

# Accredited Standards Committee X9 – Financial Industry Standards

## *Program of Work*



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## 1.0 Introduction

The Accredited Standards Committee X9 (“X9”) has approximately 100 member companies that provide over 200 representatives that work on domestic and international standards related to the financial services industry. X9 is accredited by the American National Standards Institute (“ANSI”) to develop United States standards for the financial services industry and through ISO TC68 for the international financial services industry. X9’s program of work (“POW”) includes its American National Standards and technical reports, ISO TC68 standards and all whitepapers and documents approved by the X9 Consensus Body for release. This document captures the current POW for X9. If you have any questions, please contact staff at [admin@x9.org](mailto:admin@x9.org).

### 1.1 Access to X9 Standards

X9’s standards and technical reports are available for download on the ANSI Store ([Click for ANSI Store](#)). Some documents are free but there is a nominal charge for most. This helps to defray the cost of developing the documents. Whitepapers, position statements and press releases are all free and are available for download from the [X9 web site](#).

### 1.2 Participation in Developing ANSI or ISO Standards

To participate in the development of an ANSI or ISO standard, requires a paid membership in X9. The fee for membership is used to support X9. Most X9 study groups and industry forums are open for public participation without having to pay to join X9. Contact X9 for more details.

## 2.0 X9 Notices and Information

### This Document is Published by:

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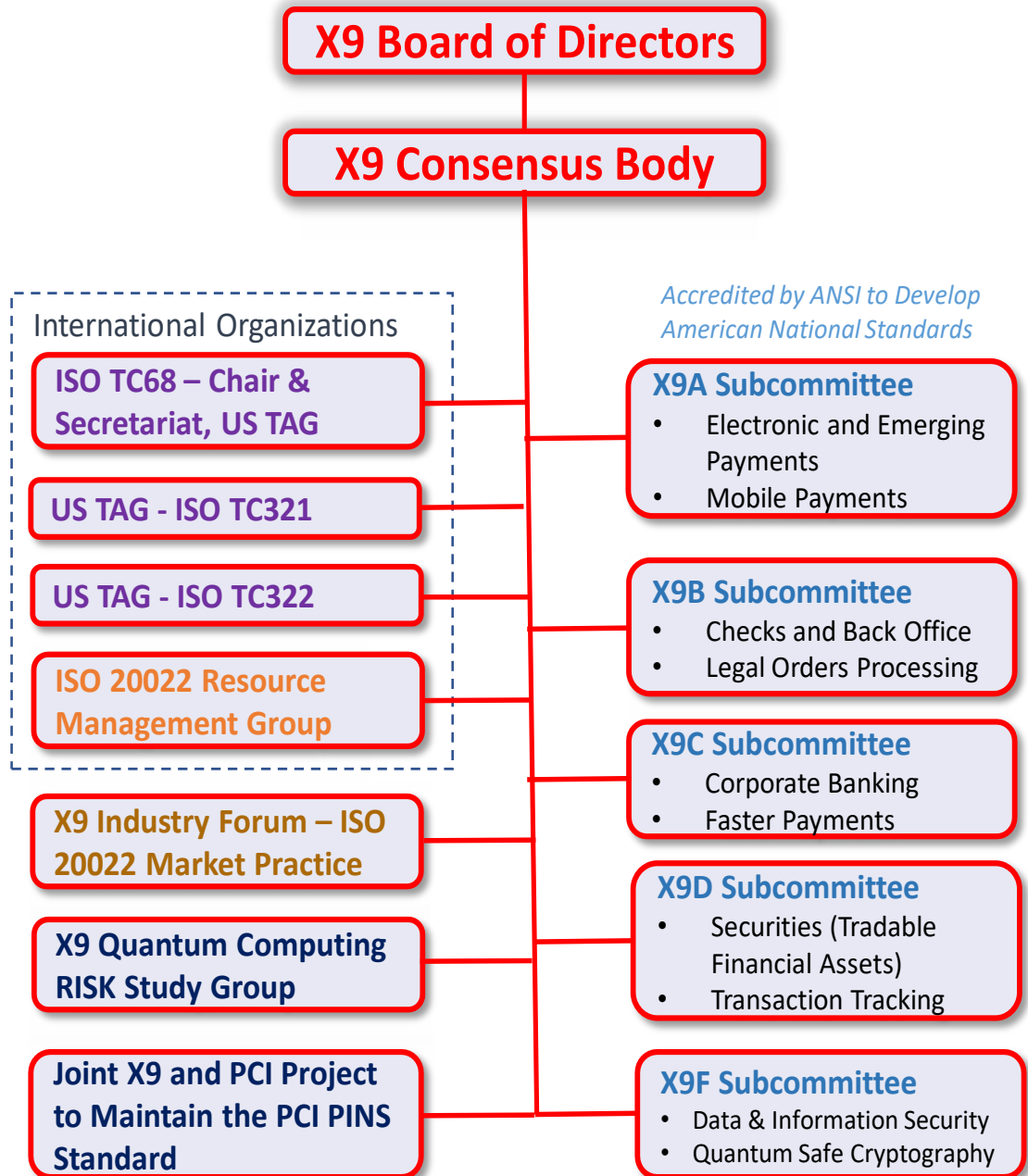
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### 3.0 X9 Organization Structure

## TOP LEVEL STRUCTURE OF ASC X9 (2021)



## 4.0 X9 Membership

ACI Worldwide	K3DES LLC
All My Papers	MagTek, Inc.
Amazon	Marvell Asia Ptf
American Bankers Association	MasterCard Europe Sprl
American Express	Micro Focus
Arvest Bank	Microsoft
Bank of America	NACHA The Electronic Payments Association
Bank of New York Mellon	National Institute of Standards and Technology (NIST)
BankVOD	National Security Agency (NSA)
BBVA Compass	Nautilus Hyosung
BDO	Navy Federal Credit Union
Bloomberg LP	NCR Corporation
Capital One	Nimbus-T
CDP, Inc.	Office of Financial Research, U.S. Treasury Department
Chamber of Digital Commerce	P97
ComForte 21 GmbH	PA Bureau of Women, Infants and Children (WIC)
Communications Security Establishment	PAX Technologies
Conduent (Xerox Services LLC/ACS)	PCI Security Standards Council
Conexus	Phoenix Group
CUSIP Service Bureau	Price Waterhouse Coopers
DeLap LLP	Protegrity
Deluxe Corporation	Publix
Diebold, Inc.	Rosetta Technologies
Digicert	RouteOne
Discover Financial Services	Source Technologies
Federal Reserve Bank	SteinTech LLC
Fifth Third Bank	SWIFT
First National Bank of Omaha	Symcor Inc.
FirstBank	Taylor Communications
FIS	TECSEC Incorporated
Fiserv	Texas DSHS WIC EBT (Health and Human Services)
FIX Protocol Ltd - FPL	Thales e-Security, Inc.
Franchise Tax Board	The Clearing House
Futurex	The Phoenix Group/Ingram Micro
Georgetown University	U.S. Bank
GEOBRIDGE Corporation	U.S. Commodity Futures Trading Commission
Gilbarco	University Bank
Harland Clarke	USDA Food and Nutrition Service
IBM Corporation	Utimaco
ID Tech	VeriFone, Inc.
Ingenico	Viewpointe
Inmar	VISA
ISARA	Wayne Fueling Systems
ISITC	Wells Fargo Bank
iStream Imaging/Bank of Kenney	Wolters Kluwer
ITS, Inc. (SHAZAM Networks)	Wyoming Department of Health WIC Program
J.P. Morgan Chase	Zions Bank

## 5.0 List of All X9 Standards & Documents

1. [SD023 Check Image Test Index](#)
2. [SD034 Registry of Approved Cryptographic Resources](#)
3. [SD036 ISO TC68 SC2 Secretariat Report September 2009](#)
4. [SD038 X9 Automatic Information Object Identifier \(OID\) Assignments](#)
5. [TR 33-2018 Check Image Quality Assurance with Data Transaction Integrity](#)
6. [TR 52-20XX Remotely Created Checks \(RCC\) Design and Usage Guide](#)
7. [TR-38-3 TR/ISO 20022-3 TS Financial Services - Universal Financial Industry Message Scheme Part 3: ISO 20022 Modelling Guidelines](#)
8. [TR-38-4 TR/ISO 20022-4 TS Financial Services - Universal Financial Industry Message Scheme Part 4: ISO 20022 XML Design Rules](#)
9. [X9 TG-10 Signature Guarantee Guideline](#)
10. [X9 TG-9 Abstract Syntax Notation & Encoding Rules for Financial Industry Standards](#)
11. [X9 TR 100-20XX Organization of Standards for Paper and Image-Based Check Payments Part 1: Organization of Standards, Part 2: Definitions used in Standards](#)
12. [X9 TR 2-20XX Understanding, Designing & Producing Checks](#)
13. [X9 TR 31-20XX Interoperable Secure Key Exchange Key Block Specification for Symmetric Algorithms](#)
14. [X9 TR 34-202X Interoperable Method for Distribution of Symmetric Keys Using Asymmetric Techniques: Part 1 - Using Factoring-Based Public Key Cryptography Unilateral Key Transport](#)
15. [X9 TR 40-20XX \(R2016\) Bridging ANSI X9.100-187 to ANSI X9.100-182-2-1: Transferring Data from an Image Cash Letter File to an XML Check Delivery Document](#)
16. [X9 TR 42-20XX Core Deduction Reason Codes](#)
17. [X9 TR 43-20XX Remittance Glossary](#)
18. [X9 TR 44-20XX Remittance Standards Inventory](#)
19. [X9 TR 45-20XX Retail Industry Debit Balances Best Practices, Terminology, and Procedures](#)
20. [X9 TR 47-20XX Universal Companion Document Industry Adoption of X9.100-187](#)
21. [X9 TR 48-20XX CNP Fraud Mitigation](#)
22. [X9 TR 50-20XX Quantum Techniques in Cryptographic Messaging Syntax \(CMS\)](#)
23. [X9 TR 51-202X v3 Levies Companion Document Uniform Adoption of X9.129 for Levies Version 3.0](#)
24. [X9 TR 53-20XX Cybersecurity Diversity Index](#)
25. [X9 TR 54-20XX Framework for Auditing a Blockchain within a Distributed System](#)
26. [X9 TR 55-20XX Framework for the Adoption of a Zero Trust in Information Systems](#)
27. [X9 TR 56-202X Crypto-Agility: A Method for Remote Upgrade to Stronger Terminal Master Keys](#)
28. [X9 TR 57-20XX Methods of Hybrid use of Post-Quantum Cryptography with Classical Cryptography Techniques](#)
29. [X9 TR 6-20XX Quality MICR Printing and Evaluation](#)

30. [X9 TR 8-20XX Check Security](#)
31. [X9.8-2 Approved Algorithms for PIN Encipherment](#)
32. [X9.100-10-202X Paper for MICR Documents](#)
33. [X9.100-110-202X Document Imaging Compatibility](#)
34. [X9.100-111-20XX Check Endorsements](#)
35. [X9.100-120-20XX \(R2021\) Bank Deposit Tickets](#)
36. [X9.100-130 \(R20XX\) Universal Interbank Batch/Bundle Ticket](#)
37. [X9.100-140-20XX Image Replacement Document \(IRD\)](#)
38. [X9.100-150-20XX \(R2017\) Check Carrier Envelopes](#)
39. [X9.100-151 \(R20XX\) Check Correction Strips](#)
40. [X9.100-160-1-20XX Magnetic Ink Printing \(MICR\) Part 1: Placement and Location](#)
41. [X9.100-160-2-202X Magnetic Ink Printing \(MICR\) - Part 2: EPC Field Use](#)
42. [X9.100-161 \(R20XX\) Creating MICR Document Specification Forms](#)
43. [X9.100-170 \(R20XX\) Check Fraud Deterrent Icon](#)
44. [X9.100-180-20XX \(S2018\) Specifications for Electronic Exchange of Check and Image Data \(non-domestic\)](#)
45. [X9.100-181-20XX \(R2021\) TIFF Image Format for Image Exchange](#)
46. [X9.100-182-20XX \(R2017\) Bulk Image and Data Delivery \(standard, XSD Schema, and TR 40\)](#)
47. [X9.100-183 \(R20XX\) Electronic Check Adjustments](#)
48. [X9.100-187-201XX Electronic Exchange of Check and Image Data](#)
49. [X9.100-188-20XX Return Reasons for Check Image Exchange and IRDs](#)
50. [X9.100-189-20XX Savings Bond Paying Agent Virtual Stamp](#)
51. [X9.100-20 Parts 1, 2 and 3 Print & Test Specifications for Magnetic Ink Printing](#)
52. [X9.100-30 \(R20XX\) Optical Measurement Specifications for MICR Documents](#)
53. [X9.100-40-1&2-20XX\(R2017\) Specifications for Check Image Tests Part 1: Definition of Elements and Structures Part 2: Application and Registration Procedures\)](#)
54. [X9.101-2003 \(R20XX\)/ISO 6166 International Securities Identification Numbering System \(ISIN\)](#)
55. [X9.102-20XX Symmetric Key Cryptography for the Financial Services Industry - Wrapping of Keys and Associated Data](#)
56. [X9.103-20XX \(R2018\) Motor Vehicle Retail Sale and Lease Electronic Contracting](#)
57. [X9.104-1-20XX \(R2017\) Financial transactions card originated messages - Card acceptor to acquiring host messages: Messages, data elements and code values](#)
58. [X9.104-2-20XX \(R2016\) Financial transaction card originated messages - Card acceptor to acquiring host messages - Part 2 Convenience store and petroleum marketing industry](#)
59. [X9.105-1-20XX/ISO 8583-1-20XX \(R2019\) Financial transaction card originated messages - Interchange message specifications - Part 1: Messages, data elements, and code values](#)
60. [X9.105-3-20XX/ISO 8583-1:20XX \(R2019\) Financial transaction card originated messages - Interchange message specifications - Part 3: Maintenance Procedures for messages, data elements and code values](#)
61. [X9.106-20XX \(R2019\)/ISO 18245 Retail Financial Services - Merchant Category Codes](#)



62. [X9.110-20XX\(R2020\) Transfer of Location of Electronic Contracts](#)
63. [X9.111-20XX Penetration Testing within the Financial Services Industry](#)
64. [X9.112-1-20XX Wireless Management and Security Part 1: General Requirements](#)
65. [X9.112-2-202X Wireless Management and Security Part 2: POS and ATM](#)
66. [X9.112-3-20XX Wireless Management and Security Part 3: Mobile Banking](#)
67. [X9.117-202X Secure Remote Access Mutual Authentication](#)
68. [X9.118-1/ISO 13616-1 Financial services - International bank account number \(IBAN\) - Part 1: Structure of the IBAN](#)
69. [X9.118-2/ISO 13616-2 Financial services - International bank account number \(IBAN\) - Part 2: Role and responsibilities of the Registration Authority](#)
70. [X9.119-1-202X Retail Financial Services - Requirements for Protection of Sensitive Payment Data - Part 1: Using Encryption Methods](#)
71. [X9.119-2 Requirements for Protection of Sensitive Payment Card Data - Part 2: Using Tokenization Methods](#)
72. [X9.121-20XX Balance and Transaction Reporting Standard](#)
73. [X9.12-XXXX \(S20XX\) Specifications for Fully Registered Municipal Securities](#)
74. [X9.122-202X Secure Consumer Authentication for Internet Debit Transactions](#)
75. [X9.123-201X Public Key Cryptography for the Financial Services Industry, Elliptic Curve Qu-Vanstone Implicit Certificates](#)
76. [X9.124-1-202X Symmetric Key Cryptography for the Financial Services Industry Format Preserving Encryption – Part 1: Definitions and Mode](#)
77. [X9.124-2 Symmetric Key Cryptography For the Financial Services Industry — Format Preserving Encryption- Part 2: Key Stream with Counter Mode](#)
78. [X9.124-3 Format Preserving Encryption of Financial Information-Part 3](#)
79. [X9.124-4 Format Preserving Encryption of Financial Information-Part 4](#)
80. [X9.124-5-202X Format Preserving Encryption – Part 5 Format-preserving Feistel-based Mode FF3.1](#)
81. [X9.125 Cloud Management & Security](#)
82. [X9.126-201X/ISO 17442-2019 LEI](#)
83. [X9.128 - Retailer interface for smart cards](#)
84. [X9.129-202X Legal Orders Exchange, Version 3](#)
85. [X9.130/ISO 10962 Classification of Financial Instruments \(CFI\)](#)
86. [X9.131-20XX Financial transaction messages - Electronic benefits transfer \(EBT\) – WIC retailer interface](#)
87. [X9.132 Issuer PIN Generation, Verification, and Storage Methodologies Using AES](#)
88. [X9.133-20XX Identity Based Encryption for the Financial Services Industry](#)
89. [X9.134-1 Core Banking: Mobile Financial Services – General Framework](#)
90. [X9.134-2-202X Security and Data Protection for Mobile Financial Services](#)
91. [X9.134-3-202X Mobile Financial Application Lifecycle Management](#)
92. [X9.134-4-202X Mobile Payments-to-Persons](#)
93. [X9.135-20XX Secret Sharing Schemes](#)
94. [X9.137 Tokenization Management and Security](#)
95. [X9.138-202X Distributed Ledger Technologies Terminology](#)
96. [X9.139-20XX Interoperable Method for Distribution of Symmetric Keys Using Asymmetric Techniques: Part 1 - Using Factoring-Based Public Key Cryptography Unilateral Key Transport](#)

97. [X9.141 Financial and Personal Data Protection and Breach Notification Standard](#)
98. [X9.142-202X Public Key Cryptography: The Elliptic Curve Digital Signature Algorithm \(ECDSA\)](#)
99. [X9.143-20XX Interoperable Secure Key Exchange Key Block Specification for Symmetric Algorithms](#)
100. [X9.144 Production Subpoena Orders Exchange](#)
101. [X9.145 Framework for Financial Instrument Identification](#)
102. [X9.146-202X Quantum-Safe TLS Handshake Extension](#)
103. [X9.147-202X Audit Confirmation and Account Verification Exchange](#)
104. [X9.148 QR Code Protection using Cryptographic Solutions](#)
105. [X9.24-1-202X Retail Financial Services Symmetric Key Management Part 1: Using Symmetric Techniques](#)
106. [X9.24-2-20XX Retail Financial Service Symmetric Key Management Part 2: Using Asymmetric Techniques for the Distribution of Symmetric Keys](#)
107. [X9.24-3-202X Retail Financial Services Symmetric Key Management Part 3: Derived Unique Key per Transaction](#)
108. [X9.42-20XX \(R2013\) Public Key Cryptography for Financial Services Industry: Agreement of Symmetric Keys Using Discrete Logarithm Cryptography](#)
109. [X9.44-20XX \(R2017\) Key Establishment Using Integer Factorization Cryptography](#)
110. [X9.58-20XX Financial transaction messages — Electronic Benefits Transfer \(EBT\) — Supplemental Nutrition Assistance Program \(SNAP\) and cash benefit programs](#)
111. [X9.59-20XX \(R2013\) Electronic Commerce for the Financial Services Industry: Account-Based Secure Payment Objects](#)
112. [X9.6-202X Committee on Uniform Security Identification Procedures Securities Identification CUSIP](#)
113. [X9.63-20XX Key Agreement and Key Management Using Elliptic Curve-Based Cryptography](#)
114. [X9.69-20XX Framework for Key Management Extensions](#)
115. [X9.73-20XX Cryptographic Message Syntax - ASN.1 and XML](#)
116. [X9.79-4-20XX Public Key Infrastructure - Part 4: Asymmetric Key Management](#)
117. [X9.80-202X Prime Number Generation, Primality Testing, and Primality Certificates](#)
118. [X9.8-1-20XX/ISO 9564-1-2017 \(Identical Adoption\) Financial Services – Personal identification number \(PIN\) management and security — Part 1: Basic principles and requirements for PINs in card-based systems](#)
119. [X9.82-1-202X Random Number Generation Part 1: Overview and Basic Principles](#)
120. [X9.82-2-20XX Random Number Generation Part 2: Entropy Sources](#)
121. [X9.82-3-20XX \(R2017\) Random Number Generation Part 3: Deterministic Random Bit Generator Mechanisms](#)
122. [X9.82-4 \(R20XX\) Random Number Generation Part 4: Random Bit Generator Constructions](#)
123. [X9.84-20XX Biometric Information Management & Security for the Financial Services Industry](#)
124. [X9.92-1:20XX \(R2017\) Public Key Cryptography for the Financial Services Industry Digital Signature Algorithms Giving Partial Message Recovery Part 1: Elliptic Curve Pintsov-Vanstone Signatures \(ECPVS\)](#)

125. [X9.93-1-20XX Financial Transaction Message - Electronic Benefits Transfer - Part 1: Messages](#)
126. [X9.93-2-20XX Financial transaction messages - Electronic Benefits Transfer \(EBT\) Part 2: Files](#)
127. [X9.95-20XX Trusted Time Stamp Management and Security](#)
128. [X9.97-1-20XX Secure Cryptographic Devices \(Retail\) - Part 1: Concepts, Requirements and Evaluation Methods](#)
129. [X9.97-2-20XX Secure Cryptographic Devices \(Retail\) Part 2: Security Compliance Checklists for Devices Used in Financial Transactions](#)
130. [X9.98-20XX \(R2017\) Lattice-Based Polynomial Public Key Encryption Algorithm part 1: Key Establishment; Part 2: Data Encryption](#)
131. [X9.99-20XX \(R2020\) Privacy Impact Assessment Standard](#)

**See section [12.2](#) for a list of 103 international standards support by X9.**

## 6.0 X9A Subcommittee – Electronic and Emerging Payments

### X9A Scope

The X9A subcommittee develops and supports standards that are focused on electronic and mobile payments, including wholesale, retail, and benefits. This subcommittee also houses U.S. mirror groups to ISO TC68 that are responsible for developing and supporting international retail card and mobile-based payments.

**X9A Chair** - Guy Berg

### Current Standard Projects

1. X9 TR 48-2018 CNP Fraud Mitigation
2. X9 TR 54-201x Framework for Auditing a Blockchain within a Distributed System
3. X9.104-1-2004 (R2017) Financial transactions card originated messages - Card acceptor to acquiring host messages: Messages, data elements and code values
4. X9.104-2-2004 (R2016) Financial transaction card originated messages - Card acceptor to acquiring host messages - Part 2 Convenience store and petroleum marketing industry
5. X9.105-1-2009/ISO 8583-1-2009 (R2019) Financial transaction card originated messages - Interchange message specifications - Part 1: Messages, data elements, and code values
6. X9.105-3-2009/ISO 8583-1:2009 (R2019) Financial transaction card originated messages - Interchange message specifications - Part 3: Maintenance Procedures for messages, data elements and code values
7. X9.106-2003 (R2019)/ISO 18245 Retail Financial Services - Merchant Category Codes
8. X9.131-2015 Financial transaction messages - Electronic benefits transfer (EBT) – WIC retailer interface
9. X9.134-1 Core Banking: Mobile Financial Services – General Framework
10. X9.134-2-202x Security and Data Protection for Mobile Financial Services
11. X9.134-3-202X Mobile Financial Application Lifecycle Management
12. X9.134-4-202X Mobile Payments-to-Persons
13. X9.138-2020 Distributed Ledger Technologies Terminology
14. X9.58-201X Financial transaction messages — Electronic Benefits Transfer (EBT) — Supplemental Nutrition Assistance Program (SNAP) and cash benefit programs
15. X9.59-2006 (R2013) Electronic Commerce for the Financial Services Industry: Account-Based Secure Payment Objects
16. X9.93-1-201X Financial Transaction Message - Electronic Benefits Transfer - Part 1: Messages
17. X9.93-2-201X Financial transaction messages - Electronic Benefits Transfer (EBT) Part 2: Files

### 6.1 X9A1 Distributed Ledger Terminology (DLT) Work Group

#### X9A1 Scope

The main goal for this work group is to publish and maintain a continuous maintenance standard for Distributed Ledger Terminology (DLT) that defines platform independent DLT based terms and definitions to enable common understanding and use in financial services. Given the current

embryotic state of this technology, this terminology is expected to change over time and this work effort will keep the standard updated as the industry evolves.

**X9A1 Chair** - Andrew Garner

**X9A1 Vice Chair** - Amy Kim

#### **Current Standard Projects**

1. X9.138-2020 Distributed Ledger Technologies Terminology

### **6.2 X9A2 Mobile Banking and Payments Work Group**

#### **X9A2 Scope**

The X9A2 work group develops standards that support mobile financial services. The X9.134 effort seeks to develop a domestic mobile financial services standard modeled after the ISO 12812: Core Banking – Mobile Financial Services standard and technical specifications published in 2017. X9.134 consists of five parts: (1) a general framework; (2) security and data protection requirements, including authentication (3) app lifecycle management including authentication; (4) payments to persons; and (5) payments to businesses.

**X9A2 Chair** - David Nichamoff

**X9A2 Vice Chair** - Susan Pandy

#### **Current Standard Projects**

1. X9.134-1 Core Banking: Mobile Financial Services – General Framework
2. X9.134-2-202x Security and Data Protection for Mobile Financial Services
3. X9.134-3-202X Mobile Financial Application Lifecycle Management
4. X9.134-4-202X Mobile Payments-to-Persons
5. ISO 8583 - Financial transaction card originated messages — Interchange message specifications

### **6.3 X9A3 Blockchain Auditing Work Group**

#### **X9A3 Scope**

The use of DLT and other blockchain technologies and processes by financial institutions and trading partners is beginning to emerge. This work group will produce an auditing framework to support auditors or others considering the risks and developing assurance practices for permissioned blockchains used by financial services firms.

**X9A3 Chair** - Michael Versace

**X9A3 Vice Chair** - Angela Lawson

#### **Current Standard Projects**

1. ASC X9 TR 54-201x Framework for Auditing a Blockchain within a Distributed System

### **6.4 X9A11 Electronic Benefits Transactions Work Group**

#### **X9A11 Scope**

The X9A11 work group develops standards around electronic benefits including Electronic Benefits Transactions (EBT), Supplemental Nutrition Assistance Program (SNAP), and Women Infant and Children program (WIC).

**X9A11 Chair - Paul Crofts****Current Standard Projects**

1. X9.131-2015 Financial transaction messages - Electronic benefits transfer (EBT) – WIC retailer interface
2. X9.58-201X Financial transaction messages — Electronic Benefits Transfer (EBT) — Supplemental Nutrition Assistance Program (SNAP) and cash benefit programs
3. X9.59-2006 (R2013) Electronic Commerce for the Financial Services Industry: Account-Based Secure Payment Objects
4. X9.93-1-201X Financial Transaction Message - Electronic Benefits Transfer - Part 1: Messages
5. X9.93-2-201X Financial transaction messages - Electronic Benefits Transfer (EBT) Part 2: Files

## 7.0 X9B Financial Services Operations Subcommittee

### X9B Scope

The X9B Financial Services Operations subcommittee develops and maintains standards and guidance focused on interoperability and reduction of dependency on manual and paper-based processing. These include standards for design of all elements of manufacturing, electronic processing and delivery of checks, as well as other back-office operations, such as exchange of legal orders (subpoenas, levies, account related information and other similar services and operations).

**X9B Chair** - Jackie Pagan

**X9B Vice Chairs** - Margiore Romay and Michelle Wright

### Current Standard Projects

1. X9 TR 100-2019 Organization of Standards for Paper and Image-Based Check Payments  
Part 1: Organization of Standards, Part 2: Definitions used in Standards
2. X9 TR 2-2019 Understanding, Designing & Producing Checks
3. X9 TR 40-2011 (R2016) Bridging ANSI X9.100-187 to ANSI X9.100-182-2-1:  
Transferring Data from an Image Cash Letter File to an XML Check Delivery Document
4. X9 TR 47-2016 Universal Companion Document Industry Adoption of X9.100-187
5. X9 TR 51-2020 v3 Levies Companion Document Uniform Adoption of X9.129 for  
Levies Version 3.0
6. X9 TR 6-2016 Quality MICR Printing and Evaluation
7. X9 TR 8-2016 Check Security
8. SD023 Check Image Test Index
9. TR 33-2018 Check Image Quality Assurance with Data Transaction Integrity
10. TR 52-201X Remotely Created Checks (RCC) Design and Usage Guide
11. TR-38-3 TR/ISO 20022-3 TS Financial Services - Universal Financial Industry Message  
Scheme Part 3: ISO 20022 Modelling Guidelines
12. TR-38-4 TR/ISO 20022-4 TS Financial Services - Universal Financial Industry Message  
Scheme Part 4: ISO 20022 XML Design Rules
13. X9.100-10-202X Paper for MICR Documents
14. X9.100-110-202X Document Imaging Compatibility
15. X9.100-111-2018 Check Endorsements
16. X9.100-120-2015 (R2021) Bank Deposit Tickets
17. X9.100-130 (R2017) Universal Interbank Batch/Bundle Ticket
18. X9.100-140-2018 Image Replacement Document (IRD)
19. X9.100-150-2010 (R2017) Check Carrier Envelopes
20. X9.100-151 (R2017) Check Correction Strips
21. X9.100-160-1-201X Magnetic Ink Printing (MICR) Part 1: Placement and Location
22. X9.100-160-2-2020 Magnetic Ink Printing (MICR) - Part 2: EPC Field Use
23. X9.100-161 (R2017) Creating MICR Document Specification Forms
24. X9.100-170 (R2017) Check Fraud Deterrent Icon
25. X9.100-180-2006 (S2018) Specifications for Electronic Exchange of Check and Image  
Data (non-domestic)
26. X9.100-181-2014 (R2021) TIFF Image Format for Image Exchange

27. X9.100-182-2011 (R2017) Bulk Image and Data Delivery (standard, XSD Schema, and TR 40)
28. X9.100-183 (R2017) Electronic Check Adjustments
29. X9.100-187-201x Electronic Exchange of Check and Image Data
30. X9.100-188-2018 Return Reasons for Check Image Exchange and IRDs
31. X9.100-189-2019 Savings Bond Paying Agent Virtual Stamp
32. X9.100-20 Parts 1, 2 and 3 Print & Test Specifications for Magnetic Ink Printing
33. X9.100-30 (R2017) Optical Measurement Specifications for MICR Documents
34. X9.100-40-1&2-2007(R2017) Specifications for Check Image Tests Part 1: Definition of Elements and Structures Part 2: Application and Registration Procedures)
35. X9.118-1/ISO 13616-1 Financial services - International bank account number (IBAN) - Part 1: Structure of the IBAN
36. X9.118-2/ISO 13616-2 Financial services - International bank account number (IBAN) - Part 2: Role and responsibilities of the Registration Authority
37. X9.128 - Retailer interface for smart cards
38. X9.129-2020 Legal Orders Exchange, Version 3
39. X9.144 Production Subpoena Orders Exchange
40. X9.147-202X Audit Confirmation and Account Verification Exchange

## **7.1 X9B1 Organizational Standards Paper & Image Work Group**

### **X9B1 Scope**

The X9B1 work group supports the organization of check related payment standards and the definitions used in those standards.

**X9B1 Chair** - John McCleary and Michelle Wright

**X9B1 Vice Chair** - Daniel Welch

### **Current Standard Projects**

1. X9 TR 100-2019 Organization of Standards for Paper and Image-Based Check Payments Part 1: Organization of Standards, Part 2: Definitions used in Standards

## **7.2 X9B2 Check and Image Related Standards Work Group**

### **X9B2 Scope**

The X9B2 work group supports standards and guidelines for check image exchange, file formats, TIFF and substitute check creation.

**X9B2 Chair** - Stephen Gibson-Saxty and Phyllis Meyerson

### **Current Standard Projects**

1. X9 TR 2-2019 Understanding, Designing & Producing Checks
2. X9 TR 40-2011 (R2016) Bridging ANSI X9.100-187 to ANSI X9.100-182-2-1: Transferring Data from an Image Cash Letter File to an XML Check Delivery Document
3. X9 TR 47-2016 Universal Companion Document Industry Adoption of X9.100-187
4. X9 TR 33-2018 Check Image Quality Assurance with Data Transaction Integrity
5. X9.100-140-2018 Image Replacement Document (IRD)
6. X9.100-180-2006 (S2018) Specifications for Electronic Exchange of Check and Image Data
7. X9.100-181-2014 (R2021) TIFF Image Format for Image Exchange



8. X9.100-182-2011 (R2017) Bulk Image and Data Delivery (standard, XSD Schema, and TR 40)
9. X9.100-183 (R2017) Electronic Check Adjustments
10. X9.100-187-201x Electronic Exchange of Check and Image Data
11. X9.100-188-2018 Return Reasons for Check Image Exchange and IRDs
12. X9.100-189-2019 Savings Bond Paying Agent Virtual Stamp
13. X9.100-40-1&2-2007(R2017) Specifications for Check Image Tests Part 1: Definition of Elements and Structures Part 2: Application and Registration Procedures)

### **7.3 X9B3 Check Printing and Related Standards Work Group**

#### **X9B3 Scope**

The X9B3 work group supports standards and guidelines for the production, printing, and testing of paper checks.

**X9B3 Chair** - Daniel Welch

#### **Current Standard Projects**

1. X9 TR 6-2016 Quality MICR Printing and Evaluation
2. X9 TR 8-2016 Check Security
3. TR 52-201X Remotely Created Checks (RCC) Design and Usage Guide
4. X9.100-10-202X Paper for MICR Documents
5. X9.100-110-202X Document Imaging Compatibility
6. X9.100-111-2018 Check Endorsements
7. X9.100-120-2015 (R2021) Bank Deposit Tickets
8. X9.100-130 (R2017) Universal Interbank Batch/Bundle Ticket
9. X9.100-150-2010 (R2017) Check Carrier Envelopes
10. X9.100-151 (R2017) Check Correction Strips
11. X9.100-160-1-201X Magnetic Ink Printing (MICR) Part 1: Placement and Location
12. X9.100-160-2-2020 Magnetic Ink Printing (MICR) - Part 2: EPC Field Use
13. X9.100-161 (R2017) Creating MICR Document Specification Forms
14. X9.100-170 (R2017) Check Fraud Deterrent Icon
15. X9.100-20 Parts 1, 2 and 3 Print & Test Specifications for Magnetic Ink Printing
16. X9.100-30 (R2017) Optical Measurement Specifications for MICR Documents

### **7.4 X9B4 Legal Order Processing Work Group**

#### **X9B4 Scope**

The X9B4 work group supports the development of standards and guidelines for electronic legal order processing including levies and subpoenas. Working in collaboration, several financial institutions and state agencies have already created and implemented a standard for exchanging requests for information and payment related to levies, child support arrears, and taxes through X9B22 in an electronic file format. This workgroup is also focused on developing a standard for third parties to request financial information pursuant to subpoenas and similar legal requests, as well as the responses of financial institutions.

**X9B4 Chair** - Clinton Jones and Erica Livingston

**Current Standard Projects**

1. X9 TR 51-2020 v3 Levies Companion Document Uniform Adoption of X9.129 for Levies Version 3.0
2. X9.129-2020 Legal Orders Exchange, Version 3
3. X9.144 Production Subpoena Orders Exchange

**7.5 X9B5 Audit Confirmation & Account Verification Work Group****X9B4 Scope**

In most cases across the industry audit confirmations and deposit and account verifications are simple but very manual. They are received by mail, FAX, email or through a third-party web service that has to be accessed in order to ingest the request. Developing a data exchange standard that maps to the deposit systems of the financial institutions could automate the largest majority of this work and expedite service to the requestor while drastically reducing the expense for the financial institution.

**X9B5 Chair** - Clinton Jones

**Current Standard Projects**

1. X9.147 – Audit Confirmation and Account Verifications

## 8.0 X9C Corporate Banking Subcommittee

### X9C Scope

Corporate Banking is an umbrella term for treasury, finance, and cash management functions within a corporation and for banking services offered to corporations. Corporate banking is separate from capital-raising, mergers advice or risk mitigation. It's usually the work-a-day stuff of a corporate treasurer: Moving cash between thousands of separate accounts; handling foreign-currency transactions; financing short-term trade balances; and processing customer payments. As payments evolve to real-time, X9C is committed to supporting Faster Payment initiatives to ensure a thoughtful end-to-end payment experience for corporate-related payments. Through ISO 20022 XML formats, payment origination and reporting can be greatly normalized across payment systems worldwide to simplify processes to identify and book payments. X9C will work closely with the Federal Reserve, The Clearing House, SWIFT, and other industry-leading clearing and standards organizations as they introduce these payment methods to the corporate community. X9C will collaborate with other X9 work-streams, including X9A that oversees consumer card payments.

**X9C Chair** - David Repking

**X9C Vice Chair** - Stephen Ranzini

### Current Standard Projects

1. ASC X9 TR 42-2014 Core Deduction Reason Codes
2. ASC X9 TR 44-2013 Remittance Standards Inventory
3. ASC X9 TR 45-2016 Retail Industry Debit Balances Best Practices, Terminology, and Procedures
4. TR 43-2014 Remittance Glossary
5. X9.103-2004 (R2018) Motor Vehicle Retail Sale and Lease Electronic Contracting
6. X9.110-2008(R2020) Transfer of Location of Electronic Contracts
7. X9.121-2016 Balance and Transaction Reporting Standard

## 8.1 X9C1 Balance Transaction Reporting Specification (formerly BAI's Cash Management Reporting) Work Group

### X9C1 Scope

In 2009, the Banking Administration Institute transferred the copyright of BAI2 to X9. Since that time, X9C1 revised the format into the BTRS/BTR3 standard by modernizing the codes list and rewriting the Format Guide to be more of a technical specification (both are available free for download on the x9.org/BTRS site). In 2020, X9C1 made further BTRS updates to standardize Information Reporting of Real-Time Payments (RTP) from The Clearing House. X9C1 will continue to follow Faster Payments initiatives to promote normalization of payment reporting between banks and from banks to corporates.

**X9C1 Chair** - David Repking

### Current Standard Projects

1. X9.121-2016 Balance and Transaction Reporting Standard

## 9.0 X9D Securities Subcommittee

### X9D Scope

X9D is the securities subcommittee of X9. Their scope includes the development, maintenance, and adoption of standards that facilitate global straight-through processing and shortened settlement cycles in the securities industry. It also includes the maintenance of standards for clearance, settlement, transfer and related processes for physical securities in the US marketplace. X9D develops recommendations for US input into ISO 20022 Securities work efforts.

**X9D Chair** - Thomas Brown Jr.

**X9D Vice Chair** - Corby Dear

### Current X9 Standard Projects

1. TG-10-1995 Signature Guarantee Guideline
2. X9.101-2003 (R2013)/ISO 6166 International Securities Identification Numbering System (ISIN)
3. X9.12-1991 (S2017) Specifications for Fully Registered Municipal Securities
4. X9.126-201X/ISO 17442-2019 LEI
5. X9.130/ISO 10962 Classification of Financial Instruments (CFI)
6. X9.145 Framework for Financial Instrument Identification
7. X9.6-2020 Committee on Uniform Security Identification Procedures Securities Identification CUSIP

### International Standard Projects

1. ISO 4217:2015 Codes for the representation of currencies
2. ISO 6166:2021 International securities identification number (ISIN)
3. ISO 9362:2014 Business identifier code (BIC)
4. ISO 10383:2012 Codes for exchanges and market identification (MIC)
5. ISO 10962:2019 Classification of financial instruments (CFI) code
6. ISO 13616-1:2020 Structure of the IBAN
7. ISO 17442-1:2020 Legal entity identifier (LEI)
8. ISO 18774:2015 Financial Instrument Short Name (FISN)
9. ISO 20275:2017 Entity legal forms (ELF)
10. ISO 21586:2020 Specification for the description of banking products or services (BPoS)
11. ISO/TR 21797:2019 Overview of identification of financial instruments
12. ISO 23897:2020 Unique transaction identifier (UTI)
13. ISO 5009 Official Organizational Roles
14. ISO DIS 5116 IMPROVING TRANSPARENCY IN FINANCIAL AND BUSINESS REPORTING
15. ISO 24165 DIGITAL TOKEN IDENTIFIER (DTI)
16. ISO 24366 Natural Person Identification

### **9.1 X9D1 FIGI X9.145 Work Group**

#### **X9D1 Scope**

This work group is responsible for taking the OMG FIGI standard and adopting it as a draft X9 Standard.

**X9D1 Chair** – Rich Robinson

#### **Current Standard Projects**

1. X9.145 - Framework for Financial Instrument Identification

### **9.2 X9D2 CUSIP Work Group**

#### **X9D2 Scope**

This work group is responsible for the five-year review of the X9.6 CUSIP standard.

**X9D2 Chair** – Diane Poole

#### **Current Standard Projects**

1. X9.6 - Committee on Uniform Security Identification Procedures Securities Identification CUSIP

## 10.0 X9F Data & Information Security Subcommittee Work Group

### X9F Scope

X9F work efforts focus on data and information security standards. The X9F subcommittee is currently involved in projects like message encipherment, digital signature algorithms and security aspects of card payments. Members of this group are actively involved both nationally and internationally on identity theft and cardholder authentication issues.

**X9F Chair** - Dave Faoro

**X9F Vice Chairs** - Steven Bowles and Ed Scheidt

### Current Standard Projects

1. X9.8-1-2019/ISO 9564-1-2017 (Identical Adoption) Financial Services – Personal identification number (PIN) management and security — Part 1: Basic principles and requirements for PINs in card-based systems
2. X9 TR 31-2018 Interoperable Secure Key Exchange Key Block Specification for Symmetric Algorithms
3. X9 TR 34-202X Interoperable Method for Distribution of Symmetric Keys Using Asymmetric Techniques: Part 1 - Using Factoring-Based Public Key Cryptography Unilateral Key Transport
4. X9 TR 50-2019 Quantum Techniques in Cryptographic Messaging Syntax (CMS)
5. X9 TR 53-201X Cybersecurity Diversity Index
6. X9 TR 57 Methods of Hybrid use of Post-Quantum Cryptography with Classical Cryptography Techniques
7. SD034 Registry of Approved Cryptographic Resources
8. SD036 ISO TC68 SC2 Secretariat Report September 2009
9. SD038 X9 Automatic Information Object Identifier (OID) Assignments
10. X9 TG-9-1995 Abstract Syntax Notation & Encoding Rules for Financial Industry Standards
11. X9 TR 55-201X Framework for the Adoption of a Zero Trust in Information Systems
12. X9 TR 56-202X Crypto-Agility: A Method for Remote Upgrade to Stronger Terminal Master Keys
13. X9.8-2 Approved Algorithms for PIN Encipherment
14. X9.102-2020 Symmetric Key Cryptography for the Financial Services Industry - Wrapping of Keys and Associated Data
15. X9.111-2018 Penetration Testing within the Financial Services Industry
16. X9.112-1-2016 Wireless Management and Security Part 1: General Requirements
17. X9.112-2-2020 Wireless Management and Security Part 2: POS and ATM
18. X9.112-3-2018 Wireless Management and Security Part 3: Mobile Banking
19. X9.117-2020 Secure Remote Access Mutual Authentication
20. X9.119-1-202x Retail Financial Services - Requirements for Protection of Sensitive Payment Data - Part 1: Using Encryption Methods
21. X9.119-2 Requirements for Protection of Sensitive Payment Card Data - Part 2: Using Tokenization Methods

22. X9.122-2020 Secure Consumer Authentication for Internet Debit Transactions
23. X9.123-201x Public Key Cryptography for the Financial Services Industry, Elliptic Curve Qu-Vanstone Implicit Certificates
24. X9.124-1-2020 Symmetric Key Cryptography for the Financial Services Industry Format Preserving Encryption – Part 1: Definitions and Mode
25. X9.124-2 Symmetric Key Cryptography For the Financial Services Industry — Format Preserving Encryption- Part 2: Key Stream with Counter Mode
26. X9.124-3 Format Preserving Encryption of Financial Information-Part 3
27. X9.124-4 Format Preserving Encryption of Financial Information-Part 4
28. X9.124-5-2021 Format Preserving Encryption – Part 5 Format-preserving Feistel-based Mode FF3.1
29. X9.125 Cloud Management & Security
30. X9.132 Issuer PIN Generation, Verification, and Storage Methodologies Using AES
31. X9.133-201x Identity Based Encryption for the Financial Services Industry
32. X9.135-201x Secret Sharing Schemes
33. X9.137 Tokenization Management and Security
34. X9.139-201X Interoperable Method for Distribution of Symmetric Keys Using Asymmetric Techniques: Part 1 - Using Factoring-Based Public Key Cryptography Unilateral Key Transport
35. X9.141 Financial and Personal Data Protection and Breach Notification Standard
36. X9.142-2020 Public Key Cryptography: The Elliptic Curve Digital Signature Algorithm (ECDSA)
37. X9.143-201X Interoperable Secure Key Exchange Key Block Specification for Symmetric Algorithms
38. X9.146-202X Quantum-Safe TLS Handshake Extension
39. X9.148 QR Code Protection using Cryptographic Solutions
40. X9.24-1-202X Retail Financial Services Symmetric Key Management Part 1: Using Symmetric Techniques
41. X9.24-2-201X Retail Financial Service Symmetric Key Management Part 2: Using Asymmetric Techniques for the Distribution of Symmetric Keys
42. X9.24-3-202X Retail Financial Services Symmetric Key Management Part 3: Derived Unique Key per Transaction
43. X9.42-2003 (R2013) Public Key Cryptography for Financial Services Industry: Agreement of Symmetric Keys Using Discrete Logarithm Cryptography
44. X9.44-2007 (R2017) Key Establishment Using Integer Factorization Cryptography
45. X9.63-201X Key Agreement and Key Management Using Elliptic Curve-Based Cryptography
46. X9.69-2017 Framework for Key Management Extensions
47. X9.73-2017 Cryptographic Message Syntax - ASN.1 and XML
48. X9.79-4-201X Public Key Infrastructure - Part 4: Asymmetric Key Management
49. X9.80-2020 Prime Number Generation, Primality Testing, and Primality Certificates
50. X9.82-1-202X Random Number Generation Part 1: Overview and Basic Principles
51. X9.82-2-2015 Random Number Generation Part 2: Entropy Sources
52. X9.82-3-2007 (R2017) Random Number Generation Part 3: Deterministic Random Bit Generator Mechanisms

53. X9.82-4 (R2017) Random Number Generation Part 4: Random Bit Generator Constructions
54. X9.84-2018 Biometric Information Management & Security for the Financial Services Industry
55. X9.92-1:2009 (R2017) Public Key Cryptography for the Financial Services Industry Digital Signature Algorithms Giving Partial Message Recovery Part 1: Elliptic Curve Pintsov-Vanstone Signatures (ECPVS)
56. X9.95-2016 Trusted Time Stamp Management and Security
57. X9.97-1-201x Secure Cryptographic Devices (Retail) - Part 1: Concepts, Requirements and Evaluation Methods
58. X9.97-2-201x Secure Cryptographic Devices (Retail) Part 2: Security Compliance Checklists for Devices Used in Financial Transactions
59. X9.98-2010 (R2017) Lattice-Based Polynomial Public Key Encryption Algorithm part 1: Key Establishment; Part 2: Data Encryption
60. X9.99-2009 (R2020) Privacy Impact Assessment Standard

### **10.1 X9F1 Cryptographic Tools Work Group**

#### **X9F1 Scope**

The Cryptographic Tools workgroup is responsible for drafting cryptographic algorithm standards under the X9F subcommittee. These tools are intended to be used to provide guidance for implementing confidentiality, integrity, and non-repudiation protection of financial data as well as authentication of financial system users. Standards drafted within the X9F1 work group are often referenced within other ASC X9 standards when such cryptographic tools are required. These standards are based on accepted cryptographic practices and sound mathematical techniques. The X9F1 work group maintains the ASC X9 Registry of Approved Cryptographic Resources for Financial Services Industry Standards, which references selected standards and techniques that were developed outside of ASC X9 but are now approved for ASC X9 use. X9F1 membership consists of government agencies for technology and security, consulting organizations, financial product vendors, financial service providers and end-users financial institutions.

**X9F1 Chair** - Michael Talley

**X9F1 Vice Chair** - Ralph Poore

#### **Current Standard Projects**

1. SD034 Registry of Approved Cryptographic Resources
2. SD036 ISO TC68 SC2 Secretariat Report September 2009
3. X9 TG-9-1995 Abstract Syntax Notation & Encoding Rules for Financial Industry Standards
4. X9 TR 57 Methods of Hybrid use of Post-Quantum Cryptography with Classical Cryptography Techniques
5. X9.102-2020 Symmetric Key Cryptography for the Financial Services Industry - Wrapping of Keys and Associated Data
6. X9.123-201x Public Key Cryptography for the Financial Services Industry, Elliptic Curve Qu-Vanstone Implicit Certificates



7. X9.124-1-2020 Symmetric Key Cryptography for the Financial Services Industry Format Preserving Encryption – Part 1: Definitions and Mode
8. X9.124-2 Symmetric Key Cryptography for the Financial Services Industry — Format Preserving Encryption- Part 2: Key Stream with Counter Mode
9. X9.124-3 Format Preserving Feistel Mode Encryption of Financial Information-Part 3
10. X9.124-4 Format Preserving Feistel Mode Encryption of Financial Information-Part 4
11. X9.124-5-2021 Format Preserving Encryption – Part 5 Format-preserving Feistel-based Mode FF3.1
12. X9.133-201x Identity Based Encryption for the Financial Services Industry
13. X9.135-201x Secret Sharing Schemes
14. X9.142-2020 Public Key Cryptography: The Elliptic Curve Digital Signature Algorithm (ECDSA)
15. X9.42-2003 (R2013) Public Key Cryptography for Financial Services Industry: Agreement of Symmetric Keys Using Discrete Logarithm Cryptography
16. X9.44-2007 (R2017) Key Establishment Using Integer Factorization Cryptography
17. X9.62-2005 Public Key Cryptography: The Elliptical Curve Digital Signature Algorithm (EDCSA)
18. X9.63-201X Key Agreement and Key Management Using Elliptic Curve-Based Cryptography
19. X9.80-2020 Prime Number Generation, Primality Testing, and Primality Certificates
20. X9.82-1-202X Random Number Generation Part 1: Overview and Basic Principles
21. X9.82-2-2015 Random Number Generation Part 2: Entropy Sources
22. X9.82-3-2007 (R2017) Random Number Generation Part 3: Deterministic Random Bit Generator Mechanisms
23. X9.82-4 (R2017) Random Number Generation Part 4: Random Bit Generator Constructions
24. X9.92-1:2009 (R2017) Public Key Cryptography for the Financial Services Industry Digital Signature Algorithms Giving Partial Message Recovery Part 1: Elliptic Curve Pintsov-Vanstone Signatures (ECPVS)
25. X9.98-2010 (R2017) Lattice-Based Polynomial Public Key Encryption Algorithm part 1: Key Establishment; Part 2: Data Encryption

## **10.2 X9F4 Cybersecurity and Cryptographic Solutions Work Group**

### **X9F4 Scope**

The X9F4 workgroup focuses on drafting security standards for the proper implementation and evaluation of protocols and technologies for the financial services industry. One of four work groups reporting to the X9F subcommittee and established in 1996 to draft a secure remote banking standard, the X9F4 work group has had its scope expanded over the years to include cryptographic message syntax (CMS), public key infrastructure (PKI), biometrics, trusted time stamps and mutual authentication standards. X9F4 membership consists of consultants, auditors, attorneys, service providers, product providers and end-users, including both government as well as financial institutions. X9F4 provides technical comments on international standards in support of the X9 role as the US technical advisory group (TAG) to ISO TC68 Financial Services. Overall, the X9F4 work group is drafting or initiating revisions to over a dozen standards.

**X9F4 Chair** - Jeff Stapleton

**X9F4 Vice Chair** - Sandra Lambert**Current Standard Projects**

1. X9 TR 50-2019 Quantum Techniques in Cryptographic Messaging Syntax (CMS)
2. X9 TR 53-201X Cybersecurity Diversity Index
3. X9 TR 55-201X Framework for the Adoption of a Zero Trust in Information Systems
4. X9.148 QR Code Protection using Cryptographic Solutions
5. X9.111-2018 Penetration Testing within the Financial Services Industry
6. X9.112-1-2016 Wireless Management and Security Part 1: General Requirements
7. X9.112-2-2020 Wireless Management and Security Part 2: POS and ATM
8. X9.112-3-2018 Wireless Management and Security Part 3: Mobile Banking
9. X9.117-2020 Secure Remote Access Mutual Authentication
10. X9.119-2 Requirements for Protection of Sensitive Payment Card Data - Part 2: Using Tokenization Methods
11. X9.122-2020 Secure Consumer Authentication for Internet Debit Transactions
12. X9.125 Cloud Management & Security
13. X9.137 Tokenization Management and Security
14. X9.141 Financial and Personal Data Protection and Breach Notification Standard
15. X9.69-2017 Framework for Key Management Extensions
16. X9.73-2017 Cryptographic Message Syntax - ASN.1 and XML
17. X9.84-2018 Biometric Information Management & Security for the Financial Services Industry
18. X9.95-2016 Trusted Time Stamp Management and Security
19. X9.99-2009 (R2020) Privacy Impact Assessment Standard

**10.3 X9F5 Financial PKIs Work Group****X9F5 Scope**

X9F5 Public Key Infrastructure (PKI) workgroup develops standards, technical reports, and other PKI-related documents including Certificate Practice Statement (CPS) for the financial service industry. The workgroup supports the X9F PKI Study Group and the US TAG to ISO TC68/SC2/WG8 PKI. X9F5 also monitors other PKI standards and liaisons with other PKI-related development organization (SDO) and industry groups.

**X9F5 Chair** - Tim Hollebeek

**X9F5 Vice Chair** - Clay Epstein

**Current Standard Projects**

1. X9.146-202X Quantum-Safe TLS Handshake Extension
2. X9.79-4-201X Public Key Infrastructure - Part 4: Asymmetric Key Management

**10.4 X9F6 Cardholder Authentication Work Group****X9F6 Scope**

X9F6 writes and maintains standards used in retail financial services to support authentication of payment card users. The suite of standards addressed by the work group includes standards on the secure management and handling of Personal Identification Numbers (PINs), encryption key management for keys used in retail financial transactions, message authentication, tamper-

resistant security module evaluation, and Integrated Chip Cards (ICCs). The work group is also responsible for a series of technical reports that provide usage guidance for its standards.

X9F6 provides U.S. subject matter experts on the security aspects of card payments to ISO TC68/SC2/WG13 and WG11. The documents developed by these two ISO groups are circulated within X9F6 for comments and recommendations. Some of the topics include biometrics used for payments and Message Authentication Code (MAC) algorithms.

**X9F6 Chair** - Stephen Case

**X9F6 Vice Chair** - Andrea Beatty

### **Current Standard Projects**

1. X9.8-1-2019/ISO 9564-1-2017 (Identical Adoption) Financial Services – Personal identification number (PIN) management and security — Part 1: Basic principles and requirements for PINs in card-based systems
2. X9 TR 31-2018 Interoperable Secure Key Exchange Key Block Specification for Symmetric Algorithms
3. X9 TR 34-202X Interoperable Method for Distribution of Symmetric Keys Using Asymmetric Techniques: Part 1 - Using Factoring-Based Public Key Cryptography Unilateral Key Transport
4. X9 TR 56-202X Crypto-Agility: A Method for Remote Upgrade to Stronger Terminal Master Keys
5. X9.8-2 Approved Algorithms for PIN Encipherment
6. X9.119-1-202x Retail Financial Services - Requirements for Protection of Sensitive Payment Data - Part 1: Using Encryption Methods
7. X9.132 Issuer PIN Generation, Verification, and Storage Methodologies Using AES
8. X9.139-201X Interoperable Method for Distribution of Symmetric Keys Using Asymmetric Techniques: Part 1 - Using Factoring-Based Public Key Cryptography Unilateral Key Transport
9. X9.143-201X Interoperable Secure Key Exchange Key Block Specification for Symmetric Algorithms
10. X9.24-1-202X Retail Financial Services Symmetric Key Management Part 1: Using Symmetric Techniques
11. X9.24-2-201X Retail Financial Service Symmetric Key Management Part 2: Using Asymmetric Techniques for the Distribution of Symmetric Keys
12. X9.24-3-202X Retail Financial Services Symmetric Key Management Part 3: Derived Unique Key per Transaction
13. X9.97-1-201x Secure Cryptographic Devices (Retail) - Part 1: Concepts, Requirements and Evaluation Methods
14. X9.97-2-201x Secure Cryptographic Devices (Retail) Part 2: Security Compliance Checklists for Devices Used in Financial Transactions

### **X9F6 is Currently Reviewing the Following ISO Standards:**

1. ISO 9564-1 - Financial services — Personal Identification Number (PIN) management and security — Part 1: Basic principles and requirements for PINs in card-based systems
2. ISO 9564-6 – PIN on COTS (commercial off the shelf)
3. ISO 11568 – Key management (X9.24 all parts into one ISO document)
4. ISO 13491-1 - Financial services - Secure cryptographic devices (retail) - Part 1: Concepts, requirements and evaluation methods
5. ISO 13491-2 - Financial services — Secure cryptographic devices (retail) — Part 2: Security compliance checklists for devices used in financial transactions
6. ISO 19092 – Biometrics for payment

7. ISO 16609 – Requirements for message authentication
8. ISO 14742 – Recommendations on cryptographic algorithms and their use (considerations for Quantum)

## **11.0 X9 Study Groups and Industry Forums**

### **11.1 X9C - U.S. ISO 20022 Market Practice Industry Forum**

**Created: October 14, 2020**

#### **Scope**

U.S. ISO 20022 Market Practice Industry Forum identifies and addresses important topics for market coordination to promote consistent industry approaches for ISO 20022 implementations, and to lower the barriers to adoption. Toward those ends, the group proposes to bring together a broad spectrum of stakeholders, including corporations and other industry organizations. These representative participants will collaborate to define use cases from a practitioner point of view and to understand best practices across payment types, based on consensus across industries.

**Forum Chair** - David Repking

### **11.2 X9D - Financial Data Integration and Harmonization Industry Forum**

**Created: March 26, 2021**

#### **Scope**

The Financial Data Integration and Harmonization Industry Forum was created to perform the following functions:

1. Review and harmonize current differences in financial data standards terms, meanings and definitions (Establish a common Data Dictionary);
2. Identify key financial instrument reference data gaps and propose solutions to address these gaps, including integration of multiple data sets;
3. Identify financial data service functions that are currently unavailable to meet critical industry needs; and
4. Work with participating organizations to resolve identified issues.

Initially, the forum will assess the state of financial and reference data used by the financial industry by seeking input from industry experts and data providers. After the assessment period, the forum will create a white paper on its initial findings and provide guidance on what additional actions may be required. The Forum will regularly provide feedback to the X9 Board on its progress toward meeting these goals.

**Forum Chair** – Tom Brown

### **11.3 X9C Real-time Payments Study Group**

#### **Scope**

This study group is focused on faster/real-time payments. The study group will review real-time and faster payments activity in the financial industry, with the intent to become X9's central point of contact for all related and supporting X9 technical standards and to coordinate related work within X9.

**X9 Real-time Payments Study Group Chair** - Stephen Ranzini

### **11.4 X9F Cryptographic Algorithm Sunrise/Sunset Study Group**

#### **Scope**

Cryptographic Algorithm Sunrise/Sunset Study Group has been formed under the X9F subcommittee. The purpose of this study group is to document cryptographic algorithm sunrise and sunset dates. This is needed to address industry changes in what is deemed acceptable for adequate protection of sensitive data. As each subcommittee talks about how to move the industry standards forward and away from older inadequate protocols, it was determined the best approach was to scope, select and document sunrise and sunset dates for cryptographic algorithms used in X9 standards.

The objectives for the Cryptographic Algorithms Study Group are to:

- Review and validate the new approach for establishing sunrise and sunset dates for cryptographic algorithms in X9 standards.
- Identify a minimum scope (i.e., applicable X9 standards and Registry) for each work group.
- Define an action plan across the work groups to define and document sunrise and sunset dates to address the minimum scope.

**Sunrise/Sunset Study Group Chair** – Ralph Poore

#### **Current Projects**

1. ASC X9 SD-34-2009 – Registry of Approved Cryptographic Resources for Financial Services Industry Standards

### **11.5 X9F Public Key Infrastructure (PKI) Study Group**

#### **Scope**

The focus of this study group is to examine the reliance concerns and processing issues related to “Certificate Authority” third party service providers and the possibility of operating a centralized Certificate Authority specifically devoted to the financial services industry. This would be a Certificate Authority on which trust for current and future financial industry security could rely upon as a fully interoperable point of service that would exist above any question of security, user authentication, or commercial interest. It would also be independent of rules and requirements from other industry groups which have much different needs than the financial community.

Existing commercial Certificate Authorities exist primarily for the Web PKI, that is, the general usage of the Internet by businesses and individuals. This has traditionally been governed by Browsers, who consume certificates to present security information in their user interface. However, Browsers and the financial community interests are not always aligned. Hence when Browsers dictate policies which Certificate Authorities are forced to follow; the financial community has no choice but to go along.

This group will examine options to determine a way that would protect the financial community’s interest while maintaining a strong security posture.

**PKI Study Group Chair** - Dean Coclin

**PKI Study Group Vice Chair** - Bill Poletti

## **11.6 X9F Quantum Computing Risk Study Group**

### **Scope**

The Quantum Computing Risk study group was created to review the state of quantum computing and determine a best estimate for when a large-scale, fault tolerant quantum computer capable of cracking certain current cryptography will exist. Based on this prediction, the group will propose a plan for how X9 will address the issues and develop plans for members of the U.S. financial industry to use to address these issues.

**X9F Quantum Computing Risk Study Group Chair** - Steve Stevens

**X9F Quantum Computing Risk Study Group Vice Chair** – Tim Hollebeck

### **Current Projects**

1. [ASC X9 IR 01-2019 – Quantum Computing Risks to the Financial Services Industry](#)
2. ASC X9 IR 02-2021 – Quantum Computing Risk Check List
3. Propose a process for X9 to identify and address risks posed by quantum computers

## 12.0 International Standards Work

The International Organization for Standardization (“ISO”) develops international standards. Membership in ISO by country and within a country, different organizations can participate in ISO Technical Committees (“TC”) by becoming a Technical Advisor Group (“TAG”) to one or more TCs. X9 represents the United States as the TAG for ISO TC68, ISO TC321 and ISO TC322. These TCs are described in more detail below. For ISO TC68, X9 also provides leadership of the committee by performing the secretariat functions. X9 also has liaisons with other organizations to monitor work that may have an impact on the financial services industry.

### 12.1 ISO TC68 Financial Services (X9 is the US TAG and Secretariat)

#### Scope

Technical Committee 68 (ISO/TC 68) is responsible for creating global standards for the financial services industry. TC 68 is responsible for standards that cover core banking, capital markets including asset management, payments, credit card processing, and information security aspects specific to financial services. The committee is organized into three subcommittees: SC2 (Information Security), SC8 (Reference Data), and SC9 (Information Exchange). ISO standards can be purchase from the [ISO Store](#). Click [here](#) for just TC68 standards.

**ISO TC68 Chair** – Jim Northey (US-X9)

### 12.2 List of International Standards Supported by X9 (including projects for SC2, SC8 and SC9)

1. ISO 1004-1:2013 - Information processing — Magnetic ink character recognition — Part 1: Print specifications for E13B
2. ISO 1004-2:2013 - Information processing — Magnetic ink character recognition — Part 2: Print specifications for CMC7
3. ISO 10383:2012 - Securities and related financial instruments — Codes for exchanges and market identification (MIC)
4. ISO 10962:2019 - Securities and related financial instruments — Classification of financial instruments (CFI) code
5. [ISO 11568-1:2005 - Banking — Key management \(retail\) — Part 1: Principles](#)
6. [ISO 11568-2:2012 - Financial services — Key management \(retail\) — Part 2: Symmetric ciphers, their key management and life cycle](#)
7. ISO 11568-4:2007 - Banking — Key management (retail) — Part 4: Asymmetric cryptosystems — Key management and life cycle
8. ISO 11649:2009 - Financial services — Core banking — Structured creditor reference to remittance information
9. ISO 12812-1:2017 - Core banking — Mobile financial services — Part 1: General framework
10. ISO 13491-1:2016 -Financial services — Secure cryptographic devices (retail) — Part 1: Concepts, requirements and evaluation methods
11. ISO 13491-2:2017 - Financial services — Secure cryptographic devices (retail) — Part 2: Security compliance checklists for devices used in financial transactions
12. ISO 13492:2019 - Financial services — Key-management-related data element — Application and usage of ISO 8583-1 data elements for encryption



13. ISO 13616-1:2020 - Financial services — International bank account number (IBAN) — Part 1: Structure of the IBAN
14. ISO 13616-2:2020 - Financial services — International bank account number (IBAN) — Part 2: Role and responsibilities of the Registration Authority
15. ISO 15022-1:1999 - Securities — Scheme for messages (Data Field Dictionary) — Part 1: Data field and message design rules and guidelines
16. ISO 15022-1:1999 - Securities — Scheme for messages (Data Field Dictionary) — Part 1: Data field and message design rules and guidelines — Technical Corrigendum 1: .
17. ISO 15022-2:1999 - Securities — Scheme for messages (Data Field Dictionary) — Part 2: Maintenance of the Data Field Dictionary and Catalogue of Messages
18. ISO 15022-2:1999 - Securities — Scheme for messages (Data Field Dictionary) — Part 2: Maintenance of the Data Field Dictionary and Catalogue of Messages — Technical Corrigendum 1:.
19. [ISO 16609:2012 - Financial services — Requirements for message authentication using symmetric techniques](#)
20. ISO 17442-1:2020 - Financial services — Legal entity identifier (LEI) — Part 1: Assignment
21. ISO 17442-2:2020 - Financial services — Legal entity identifier (LEI) — Part 2: Application in digital certificates
22. ISO 18245:2003 - Retail financial services — Merchant category codes
23. ISO 18774:2015 - Securities and related financial instruments — Financial Instrument Short Name (FISN)
24. [ISO 19092:2008 - Financial services — Biometrics — Security framework](#)
25. ISO 20022-1:2013 - Financial services — Universal financial industry message scheme — Part 1: Metamodel
26. ISO 20022-2:2013 - Financial services — Universal financial industry message scheme — Part 2: UML profile
27. ISO 20022-3:2013 - Financial services — Universal financial industry message scheme — Part 3: Modelling
28. ISO 20022-4:2013 - Financial services — Universal financial industry message scheme — Part 4: XML Schema generation
29. ISO 20022-5:2013 - Financial services — Universal financial industry message scheme — Part 5: Reverse engineering
30. ISO 20022-6:2013 - Financial services — Universal financial industry message scheme — Part 6: Message transport characteristics
31. ISO 20022-7:2013 - Financial services — Universal financial industry message scheme — Part 7: Registration
32. ISO 20022-8:2013 - Financial services — Universal financial industry message scheme — Part 8: ASN.1 generation
33. ISO 20038:2017 - Banking and related financial services — Key wrap using AES
34. ISO 20038:2017 - Banking and related financial services — Key wrap using AES — Amendment 1
35. ISO 20275:2017 - Financial services — Entity legal forms (ELF)
36. ISO 21188:2018 - Public key infrastructure for financial services — Practices and policy framework

37. ISO 21586:2020 - Reference data for financial services — Specification for the description of banking products or services (BPoS)
38. ISO 22307:2008 - Financial services — Privacy impact assessment
39. ISO 23897:2020 - Financial services — Unique transaction identifier (UTI)
40. ISO 4217:2015 - Codes for the representation of currencies
41. ISO 6166:2021 - Financial services — International securities identification number (ISIN)
42. ISO 8532:1995 - Securities — Format for transmission of certificate numbers
43. ISO 8583-1:2003 - Financial transaction card originated messages — Interchange message specifications — Part 1: Messages, data elements and code values
44. ISO 8583-2:1998 - Financial transaction card originated messages — Interchange message specifications — Part 2: Application and registration procedures for Institution Identification Codes (IIC)
45. ISO 8583-3:2003 - Financial transaction card originated messages — Interchange message specifications — Part 3: Maintenance procedures for messages, data elements and code values
46. ISO 9019:1995 - Securities — Numbering of certificates
47. ISO 9144:1991 - Securities — Optical character recognition line — Position and structure
48. ISO 9362:2014 - Banking — Banking telecommunication messages — Business identifier code (BIC)
49. ISO 9564-1:2017 - Financial services — Personal Identification Number (PIN) management and security — Part 1: Basic principles and requirements for PINs in card-based systems
50. ISO 9564-2:2014 - Financial services — Personal Identification Number (PIN) management and security — Part 2: Approved algorithms for PIN encipherment
51. ISO 9564-4:2016 - Financial services — Personal Identification Number (PIN) management and security — Part 4: Requirements for PIN handling in eCommerce for Payment Transactions
52. ISO/AWI 13491-1 - Financial services — Secure cryptographic devices (retail) — Part 1: Concepts, requirements and evaluation methods
53. ISO/AWI 18245 - Retail financial services — Merchant category codes
54. ISO/AWI 19092 - Financial services — Biometrics — Security framework
55. ISO/AWI 5158 - Mobile financial services — customer identification guidelines
56. ISO/AWI 5201 - Financial services — Code-scanning payment security
57. ISO/AWI 8583 - Financial transaction card originated messages — Interchange message specifications
58. ISO/AWI 9564-1 - Financial services — Personal Identification Number (PIN) management and security — Part 1: Basic principles and requirements for PINs in card-based systems
59. ISO/AWI TR 14742 - Financial services — Recommendations on cryptographic algorithms and their use
60. ISO/AWI TS 23526 - Security aspects for digital currencies
61. ISO/CD 16609 - Financial services — Requirements for message authentication using symmetric techniques

62. ISO/DIS 11568 - Financial services — Key management (retail) — Principles, symmetric ciphers and asymmetric cryptosystems, their key management and life cycle
63. ISO/DIS 24165-1 - Digital token identifier (DTI) — Registration, assignment and structure — Part 1: Method for registration and assignment
64. ISO/DIS 24165-2 - Digital token identifier (DTI) — Registration, assignment and structure — Part 2: Data elements for registration
65. ISO/DIS 24366 - Financial services – Natural Person Identifier (NPI)
66. ISO/DIS 3531-1 - Financial services – Financial information eXchange session layer — Part 1: FIX TagValue encoding
67. ISO/DIS 3531-2 - Financial services – Financial information eXchange session layer — Part 2: FIX session layer
68. ISO/DIS 3531-3 - Financial services – Financial information eXchange session layer — Part 3: FIX session layer test cases
69. ISO/DIS 4914 - Financial services – Unique Product Identifier (UPI)
70. ISO/DIS 5009 - Financial Services — Official organizational roles — Scheme for official organizational roles
71. ISO/DIS 5116-1 - Improving transparency in financial and business reporting — Harmonization topics — Part 1: European data point methodology for supervisory reporting
72. ISO/DIS 5116-2 - Improving transparency in financial and business reporting — Harmonization topics — Part 2: Guidelines for data point modelling
73. ISO/DIS 5116-3 - Improving transparency in financial and business reporting — Harmonization topics — Part 3: Mapping between DPM and MDM
74. ISO/DIS 9564-5 - Financial services — Personal Identification Number (PIN) management and security — Part 5: Methods for the generation, change, and verification of PINs and card security data using the advanced encryption standard
75. ISO/DTR 32220 - Sustainable Finance – Glossary of key terms
76. ISO/NP 13491-2 - Financial services — Secure cryptographic devices (retail) — Part 2: Security compliance checklists for devices used in financial transactions
77. ISO/NP TR 22126-1 - ISO 20022 Additional External Representations — Part 1: General
78. ISO/NP TR 22126-2 - ISO 20022 Additional External Representations — Part 2: RDF/OWL Representation of the ISO 20022 Metamodel and e-Repository
79. ISO/NP TR 22126-3 - ISO 20022 Additional External Representations — Part 3: Semantic Enrichment of the ISO 20022 Conceptual Model
80. ISO/NP TR 22126-4 - ISO 20022 Additional External Representations — Part 4: Multi-Standard Semantic Portal for Finance
81. ISO/PRF 10962 - Securities and related financial instruments — Classification of financial instruments (CFI) code
82. ISO/PRF 23195 - Security objectives of information systems of third-party payment services
83. ISO/PWI 32212 - Requirements for sustainable private equity and venture capital funds
84. ISO/PWI 5106 - Guidelines on sharing of product traceability information in e-commerce
85. ISO/PWI 5107 - Guidelines on acceptance of product quality evaluation information in e-commerce

86. ISO/PWI PAS 32211 - Principles and guidelines for development and implementation of sustainable finance products and services
87. ISO/PWI TR 22126-5 - ISO 20022 Additional External Representations — Part 5: Mapping from FIX Orchestra to the common portal data model
88. ISO/PWI TR 22126-6 - ISO 20022 Additional External Representations — Part 6: Mapping from IMIX to the common portal data model
89. ISO/PWI TR 22126-7 - ISO 20022 Additional External Representations — Part 7: Mapping from ISO 15022/MT to the common portal data model
90. ISO/PWI TR 22126-8 - ISO 20022 Additional External Representations — Part 8: Mapping from IFX to the common portal data model
91. ISO/PWI TR 22126-9 - ISO 20022 Additional External Representations — Part 9: Mapping from BIAN to the common portal data model
92. [ISO/TR 14742:2010 - Financial services — Recommendations on cryptographic algorithms and their use](#)
93. ISO/TR 19038:2005 - Banking and related financial services — Triple DEA — Modes of operation — Implementation guidelines
94. ISO/TR 21797:2019 - Reference data for financial services — Overview of identification of financial instruments
95. ISO/TR 21941:2017 - Financial services — Third-party payment service providers
96. ISO/TS 12812-2:2017 - Core banking — Mobile financial services — Part 2: Security and data protection for mobile financial services
97. ISO/TS 12812-3:2017 - Core banking — Mobile financial services — Part 3: Financial application lifecycle management
98. ISO/TS 12812-4:2017 - Core banking — Mobile financial services — Part 4: Mobile payments-to-persons
99. ISO/TS 12812-5:2017 Core banking — Mobile financial services — Part 5: Mobile payments to businesses
100. ISO/WD 24374 - Information technology — Security techniques — DLT and Blockchain for Financial Services
101. ISO/WD 32110 - Transaction assurance in E-commerce ---- Terminology
102. ISO/WD 32111 - Transaction assurance in E-commerce — Principles and Framework
103. ISO/WD 32210 - Framework for sustainable finance: Principles and guidance

### **12.3 ISO TC321 – Transaction Assurance in E-Commerce (X9 is the US TAG)**

#### **Scope**

Standardization in the field of “transaction assurance in e-commerce related upstream/downstream processes”, including the following:

- Assurance of transaction process in e-commerce (including easier access to e-platforms and estores);
- Protection of online consumer rights including both prevention of online disputes and resolution process;
- Interoperability and admissibility of inspection result data on commodity quality in cross-border e-commerce;
- Assurance of e-commerce delivery to the final consumer.

**ISO TC321 Chair** - Mingshun Song (China)  
**X9 US TAG Chair to TC321** – Colin Rule

#### **Current Standards Projects**

1. ISO/PWI 5106 - Guidelines on sharing of product traceability information in e-commerce
2. ISO/PWI 5107 - Guidelines on acceptance of product quality evaluation information in e-commerce
3. ISO/WD 32110 - Transaction assurance in E-commerce ---- Terminology
4. ISO/WD 32111 - Transaction assurance in E-commerce — Principles and Framework

### **12.4 ISO TC322 – Sustainable Finance (X9 is the US TAG)**

#### **Scope**

Standardization in the field of sustainable finance to integrate sustainability considerations including environmental, social and governance practices in the financing of economic activities.

Note : the TC for sustainable finance will have close cooperation with TC 68 in the field of financial services, TC 207 in the field of environmental management, TC 251 in the field of asset management and TC 309 in the field of governance of organizations.

**ISO TC322 Chair** – Mike Henigan (UK)  
**X9 US TAG Chair to TC322** – Brian Colantropo (Bloomberg)

#### **Current Standards Projects**

1. ISO/DTR 32220 - Sustainable Finance – Glossary of key terms
2. ISO/PWI 32212 - Requirements for sustainable private equity and venture capital funds
3. ISO/PWI PAS 32211 - Principles and guidelines for development and implementation of sustainable finance products and services
4. ISO/WD 32210 - Framework for sustainable finance: Principles and guidance

### **12.5 ISO 20022 Registration Management Group (RMG)**

#### **Scope**

The ISO 20022 Registration Management Group (RMG) is made of senior industry experts nominated by registered Member Entities. The RMG was created in 2004 and had its first meeting in January 2005. It is the highest ISO 20022 registration body: it supervises the overall registration process and reports to ISO TC68/SC9. The role of the RMG is to promote and support the involvement of financial service actors to facilitate the registration and maintenance of high quality globally relevant ISO 20022 compliant business models for exchange of information for financial services.

The mission of the RMG is to ensure that ISO 20022 is a trusted standard providing high quality business models for exchange of information for financial services. The RMG defines the scope of necessary SEGs, approves business justifications for new messages and allocates them to one or more SEGs. The RMG also acts as a "court of appeal" in case of conflicts between the RA, the TSG, the SEGs and the organizations that want to develop ISO 20022 messages (submitting organizations).

**ISO 20022 RMG Chair** – James Whittle (UK)

**X9 Representatives to the RMG:**

- Roy DeCicco (primary)
- Rich Robinson (Alt)
- Mark Tiggas (Alt)

**Current Projects**

1. Vetting requests to register new information or data in the 20022 model

## **13.0 X9 Liaisons & Relationships with other Organizations**

### **13.1 Liaison with ISO TC307**

**Scope:** Standardization of blockchain technologies and distributed ledger technologies.

**Secretariat:** South Africa

**Chairperson:** Mr. Craig Dunn

X9 has a liaison agreement with ISO TC307. This allows X9 to monitor and comment on their work.

### **13.2 Liaison with the Object Management Group (OMG)**

#### ***About the OMG:***

The Object Management Group® (OMG®) is an international, open membership, not-for-profit technology standards consortium with representation from government, industry and academia. OMG Task Forces develop enterprise integration standards for a wide range of technologies and an even wider range of industries. OMG's modeling standards enable powerful visual design, execution and maintenance of software and other processes.

X9 has an agreement that allows the adoption of the Financial Instrument Global Identifier standard as an American National Standard under X9.

### **13.3 Liaison with PCI Security Standards Council**

#### ***About PCI SSC:***

The PCI Security Standards Council (PCI SSC) is a global forum for the ongoing development, enhancement, storage, dissemination and implementation of security standards for account data protection. Our role is to enhance global payment account data security by developing standards and supporting services that drive education, awareness, and effective implementation by stakeholders. We achieve this with a strategic framework to guide our decision-making process and ensure that every initiative is aligned with our mission and supports the needs of the global payments industry.

X9 has an agreement with PCI SSC to share development and support of the PCI Security Requirements and Testing Procedures (also known as the PCI PIN Security Standard).

### **13.4 Member of Faster Payments Council**

#### ***About the FPC:***

The Faster Payments Council (FPC) is an industry-led membership organization whose vision is a world-class payment system where every person or organization can safely and securely pay anyone, anywhere, at any time and with near-immediate funds availability. By design, the FPC encourages a diverse range of perspectives and is open to all stakeholders in the U.S. payment system. Guided by principles of fairness, inclusiveness, flexibility and

transparency, the FPC uses collaborative, problem-solving approaches to resolve the issues that are inhibiting broad faster payments adoption in this country.

X9 is a founding member and participates in the work of the FPC. X9 is also available to develop standards when needed.

### **13.5 Member of Afinis – Interoperability Standards**

#### ***About Afinis:***

Afinis is a membership-based standards organization that brings together diverse collaborators – through innovative and agile processes – to develop implementable, interoperable and portable API standards and other financial services standards across operating environments and platforms.

X9 is a founding member and their parent organization, NACHA, is a member of X9. X9 provides personnel to help develop APIs.

### **13.6 Member of ISITC**

#### ***About ISITC:***

ISITC brings together investment managers, broker dealers, custodians, utilities and technology vendors to develop and promote standards and best practices that increase operational efficiencies across the securities industry, enabling member companies to provide essential and enhanced products and services. Founded in 1991, ISITC's membership totals more than 2,000 financial services professionals representing more than 60 firms and trillions of dollars in AUM/AUA. Through its member committees and work groups, ISITC plays a direct role in shaping the future of securities operations by creating and updating market practices, and educating the membership around emerging trends in technology and regulations.

X9 is a member of ISITC and they are a member of X9. ISITC participates on the X9D subcommittee.

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