



Facilitating XML in ACH Payments *Executive Summary and Rules Description*

November 7, 2008

REQUEST FOR COMMENT

NACHA requests comments on a proposal to amend the *NACHA Operating Rules* entitled “Facilitating XML in ACH Payments.” Comments are due by January 9, 2009.

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Part I: Proposal Brief

This rules proposal would allow payment-related remittance information in an addenda record to certain ACH payments to be formatted in XML (eXtensible Markup Language), providing ACH Network participants with another option for moving business data. Currently, only data formatted in the ANSI ASC X-12, UN/EDIFACT or NACHA-endorsed banking convention standards are allowed. XML would provide businesses of various sizes with another alternative for achieving straight-through processing of payment-related information. Many businesses already use XML-formatted information for other business applications.

Specifically, this proposal would:

- Allow XML-formatted payment-related information to be included in an addenda record(s) with most of the existing Standard Entry Class (SEC) codes for which Payment Related Information is currently permitted; and
- Establish a code so that RDFIs can identify when XML-formatted addenda records are included with an ACH payment.

This proposal has business and technology impacts that may go beyond those typically considered in a NACHA Request for Comment. NACHA specifically requests that interested

parties circulate this RFC and help obtain input from organizations and departments that may be impacted, but that may not typically respond to NACHA RFCs.

Part II: Justification for the Proposal

This rules proposal is intended to enable greater use of the ACH Network for business-to-business (B2B) payments by allowing payment-related information to flow through the Network in XML format. Although the proposal would also allow XML-formatted information in certain other non-B2B transactions, NACHA expects that use of XML would occur predominantly in B2B transactions.

The recent growth in B2B payments through the ACH Network has been steady but incremental. In 2007 the number of ACH B2B payments increased by 9.5 percent to 1.9 billion, and the number of remittance advices transiting the Network increased by 12.4 percent to 878 million. While significant, even with this growth the majority of B2B payments are still made by check.

NACHA is currently researching several ideas which may make the ACH Network more attractive for B2B payments. This proposal is one method which can improve the ability of many small-to-medium enterprises (SMEs) to originate and receive ACH payments with remittance information, either to/from large businesses or to/from other SMEs. Enabling XML could position the Network for greater growth in B2B payments.

The information standards currently allowed in the Network for B2B payments are ANSI ASC X-12 and UN/EDIFACT, which are standards for electronic data interchange (EDI). Some businesses have not adopted these formats due to concerns about their complexity and implementation costs. In practice, EDI is primarily used among large trading partners with significant transaction volume.

A number of groups, including the consortia of large corporates and financial institutions, TWIST and IST Harmonization, are already moving payment-related information via XML. X-12 has built architecture around XML and included it in its standard. A proof of concept was managed by a subgroup of X-12 - CICA - that included J.P. Morgan Chase and the State of Louisiana. Significantly, NACHA's Electronic Billing Information Delivery Service (EBIDS) pilot is moving XML-formatted information among pilot participants through the ACH Network.

Many non-banking organizations are also using XML more extensively. Oracle and SAP both include XML options in their product offerings, although NACHA does not have information on the extent that payments-related information is exchanged. The International Organization for Standardization (ISO) has developed a standard for the use of XML, the ISO 20022, which is known as the Universal Financial Industry (UNIFI) message scheme.

It is important to note that with this proposal NACHA is not attempting to define or select a specific information formatting standard, but to provide ACH Network participants with another option for sending and receiving remittance information.

Part III: Economic Impact of the Proposal

Benefits of the Proposal

Enabling XML would add a functional capability in the ACH Network. In many cases, ACH payments with XML payment information would achieve straight-through processing of both payments and remittance information. It would also create an ACH solution that may be more suitable for SMEs than existing EDI capabilities.

This new ACH Network capability would allow both ODFIs and RDFIs to augment or provide new services, primarily to business customers. Many ODFIs will want to offer value-added payment-related services tied to either creating or translating XML remittance information. RDFIs could also expand their translation and business data delivery packages for corporate customers.

Currently, the ACH Operators offer EDI services to DFIs. The addition of an XML capability may enable the Operators to offer new payment-related information and translation services to DFIs.

Costs to Comply with the Proposal

The anticipated costs to comply with this proposal are limited for both ODFIs and RDFIs unless they choose to offer new value-added services. ODFIs would bear costs in developing new information services, but may be able to recover these costs. Because ODFIs can choose whether or not to offer such services, there would be no costs for mandatory changes to their ACH systems.

RDFIs would bear some costs to be able to recognize the new XML Addenda Type Code as indicated in addenda records. As payment-related information is already required to be provided to corporate Receivers within two banking days, most RDFIs serving corporate customers can at a minimum deliver basic EDI information today, and could use the same processes for XML-formatted data. RDFIs choosing to perform any translation of the information into formats requested by their business customers would have to be able to recognize the specific type of XML, and would incur some additional translation development costs that also may be recoverable. RDFIs that choose to deliver the data in raw form would still comply with the *Rules*. Because XML-formatted may be more human readable than EDI formatted-information, the receipt of XML-formatted information may actually lessen the burden on RDFIs in some cases.

For all ACH Network participants, there may be costs if the “bandwidth” of the Network would need to be increased. XML-formatted information will likely take more record space than existing information formats, and so may lead to a significant increase on the number of addenda records attached to CTX payments.

Part IV: Rules Framework and Implementation

Elements of the Proposal

- The Rules would allow payment-related information in an XML format to be included in an ACH addenda.
- The ACK, ATX, CCD, CIE, CTX, PPD, and WEB Standard Entry Class Codes would be available for XML transactions. (The number of addenda records available to convey XML data is restricted by the Standard Entry Class Code used.)
- A new Addenda Type Code would signify that the information included in the addenda record is formatted in XML.
- The first 5 characters of the Payment Related Information field of the first addenda record (Positions 4-8) would be used by the Originator to identify the type (schema) of XML that follows.

XML Format in the ACH Record

This proposal would modify the *Rules* to designate XML as a NACHA sanctioned format for payment related information in addenda records. Currently, only data formatted in the ANSI ASC X-12, UN/EDIFACT or NACHA-endorsed banking convention standards are allowed. The addition of XML to this list would provide a fuller complement of choices for businesses to exchange funds and payment data in one package.

Allowable Standard Entry Class Codes

The proposal would enable XML-formatted data for most Standard Entry Class (SEC) codes that permit addenda records carrying Payment Related Information. Specifically, XML-formatted remittance information would be permitted for the following SEC codes: ACK, ATX, CCD, CIE, CTX, PPD and WEB. NACHA believes that XML information would be most commonly used with the CTX code, because it is a B2B transaction that allows for the largest number of addenda records. Allowing XML for all these SEC codes, however, would provide consistency and allow use for those DFIs that wish to use it. NACHA is not proposing to allow XML-formatted information for the DNE and ENR codes because these are transactions limited to specific Federal government applications. NACHA is also not proposing to allow XML-formatted information for the TRX code because the code is limited to check truncation transaction carrying National Association of Check Safekeeping syntax.

NACHA specifically requests comment on this approach on the inclusion and exclusion of the SEC codes identified. NACHA also seeks comment on whether financial institutions and their customers would be interested in sending XML-formatted payment information with SEC codes for which only one addenda record is permitted (CCD, CIE, PPD, WEB), and the B2B acknowledgment codes (ACK, ATX).

As of the September 18, 2009 effective date, IAT entries will accommodate the transmission of optional remittance information. A maximum of two optional addenda records will be able to accompany an IAT entry, within which a maximum of 160 characters (80 characters per addenda record) of remittance information can be included. This will enable standard 4x35 remittance information in a SWIFT message or Fedwire-formatted record to be included within an IAT

entry. There are no formatting specifications for the optional remittance information, and therefore XML-formatted data will be allowed with IAT.

Identifying XML-Formatted Addenda Records

This proposal provides for a new addenda type code to indicate an XML-formatted addenda record. Addenda Type Code 06 would indicate that the ACH record carries XML data. Currently, the *Rules* require that an RDFI to deliver payment related information conveyed within addenda records transmitted with CTX, CCD and CIE entries if requested by the business receiver. This requirement would cover any XML remittance data transactions with a payment.

Part V: Other Issues

XML Schema

Currently, there are over 600 different schema of XML that could be used for remittance data. Even if the market converges toward a standard such as the ISO 20022, the expectation is that there will still be at least several versions or country specific versions in use. While XML-formatted information is more human readable, the “tags” that accompany each data element can have different meanings based on the schema of XML being used.

This proposal does not specify the use of a particular schema of XML, since the messages would contain an identifier that designates the schema. This approach allows for future adaptability should the market settle on a single standard. However, in the meantime, it may pose a challenge for those RDFIs that wish to provide translation services for their customers. NACHA specifically requests comment on this approach not to specify a single XML schema.

Addenda Record Capacity

A further consideration is that XML is a “verbose” language when compared to the ASC X-12 formats. X-12 was written to be machine-readable and, therefore, is very space efficient when building data files. Conversely, XML was built to be more easily read and, as a result, takes up significantly more space. For very large remittance advices, the current limit on the amount of data that can be carried by one CTX transaction (9,999 addenda records, each of 80 characters) may be insufficient. Although it is possible to split a transaction into two or more entries, the resulting complications may cause some potential participants to discount the use of XML. NACHA specifically requests comment on whether the 9,999 addenda records allowed with a CTX transaction would be sufficient to carry large remittance advices in XML format. If not, are there potential solutions to this problem, and what are their potential costs?

ACH Network “Bandwidth”

Currently, the average CTX payment includes 13 addenda records. With the addition of a more “verbose” remittance information standard, there is the potential for a significant increase in the number of addenda records with CTX payments that transit the ACH Network. NACHA specifically requests comment from DFIs and ACH Operators on the potential impact to the Network of processing significantly more addenda records, whether there is any threshold above which the number of records becomes a detriment to ACH processing, and any potential costs associated with increasing the ability to handle a larger number of addenda records.

Information Privacy and Security

Because XML-formatted information may be human-readable, it is possible that ACH addenda records carrying customers' private information may be viewed by unintended parties. NACHA requests comment on the extent to which this could be an issue, and what potential solutions to this issue are.

Part VI: Technical Summary

The following changes to the technical language within the *Rules* are included in this proposal:

- Appendix One, Section 1.5 (File Structure) would be expanded to allow XML remittance data in the addenda records for ACK, ATX, CCD, CIE, CTX, PPD and WEB entries.
- Appendix Two, Section 2.1 (Record Formats) – The formats in the sections listed below would each be expanded to allow for the inclusion of Type Code '06' addenda records containing XML remittance data:
 - Appendix Two, Subsection 2.1.8 (Sequence of Records for CCD Entries)
 - Appendix Two, Subsection 2.1.9 (Sequence of Records for CIE Entries)
 - Appendix Two, Subsection 2.1.10 (Sequence of Records for CTX Entries)
 - Appendix Two, Subsection 2.1.17 (Sequence of Records for PPD Entries)
 - Appendix Two, Subsection 2.1.23 (Sequence of Records for WEB Entries)
- Appendix Two, Section 2.2 (Code Values) would be modified to include a new Addenda Type Code (type '06') to indicate addenda containing XML remittance data. Modifications would be made to Addenda Type Code '05' to clarify its use for non-XML remittance data.
- Appendix Two, Section 2.3 (Glossary of File Format Data Elements) would be modified to expand the description of Payment Related Information to include XML-formatted remittance data for the ACK, ATX, CCD, CIE, CTX, PPD and WEB SEC codes and to note the schema of XML contained in the addenda.
- Appendix Three, Section 3.6 (Automatic Entry Detail Return Entry) – ACH Operator Return Reason Code R25 (Addenda Error) would be revised to address (1) the return of an entry using Addenda Type Code 06 with an SEC code other than ACK, ATX, CCD, CIE, CTX, PPD and WEB; and (2) the return of a CTX entry bearing more than one Addenda Type Code.
- Appendix Seven, Section 7.1 (Acknowledgement Entries) would be expanded to allow Addenda Type Code 06 with ACK and ATX entries.
- Appendix Seven, Section 7.4 (Record Formats for Acknowledgment and Refused Acknowledgment Entries) – The formats in the sections listed below would each be expanded to allow for the inclusion of Type '06' addenda records containing XML remittance data:
 - Appendix Seven, Subsection 7.4.2 (Entry Detail Record Format for ACK Entries)
 - Appendix Seven, Subsection 7.4.3 (Entry Detail Record Format for ATX Entries)

Part VII: Implementation

An implementation date for this proposal of March 19, 2010 is recommended to allow time for procedural and software changes for those that want to upgrade their services. This date should allow the industry sufficient time after the implementation of the new SEC Code IAT to incorporate necessary software changes.