

Creating a world leading payments system for the U.S.



Chicago Payments Symposium
September 2014

The U.S. can learn from the experience of payments system improvement initiatives around the world but has unique considerations

Themes from payments improvement initiatives around the world

- 1 Primarily a strategic decision given ability to implement infrastructure improvements through mandates and collective action
- 2 Reliance on incentives (e.g. revenue from value add services), disincentives, and regulation to drive FI and end user adoption
- 3 Distinctive feature/functionality required for end user adoption, esp. if pricing above ACH
- 4 Initially prioritize P2P (speed) and B2B (speed, remittance data) payments
- 5 Real time settlement not required to achieve real time availability

Implications for U.S.

- Business case more important in U.S.
- Initial target use cases important for adoption of any new payments system
- Success reliant on creation of differentiated products/services by financial service providers

“Attributes” of the potential new US infrastructure design

**Infrastructure/
platform** Create a new clearing
infrastructure (vs. using
existing)

Settlement Use existing settlement
systems (e.g., NSS)
with potential
enhancements (e.g.,
intra-day)

**Transaction
type** Irrevocable credit push

**Transaction
limits** \$25,000 (at least
initially)

**Clearing
speed** Near Real-time

**Funds
Availability** Immediate

Notifications Near real-time
notification/ messaging
of good funds

Payment transactions can be grouped into 11 total use cases

Payor/Payee Use case

Sample payments

B2B <i>(includes gov't)</i>	1. Recurring	Regular facility payments
	2. Ad hoc, low value	Just-in-time supplier payments
	3. Ad hoc, high value	Large, capital goods purchase
P2P	4. Transfers	Rent repayment to roommate
P2B	5. Recurring	Regular utility payments
	6. Ad hoc in-person (PoS)	Grocery store payment
	7. Ad hoc remote real-time	Last-minute bill payment
	8. Ad hoc time delay	Online furniture purchase
B2P <i>(includes gov't)</i>	9. Recurring	Regular payroll, gov't pension
	10. Ad hoc, low value	Temp payroll, corrections
	11. Ad hoc, high value	Insurance claims, settlements

End-user requirements for speed and other functionalities relative to what is provided today must be considered for each use case

Speed features

Timing of authorization and clearing

Timing of availability of funds

Timing of settlement (interbank)

Other efficiency / effectiveness features

Access to system

Credit / Debit

Information content (e.g., remittance data)

Authentication support

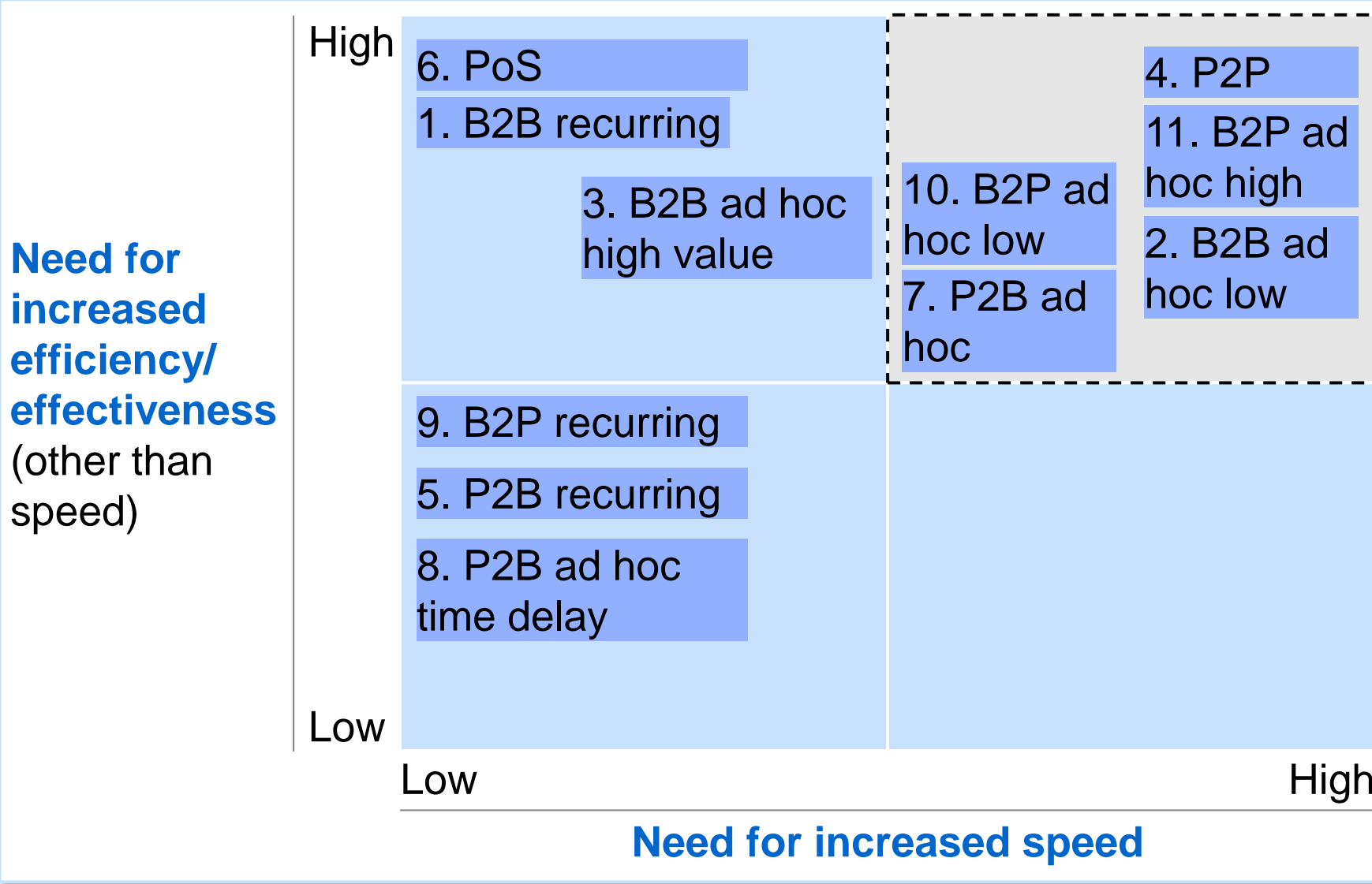
End user privacy and security

Revocability, returns, denials, exceptions

Timing of transaction notification

Cross-border interoperability

Prioritization of use cases by need for increased speed and efficiency / effectiveness identifies target use cases for payments improvement



Five primary use cases should be targeted by a faster payments system

Use case	Minimum end user speed required		
	Auth/clearing	Funds availability	Settlement
B2B ad-hoc low value (e.g., just-in-time supplier payments)	Near real-time	Intra-day	Intra-day
B2P ad-hoc high value (e.g., insurance claims, settlements)	Near real-time	Near real-time	Late-day
P2P transfers (e.g., rent repayment to roommate)	Near real-time	Near real-time	Late-day
B2P ad-hoc low value (e.g., temp wages, jury duty)	Intra-day	Intra-day	Late-day
P2B ad-hoc, remote, real-time (e.g., emergency bill pay)	Near real-time	Late-day	Late-day

Design options for a faster payments system

Evolve ATM/PIN debit infrastructure to leverage existing real-time functionality

Direct clearing between FIs using shared protocols and public IP networks

Build new single message infrastructure leveraging legacy settlement systems

Build new infrastructure to support common platform for retail payments



- **Leverages existing real-time auth/clearing and automated memo posting**
- **Build new interface/integration between PIN debit networks and corporate cash management systems**
- **Build credit push capability**
- **Intraday settlement windows through existing systems**

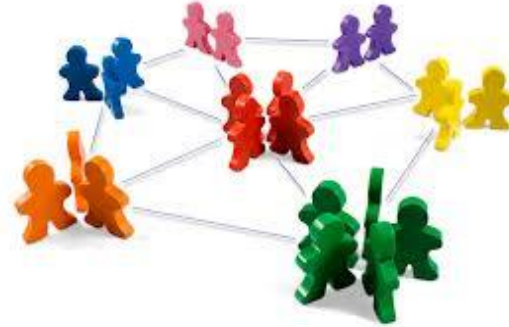
Overview of design options

Evolve ATM/PIN debit infrastructure to leverage existing real-time functionality

Direct clearing between FIs using shared protocols and public IP networks

Build new single message infrastructure leveraging legacy settlement systems

Build new infrastructure to support common platform for retail payments



- **Establish common messaging and standards for direct clearing**
- **Once both FIs agree a transaction is valid and good, transaction is automatically posted**
- **Platform time stamps and logs the transaction in a ledger held at a central hub for settlement**
- **Potentially lower operating cost**

Overview of design options

Evolve ATM/PIN debit infrastructure to leverage existing real-time functionality

Direct clearing between FIs using shared protocols and public IP networks

Build new single message infrastructure leveraging legacy settlement systems

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- **New credit push only infrastructure uses a single transaction message containing both notification of good funds & clearing instructions**
- **Messages exchanged in near real-time between senders and receivers through a network operator**
- **Receiving institutions automatically post upon receipt of payment**
- **Intraday settlement windows through existing systems**

Overview of design options

Evolve ATM/PIN debit infrastructure to leverage existing real-time functionality

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- Adds on to prior design option by expanding to different use cases and speed levels
- Rules by use case/transaction set can be customized to require differing levels of speed, service, access, economic models, security requirements
- Near real time, intraday, and batch capability
- Credit push and debit pull capability
- Option to build new real-time settlement system

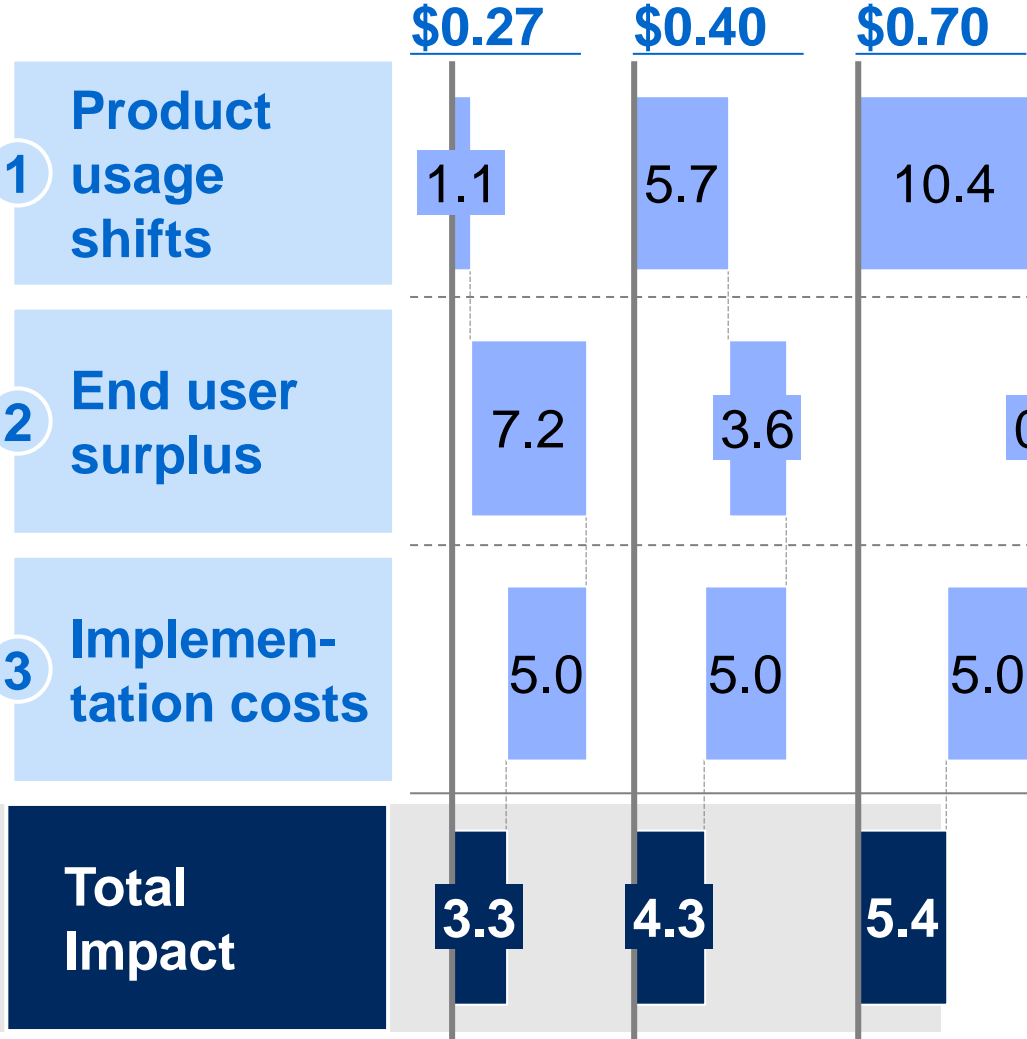
Summary of business case findings

- Business case analyzed **direct and quantifiable value** from the migration of transactions for the **five primary use cases from 2017-2025**, including:
 - **Contribution margin to the payments industry** from transaction migration away from existing instruments to a faster payments system
 - **End user value from net lower end user price** for transactions migrating to faster payments and willingness to pay for faster payments
 - **End user value from un/under-banked customers shifting away from alternative financial services** and reduction in theft / risk of cash loss
- Analysis intentionally conservative in three key ways:
 - Transaction migration used conservative assumptions and **did not include latent demand or adjacent use cases**
 - **Average price to the end user assumed to be \$0.27**, balancing value to the industry and the end user, and pending further research into consumer willingness to pay
 - **Did not size revenue from additional value added services or new products** that are enabled by the faster payments system

Faster payments business case through 2025

Change in Contribution 2015-2025, \$B

Average end user cost per txn



Description

- 4.1-7.5B annual txns shift to faster payments
- Lower txn costs for same or better service
- Avoid costly AFS fees and lower risk of cash loss
- High level estimate of ~\$3-7B based on industry interviews

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