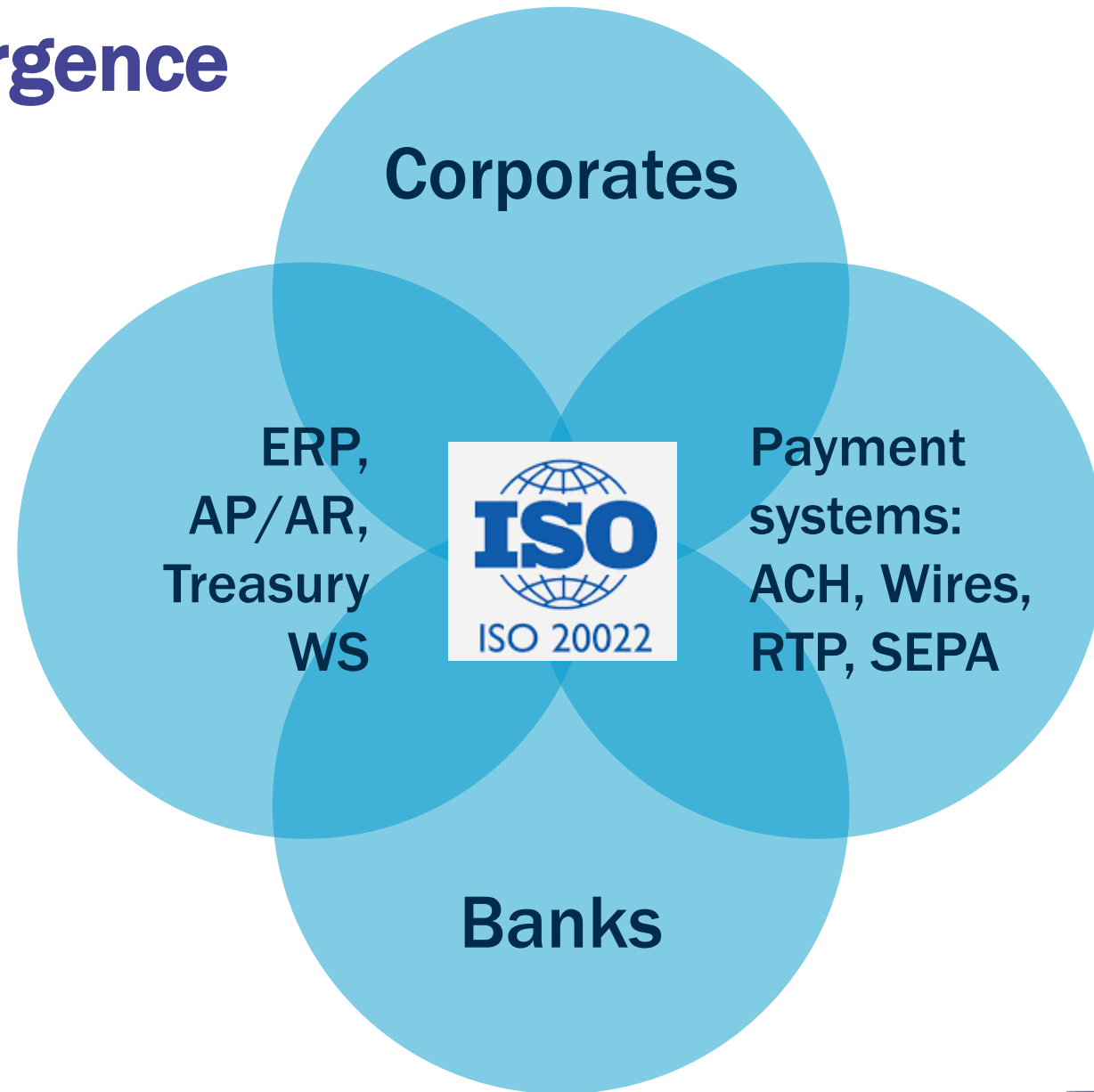
Banks

TIPS

- ISO 20022 may be right for your organization if you use several banks, and process a variety of payment types in a number of different currencies and countries. ISO will bring standardization so you will not have to follow a myriad of proprietary formats.

- If you are planning on implementing or upgrading software (ERP, AR/AP, Treasury, etc.) this may be the time to look at these applications to see if they support ISO 20022 messages…

- Be sure to evaluate your banks and software partners upfront to be assess their ISO 20022 literacy.

Questions?

Thanks for Attending

Fred Cousin
fred.cousin@nordson.com
(216) 798-4505

George Hoffman, CTP, CertICM
george.hoffman@pnc.com
(412) 768-7910

Sharon Jablon, AAP
sharon.jablon@theclearinghouse.org
(212) 613-0178