



## American National Standard for Financial Services

# ANSI X9.103–2004(R2018)

## Motor Vehicle Retail Sale and Lease Electronic Contracting



Developed by  
Accredited Standards Committee X9, Incorporated  
Financial Industry Standards

**Date Approved:** November 12, 2010

**Reaffirmation Date:** March 6, 2018

American National Standards Institute

American National Standards, Technical Reports and Guides developed through the Accredited Standards Committee X9, Inc., are copyrighted. Copying these documents for personal or commercial use outside X9 membership agreements is prohibited without express written permission of the Accredited Standards Committee X9, Inc. For additional information please contact ASC X9, Inc., 275 West Street, Suite 107, Annapolis, MD 21401.

**ANSI X9.103-2004 (R2018)**

<b>Contents</b>		<b>Page</b>
Foreword.....		v
Introduction .....		vi
1 Scope .....		1
2 Normative references .....		1
3 Terms and definitions .....		2
4 Symbols and abbreviated terms .....		4
5 Electronic Signatures .....		5
5.1 Use of Electronic Signatures in this Standard .....		5
5.2 Application of Electronic Signatures to a Record.....		5
5.3 Association of Electronic Signature to a Record .....		5
5.4 Protection of Electronic Signatures.....		5
6 Control of Electronic Chattel Paper .....		6
6.1 Purpose of Control of Electronic Chattel Paper .....		6
6.2 General Requirements for Control of Electronic Chattel Paper .....		6
6.3 Role of the Dealer .....		7
6.4 Purchases of Chattel Paper and Security Interests in Chattel Paper.....		7
6.5 Use of Agents or Third-Party Service Providers .....		7
6.6 Systems or Procedures for Establishing Control of Electronic Chattel Paper .....		7
7 Creation of Electronic Chattel Paper .....		8
7.1 Application of Control to the Creation of Electronic Chattel Paper .....		8
7.1.1 A Single Authoritative Copy of Record or Records .....		8
7.1.2 Identification of the Secured Party as Assignee .....		8
7.1.3 Maintenance and Communication of Electronic Chattel Paper .....		8
7.1.4 Limiting Copies or Revisions that Add or Change an Identified Assignee .....		8
7.1.5 Non-Authoritative Copies .....		8
7.1.6 Authorized and Unauthorized Revisions .....		9
7.2 Conversion between Tangible Chattel Paper and Electronic Chattel Paper .....		9
7.2.1 Conversion of Tangible Chattel Paper to Electronic Chattel Paper .....		9
7.2.2 Conversion of Electronic Chattel Paper to Tangible Chattel Paper .....		9
8 Storage of Electronic Chattel Paper .....		9
8.1 Application of Control to the Storage of Electronic Chattel Paper .....		9
8.1.1 A Single Authoritative Copy of Record or Records .....		9
8.1.2 Identification of the Secured Party as Assignee .....		10
8.1.3 Maintenance of Electronic Chattel Paper .....		10
8.1.4 Limiting Copies or Revisions that Add or Change an Identified Assignee .....		10
8.1.5 Non-Authoritative Copies .....		10
8.1.6 Authorized and Unauthorized Revisions .....		11
8.2 Modifications, Addenda, and Corrections .....		11
8.2.1 Modifications and Addenda.....		11
8.2.2 Corrections.....		11
8.2.3 Modifications, Addenda, and Corrections Not Part of the Authoritative Copy .....		11
8.2.4 Modifications, Addenda, and Corrections as Part of Authoritative Copy.....		12
8.3 Disaster Recovery and Business Continuity Programs .....		12

<b>9</b>	<b>Assignment of Electronic Chattel Paper</b> .....	<b>12</b>
<b>9.1</b>	<b>Application of Control to the Assignment of Electronic Chattel Paper</b> .....	<b>12</b>
<b>9.1.1</b>	<b>A Single Authoritative Copy of Record or Records</b> .....	<b>12</b>
<b>9.1.2</b>	<b>Identification of the Secured Party as Assignee</b> .....	<b>12</b>
<b>9.1.3</b>	<b>Communication of Electronic Chattel Paper</b> .....	<b>13</b>
<b>9.1.4</b>	<b>Limiting Copies or Revisions that Add or Change an Identified Assignee</b> .....	<b>14</b>
<b>9.1.5</b>	<b>Non-Authoritative Copies</b> .....	<b>14</b>
<b>9.1.6</b>	<b>Authorized and Unauthorized Revisions</b> .....	<b>14</b>
<b>Annex A</b>	<b>(Informative) Examples of Electronic Signatures</b> .....	<b>15</b>
<b>A.1</b>	<b>General</b> .....	<b>15</b>
<b>A.2</b>	<b>Association of Electronic Signature to the Record</b> .....	<b>15</b>
<b>A.3</b>	<b>Electronic Signature Techniques</b> .....	<b>16</b>
<b>A.3.1</b>	<b>Digital Signatures</b> .....	<b>16</b>
<b>A.3.2</b>	<b>Personal Identification Number</b> .....	<b>16</b>
<b>A.3.3</b>	<b>Electronically Captured Handwritten Signature</b> .....	<b>17</b>
<b>A.3.4</b>	<b>Biometric Signature</b> .....	<b>17</b>
<b>A.3.5</b>	<b>Process Signatures</b> .....	<b>17</b>
<b>Annex B</b>	<b>(Informative) General Security Principles and Guidelines for the Authoritative Copy</b> .....	<b>19</b>
<b>B.1</b>	<b>General</b> .....	<b>19</b>
<b>B.2</b>	<b>Business Messaging Security</b> .....	<b>19</b>
<b>B.2.1</b>	<b>Risk Assessment</b> .....	<b>19</b>
<b>B.2.2</b>	<b>Security Requirements</b> .....	<b>20</b>
<b>B.2.3</b>	<b>Message-Level Security versus Infrastructure Security</b> .....	<b>21</b>
<b>B.2.4</b>	<b>Infrastructure-Level Security</b> .....	<b>21</b>
<b>B.2.5</b>	<b>Message-Level Security</b> .....	<b>22</b>
<b>B.3</b>	<b>Message-Level Security Overview</b> .....	<b>23</b>
<b>B.3.1</b>	<b>Identification and Verification Mechanics</b> .....	<b>23</b>
<b>B.3.2</b>	<b>Using Digital Certificates for Identification and Verification</b> .....	<b>24</b>
<b>B.3.3</b>	<b>Using Username/Passwords for Identification and Verification (Authentication)</b> .....	<b>24</b>
<b>B.3.4</b>	<b>Using Digital Certificates for Data Encryption</b> .....	<b>24</b>
<b>B.3.5</b>	<b>Message-Level Source, Target and System Verification</b> .....	<b>25</b>
<b>B.4</b>	<b>Message-Level Verification Options</b> .....	<b>25</b>
<b>B.4.1</b>	<b>Identification and Verification Options</b> .....	<b>25</b>
<b>B.4.2</b>	<b>Digital Signature</b> .....	<b>25</b>
<b>B.4.3</b>	<b>Username and Password Hash</b> .....	<b>25</b>
<b>B.4.4</b>	<b>Username and Password Clear-text over HTTPS</b> .....	<b>25</b>
<b>B.4.5</b>	<b>Username and Password Encrypted out-of-band Digital Certificates</b> .....	<b>25</b>
<b>B.4.6</b>	<b>Binary Token Shared Secret</b> .....	<b>26</b>
<b>B.5</b>	<b>Infrastructure-Level Security</b> .....	<b>26</b>
<b>B.5.1</b>	<b>Public Networks</b> .....	<b>26</b>
<b>B.6</b>	<b>General Communication Security Principles</b> .....	<b>26</b>
<b>B.6.1</b>	<b>Communications Infrastructure</b> .....	<b>26</b>
<b>B.6.2</b>	<b>Data Security</b> .....	<b>27</b>
<b>Annex C</b>	<b>(Informative) Overview of SPeRS</b> .....	<b>28</b>
<b>C.1</b>	<b>General</b> .....	<b>28</b>
<b>C.2</b>	<b>Section 1 – Authentication</b> .....	<b>28</b>
<b>C.3</b>	<b>Section 2 – Consent to Transact Business Electronically</b> .....	<b>28</b>
<b>C.4</b>	<b>Section 3 – Agreements, Notices and Disclosures</b> .....	<b>29</b>
<b>C.5</b>	<b>Section 4 – Electronic Signatures</b> .....	<b>29</b>
<b>C.6</b>	<b>Section 5 – Record Retention</b> .....	<b>29</b>
<b>Annex D</b>	<b>(Informative) Examples of Backup, Restoration and Disaster Recovery Procedures for Storage and Transfer of an Authoritative Copy</b> .....	<b>31</b>
<b>D.1</b>	<b>General</b> .....	<b>31</b>
<b>D.2</b>	<b>Backup Procedures</b> .....	<b>31</b>

**ANSI X9.103-2004 (R2018)**

<b>D.2.1</b>	<b>Frequency and Storage .....</b>	<b>31</b>
<b>D.3</b>	<b>Restoration Logging.....</b>	<b>31</b>
<b>D.4</b>	<b>Testing of Backup and Restoration Procedures .....</b>	<b>32</b>
<b>D.5</b>	<b>Compromise and Disaster Recovery .....</b>	<b>32</b>
<b>D.5.1</b>	<b>Compromise and Disaster Recovery Plan .....</b>	<b>32</b>
<b>D.5.2</b>	<b>Contingency Facility.....</b>	<b>32</b>
<b>D.6</b>	<b>Audit Procedures .....</b>	<b>32</b>

## Foreword

Approval of an American National Standard requires verification by ANSI that the requirements for due process, consensus, and other criteria for approval have been met by the standards developer.

Consensus is established when, in the judgment of the ANSI Board of Standards Review, substantial agreement has been reached by directly and materially affected interests. Substantial agreement means much more than a simple majority, but not necessarily unanimity. Consensus requires that all views and objections be considered, and that a concerted effort be made toward their resolution.

The use of American National Standards is completely voluntary; their existence does not in any respect preclude anyone, whether he has approved the standards or not from manufacturing, marketing, purchasing, or using products, processes, or procedures not conforming to the standards.

The American National Standards Institute does not develop standards and will in no circumstances give an interpretation of any American National Standard. Moreover, no person shall have the right or authority to issue an interpretation of an American National Standard in the name of the American National Standards Institute. Requests for interpretation should be addressed to the secretariat or sponsor whose name appears on the title page of this standard.

**CAUTION NOTICE:** This American National Standard may be revised or withdrawn at any time. The procedures of the American National Standards Institute require that action be taken to reaffirm, revise, or withdraw this standard no later than five years from the date of approval.

Published by

**Accredited Standards Committee X9, Incorporated**  
**Financial Industry Standards**  
**275 West Street, Suite 107**  
**Annapolis, MD 21403 USA**  
**X9 Online <http://www.x9.org>**

Copyright © 2018 ASC X9, Inc.  
All rights reserved.

No part of this publication may be reproduced in any form, in an electronic retrieval system or otherwise, without prior written permission of the publisher. Published in the United States of America.

## **ANSI X9.103-2004 (R2018)**

### **Introduction**

Recently, dramatic advances in computer engineering and software development have transcended most industries, including the automotive dealership financing industry. The substantial increase in electronic commerce in the late 1990's was accompanied by increased use of electronic tools in the automotive dealership financing industry. This technology is being used to improve efficiencies, boost productivity, and improve customer satisfaction.

The enactment of the Electronic Signatures in Global and National Commerce Act (ESIGN) in 2000 and the adoption of the Uniform Electronic Transactions Act (UETA) by most states have allowed the automotive dealership financing industry to re-evaluate its paper-based processes. ESIGN and UETA permit the use of electronic records and signatures by prohibiting the denial of legal effect, validity, or enforcement of a signature or record solely because it is in electronic form. In addition, revisions to Article 9 of the Uniform Commercial Code (UCC), which governs secured transactions, have increased the legal certainty related to the use of electronic Records and Electronic Chattel Paper, including sales of Electronic Chattel Paper in the secondary markets.

This standard provides guidance and direction to the automotive dealership financing industry with respect to the creation, storage, and assignment of Electronic Chattel Paper for retail installment sales and leasing transactions where assignment of the Electronic Chattel Paper will be perfected by establishing "control" of the Electronic Chattel Paper pursuant to Article 9 of the UCC. This standard is not intended to establish requirements for the use of Electronic Chattel Paper that exceed those required by law or are inconsistent with those required by law.

**Retail Installment Sales/Lease Contracts** - Whether a transaction is a retail installment sale or a lease, at least two separate signatures are required in order for the transaction to be effective. The first signature is that of the Customer who signs as the debtor and grantor of a security interest in the vehicle in the case of a retail installment sale and as the lessee in the case of a lease. The second signature is that of the Dealer as the seller/creditor in the case of a retail installment sale and the lessor in the case of a lease. Additional signatures may also be necessary from the Customer and the Dealer or may be required from other parties such as a co-buyer or a guarantor. ESIGN, UETA, and Article 9 of the UCC may all, depending on the nature and the type of transaction, be applicable to establishing a valid and binding Contract in these two contexts.

**Electronic Chattel Paper** - The completed retail installment sale or lease contract is Chattel Paper owned by the Dealer. If the Chattel Paper is evidenced by a Record or Records consisting of information stored in an electronic medium, the Chattel Paper is Electronic Chattel Paper. The Dealer may choose to retain ownership of the Electronic Chattel Paper. However, the Dealer or a subsequent owner of the Electronic Chattel Paper may choose to assign the Electronic Chattel Paper and the assignee may perfect its interest in the Electronic Chattel Paper by establishing "control" of the Electronic Chattel Paper pursuant to Article 9 of the UCC.

Suggestions for the improvement or revision of this Standard are welcome. They should be sent to the X9 Committee Secretariat, Accredited Standards Committee X9, Inc., Financial Industry Standards, 275 West Street, Suite 107, Annapolis, MD 21403 USA. This Standard was processed and approved for submittal to ANSI by the Accredited Standards Committee on Financial Services, X9. Committee approval of the Standard does not necessarily imply that all the committee members voted for its approval.

The X9 committee had the following members:

Roy DeCicco, X9 Chairman  
Angela Hendershott, X9 Vice-Chairman  
Steve Stevens, Executive Director  
Janet Busch, Program Manager

<b>Organization Represented</b>	<b>Representative</b>
ACI Worldwide.....	Doug Grote
American Bankers Association.....	Diane Poole
American Express Company.....	David Moore
Bank of America.....	Daniel Welch
Bank of New York Mellon.....	Arthur Sutton
Blackhawk Network.....	Anthony Redondo
Bloomberg LP.....	Corby Dear
Capital One.....	Marie LaQuerre
Citigroup, Inc. ....	Karla McKenna
CLS Bank.....	Ram Komarraju
Conexus, Inc.....	Gray Taylor
CUSIP Service Bureau.....	Gerard Faulkner
Delap LLP.....	Andrea Beatty
Deluxe Corporation.....	Angela Hendershott
Diebold Nixdorf.....	Bruce Chapa
Discover Financial Services.....	Michelle Zhang
Dover Fueling Solutions.....	Steven Bowles
Dover Fueling Solutions.....	Bradford Loewy
eCurrency.....	David Wen
Federal Reserve Bank.....	Mary Hughes
First Data Corporation.....	Lisa Curry
FIS.....	Stephen Gibson-Saxty
Fiserv.....	Dan Otten
FIX Protocol Ltd - FPL.....	Jim Northey
Futurex.....	Ryan Smith
Gilbarco.....	Bruce Welch
Harland Clarke.....	John McCleary
IBM Corporation.....	Todd Arnold
Ingenico.....	Rob Martin
ISARA Corporation.....	Alexander Truskovsky
ISITC.....	Lisa Iagatta
ITS, Inc. (SHAZAM Networks).....	Manish Nathwani
J.P. Morgan Chase.....	Roy DeCicco
MagTek, Inc.....	Mimi Hart
MasterCard Europe Sprl.....	Mark Kamers
NACHA The Electronic Payments Association.....	Priscilla Holland
National Security Agency.....	Paul Timmel
Nautilus Hyosung.....	Joe Militello
NCR Corporation.....	David Norris
Office of Financial Research, U.S. Treasury Department.....	Thomas Brown Jr.
PCI Security Standards Council.....	Troy Leach
RouteOne.....	Chris Irving
RouteOne.....	Jenna Wolfe
SWIFT/Pan Americas.....	Karin DeRidder
SWIFT/Pan Americas.....	Frank Vandriessche
Symcor Inc.....	Debbi Fitzpatrick
TECSEC Incorporated.....	Ed Scheidt
The Clearing House.....	Sharon Jablon
U.S. Bank.....	John King
U.S. Commodity Futures Trading Commission (CFTC).....	Robert Stowsky
USDA Food and Nutrition Service.....	Kathy Ottobre
Vantiv LLC.....	John Hall
VeriFone, Inc. ....	Dave Faoro
Viewpointe.....	Richard Luchak

**ANSI X9.103-2004 (R2018)**

VISA.....	Kim Wagner
Wells Fargo Bank.....	Mark Schaffer

At the time this standard was approved, the X9C *subcommittee on Corporate Banking* had the following members:

David Repking, Chairman

<b>Organization Represented</b>	<b>Representative</b>
Tom Judd.....	American Bankers Association
Diane Poole.....	American Bankers Association
Gail Chapman.....	American Express Company
David Moore.....	American Express Company
Andi Coleman.....	Bank of America
Martin Milander.....	Bank of America
Todd Pack.....	Bank of America
Will Robinson.....	Bank of America
John Scully.....	Bank of America
Michael Smith.....	Bank of America
Daniel Welch.....	Bank of America
Bill Golembiewski.....	Bank of New York Mellon
Lisa Hays.....	Bank of New York Mellon
John Labarbera.....	Bank of New York Mellon
Greg Malosh.....	Bank of New York Mellon
Daniel Brown.....	BlackBerry Limited
Marie LaQuerre.....	Capital One
Rajendra Agashe.....	Citigroup, Inc.
Rene Schuurman.....	Citigroup, Inc.
Alan Thiemann.....	Conexus, Inc.
Angela Hendershott.....	Deluxe Corporation
Andy Vo.....	Deluxe Corporation
Bruce Chapa.....	Diebold Nixdorf
Ellen Heffner.....	ECCHO
Penny Tisdale.....	Etegrity L.L.C.
Todd Albers.....	Federal Reserve Bank
Guy Berg.....	Federal Reserve Bank
Alan Dupree.....	Federal Reserve Bank
Mary Hughes.....	Federal Reserve Bank
Heather Hultquist.....	Federal Reserve Bank
Brooke Imhoff.....	Federal Reserve Bank
Raphael Johnson.....	Federal Reserve Bank
Mark Kielman.....	Federal Reserve Bank
Janet LaFrence.....	Federal Reserve Bank
John Morris.....	Federal Reserve Bank
Patti Ritter.....	Federal Reserve Bank
Kalli Davidson.....	First Data Corporation
Jeff Deeds.....	FIS
Anne Finlayson.....	FIS
Isaac Rousel.....	FIS
Bud Beattie.....	Fiserv
Michael Branigan.....	Fiserv
Todd Arnold.....	IBM Corporation
Richard Kisley.....	IBM Corporation
Ernie Fiore.....	J.P. Morgan Chase



William Porto .....	J.P. Morgan Chase
David Repking .....	J.P. Morgan Chase
Glenn Bett .....	M&T Bank
John Dugan .....	M&T Bank
Priscilla Holland .....	NACHA The Electronic Payments Association
Paul Timmel .....	National Security Agency
Stephen Gawne .....	NCR Corporation
Ralph Poore .....	PCI Security Standards Council
Jay McMonagle .....	PNC Bank
Jim Beaubien .....	RouteOne
Dan Doman .....	RouteOne
Chris Irving .....	RouteOne
Justin Oesterle .....	RouteOne
Brad Rogers .....	RouteOne
Dana Visser .....	RouteOne
Jenna Wolfe .....	RouteOne
Melissa Kirk .....	Standard Register Company
Ed Scheidt .....	TECSEC Incorporated
Sharon Jablon .....	The Clearing House
Sonja Johnson .....	U.S. Bank
Randy Lade .....	U.S. Bank
Dave Faoro .....	VeriFone, Inc.
Tim Hirner .....	VeriFone, Inc.
Brad McGuinness .....	VeriFone, Inc.
Sotos Barkas .....	Wells Fargo Bank
Deborah Canale .....	Wells Fargo Bank
Andrew Garner .....	Wells Fargo Bank
Jeff Harmon .....	Wells Fargo Bank
Ann Kirk .....	Wells Fargo Bank
Laura Orcutt .....	Wells Fargo Bank
Mark Schaffer .....	Wells Fargo Bank
Jeff Stapleton .....	Wells Fargo Bank
Michelle Young .....	Wells Fargo Bank

This is a preview of "ANSI X9.103-2004 (R2...)". [Click here to purchase the full version from the ANSI store.](#)

# Motor Vehicle Retail Sale and Lease Electronic Contracting

## 1 Scope

The scope of this standard begins at the time of signing the Contract, inclusive of signature capture, and includes the creation, storage and assignment of Electronic Chattel Paper where the assignment will involve establishing control of the Electronic Chattel Paper. This standard addresses both electronically originated Chattel Paper and Tangible Chattel Paper that is subsequently converted to an electronic format. This standard does not address other documents involved in the process (e.g. titles, odometer statements, etc.), the data elements a Contract should contain, or the formatting of the Contract. In addition, this standard does not address the process or legal requirements of presenting Contracts to Customers, the requirements to determine enforceability of Electronic Signatures, or the privacy requirements arising out of the relationships among the parties.

This standard only addresses the creation, storage, and assignment of Electronic Chattel Paper where assignment involves establishing "control" of the Electronic Chattel Paper. It would not be necessary to satisfy most of the requirements set forth in this standard to establish a sufficient system of creating, storing, and assigning Electronic Chattel Paper if the assignee chose to perfect its interest in the Electronic Chattel Paper by filing a financing statement rather than by establishing "control" with respect to the Electronic Chattel Paper, or if the Dealer does not assign the Electronic Chattel Paper.

In addition, this standard only addresses retail installment sale and lease contracts in the automotive dealer financing industry. However, it may be useful in establishing a similar process for banks, credit unions, and finance companies that make secured loans directly to buyers to enable them to purchase vehicles.

The order in which the sections of this standard are presented is not intended to represent a solution or process flow. Notes and examples integrated in the text of this standard and the informative annexes located at the end of this standard are provided only to assist the reader with understanding or using this document. These elements are not part of this standard and are not requirements for implementing this standard.

This standard is not intended to dictate the use of a particular business process or technology. Therefore, this standard does not recommend or endorse any particular business, process, or technology solution for use in implementation.

## 2 Normative references

The following referenced documents are useful for the application of this document. For dated references, the latest edition of the referenced documents (including any amendments) applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ANSI/NIST –ITL 1-200, American National Standard for Information Systems- Data Format for the Exchange of Fingerprint, Facial & Scar Mark & Tattoo (SMT) Information.

ANSI X9.8 Part 1-2003: Banking – Personal Identification Number (PIN) management and security – Part 1: Basic Principles and requirements for online PIN handling in ATM and POS systems.