

Payment Systems Overview

PRESENTED BY:

MACHA/PAR

262-345-1245 OR

800-453-1843

Agenda

Check Payments

FedWire Funds

Card Payments

RTP

FedNow

Check Payments

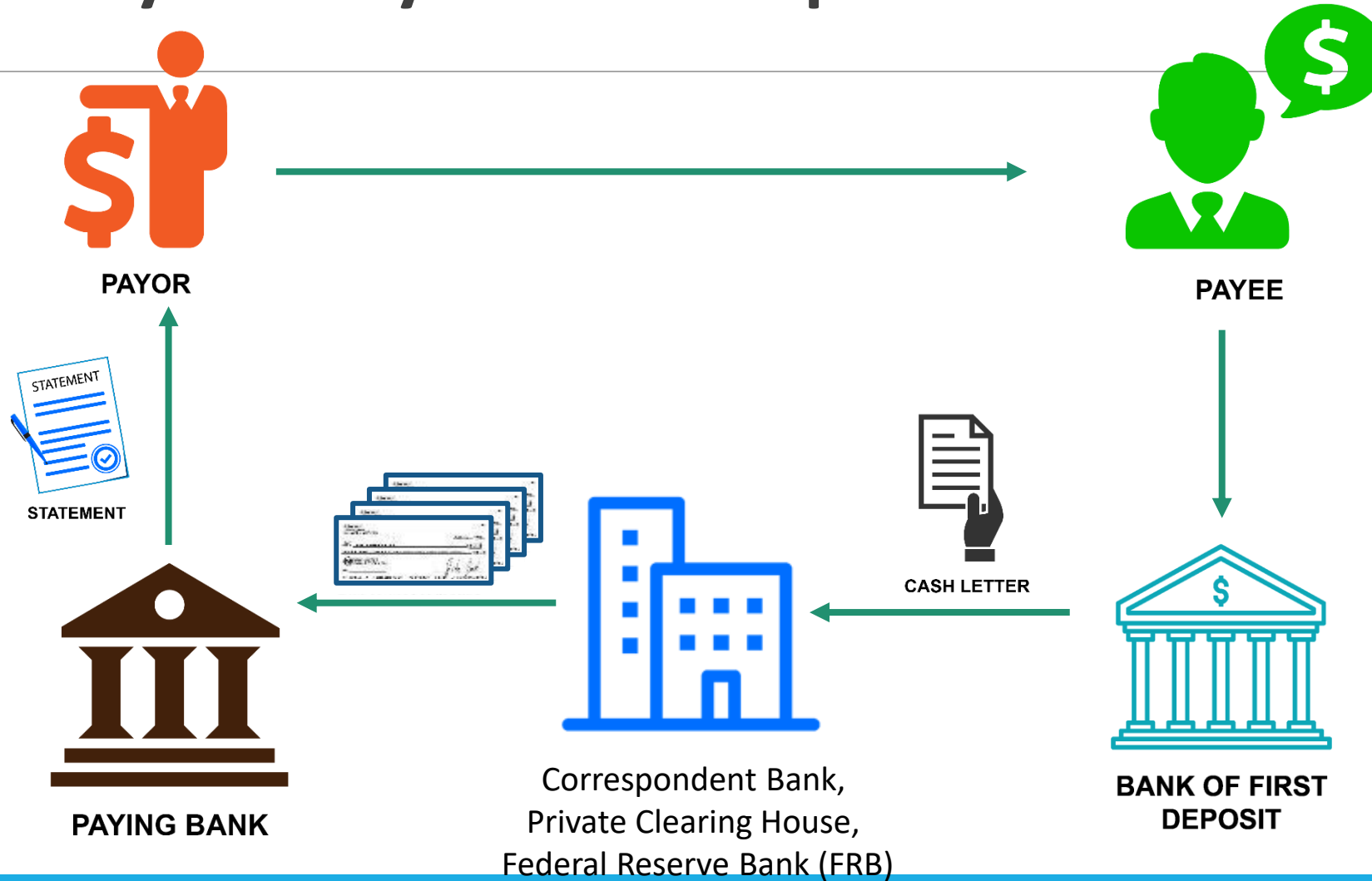
Check Payments & Processing

One of world's oldest forms of payment still extensively used in United States

Banking conventions that advanced check processing

- Routing number policy
 - Adopted by the American Bankers Association (ABA) in 1911
 - Uniquely identifies any depository institution on which check is drawn
- Magnetic Ink Character Recognition (MICR)
 - National standard for imprinting checks with machine-readable characters in magnetic ink

Check Payment System Participants



Check Payment System Participants

Payor

- Party obligated to pay on a check
- Known as check writer, maker or drawee
- Comparable to Receiver of ACH debit entry



Payee

- Party(ies) due payment indicated on check
- Comparable to Originator of debit ACH entry



Check Payment System Participants

Bank of First Deposit (BOFD)

- Institution at which check is deposited
- Referred to as depository bank or payee's depository financial institution
- Comparable to ODFI for ACH debit entry



Correspondent Bank

- Private depository institution, Bankers' Bank, or Federal Reserve Bank providing clearing or settlement services to paying bank or collecting bank



Check Payment System Participants

Paying Bank

- Depository institution associated with routing number encoded in MICR line of check
- Also called payor's depository financial institution, payor bank, or payor's bank
- Comparable to RDFI for ACH debit entry



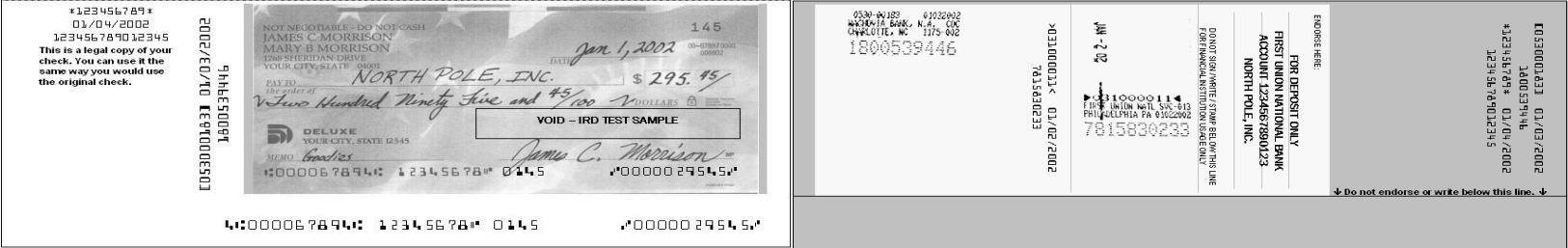
Check Payment System Participants

Truncating Bank

- Institution that creates image of original check

Reconverting Bank

- Financial institution that creates Substitute Check (or Image Replacement Document (IRD))



Check Clearing and Collection

Check Clearing

- Refers to physical path check follows

Check Collection

- Refers to process of ensuring funds represented by check are debited from and credited to appropriate accounts

On-Us/Transit Checks

All checks are classified as local items

On-us checks

- Payor and Payee have accounts at same financial institution

Transit checks

- Sent to another depository institution for collection
- Sometimes through one or more intermediary financial institutions

Electronic Check/Electronic Returned Check

Electronic image of, and electronic information derived from paper check or paper returned check, respectively, that:

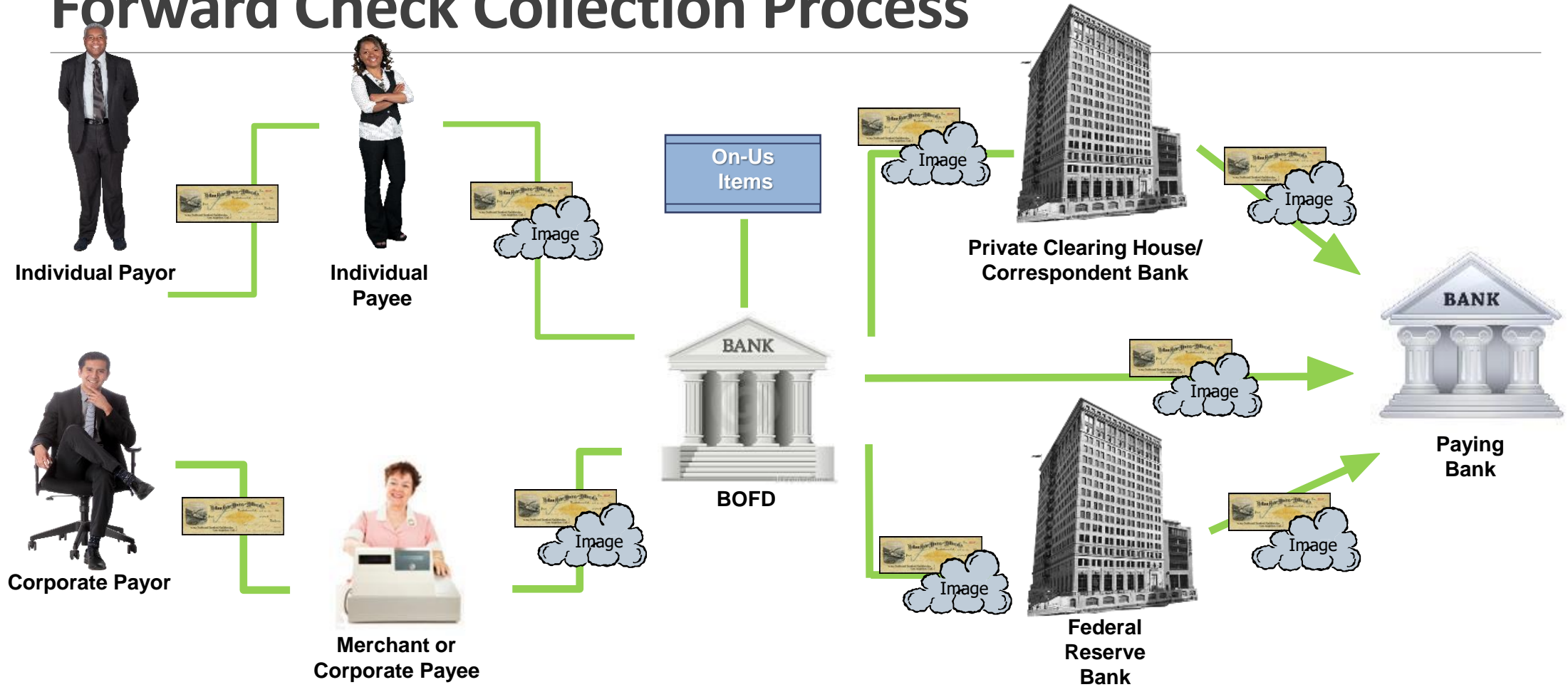
- Is sent to receiving bank pursuant to agreement between the sender and receiving bank, and
- Conforms with ANS X9.100-187

Additional Check Clearing Paths

Transit checks can be cleared and collected via:

- Electronic check generated by BOFD or Collecting Bank downstream and transmitted to Paying Bank
- Electronic check generated by BOFD or Collecting Bank that is transmitted to Clearing House or other clearing facility
- Clearing House generates Substitute Check or Image Replacement Document (IRD) to present to Paying Bank
- ACH debit entry based on information in MICR line
 - ARC, BOC or POP

Forward Check Collection Process



Legal Framework for Check Payment Process

ECCHO Rules

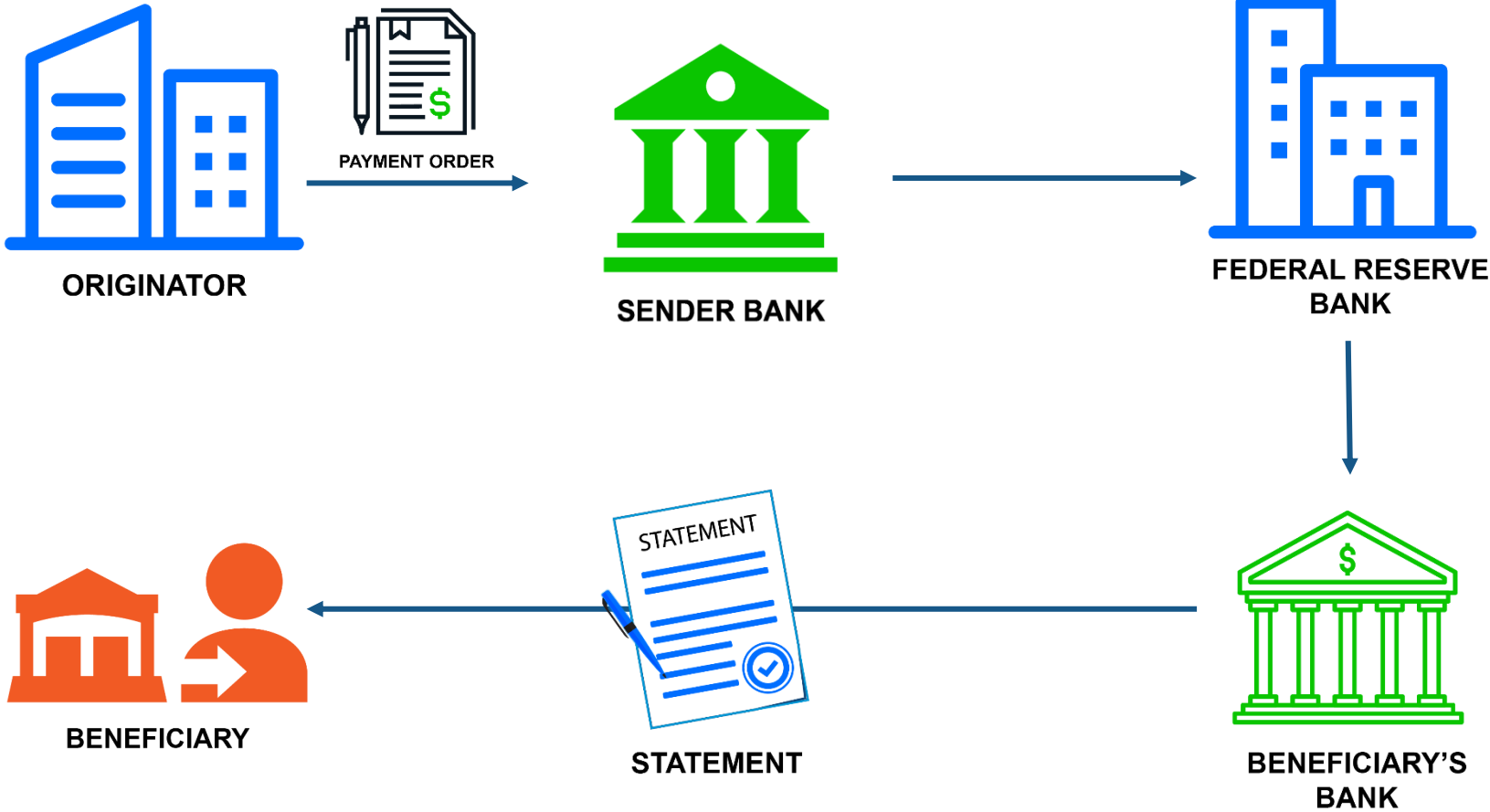
- Governs image rules for check exchanges between ECCHO members

Nacha Operating Rules

- Governs ACH check conversion (ARC, BOC, POP) and check truncation (RCK, XCK, TRC, TRX)

Fedwire Funds

Fedwire Funds Participants



Fedwire Funds Participants

Originator

- Sender of first payment order in funds transfer



ORIGINATOR

Originating/Sender Bank

- Bank to which the payment order of Originator is issued
- Initiates transfer



SENDER BANK

Fedwire Funds Participants

Federal Reserve Bank

- Entity that processes and settles Fedwire funds transfers at instruction of participants



FEDERAL RESERVE BANK

Beneficiary's Bank

- Identified in payment order to be credited pursuant to order



BENEFICIARY'S BANK

Beneficiary

- Person to be paid



BENEFICIARY

Fedwire Funds Service

Real-time, gross-settlement system that allows electronic transfer of funds

The Fedwire Funds Service is credit/push system in which only Originating/Sender Bank (an eligible Fedwire participant) can remove funds from its Federal Reserve Bank account

Fedwire Funds Service

Processed transfer-by-transfer (one at a time)

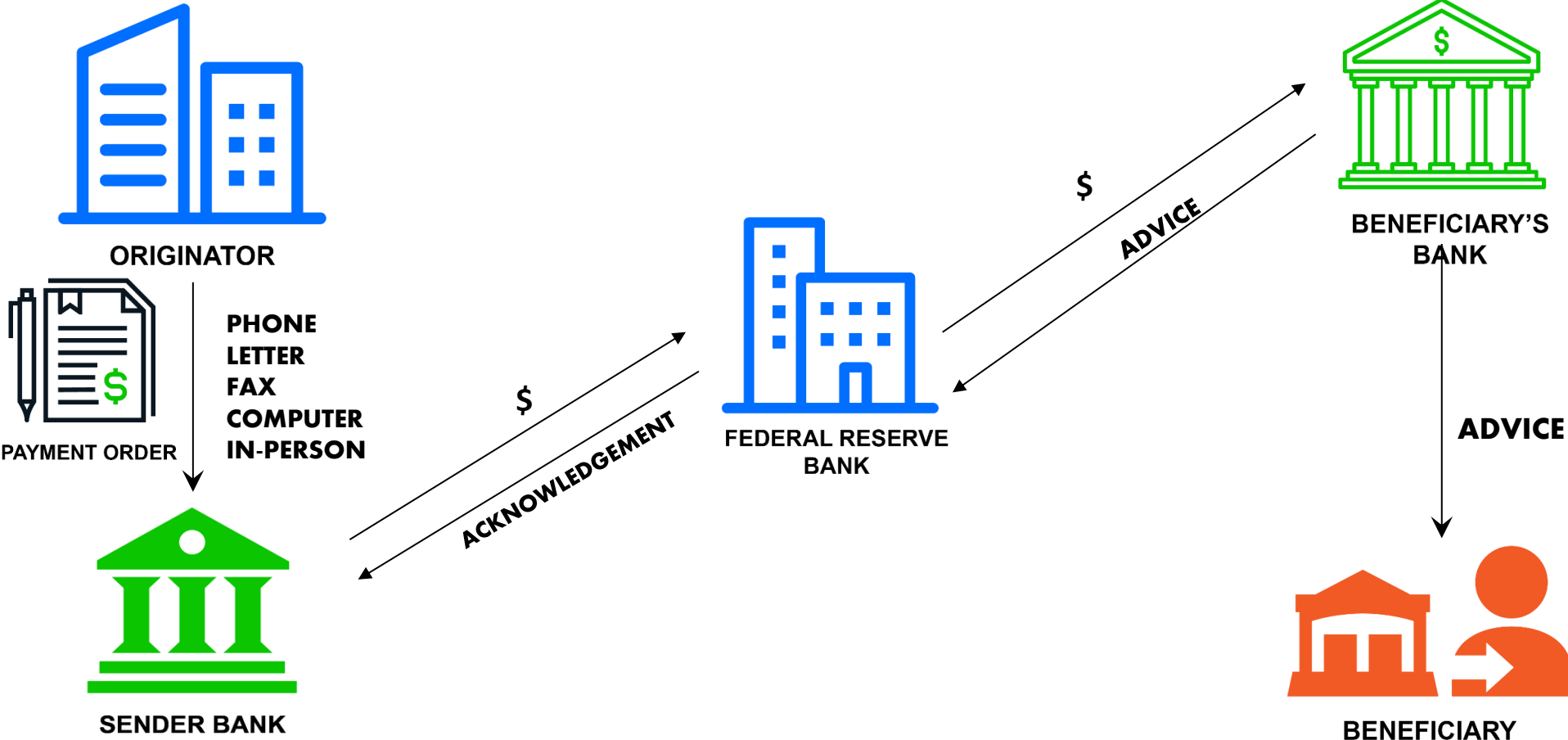
- Provides immediate finality and irrevocability of settlement once transfer is processed by Federal Reserve Banks

Settled by adjusting the reserve/clearing balances of depository institutions held at Federal Reserve Banks

Inter-bank settlement of transactions (examples)

- Federal funds purchases
- Corporate payments
- Other large value payments

Fedwire Funds Transfer Flow



Fedwire Funds Service Legal Framework

Regulation E, Subpart B

- Remittance transfer law

Uniform Commercial Code (UCC) Article 4A

- Wholesale credit funds transfers not governed by Regulation E

Bank Secrecy Act – 31 CFR 103

- Recordkeeping requirements/travel rule

OFAC - Office of Foreign Assets Control

- Administration & enforcement of economic & trade sanctions based on U.S. foreign policy

Card Payments

Card Types

Credit Cards

Access devices to lending product and are not considered true payment instrument

- Credit card transactions are processed through Visa[®]/Mastercard[®]/American Express[®]/Discover[®] networks
- Transactions are authorized real-time, settlement for merchants is guaranteed and *typically* occurs next day

Debit/ATM/Bank Cards

Access devices most commonly associated with access to balance in Checking or DDA account

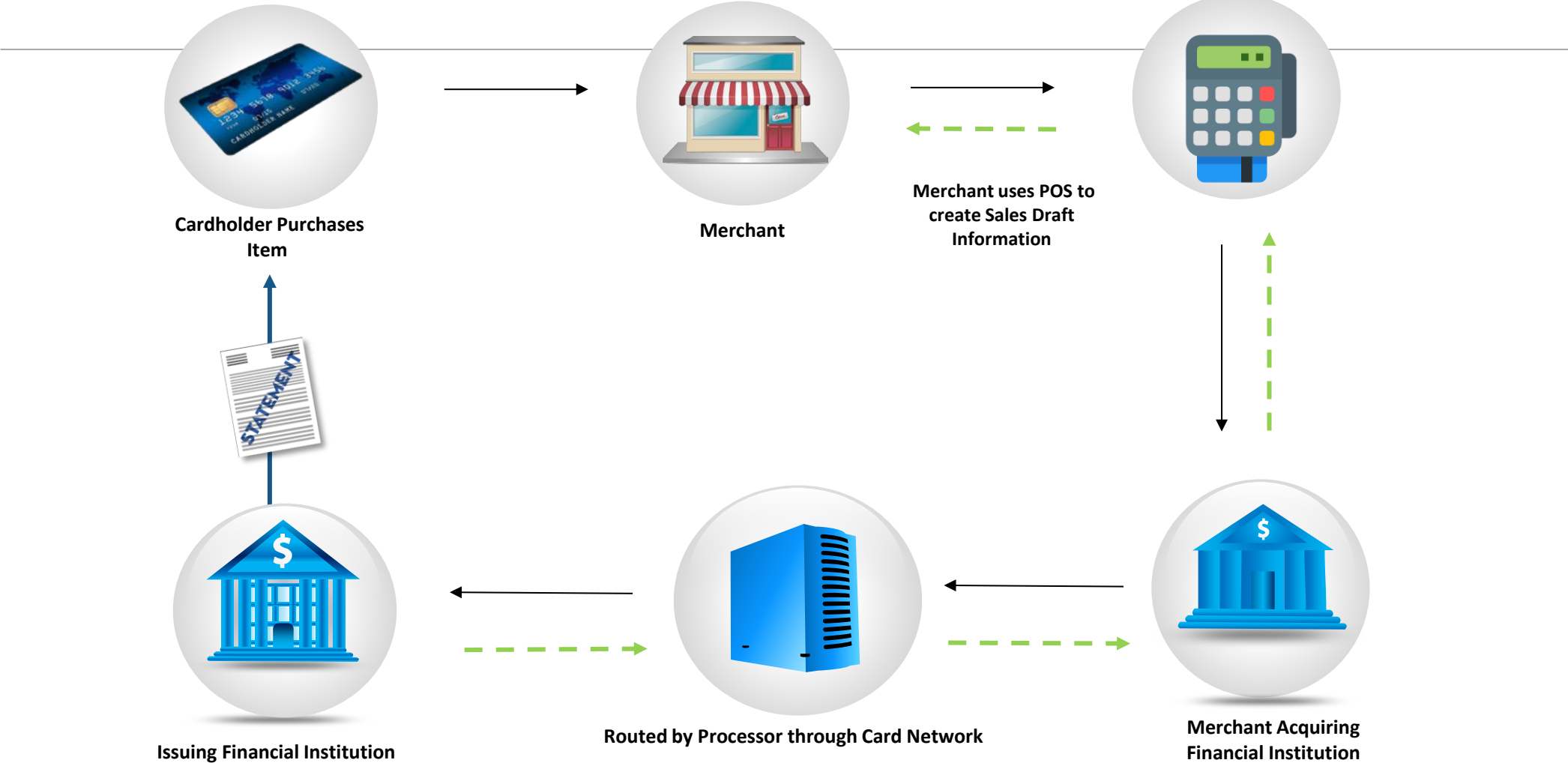
- Debit card transactions can be processed through a global or national network
- Transactions are authorized real-time, settlement for merchants is guaranteed and may occur same day or next day

Prepaid/Stored Value Cards

Access devices to a stored balance, available funds

- Accounts containing the funds are generally owned/maintained by the card issuer and not individually owned by the cardholder

Card Participants & Flow



Card Payment Participants

Cardholder

- Person or business who has been issued or authorized to use credit or debit card

Merchant

- Entity that has agreed to accept credit or debit card for purchase of goods or services

Issuer

- FI or third-party that issues credit, debit or prepaid card to card holder
- Has the relationship with the cardholder

Card Payment Participants

Acquirer

- Registered member of card networks
- Merchant's FI
- Has a contract with merchants, directly or indirectly, to create and maintain merchant accounts allowing business to accept credit and debit cards
 - Many merchants don't communicate directly with acquiring FI, as many contract through third party ISOs and MSPs to provide day to day activities
- Most Acquirers associated with one Processor

Card Payment Participants

Acquirer Processor

- Drives the activity at the merchant's terminals
- Controls how transactions are routed
 - Which network the transaction will route through based on the card's Bank Identification Number (BIN)

Card Payment Participants

POS/ATM/Credit Card Network

- Network that provides switching facilities for the routing of credit and debit card transactions between Acquirers and Issuers
- Facilitates both the transmission of requests and transaction approval and denial messages between participants
 - Develop, establish and promote a network brand
 - Settlement between Issuer and Acquirer accounts
 - Settle fees between Issuer and Acquirer
 - Develop and administer transaction processing and operating rules
 - Enforce compliance among participants

Open Loop Network

A multi-party network connecting financial institutions, processors and other stakeholders for the purpose of exchanging transaction activity with each other

Aka shared network

Visa and Mastercard are examples

Closed Loop Network

A proprietary network owned and managed by a single entity for the purpose of offering payment capabilities within its system

Discover & American Express

Store-branded payment cards are examples

- Starbucks
- Target Red Card, debit and credit

Debit At-A-Glance

Dual-message

- 1) Authorization transaction at time of purchase
 - Memo post to account
 - Generally no cardholder verification method (CVM) such as a signature or PIN
- 2) Posting and settlement transaction when merchant submits batch
 - Final posting to account
 - Fka 'credit' or 'signature-based' transaction

Single-message

- Authorization and posting instructions in same transaction
 - Memo post to account
 - Final posting end-of-day for issuer
 - May include a PIN or be PINless under merchant's floor limit
- Fka 'debit' or 'PIN-based' transaction

Card Legal Framework: Credit

Regulation Z - Truth in Lending Act

- Requires creditors to increase amount of notice consumers receive before rate on credit card account is increased or significant change is made to account's terms
- Allows consumers to reject such increases and changes by informing creditor before increase or change goes into effect
- Addresses reasonableness and proportionality of penalty fees and charges and re-evaluation of rate increases

Regulation E - Electronic Funds Transfers Act

- Primary purpose is to protect consumers
- Dictates error resolution steps
- Spells out division of liability for unauthorized EFTs

Card Network Rules

Each network has their own rules for acquirers/merchants, processors and issuers

- Not state or federal laws or regulations

Contracts that require adherence to the network's rules

Rules include

- Purchase protections for cardholders
- Cardholder liability limits
- Chargeback rights
- Authorization requirements
- Surcharge and transaction minimum/maximum amounts
- Logo and trademark standards

RTP®

Real-Time Payments - RTP[®]

General Overview:

- Continuous input/output
- Clearing 24/7
- Continuous settlement
- Credit push system
- Immediate Confirmation = Simplified Reconciliation
- Real-time posting and visibility

RTP[®] Rules

Private governance

- Operating Rules
- Participation Rules

Implemented by The Clearing House

- New payment rail
- Real-time, irrevocable credit transfer system
- Rules establish security, reliability, and consumer protections

FedNow®

Federal Reserve Bank FedNow[®] Service

Credit push system

- Maximum per-transaction limit to be determined

Message capability

24x7x365

Final and irrevocable settlement

FedNow[®] Rules

Federal Reserve governance

- Operating Rules
- Operating Circular 8 (OC8)

Implemented by Federal Reserve

Interbank, real-time gross settlement (RTGS) service

Helps financial institutions deliver end-to-end instant payments to their customers

QUESTIONS

For Your Records

Continuing Education Credits

File Formats/Payment Systems

These sessions are worth 6 credits



Discussion Question

For the following scenarios, discuss which payment system would be the best choice and why. In your discussion, also include reasons why the other payment systems would not be the best choice.

(When selecting the best option, consider speed, security, restrictions or limitations and potential cost.)

1. Splitting a \$100 check for dinner amongst 4 friends
2. A real estate transaction for \$600,000, for closing occurring at 5:00 PM today
3. A real estate transaction for \$600,000, for closing occurring sometime next week
4. Recurring monthly car loan payments
5. Paying and tipping your hairdresser/barber
6. Paying real estate taxes in the amount of \$4,500, due tomorrow