

Comparison of Different Funds Transfer Systems: Selected Issues.

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Element	Wire	Real Time Payment System (RTP)	FedNow	Automated Clearing House (ACH)
Scope/Description of Transaction	Electronic interbank credit fund transfers (domestic or international) through The Clearing House Interbank Payment System (CHIPS) or the Federal Reserve's FedWire System.	Electronic interbank credit fund transfers (currently supporting limited international availability with Immediate Cross-Border Payments pilot) through The Clearing House Payment Company's RTP system.	Electronic interbank credit fund transfers through Federal Reserve's FedNow system (planned launch July 2023).	Electronic interbank credit and debit fund transfers (domestic and international) through The Clearing House's Electronic Payments Network (EPN) and the Federal Reserve (FedACH).
Source of Law/Rules	UCC Article 4A. ¹ Regulation E – Narrowly applicable to certain consumer transactions only. ² CHIPS Rules and Administrative Procedures. ³	RTP Participation Rules. ⁴ RTP System Operating Rules. ⁵ RTP Participation Agreements. ⁶ RTP Guidelines Playbooks & Checklists. ⁷ RTP Rules Interpretations. ⁸ UCC Article 4A, made applicable by Regulation J. ⁹ Electronic Fund Transfer Act ¹⁰ and Regulation E - Applicable to consumer transactions only. ¹¹	FedNow Operating Procedures. ¹² Federal Reserve Operating Circular 8. ¹³ FedNow Readiness Guides. ¹⁴ FedNow Service Technical Specifications. ¹⁵ UCC Article 4A, made applicable by Regulation J, unless Regulation E applies. ¹⁶ Electronic Fund Transfer Act ¹⁷ and Regulation E - Applicable to consumer transactions only. ¹⁸	NACHA Rules. ¹⁹ UCC Article 4A - Applicable to credit transactions only. ²⁰ Electronic Fund Transfer Act ²¹ and Regulation E - Applicable to consumer transactions only. ²²
Fund Availability - Time to Settle & Clear	One to two banking days. Multiple variables impact the speed of the wire including: • time of day that the wire transfer is requested; • whether the target account & initiating account are at the same financial institution.	Allows for availability of funds to payee within seconds. Payee's bank must reply within five seconds to payment message. ²³ Payor's bank must push funds to payee immediately, if accepted. ²⁴ Settlement is final when the RTP System has recorded both the decrease in the payor bank's net position and the increase in the payee bank's net position. ²⁵	Allows for availability of funds to payee within seconds. Payee's bank must confirm response to sending message within 20 seconds. ²⁶ Settlement is final at the earlier of the FedNow Service recording the transaction or when the FedNow Service sends an Advice of Credit message. ²⁷	Regular ACH: transactions can take one to three banking days, or even longer, depending on the type of transaction (credit or debit), because they are processed in batches. ²⁸ Same Day ACH: transactions may be processed in one banking day but may extend to an additional banking day if batched transactions are processed after daily deadline. ²⁹
Transaction limits	Varies by financial institution but potentially unlimited (subject to system technical limitations).	Default - Up to \$1,000,000, at discretion of participating bank. ³⁰	Default - Up to \$100,000. ³¹ Adjustable up to \$500,000 using FedNow Profile configuration. ³²	Regular ACH – Unlimited. Same Day ACH - Up to \$1,000,000. ³³

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<p>Finality of Payment (return procedures)</p>	<p>Under UCC Article 4A, unless a funds-transfer system rule provides otherwise, payment to the payee’s bank is generally final and non-reimbursable.³⁴</p> <p>However, the wire instruction may be cancelled if the cancellation request is received by the payee’s bank in sufficient time before the payee’s bank has accepted the wire or, if the wire has been accepted by the payee’s bank, the payee’s bank agrees to the cancellation.³⁵</p> <p>The payee’s bank may agree to the cancellation if the payee was not entitled to receive the payment as in the case of a wire transfer request made by a fraudster.³⁶</p> <p>The payee’s bank even then is not obligated to agree to the cancellation.</p>	<p>Payment is irrevocable except for voluntary returns.³⁷</p> <p>A Request for Return of Funds message is initiated by the payor's bank upon notification from the payor of an erroneous or fraudulently induced payment.³⁸</p> <p>Payee's bank must respond with a Message Status Report confirming receipt of the Request for Return of Funds message.³⁹</p> <p>Payee's bank must send its Response to Request for Return of Funds, accepting or rejecting the return request, within ten banking days of receiving the Request for Return of Funds.⁴⁰</p> <p>A payee making a Request for Payment must warrant that the Request for Payment (1) is made for a legitimate purpose and (2) is not part of a fraudulent, abusive, or unlawful scheme.⁴¹</p> <p>One exception to the above is if a Request for Payment warranty is breached then the payee bank is liable for returning the funds within five business days of the determination that the warranty was breached, even if those funds are no longer available.⁴²</p>	<p>Payment is irrevocable except for voluntary returns.⁴³</p> <p>Payor's bank may use a return request to ask a payee's bank to return a portion or full amount of a previously settled Customer Credit Transfer.⁴⁴</p> <p>Payee's bank must respond no later than midnight of the next standard business day. The response must indicate whether the return request is:</p> <ul style="list-style-type: none"> • accepted; • partially accepted; • rejected; • pending.⁴⁵ <p>For purposes of this section, standard business days are defined as Monday through Friday, except holidays.⁴⁶</p>	<p>As ACH transactions may be processed via debit or credit. For present purposes an “originator” is the party that originates either the credit or debit transaction. And a “receiver” is the counterparty. "Originator's bank" and "receiver's bank" refer to the financial institution of the originator and receiver. Depending on whether the transaction is a credit or debit will determine which party is the “payor” or “payee.”</p> <p><u>Receiver's Bank</u></p> <p>The receiver’s bank may request return of funds for any reason, with narrow exceptions. Reasons for requesting return may be:</p> <ul style="list-style-type: none"> • the receiver does not have sufficient funds; • the authorization for payment has been revoked; • the originator is not known to the customer; • inconsistencies between payment request and bank credentials.⁴⁷ <p>Receiver's bank generally must transmit request for return of funds no later than the second banking day following the settlement date of the original payment message. For consumer transactions where the payment authorization has been revoked or the originator is not known to the receiver, a request for return of funds may be made within 60 days of initial payment message.⁴⁸</p> <p>For certain entries, if a receiver's bank receives written notification from a receiver that an entry debited to the receiver’s account was, in whole or in part, not authorized by the receiver, the receiver's bank may transmit a return to the originator's bank after the time for return has expired, provided that the originator's bank agrees, either verbally or in writing, to accept the late return.⁴⁹</p> <p>The originator's bank may dishonor the return entry requested by the receiver's bank if:</p> <ol style="list-style-type: none"> (a) the receiver's bank failed to return the entry within the time limits established by the NACHA rules; (b) information in one or more of the following fields of the return is incorrect or missing: <ul style="list-style-type: none"> (i) DFI Account Number; (ii) Original Entry Trace Number; (iii) Amount; (iv) Individual Identification Number/Identification Number; (v) Transaction Code; (vi) Company Identification Number; (vii) Effective Entry Date; (c) the return was misrouted; (d) the return was a duplicate; (e) the return is coded as the return of an erroneous entry

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				<p>at the request of the originator's bank, but the originator's did not make such a request;</p> <p>(f) the return is coded as a permissible return but the originator's bank did not agree to accept the return ;</p> <p>(g) the return would result in an unintended credit to the receiver because (1) the return relates to a debit erroneous entry, (2) the originator's bank has already originated a credit reversing to correct the erroneous entry, and (3) the originator's bank has not received a return of that credit; or</p> <p>(h) the return would result in an unintended credit to the receiver because (1) the return relates to a debit reversing entry that was intended to correct a credit erroneous entry, and (2) the originator's bank has not received a return of that credit erroneous entry.⁵⁰</p> <p>The receiver's bank may contest the dishonor and originator's bank must return the funds. Further resolution must be pursued outside of the ACH Network.⁵¹</p> <p><u>Originator's Bank</u></p> <p>The originator's bank may initiate a reversal when:</p> <ul style="list-style-type: none"> • payment is a duplicate of one previously initiated by the originator's bank; • there are discrepancies between the information concerning the transaction with respect to parties, date, or amount of transaction.⁵² <p>An originating bank may initiate a reversal entry within five business days of the initial transaction.⁵³</p>
Fraud Risks and Mitigation	<p>Increased fraud risk for wire is attributable to:</p> <ul style="list-style-type: none"> • familiarity of fraudsters with wire process; • fraudsters have developed sophisticated schemes involving social engineering. <p>Mitigation includes:</p> <ul style="list-style-type: none"> • prefunding requirement for CHIPS participants;⁵⁴ • customer education; • moving to adopt the ISO 20022 messaging standard (a common platform for the development of messages, more information available at: https://www.iso20022.org/about-iso-20022);⁵⁵ 	<p>Fraud risk for RTP is generally lower than wire and ACH because the RTP platform has the following features:</p> <ul style="list-style-type: none"> • prefunding requirement;⁵⁷ • multifactor authentication (a user is granted access only after successfully presenting two or more of the following: knowledge, possession, or inherence);⁵⁸ • payments are irrevocable;⁵⁹ • tokenization to mask account numbers (operated by the TCH's token service);⁶⁰ • support ISO 20022 standard;⁶¹ • prohibit correspondent banking relationships.⁶² <p>In addition, legal recourse under Regulation E and UCC Article 4A are available. See RTP Allocation of Liability/Loss for more detail.</p>	<p>Fraud risk for FedNow is generally lower than wire and ACH because the FedNow platform has the following features:</p> <ul style="list-style-type: none"> • multifactor authentication;⁶³ • payments are irrevocable;⁶⁴ • support ISO 20022 standard.⁶⁵ <p>In addition, legal recourse under Regulation E and UCC Article 4A are available. See FedNow Allocation of Liability/Loss for more detail.</p>	<p>Increased fraud risk for ACH is attributable to:</p> <ul style="list-style-type: none"> • debit transaction support; • wide availability of account numbers and routing information; • familiarity of fraudsters with the ACH process. <p>Mitigation includes:</p> <ul style="list-style-type: none"> • NACHA warranty of authorization rules;⁶⁶ • legal recourse under Regulation E and UCC Article 4A.⁶⁷

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	<ul style="list-style-type: none"> • legal recourse under Regulation E and UCC Article 4A.⁵⁶ 			
Allocation of Liability/Loss	<p>Allocation of liability differs based on the nature of the transaction.</p> <p>For commercial wires, UCC Article 4A controls and the loss generally falls on the customer if the wire request was authorized by the customer or, whether or not authorized, the customer used a commercially reasonable security procedure offered by the bank, the bank proves that it followed the procedure in good faith, and the customer fails to prove that there was interloper fraud. Interloper fraud occurs when the fraudster was not a person entrusted by the customer with duties to act for the customer in requesting the wire or who gained access the customer's transmitting facility from a source not controlled by the customer.⁶⁸ CHIPS rules provide that a loss from a fraudulent transfer originating at a participant shall be borne by such participant.⁶⁹</p> <p>For a payment order sent in compliance with the customer's bank's security procedure but which should have been detected by the receiving bank under the procedure as an erroneous payment order, the loss falls on the customer's bank.⁷⁰</p> <p>CHIPS rules require that TCH maintain a standard financial institution bond and computer crime policy. If TCH believes</p>	<p>RTP System Operating Rules do not state who bears liability or loss for unauthorized payments (but see RTP Finality of Payment above concerning return of payments).</p> <p>Between payor and payor's bank either Regulation E (for consumer transactions) or UCC Article 4A (for all other transactions) apply.⁷³</p> <p>Where UCC Article 4A applies, for a payment order sent in compliance with the customer's bank's security procedure but which should have been detected by the receiving bank under the procedure as an erroneous payment order, the loss falls on the customer's bank.⁷⁴</p>	<p>FedNow Operating Procedures do not state who bears liability or loss for unauthorized payments (but see FedNow Finality of Payment concerning return of payments).</p> <p>Between payor and payor's bank either Regulation E (for consumer transactions) or UCC Article 4A (for all other transactions) apply.⁷⁵</p> <p>Where UCC Article 4A applies, for a payment order sent in compliance with the customer's bank's security procedure but which should have been detected by the receiving bank under the procedure as an erroneous payment order, the loss falls on the customer's bank.⁷⁶</p>	<p>Allocation of liability differs based on the nature of the transaction.</p> <p>For commercial credits and debits, NACHA rules and UCC Article 4A control with liability borne by the originator's bank/originator. Ultimately, an originator's bank that bears loss (or pursues an action against the originator) must pursue claims outside of the ACH system (see ACH Finality of Payment row concerning return of payments).⁷⁷</p> <p>For consumer debits and credits, NACHA rules control and generally allow a receiver's bank to reverse a transaction within 60 days of settlement (see Finality of Payment above for exceptions).⁷⁸</p> <p>Disputes between banks are subject to arbitration.⁷⁹</p> <p>Regulation E error resolution requirements apply where NACHA rules are silent.⁸⁰</p>

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	<p>an event is covered by the above it will submit a proof of loss. If TCH receives payment on the proof of loss, TCH will transfer some or all of such payment to any Participant(s) sharing in such loss.⁷¹</p> <p>For present purposes Regulation E is inapplicable to FedWire and CHIPS wires. (Regulation E applies to remittance transfers outside of the US).⁷²</p>			
<p>Requests for Payment ("RfPs")</p>	<p>Not supported.</p>	<p>RfPs supported for authorized use cases:</p> <ul style="list-style-type: none"> • for a business to business (B2B) transaction; • for an account to account (A2A) transaction; • for a business to consumer (B2C) transaction that: <ol style="list-style-type: none"> i. seeks payment for a recurring consumer service or financial obligation; ii. seeks payment for a non-recurring consumer service that is performed and paid for at a consumer's home, such as lawn care, house cleaning, or repairs; or <ol style="list-style-type: none"> iii. seeks payment of (a) an initial deposit at the time of opening a new deposit account; or (b) a deposit or initial payment or payment that fully pays the outstanding balance or amount owed for a financial obligation that will involve (or did involve) multiple payments such as rent, an installment loan, or a mortgage.⁸¹ <p>If Request for Payment warranty is breached funds must be returned within five business days.⁸²</p>	<p>RfPs supported with no stated use case limitations under current rules.⁸³</p>	<p>Not supported, but network supports direct debits from payor's accounts.⁸⁴</p>

Note: For purposes of this chart the term "Banking Day" is defined as that part of any business day on which an office of a bank is open to the public for carrying on substantially all of its banking functions. With reference to an ACH Operator, a Banking Day is any day on which the applicable facility of such ACH Operator is being operated.

APPENDIX

¹ UCC § 4A-104 (1); UCC § 4A-102; CHIPS Administrative Rules and Procedures Section 3.a. Regulation E applies to an international remittance transfer (a remittance transfer to a recipient outside of the United States) which is an “electronic funds transfer” (i.e., by a consumer) covered by Regulation E. UCC Article 4A generally applies to an international remittance transfer that is not an “electronic funds transfer” covered by Regulation E. See UCC § 4A-108 (2012). However, because Wyoming, the U.S. Virgin Islands, and Puerto Rico have not adopted the 2012 amendments to UCC § 4A-108, Regulation E applies to all international remittance transfers in those states, even those that are not by a consumer.

² 12 CFR § 1005.3(c)(3); 12 CFR § 1005.30 (e); CHIPS Administrative Rules and Procedures Section 3.b.

³ CHIPS Rules and Administrative Procedures.

⁴ RTP Participation Rules Section I.A.

⁵ RTP System Operating Rules I.F.1.a.

⁶ RTP Participation Agreement.

⁷ RTP Guidelines Playbooks & Checklists.

⁸ RTP Rules Interpretations.

⁹ RTP System Operating Rules Section I.F.1.b.

¹⁰ 15 U.S.C. § 1693 et seq.

¹¹ RTP System Operating Rules Section I.F.2.

¹² FedNow Operating Procedures Section 2.

¹³ Federal Reserve Operating Circular 8 Section 1.1.

¹⁴ FedNow Readiness Guide.

¹⁵ FedNow Service Technical Overview and Planning Guide.

¹⁶ 12 CFR § 210.40 (b). Regulation E applies to an international remittance transfer (a remittance transfer to a recipient outside of the United States) which is an “electronic funds transfer” (i.e., by a consumer) covered by Regulation E. UCC Article 4A generally applies to an international remittance transfer that is not an “electronic funds transfer” covered by Regulation E. See UCC § 4A-108 (2012). However, because Wyoming, the U.S. Virgin Islands, and Puerto Rico have not adopted the 2012 amendments to UCC § 4A-108, Regulation E applies to all international remittance transfers in those states, even those that are not by a consumer.

¹⁷ 15 U.S.C. § 1693 et seq.

¹⁸ 12 CFR § 210.40 (b)(4). In its regulations governing the FedNow service, the Board of Governors of the Federal Reserve System declined to exempt FedNow transfers from Regulation E in parallel with the exemption for wires under the FedWire service. *See id.* (“A funds transfer from a consumer originator or a funds transfer to a consumer beneficiary could be carried out through the FedNow Service and could potentially be subject to the EFTA and Regulation E (12 CFR part 1005) implementing it. If so, the funds transfer continues to also be governed by subpart C, except that, in the event of an inconsistency between the provisions of subpart C and the EFTA, the EFTA shall prevail to the extent of the inconsistency.”).

¹⁹ NACHA Operating Rules Section 1.1.

²⁰ NACHA Operating Rules Section 1.8.

²¹ 15 U.S.C. § 1693 et seq.

²² 12 CFR § 1005.3 (a).

²³ RTP Participant Self-Audit Workbook Topic 12.

²⁴ RTP System Operating Rules V.E.1.a.

²⁵ RTP System Operating Rules VI.E.6.

²⁶ FedNow(SM) Service Readiness Guide.

²⁷ FedNow Operating Rules 4.a.

²⁸ NACHA ACH Processing Schedule.

²⁹ NACHA ACH Processing Schedule.

³⁰ RTP System Operating Rules, Rule 1.C.(2).

³¹ FedNow pricing press release, available at: <https://www.frbervices.org/news/press-releases/012722-fednow-pricing-announcement>.

³² FedNow Services Readiness Guide.

³³ NACHA News, available at: <https://www.nacha.org/news/same-day-ach-expansion-1-million-begins-today>.

³⁴ See generally Part 2 of UCC Article 4A..

³⁵ UCC 4A-211(b) and (c).

³⁶ UCC 4A-211 (c).

³⁷ RTP System Operating Rules Section 1.B.

³⁸ RTP System Operating Rules VII.C; RTP Customer Documentation System Time-Out Request for Return of Funds Section 2.1.1.

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- ³⁹ RTP System Operating Rules VII.C; RTP Customer Documentation System Time-Out Request for Return of Funds Section 2.1.1.
- ⁴⁰ RTP System Operating Rules VII.C.2.
- ⁴¹ RTP System Operating Rules VII.B.2.d.
- ⁴² RTP System Operating Rules VII.B.2, RTP System Operating Rules VII.C.7.d.
- ⁴³ FedNow Operating Procedures Section 15.2.a.
- ⁴⁴ FedNow Operating Procedures Section 15.2.a.
- ⁴⁵ FedNow Operating Procedures Section 15.2.b.
- ⁴⁶ FedNow Operating Procedures Section 15.2.b.
- ⁴⁷ NACHA Operating Rules Section 3.2.
- ⁴⁸ NACHA Operating Rules Section 3.2, NACHA Operating Rules Section 3.8.3
- ⁴⁹ NACHA Operating Rules Appendix 4.2.
- ⁵⁰ NACHA Operating Rules Section 2.13.6.
- ⁵¹ NACHA Operating Rules Section 3.8.5.2.
- ⁵² NACHA Operating Rules Section 2.10.
- ⁵³ NACHA Operating Rules Section 2.9.3.
- ⁵⁴ CHIPS Rules and Administrative Procedures Rule 11.
- ⁵⁵ Fedwire Funds Services ISO 20022 Frequently Asked Questions (revised as of April 2023), available at: [Fedwire Funds Services ISO 20022 Frequently Asked Questions](#).
- ⁵⁶ UCC § 4A-202; 12 CFR § 1005.33.
- ⁵⁷ RTP System Operating Rules Section 3.C.1.
- ⁵⁸ RTP System Operating Rules Section 3.A.1.
- ⁵⁹ RTP System Operating Rules Section 1.B.
- ⁶⁰ RTP System Operating Rules Section 1.I.1.
- ⁶¹ RTP System Operating Rules Section 1.D.
- ⁶² RTP System Operating Rules Section 2.B.
- ⁶³ Protecting Against Instant Payment Fraud FedNow, available at: <https://explore.fednow.org/resources/fraud-at-a-glance.pdf>.
- ⁶⁴ FedNow Operating Procedures Section 15.2.a.
- ⁶⁵ Protecting Against Instant Payment Fraud FedNow, *supra*. n. iix.
- ⁶⁶ NACHA Operating Rules Section 2.4.1.1.
- ⁶⁷ 12 CFR § 1005.6, UCC § 4A-202 (c).
- ⁶⁸ UCC § 4A-202.
- ⁶⁹ CHIPS Rules and Administrative Procedures Section 16.A.
- ⁷⁰ UCC § 4A-205.
- ⁷¹ CHIPS Rules and Administrative Procedures Section 16.B.
- ⁷² 12 CFR § 1005.30.
- ⁷³ UCC § 4A-202, 12 CFR § 1005.6.
- ⁷⁴ UCC § 4A-205.
- ⁷⁵ UCC § 4A-202, 12 CFR § 1005.6.
- ⁷⁶ UCC § 4A-205.
- ⁷⁷ UCC § 4A-202, NACHA Operating Rules Section 1.1.
- ⁷⁸ NACHA Operating Rules Section 1.1.
- ⁷⁹ Available at: <https://www.nacha.org/arbitration>.
- ⁸⁰ 12 CFR § 1005.6.
- ⁸¹ RTP Rules Interpretation Permissible Uses for Request for Payment Messages.
- ⁸² RTP System Operating Rules VII.C.7.d.
- ⁸³ FedNow Resources.
- ⁸⁴ NACHA Operating Guidelines.