

Receivables Automation: What's Here & What's Coming

County Treasurers Association of Ohio

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- This session will be a high-level overview of explaining **Automation** and how it can impact the **receivables process** for Treasurers. In addition, with **Blockchain technology** on the rise, PNC will explain the process of **Blockchain technology**, the benefits of using Blockchain, and its development within the industry.

- Will cover
 - Review key **sources** of bill and service payments
 - Technology **solutions** with pros & cons
 - Highlighting **new technologies** to improve cost, efficiency & convenience
 - Brief overview of **Blockchain** and where this could play a role in future Receivables
 - **Checklist** for your assessment of your County payment collection services

Receivables Overview

Payment Instruments

Payment Processing Options

Putting The Pieces Together

Technology Advancements

Blockchain

Key Take Aways

Receivables Overview

County Government Receipt Sources



Property Taxes



Income / Wage Taxes



Service Fees & Licenses



Utilities



Waste & Recycling



Fines & Citations



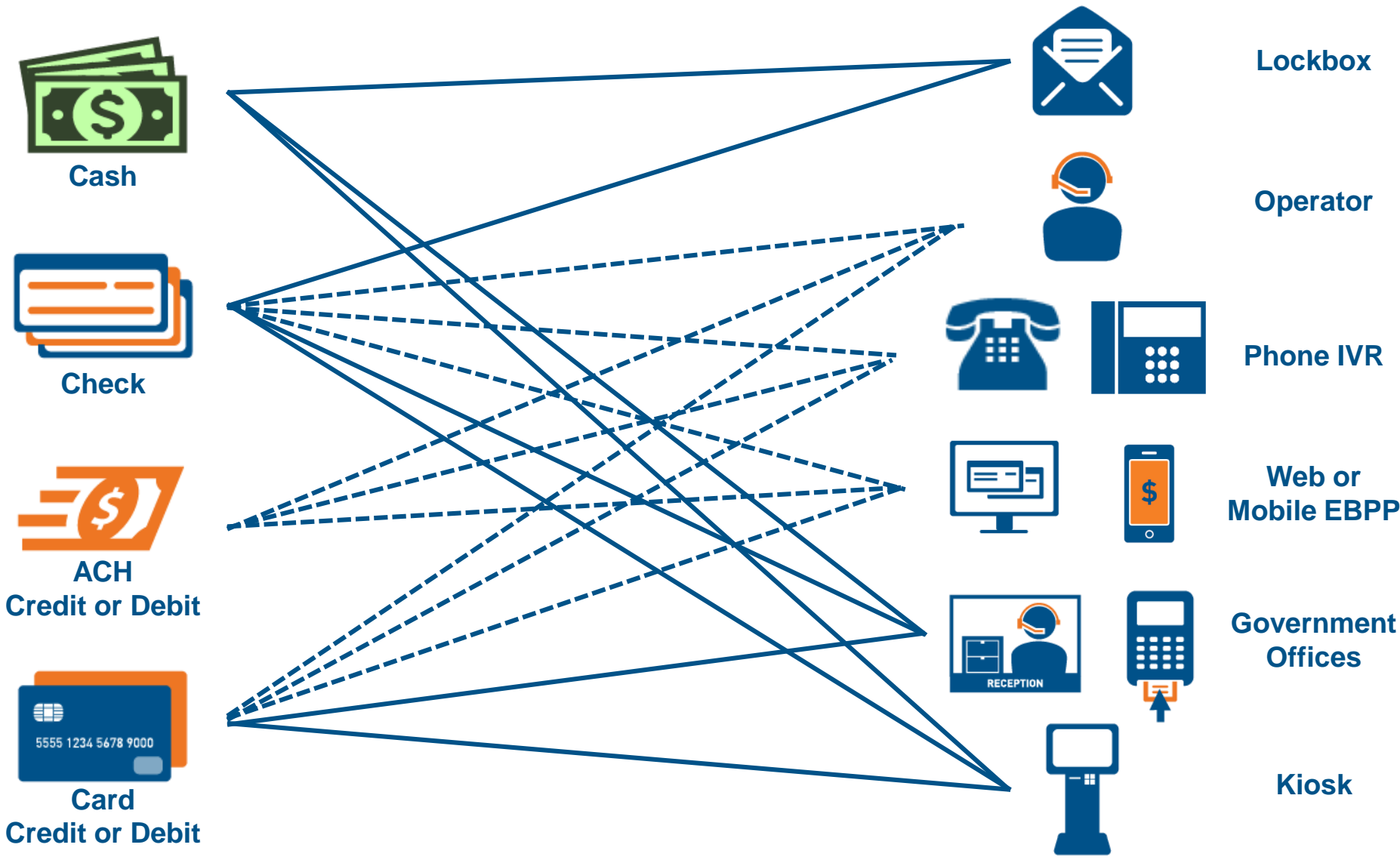
Membership Fees

Receivables Overview

Business and Consumer Payment Instruments

— Physical

- - - Virtual



Receivables Overview

Business and Consumer Payment Instruments

———— Physical

----- Virtual



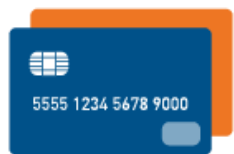
Cash



Check



ACH
Credit or Debit



Card
Credit or Debit

Not just the payment,
but also the
Account information
for
Bill Payment
transaction posting



Lockbox



Operator



Phone IVR



Web or
Mobile EBPP



Government
Offices



Kiosk

- Three (3) factors of ANY payment (particularly Bill Payment)

Secure method of *transferring funds*

Carry sufficient *remittance detail* to post the payment

Fit in the Payer's *workflow* (aka Convenience)

- These factors drive payment practices of Businesses and Consumers

Payment Processing Options

Carrying Payment AND Remittance Information



Lockbox



Operator



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Government
Offices



Kiosk

Evaluation Of Options:

- In-house
- 3rd Party
 - Government / Public Finance Specific Systems
 - Bank / Vendor Services

Payment Processing Options

Carrying Payment AND Remittance Information



Factors		In-House	3 rd Party
Mailing Location	Pros	<ul style="list-style-type: none"> Local Zip 	<ul style="list-style-type: none"> High-Speed Remit Zip Better Regional & National Collection
	Cons	<ul style="list-style-type: none"> Mail once per day 	<ul style="list-style-type: none"> Preferred Ohio Mailing Address
Staffing	Pros	<ul style="list-style-type: none"> Seasoned staff w/ experience 	<ul style="list-style-type: none"> Specialized processing staff
	Cons	<ul style="list-style-type: none"> Small staff, risk of turnover 	<ul style="list-style-type: none"> Impact on jobs
Processing Timeliness	Pros	<ul style="list-style-type: none"> Could be single shift 	<ul style="list-style-type: none"> 24 x 7 Technology to expedite handling
	Cons	<ul style="list-style-type: none"> Weekend processing? 	
Technology Investments	Pros	<ul style="list-style-type: none"> Deploying depreciated technology 	<ul style="list-style-type: none"> Continued investment Integration of Paper & Electronic remittances
	Cons	<ul style="list-style-type: none"> Aging system Cost of reinvesting Limited Back-Up / Contingency 	
Data Security	Pros	<ul style="list-style-type: none"> Internal servers 	<ul style="list-style-type: none"> FI data security investments
	Cons	<ul style="list-style-type: none"> Level of security built into transaction processing systems 	

Payment Processing Options

Carrying Payment AND Remittance Information



Lockbox



Operator



Phone IVR



Web or Mobile EBPP



Government Offices



Kiosk

Factors		In-House	3 rd Party
Credit / Debit Card Capture	Pros	<ul style="list-style-type: none"> May be using a merchant terminal, no physical card number storage 	<ul style="list-style-type: none"> IVR-based option In-house staff accessing secure website for payment processing
	Cons	<ul style="list-style-type: none"> Writing down card numbers (if not routine, when terminal is “down”) 	<ul style="list-style-type: none"> Relies on IVR or your in-house staff for operator assistance
Data Storage	Pros	<ul style="list-style-type: none"> If merchant terminal, no physical data storage 	<ul style="list-style-type: none"> Secure servers HTTPS 128-Bit Encryption website IVR accesses same system Stored account data for future payments
	Cons	<ul style="list-style-type: none"> Writing down card numbers (if not routine, when terminal is “down”) Allowing any payment info via email 	<ul style="list-style-type: none"> Vendor assessment to ensure data security compliance
Recurring Payment Set-Up	Pros		<ul style="list-style-type: none"> Available via Web & IVR
	Cons	<ul style="list-style-type: none"> If operator assist, not likely available 	

Payment Processing Options

Carrying Payment AND Remittance Information



Lockbox



Operator



Phone IVR



Web or Mobile EBPP



Government Offices



Kiosk

Factors		In-House	3 rd Party
Credit / Debit Card Capture	Pros	<ul style="list-style-type: none"> In-house developed, specific to needs 	<ul style="list-style-type: none"> IVR-based option Secure website
	Cons	<ul style="list-style-type: none"> Security of data in servers Web AND Mobile? 	
Bill Presentment	Pros	<ul style="list-style-type: none"> In-house developed, specific to needs 	<ul style="list-style-type: none"> Functionality of specialized EBPP system Options for viewing bill summary & detail MAY be presentable on Home Banking Systems
	Cons	<ul style="list-style-type: none"> If in-house developed, may be limited in functionality 	
Data Storage	Pros	<ul style="list-style-type: none"> If merchant terminal, no physical data storage 	<ul style="list-style-type: none"> Secure servers . . . Stored account data for future payments
	Cons		<ul style="list-style-type: none"> Vendor assessment to ensure data security compliance
Payment Posting	Pros		<ul style="list-style-type: none"> Single system with single payment file for all sources
	Cons	<ul style="list-style-type: none"> May be manual 	
Recurring Payment Set-Up	Pros		<ul style="list-style-type: none"> Available via Web & IVR
	Cons	<ul style="list-style-type: none"> If operator assist, not likely available 	

Payment Processing Options

Carrying Payment AND Remittance Information



Factors		In-House	3 rd Party
Cash	Pros	<ul style="list-style-type: none"> Really the ONLY method Options: <ul style="list-style-type: none"> Employee branch deposits Armored carrier pick-ups Smart Safes 	<ul style="list-style-type: none"> Use of Smart Safes
	Cons	<ul style="list-style-type: none"> Risk of employees carrying cash to bank branch 	<ul style="list-style-type: none"> Volume of cash factor in justifying Smart Safes
Card Processing	Pros	<ul style="list-style-type: none"> EMV Card-Present terminal capture 	
	Cons		
Data Security	Pros		<ul style="list-style-type: none"> On-line portal security – DIRECT Payer or County employee access
	Cons	<ul style="list-style-type: none"> Writing down Card numbers (if not routine, could be when terminal is down or short on time) 	
Payment Posting	Pros		<ul style="list-style-type: none"> Automated AND can be Integrated
	Cons	<ul style="list-style-type: none"> May be manual 	

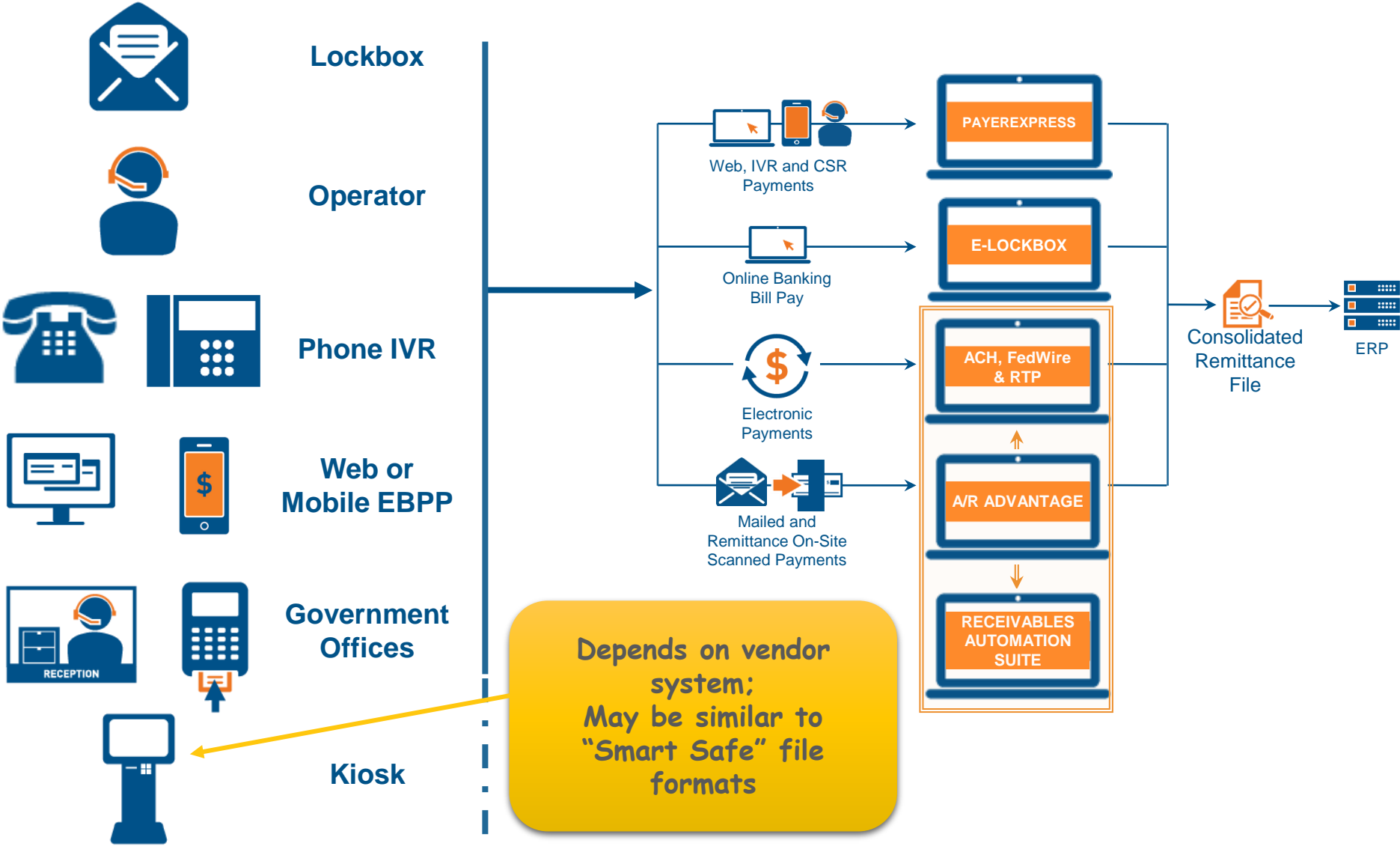
Payment Processing Options

Carrying Payment AND Remittance Information



Factors		In-House	3 rd Party
Cash	Pros	N/A	<ul style="list-style-type: none"> Secure cash acceptors Armored carrier cash extraction Reduce cost of daily cash pickups (e.g. weekly) Avoid risk of employees carrying cash
	Cons		<ul style="list-style-type: none"> Cost of Kiosks, Armored Carrier & cash handling services
Card Processing	Pros		<ul style="list-style-type: none"> Securely integrated capture with EMV and/or Mag Stripe reading "Card Present" interchange rates
	Cons		
Data Security	Pros		<ul style="list-style-type: none"> Secure system, no direct employee access
	Cons		
Payment Posting	Pros		<ul style="list-style-type: none"> Integrated data feed
	Cons		

Putting The Pieces Together



Receivables Overview

Payment Instruments

Payment Processing Options

Putting The Pieces Together

Technology Advancements

Blockchain

Key Take Aways

Real and Near-Real-Time Payments

Bank Account Verification Processes

Artificial Intelligence in Receivables Payment Processing

Same Day ACH

- Still batch-based, but enables same day settlement

RTP – Real-Time Payments

- Totally NEW payment rail
- Connectively secured within the banking systems
- Can carry remittance information
- Can be used as a Collection tool

Zelle

- Utilizes existing payment rails BUT
- Enables real-time payment request and validation
- Send to Email Address or Mobile Phone

Not traditionally available, BUT, there are now *new technologies* of Banks and Technology Partners

Validation of:

- Account information (**open & active status ONLY**), OR
- Account information AND sufficient **“point in time” balances** (ie. Doesn't place a “hold”)

More of a factor with Business payments; some functionality that can apply to Consumer payments

Not just intended to reduce staff handling, but improve accuracy

“Learns” payor practices

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Key Take Aways

Blockchain and Bitcoin Technology: What's the Difference?



Bitcoin, or cryptocurrency, is digital currency

- Measures the market value of goods & services
- Intermediates the exchange of goods & services
- Transactions are captured on the Bitcoin Blockchain



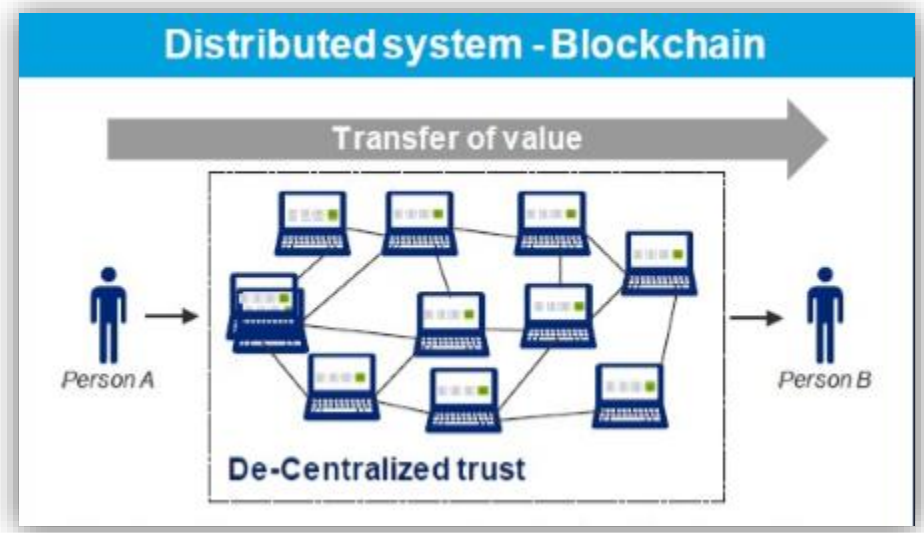
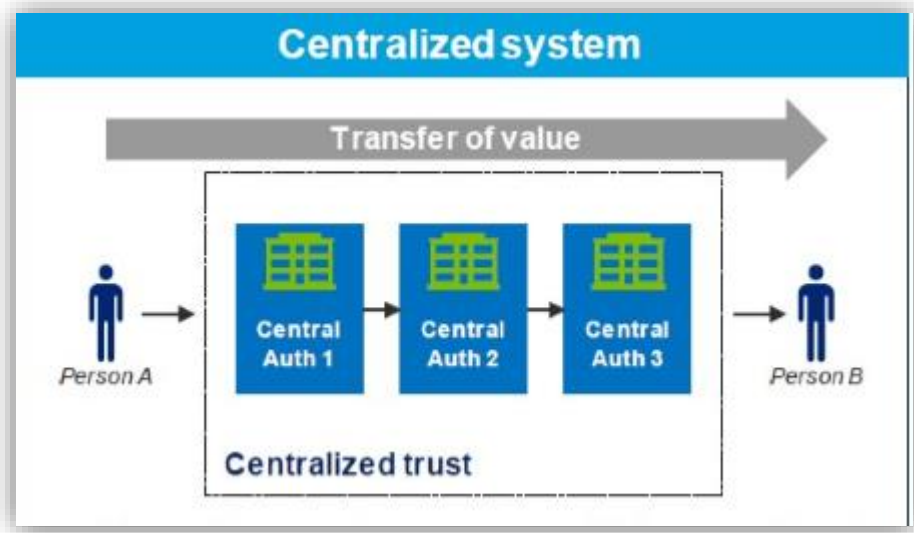
Blockchain is a distributed ledger application

- Extends beyond Bitcoin
- Keeps an immutable record of information, transactions, and changes to the value of an asset
- Enables value or information to move securely from one party to another
- Allows for programmability of transfer

What is a distributed ledger technology?

- Distributed ledger technology (DLT) is a ***network of independent computers*** where:
 - Data is ***immediately shared and synchronized*** across multiple sites, institutions or geographies
 - Transactions, or activity, is ***validated*** to be recorded on the ledger via ***consensus*** of nodes on the network
 - Information is securely and accurately stored using ***cryptography*** and is only accessible using keys and cryptographic signatures
 - The database is ***governed*** by the rules of the network

A decentralized network eliminates the need for a “centralized authority”



*A distributed ledger network can be **public** or **private***

Source: Democratized trust: The rise of blockchain, Deloitte, Jan 2016

Distributed ledger will positively disrupt business processes



▪ Distributed Network

- Computers sharing and "hosting" the ***exact history of activity***



▪ Security / Privacy

- Enhances security and privacy through ***encryption***



▪ Single Source of Truth

- Provides a ***single, consistent and shared view*** of the state of a business process



▪ Immutable Record

- No one unilaterally has the power to ***edit*** transactions



▪ Provenance

- Establishes provenance, or a ***record of an entire transaction***



▪ "Smart" Contracts

- ***Automates*** transaction execution and integrate workflows

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Key Take Aways

- Checklist of Payment Sources & Processing Alternatives
 - Which do you accept?
 - Which are your greatest challenges for effectively posting payment details?
- Status of vendor & in-house systems
 - Age / status of upgrades?
 - Contingency & business continuity functionality
 - Data security
- Evaluate vendor systems
 - Specialized Government / Public Finance information & payment systems
 - Ask your bank to provide insight regarding their solutions across these channels

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