

U.S. Real-Time Payments Operations Playbook

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May 2016

Proposed features, functionality,
implementation details, requirements
and timetables are in development and
subject to change at any time.

Real-Time Payments Playbooks

Real Time Payments (RTP) provide consumers and businesses with the ability to immediately send and receive funds directly from their accounts at financial institutions anytime 24/7/365. RTP represents a new phase of evolution within the United States (U.S.) payments industry, with several key features that differentiate them from current payment methods, specifically speed, value-added messaging capabilities, and immediate availability of transaction status. RTP will provide FIs with the functionality and features to innovate for the future.

Outside the U.S., many countries are developing “faster payments” systems to expedite the movement of money and increase the speed with which transferred funds are made available to recipients. Within the U.S., The Clearing House (TCH) is leading a multi-year effort to build a real-time payments system (RTP) that addresses the needs for safer and faster payments in an increasingly digital economy.

Your institution has expressed interest in finding out more about the RTP system and what it would take to implement. TCH has developed three targeted playbooks highlighting considerations for business, operations and technology audiences. As each FI is different, these playbooks should be considered guidelines rather than rules to give your organization the information and insight it needs to get started. In addition, contact information for TCH experts can be found in the Contact Us section on page 47.

BUSINESS PLAYBOOK 01



The Business Playbook provides a basic understanding of the real-time payments system and the potential for using it as a platform to develop new services. This playbook includes consideration of the involvement of various business units and specific items to consider as you develop your ideas and plans.

OPERATIONS PLAYBOOK 02



The Operations Playbook provides a basic understanding of the real-time payments system and outlines the processes and procedures that may be needed across various operational areas within your organization as you implement the RTP system.

TECHNOLOGY PLAYBOOK 03



The Technology Playbook contains a technical overview of the RTP system for participating FIs in order for them to develop high-level estimates for interfacing to the RTP system.

The Clearing House owns and operates payments technology infrastructure, which clears nearly \$2 trillion each day for financial institutions in the U.S. and around the world. Its business is developing and operating industry utilities focused on safer and faster payments.

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Purpose and objectives

Playbook target audience

How to use this document

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01: What is the RTP Playbook?

RTP Playbook purpose and objectives

The purpose of the RTP Playbook is to provide a clear and consistent description of the functionality of the RTP system from an FI's perspective and to outline a tactical approach for implementing RTP. The Playbook offers information to support communications with an FI's internal and external stakeholders (e.g., vendors and regulators), as it moves forward with its RTP effort. The playbook can also be used to create awareness by providing a clear understanding of what RTP is, identifying key benefits, and providing a framework highlighting key action items and decision points organizations should consider as they begin planning and execution of their RTP implementation.

The following pages include key tasks and decision points, along with practical tools and tips for RTP planning and implementation. It provides guidance and recommended practices in the form of checklists, reminders, and useful exercises to assist your organization in delivering RTP.

01 How to use this document

Call out symbols and icons help you use this document to its fullest extent.



02 Overview of Real-Time Payments



Describes real-time payments and how they work. Provides examples that demonstrate the breadth and scope of RTP. Clarifies the role of RTP in the payments ecosystem.



03 How do Real-Time Payments Work?



Illustrates use case scenarios in the RTP system, including step-by-step flow of messages.



04 Business Case Considerations



Demonstrates opportunities for new products and markets. Supports analysis of operations and technology investments and associated costs.



05 Impacted Areas



Identifies the potential impact on product, process, technology and the organization when deploying RTP. It includes communications, operations/support and performance considerations.

06 References and Supporting Documentation

Provides links to additional documentation and resources for a deeper understanding of RTP.

07 Contact Us

Provides contact information for experts who will answer questions and assist you as needed.

Operations Playbook target audience

The RTP Operations Playbook is intended for FI operational teams that will support the processes and functionality of RTP. The following operations roles have been identified as being instrumental in the day-to-day activities associated with RTP. Depending on the size and scale of your organization, these roles may be consolidated or distributed in a different manner.

Payment Operations



Payment Operations (Back Office) consists of the back office operation functions that manage the end-to-end payments process, including current Day 1 and Day 2 activities. This group also manages the payment transactions that are flowing through the bank.



Treasury Operations includes Treasury, Settlement, and Liquidity roles. This group manages the FI's liquidity and ensures adequate prefunding is available to affect settlement for transactions that are processed.



Product Management oversees various payment products such as Wires, ACH, Lockbox, and Checks. This group will determine how RTP will be implemented across the organization.



Credit Operations includes Lending and Deposits. This group processes funds that are deposited into customer accounts and makes credit and loan decisions when a customer seeks to borrow money.

The following roles are part of new capabilities that may fall within Payment Operations, should the FI choose to leverage directory or tokenization services.



Directory Operations manages the FI's directory process as it relates to RTP. Responsibilities include managing standard processes with a third-party directory service provider, including the registration of aliases, deleting aliases, de-registering a customer from the directory, blocking the use of an alias, or resolving directory-related issues for customers such as duplicate alias entries.



Tokenization Operations is responsible for an FI's tokenization process as well as maintaining their token vault. This includes ensuring the safety and security of the overall operation and resolving any maintenance issues. **Note:** This role may be a new operational group if an FI decides to provide in-house tokenization services.

Customer Service Operations



Client Servicing Operations includes the operations groups that focus on client services such as Deposits, Loans, Overdrafts, and Reconciliation. This group is responsible for resolving issues and inquiries primarily for commercial clients.



Call Center and Customer Service Representatives operate the call center to manage customer issues, answer questions regarding bank products, and resolve any concerns or complaints primarily for retail clients. They may need to be available 24/7/365 to accommodate the availability of RTP.



Branch / Teller Operations participates in the daily operations of a branch, which includes providing consistent customer service to clients, processing transactions, and adhering to bank regulations and procedures. They may also have the ability to initiate transactions on behalf of customers who are present at the branch. Branch / Teller Operators should have a good working knowledge of the products and services their organization offers in order to assist customers or make referrals to other areas of the bank if needed.

Financial Crime Operations



Fraud Analysts monitor, analyze, and investigate account transactions and activity for fraudulent transactions.



AML / OFAC Analysts implement policies, procedures and processes to guard against money laundering and terrorist financing, in accordance with anti-money laundering laws/regulations. They also implement controls to prevent violations of economic and trade sanctions based on U.S. foreign policy and national securities goals. Analysts monitor for and identify suspicious or high-risk transactions and conduct investigations into the activity to determine whether suspicious activity reporting requirements or other compliance obligations are triggered.

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Throughout the Playbook, icons will appear that represent important notes, tips, or resources that you can reference to help navigate the process of implementing RTP. There are specific callouts to focus attention on key decision points, action items, and checklists that FIs should consider.



IMPORTANT The “Important” icon marks the information or action item that is of utmost importance for a successful implementation. You should pay special attention to this information and ensure that these items are tracked to closure.



TIPS / FACT CHECK The “Tip / Fact Check” icon indicates helpful information about the industry. You may discover a leading practice in the field or an innovative way to implement your solution to save time or money.



CHECKLIST The “Checklist” icon highlights a list of recommended considerations for approaching a specific RTP concept or task. For example, these lists may be used as a starting point for project managers when creating a plan to complete a specific RTP-related task identified in the Playbook.



RESOURCES The “Resources” icon marks the section offering links to additional resources on a topic. Resources may include embedded file attachments, external sites, files, white papers, or press releases.



DECISION POINT The “Decision Point” icon highlights a step where your FI will need to make a decision regarding the implementation of RTP.



STAKEHOLDERS The icons displayed in the “Stakeholders” callout box indicate groups that may have an interest in RTP within your organization. Highlighted icons represent areas that should be involved in the discussion of the topic while grayed icons represent groups that may have less of an interest in that topic.



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02: Overview of Real-Time Payments

What are Real-Time Payments?

Real-time payments provide consumers and businesses with the ability to conveniently send and receive immediate funds transfers directly from their accounts at FIs, anytime 24/7/365. RTP is a new national payments system that will support this functionality and provides a platform for product innovation. Financial institutions can leverage a variety of features – enhanced speed, security, and messaging capabilities – to create unique offerings for their retail and corporate customers.

Real-Time Payment Characteristics

01

24/7/365 – The RTP system will operate on a 24/7/365 model, which means the system will be available for customers to send or receive payments at any time.

Immediate Availability – Recipients will receive the payment within seconds of the Sender initiating the transaction; the Receiving FI is required to make funds available immediately, except where necessary for risk management or legal compliance purposes.

02

03

Payment Certainty – Senders will not be able to revoke or recall a payment once it has been authorized and submitted to the RTP system. However, there will be a process to facilitate FI-to-FI communication around return of funds sent in error.

Ubiquity – The RTP system will be accessible by all financial institutions, regardless of size or charter type, and will reach the vast majority of U.S. account holders.

04

05

Extensibility – Rich, flexible messaging functionality will be included to support value-added products. For example, the RTP system provides messaging capability enabling a request for payment directly via RTP.

Account Data Privacy – FIs may use tokens to encrypt receiver account information as it is transmitted through the RTP system.

06

07

Safety and Security – To deter fraudulent activity, RTP requires participants to provide strong authentication prior to initiating payments and provides network-level fraud monitoring and reporting.

Cash Flow Control – The ability to send and receive payments immediately will give customers more control over cash flow, which is particularly important for cash-constrained small businesses and consumers

08

09

Adaptability – The RTP system will have flexible architecture to adapt to changing market needs

Global Standards – The RTP system will adhere to global standards to the extent necessary to facilitate domestic needs

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How are Real-Time Payments different?

CURRENT PAYMENT METHODS

REAL-TIME PAYMENTS

DELAYED AVAILABILITY – Due to unpredictable clearing times, the sender does not know for 1-3 days whether the transfer was successful and that funds are available to the receiver for use.

01

Immediate Availability and Notification

With TCH's RTP system, receivers have immediate funds availability. Related status notifications are sent to senders (that a transfer was successful) and recipients (that funds are available).

PAYMENT REVERSAL – Payments may be reversed under certain circumstances and within a predefined period of time.

02

Payment Certainty

Payments cannot be revoked or recalled once authorized by a sender and submitted to the RTP system.

CREDIT PUSH AND DEBIT PULL– ACH supports credit push as well as debit pull transactions.

03

Credit Push Only

TCH's RTP solution will only support Credit push transactions. The payee may send a Request for Payment message but will not be able to pull funds directly from the payer's account.

LIMITED MESSAGING OPTIONS – Remittance information is typically included within the payment message itself.

04

Flexible Messaging Options

TCH's RTP solution will provide flexible, robust messaging components with multiple options for enclosing remittance information. Options include using the payment message, sending a non-payment message, or referencing an external remittance source.

DELAYED FRAUD DETECTION – The time between the sending and actual posting of a payment allows for a window during which fraud analysis may be conducted.

05

24/7 Fraud Detection

Fraud detection and controls will need to be enhanced and automated to correspond with the ability to move funds nearly instantaneously.

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Who can use RTP?

Real-time payments are intended to be used for transactions between any entity whether business, consumer, or government.

Business to Business (B2B)



A **small business** paying an urgent invoice in order to receive goods or services



A **restaurateur** who pays for farm-fresh produce from the local farmer to serve that evening's dinner specials

Business to Consumer (B2C)



A **utility company** requesting payment for services from a business or consumer



A **small business owner** who is paying temporary employee salaries or tips on an ad hoc basis



A **retail bank** distributing personal loan proceeds to a dealership on behalf of a customer who is at the showroom buying a new car



A **large corporation** paying employees for travel expenses in time for payment of corporate credit cards



An **insurance company** adjustor reviewing a claim, determining a settlement amount, and immediately providing funds to the policy holder

Person to Person (P2P)



College roommates splitting monthly rent and utility payments



A **head of household** sending emergency funds to a family member on vacation

Consumer to Business (C2B)



A **busy working individual** paying for general services around the house such as the gardener, cleaning services, or child care provider



A **day trader** sending real-time money transfers to his or her investment account to take advantage of the most recent market swing

Government to Consumer / Consumer to Government (G2C/C2G)



A **government agency** paying out emergency disaster relief funds to citizens impacted by a natural disaster



A **tax payer** making his or her tax payment in time for the April 15 deadline

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Defining the RTP Ecosystem

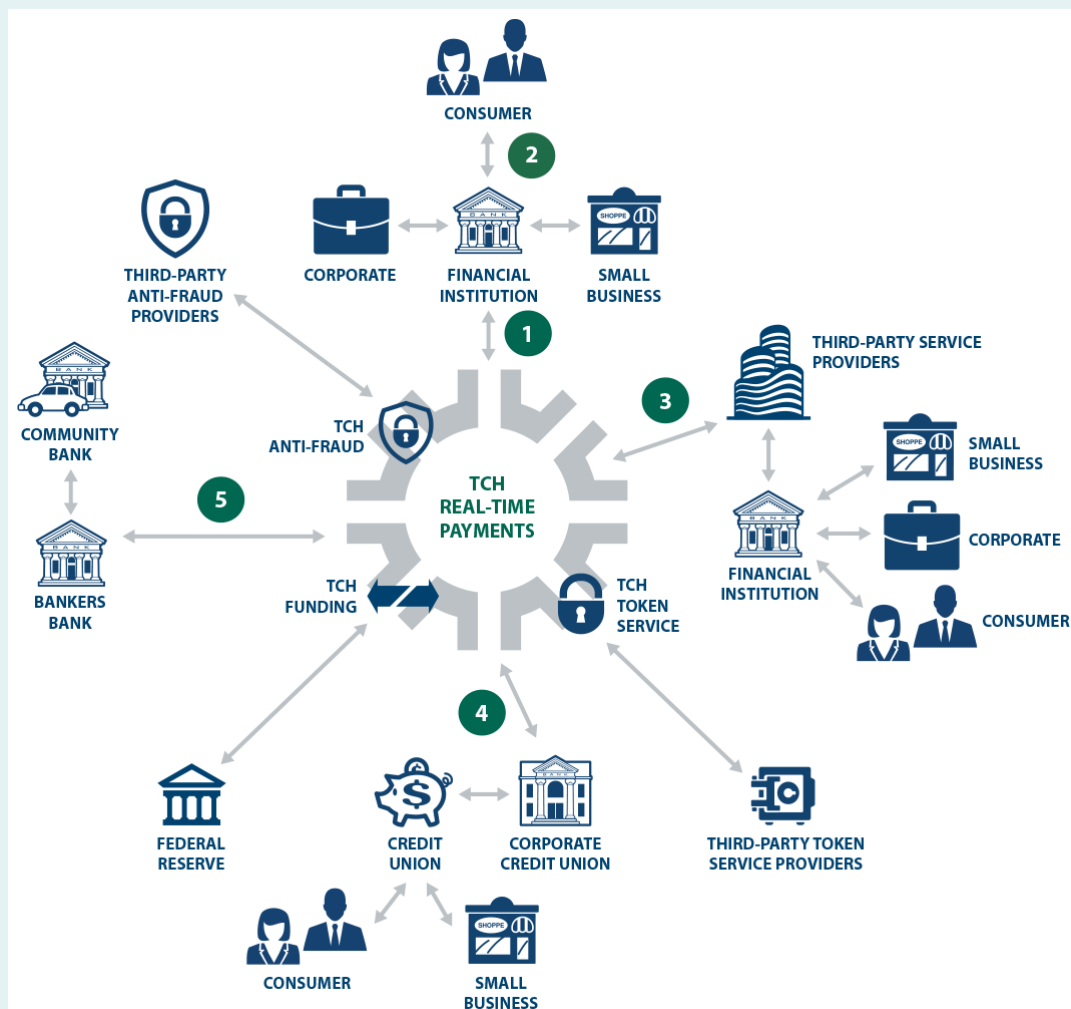
- 1 **The Clearing House** hosts the RTP core infrastructure for the U.S. providing:
 - *Payment processing services* – The RTP system orchestrates movement of payments and value-added messages to and from FI participants.
 - *Fraud Detection*– The RTP system will offer fraud detection services to scan and report on network-level fraudulent activity. FIs will also be required to maintain their own automated real-time fraud detection capabilities to scan transactions being sent to and received from the RTP system.

- 2 **Financial Institutions** will have the ability to **directly** connect to the RTP core infrastructure to provide real-time payments capability and value-added payment related services to their customers and clients. FIs include (but are not limited to) global banks, regional banks, credit unions, community banks, etc.

- 3 **Third-Party Service Providers** (for example: FIS, Jack Henry and D+H) will provide connectivity into the RTP network, providing access to FIs that may not want to connect directly to the RTP system. They will also integrate RTP into their existing and new payments products for the benefit of their account holders.

- 4 **Correspondent Banks*, Banker's Banks, Community Banks and Corporate Credit Unions**, will provide connections to the RTP network as well as settlement services for FIs that may not want to connect directly to the RTP system.

* Note: Correspondent banks offer connectivity and liquidity services. This differs from conventional correspondent bank wire transfer services that may involve a series of bank transfers to complete a payment.



Note: There should be no difference in the user experience for customers of direct FIs and those connecting through a TPSP.

Illustrative RTP ecosystem

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Drivers of real-time payments

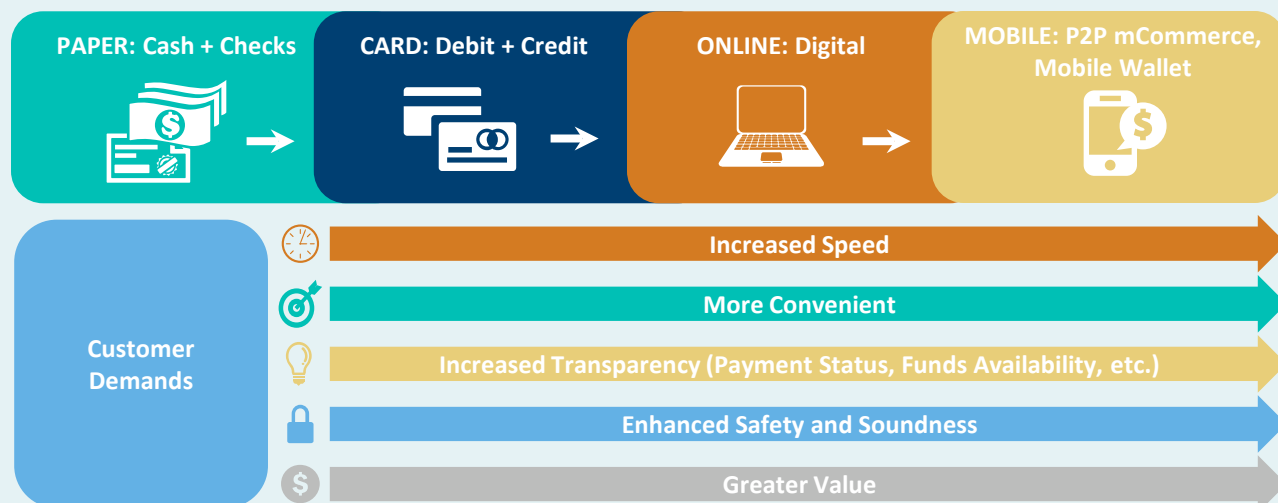
Customer demand

In today's world of sophisticated computing devices, information is moving in real-time. With high-speed data networks, and nearly universal presence of smartphones, customers expect everything – including payments – to keep up with their pace of life.

- **Increased speed:** Over the past decade, immediate delivery of electronic content and near real-time delivery of physical goods has become the norm. This along with faster, pervasive technology, has increased the expectation for faster payment solutions.
- **More convenient:** Customers are moving away from cash and checks in favor of the convenience associated with newer banking channels, like online and mobile. Growth rates of non-cash transactions in mature markets (North America, Europe, mature Asia-Pacific) have accelerated in the past few years, accounting for almost three quarters of the payments market.¹
- **Increased transparency:** A faster pace of life means making sure payment information is transparent and readily available. Customers are looking for robust, real-time payment information, including payment status and immediate confirmation of funds availability.
- **Enhanced safety and soundness:** Despite an increase in data transparency, customers still expect their information to be kept secure and private. As data breaches have become nearly commonplace events, the demand from consumers for information privacy and security has continued to increase. FIs must work harder to implement the best and most secure systems to protect customer account data.
- **Greater value:** Banks and non-bank payment service providers are creating value-added services such as automated matching of purchase orders to invoices for businesses or geo-location based in-store promotions for consumers. These value-added services can span the entire purchasing experience beyond the payment itself. They enrich the basic payment data with a wider set of information to create added value.

The RTP system allows FIs to address consumer demands in the digital age – providing a way for consumers and businesses to make immediate payments to merchants and vendors in a safe and convenient manner.

Customer Adoption of New Payment Mechanisms



¹World Payments Report. Capgemini and The Royal Bank of Scotland; 2015.

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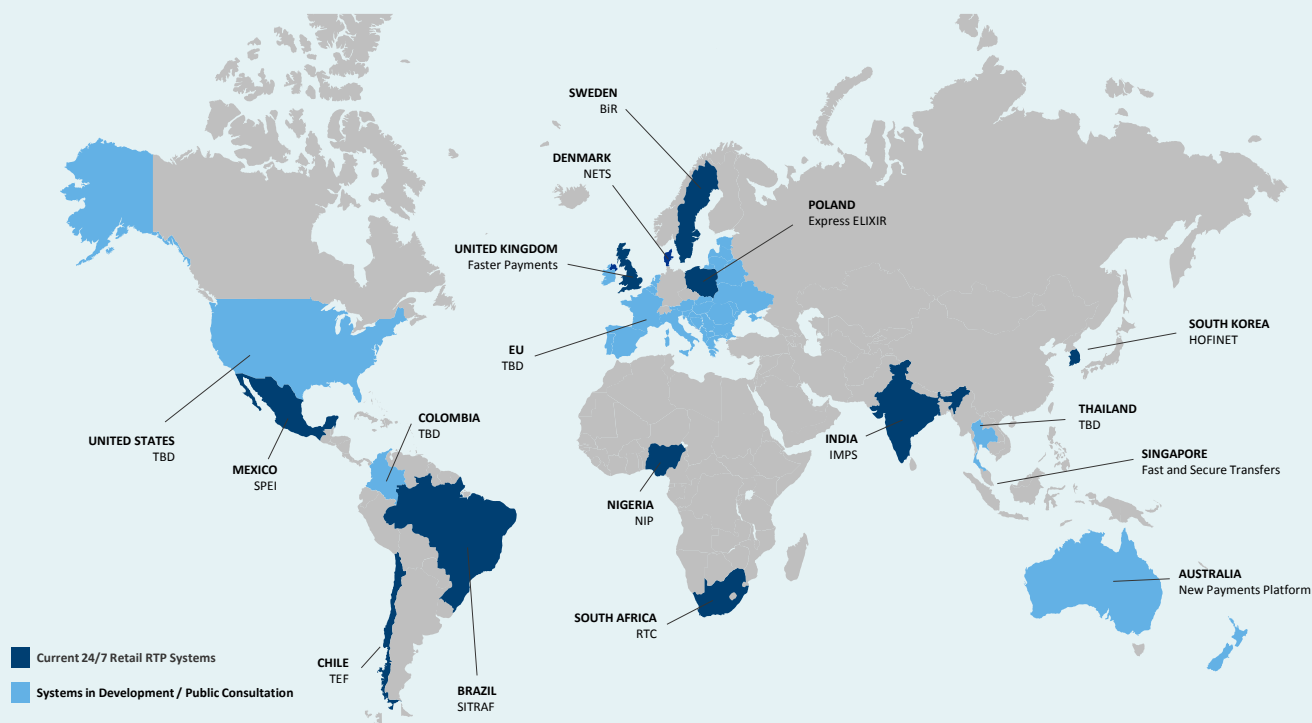
Drivers of RTP

Global competition

While TCH's RTP System is a new capability in the U.S. for FIs, at least 12 countries have implemented 24/7 retail RTP systems supporting immediate low-value account-to-account transfers,¹ and work is well underway in Australia, Europe, and the United States. The European Retail Payments Board has agreed on "the need for at least one pan-European instant payment solution."² In the United States, the Federal Reserve Board has called for the implementation of "a safe, ubiquitous, faster payments capability"³ and The Clearing House has announced that it will create a national RTP system.

The diagram below illustrates the global span of 24/7 retail RTP systems to date. There is a clear trend towards more and more countries either having the ability to conduct faster payment transactions or starting the process of developing a system that allows them to do so.

Countries with 24/7 retail RTP systems that are live or in development



Countries with 24/7 retail RTP systems that are live or in development

- | | |
|--|--|
| <ul style="list-style-type: none"> • Mexico – SPEI (2004) • Chile – TEF (2008) • Brazil – SITRAF (2002) • Sweden – BiR (2012) • Denmark – Nets (2014) • U.K. – Faster Payments (2008) • Poland – Express ELIXIR (2012) • Nigeria – NIP (2011) • South Africa – RTC (2006) | <ul style="list-style-type: none"> • India – IMPS (2010) • South Korea – HOFINET(2001) • Singapore – FAST (2014) • Australia – NPP (2016) • United States – TBD • Colombia – TBD • EU – TBD • Thailand – TBD |
|--|--|

¹KPMG Investigation

²Statement following the second meeting of the Euro Retail Payments Board European Central Bank European Retail Payments Board; December 1, 2014.

³Strategies for Improving the U.S. Payment System. United States Federal Reserve System; January 2015. p. 56

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Drivers of RTP

Regulatory influence

The CFPB has raised several concerns regarding existing payments systems (e.g., the ability of fraudsters to initiate unauthorized debits, lack of transparency regarding when transactions will post). The CFPB believes that faster, safer payments capabilities will benefit consumers (e.g., by providing faster access to funds and greater certainty about funds availability) and sees opportunity for FIs to more effectively serve consumers with a new real-time payments functionality. As such, the CFPB is urging the financial services industry to make real-time payments an urgent priority to help mitigate many of the issues currently facing consumers.

Identified consumer risks with current payment system

Unauthorized debits from consumer accounts via ACH lead to unexpected fees to the customer and a significant effort for customers to stop payments and revoke orders

Lack of transparency, particularly as it relates to **funds availability**, causes confusion for customers and often significant overdraft charges

Need for expedited payments and **expedited funds access** forces individuals with immediate needs or emergency situations to rely on high-cost money order services to expedite funds transfer

RTP mitigation

Push transactions only; no auto-debit of customer accounts

Real-time funds availability with payment certainty and extensive set of payment and non-payment related messages

Real-time 24/7 payment ability for consumer to business and other payment transactions

Evolving payment technology capabilities

FIs need to offer their customers an RTP capability that provide speed, convenience, and transparency as well as the level of safety and security they expect from a traditional payments network.

Though not exhaustive, the following list represents the primary groupings of evolving technology players.

- **Closed loop cards and mobile apps:** Many non-bank companies have built closed loop card networks to promote loyalty programs and provide a convenient way for customers to pay for goods. The most successful example has been Starbucks' mobile app, which has seen a 75 percent growth in its mobile app transactions from 2013 (4 million transactions per week) to 2015 (7 million transactions per week).^{1,2}
- **Digital wallets (non-banks):** Digital wallets are beginning to gain traction among consumers as they provide an easy and flexible method to transfer money. PayPal's digital wallet continues to increase in mobile payment transactions, growing 40 percent year-over-year.³ The industry anticipates mobile wallet usage to reach 200 million transactions by the end of 2016.⁴
- **Mobile money (non-banks):** Mobile money allows consumers to access financial services, such as money transfer or bank account access, via use of the mobile phone. In 2014 alone, mobile money services in the U.S. such as Square Cash and Venmo handled \$5.2 billion in P2P payments.⁵

¹Why Is The Starbucks Mobile Payments App So Successful? Forbes; June 13, 2014.

²Starbucks's Mobile App Payments Now Represent 16% of all Starbucks Transactions. Fast Company; January 23, 2015.

³PayPal begins piloting NFC and records 40% growth in mobile payments. NFC World; April 27, 2015.

⁴Mobile Wallets: Contactless & Remote Payments 2015-2020. Juniper Research; September 7, 2015.

⁵Mobile Payments to Explode by 2019. PYMTS.com; November 18, 2014.

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Three myths about RTP

MYTH ONE

RTP is only for P2P

TRUTH

- The RTP system is designed to address unmet customer needs across all customer segments (i.e., B2B, B2C, C2B, P2P, G2C, etc.).
- Consumers, businesses, and government can use RTP.
- For example RTP scenarios, refer to page 9.

MYTH TWO

RTP will only be available to TCH member banks

TRUTH

- Any participating FI, irrespective of their size or charter type, will have the ability to transmit payments through the RTP system.
- FIs will have the flexibility to choose their level of participation (i.e., Receive Only, Send, Allow Request for Payment, etc.) within the RTP system.
- Technology players and third-party payment providers will have a role in the environment to provide or facilitate connectivity where necessary.
- Refer to Real-Time Payments Ecosystem on page 10.

MYTH THREE

RTP is the same as Same Day ACH

TRUTH

- **Value-Added Messaging** – RTP will have the ability to enable new products and services through the use of its extensive and multifaceted messaging capabilities.
- **Availability of Funds** – The RTP system will make funds available in real-time – 24/7/365.
- **Transparency** – The RTP system will provide status updates of payment and non-payment messages in real-time.

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RTP checklist

A checklist of high-level key activities which should be considered as FIs start their implementation of RTP is included below. Depending on the structure of the organization, some of these activities may be performed concurrently or in a different order. The Operations team should also coordinate with TCH, third-parties, and/or other groups within the FI to synchronize activities surrounding the implementation of RTP.



FI Operations Checklist of Key Activities for Implementing RTP

Activity	TCH	BUS	TECH
<input type="checkbox"/> Seek direction from Business on product and customer segmentation		X	
<input type="checkbox"/> Determine operational areas that will enable a real-time product offering (i.e. Lines of Business, Information Technology, Operations, Risk Management, Regulatory Compliance, Treasury, etc.)			
<input type="checkbox"/> Develop Target Operating Model for operations teams including channels, operational processes, RTP Roadmap			
<input type="checkbox"/> Perform Current State Assessment and create RTP Roadmap			
<input type="checkbox"/> Conduct scoping and detailed planning of RTP program from an operations perspective			
<input type="checkbox"/> Assist with creation of functional requirements, design, use case scenarios, and 2D process flows			
<input type="checkbox"/> Develop testing strategy and test cases with test team	X		X
<input type="checkbox"/> Establish test window and test period for testing to be conducted	X		X
<input type="checkbox"/> Develop post-implementation and transition planning			
<input type="checkbox"/> Develop and determine training and communications plan		X	
<input type="checkbox"/> Develop and document help desk and customer service training procedures			
<input type="checkbox"/> Develop and communicate disaster recovery plan	X		
<input type="checkbox"/> Develop and document communication plans (e.g. pre go-live, go-live, and post go-live communication plan)		X	
<input type="checkbox"/> Develop implementation strategies and checklists for moving system from test environment to production environment	X		X
<input type="checkbox"/> Determine client migration and transition plan		X	X
<input type="checkbox"/> Conduct dress rehearsal and production readiness		X	X
<input type="checkbox"/> Determine detailed control procedures			
<input type="checkbox"/> Conduct go-live weekend and transition to production	X	X	X
<input type="checkbox"/> Conduct client migration / transition support		X	
<input type="checkbox"/> Document lessons learned		X	X

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Sample P2P RTP Scenario

Sample B2B RTP Scenario

Sample B2C RTP Scenario

Sample C2B RTP Scenario

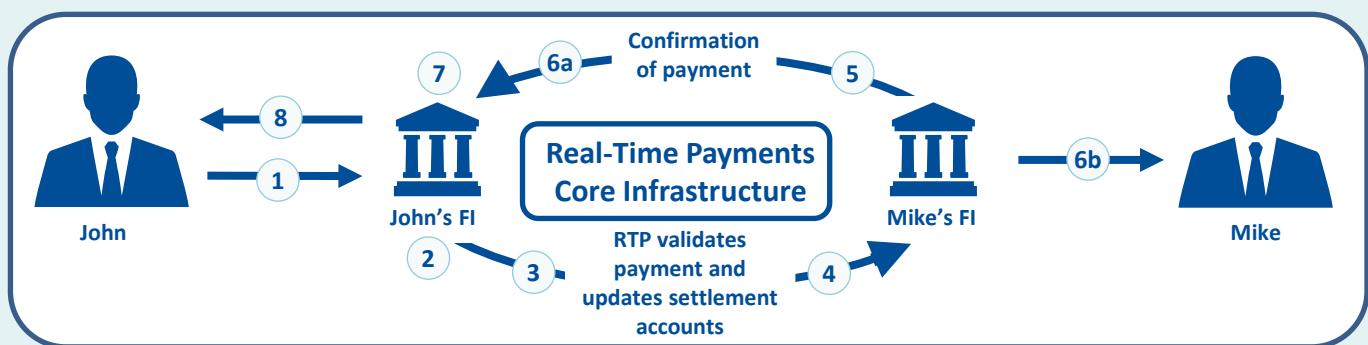
03: How do Real-Time Payments Work?

Sample P2P RTP Scenario

Real-time payments are executed through a sequence of payment messages. It starts with a payer sending a payment instruction via a channel made available by their FI (initiation). The FI ensures funds availability (approval), conducts required screening (authentication), and securely sends the payment instruction message to the RTP core infrastructure. The RTP core infrastructure validates the transaction and routes it to the receiving FI (clearing). The receiving FI acknowledges the message and immediately sends a response to the RTP core infrastructure. The RTP core infrastructure provides an acknowledgment message to the receiving FI as well as the issuing FI (receipt) and manages settlement between FIs. Upon receipt of the confirmation message, the receiving FI posts the transaction to the receiving customer's account. This provides immediate availability of funds to the recipient.

These real time payments are applicable to a variety of use case scenarios. Representative use cases are presented below.

Person-to-Person (P2P)



Use case scenario: Transaction from a person (John) to another person (Mike) with accounts at different FIs.

- 1 John's FI carries out its normal authentication process to verify John as the account owner. John instructs his FI through Online Banking to pay Mike via RTP. He includes Mike's alias (or routing and account number) to address the payment. He may also add additional reference information so that Mike knows what the payment is for.
- 2 John's FI verifies the availability of funds. In certain cases, the FI may need to hold the payment to perform more extensive fraud protection checks. John's FI may also opt to perform an out of band authentication step if this payment exceeds a certain threshold.
- 3 John's FI resolves the alias (if used) and submits the transaction to the RTP core infrastructure. At this point, the transaction can no longer be cancelled.
- 4 The RTP core infrastructure validates the transaction details and provisionally updates (debits) the settlement position for the payer's FI in the amount of the transaction.
- 5 Once Mike's FI has received the transaction, it checks that the account number is valid and then sends a message back to the RTP core infrastructure that it has accepted (or rejected) the payment.
- 6a Upon receiving the accept message from Mike's FI, the RTP core infrastructure finalizes the settlement position (debit) for the payer's FI and updates the position (credit) for the payee's FI in the amount of the transaction and sends a message to John's FI to confirm that the transaction was successful (or rejected) and sends a message to Mike's FI to confirm the transaction was successfully completed.
- 6b Mike's FI simultaneously credits his account with the value of the transaction sent by John.
- 7 John's FI marks the transaction as complete.
- 8 FIs notify John and Mike respectively, the status of the payment. Each sending FI will decide how their customers will be notified of transaction status.

Note: Funds are accessible within seconds

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Sample P2P RTP Scenario

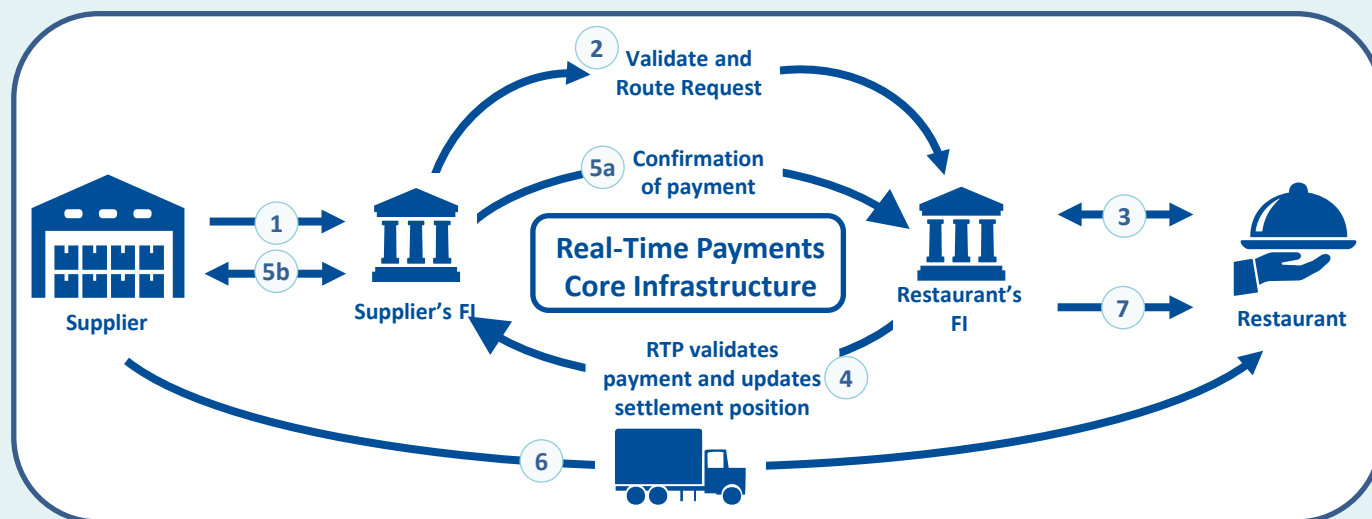
Sample B2B RTP Scenario

Sample B2C RTP Scenario

Sample C2B RTP Scenario

Sample B2B RTP Scenario

Immediate payment systems are particularly well-suited to provide value beyond the inherent benefit of fast money movement. A fundamental feature of real-time payments is real-time communication among senders, receivers, and their FIs.



Use case scenario: Single business to business transaction between a restaurant and its supplier. The restaurant needs supplies immediately, and the supplier needs to be paid before shipping the goods.

- 1 The supplier reviews an order received from a restaurant and sends a “Request for Payment” (RFP) through their FI. The supplier’s FI sends the RFP message to the RTP core infrastructure. Sending the request through a secure, trusted channel reduces fraud risk associated with an e-mail invoice.
- 2 The RTP core infrastructure validates the request and routes it to the restaurant’s FI, which then notifies the restaurant.
- 3 The restaurant receives the RFP that contains a “Pay Now” button. Upon selecting the “Pay Now” button, a pre-populated payment message that includes all pertinent payment data (e.g., remittance information, payment amount, etc.) is presented to the restaurant so they can confirm and make the payment to their supplier quickly and easily.
- 4 The restaurant’s FI submits the transaction to the RTP core infrastructure that validates the transaction details and provisionally updates (debits) settlement position for the payer’s institution in the amount of the transaction. The payment message is then sent to the supplier’s FI that then confirms the account number is valid and accepts the payment.
- 5a The supplier’s FI sends a message to the RTP core infrastructure with acceptance of the payment and the RTP core infrastructure finalizes the settlement position (debit) for the payer and updates the position (credit) for the payee’s FIs in the amount of the transaction.
- 5b The supplier’s FI notifies the supplier of payment. The supplier sends a payment acknowledgement message to the restaurant, confirming the goods are on the way.
- 6 The supplier sends the loaded delivery truck to the restaurant, confident that payment has been made.
- 7 The restaurant’s FI notifies the restaurant, confirming that the goods are on the way with a message arriving through a reliable, trusted channel.

Note: The exchange of information between buyer and seller goes beyond the remittance detail that typically accompanies B2B electronic payments. Remittance data is essential and enables the supplier to apply payment to the correct invoice, account for any differences, and reconcile those differences. In this immediate payment example, the payment request, notification message, and confirmation message all provide additional value for a time-sensitive transaction.

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Sample P2P RTP Scenario

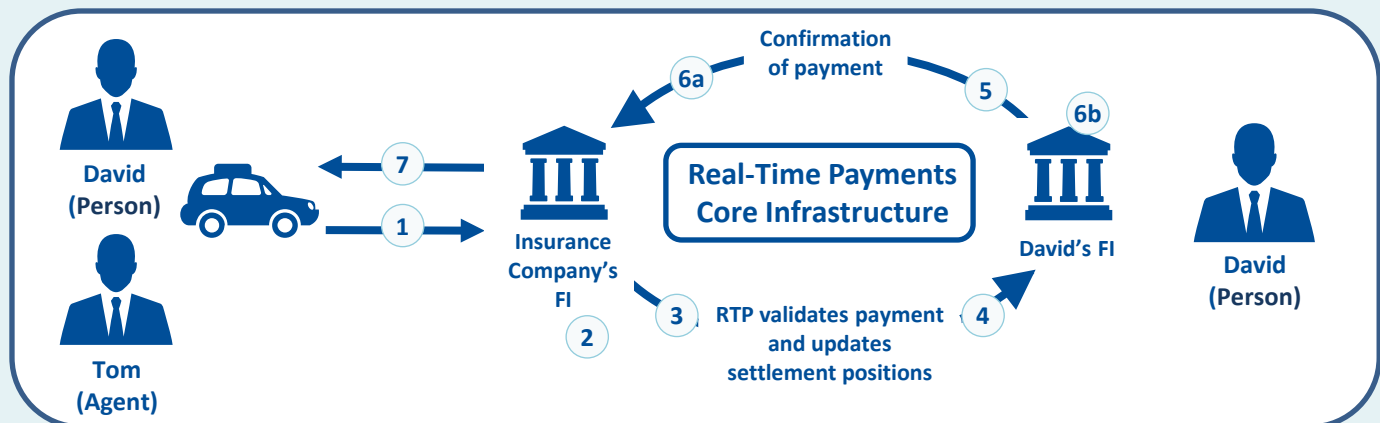
Sample B2B RTP Scenario

Sample B2C RTP Scenario

Sample C2B RTP Scenario

Sample B2C RTP Scenario

A business-to-consumer (B2C) transaction demonstrates that RTP offers value beyond P2P transactions. One example is the case of an insurance claims adjuster now having the ability to meet with a customer shortly after an accident or claim, assess value of damages, and provide funds immediately, thereby relieving the customer of worry in an already stressful situation.



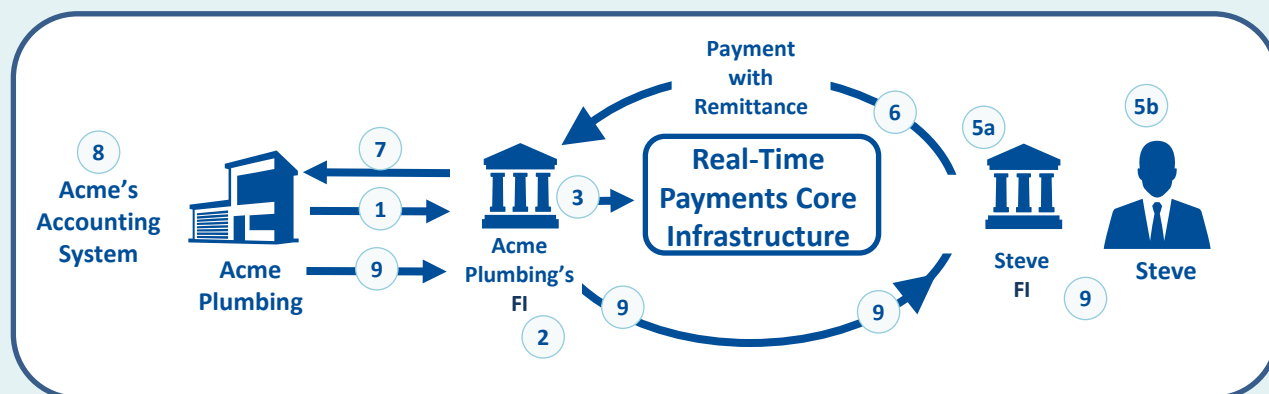
Use case scenario: David has damages to his car from an accident. He calls his insurance company, which sends its local adjustor, Tom, to meet with David and view the damages. Tom inspects the claim, determines the appropriate amount for the damages, and approves it remotely. Tom's insurance company immediately sends David the settlement amount.

- 1 Tom instructs the insurance company's FI to pay David the approved amount of damages. The payment instruction also includes claim information that both the insurance company and David can access. (Extensive claim information could be included in a remittance advice message or through a reference to an external source).
- 2 The insurance company's FI uses appropriate customer processes to verify Tom has authority to initiate payments from this account and that good funds are available.
- 3 The insurance company's FI submits the payment message to the RTP core infrastructure.
- 4 The RTP core infrastructure validates the transaction details and the payment instruction and provisionally updates (debts) the settlement position for the payer's FI. Associated claim information is then sent to David's FI as a part of the payment message.
- 5 Once David's FI has received the transaction, it checks that the account number is valid and then sends a message back to the RTP core infrastructure that it has accepted (or rejected) the payment.
- 6a The RTP core infrastructure sends a message to the insurance company's FI and David's FI to let them know that the transaction has been made successfully. The insurance company's FI marks the transaction as complete.
- 6b David's FI simultaneously credits his account with the claim amount sent by the insurance company so he can have immediate access to the funds.
- 7 The insurance company's FI confirms the status of the payment and provides transaction details to the insurance company. Each sending FI will decide how their customers will be notified of transaction status

Note: The exchange of information between buyer and seller goes beyond the remittance detail that typically accompanies B2C electronic payments. Remittance data is essential and enables the supplier to apply payment to the correct invoice, account for any differences, and reconcile those differences. In this immediate payment example, the payment request, notification message, and confirmation message all provide additional value for a time-sensitive transaction.

Sample C2B RTP Scenario

A consumer-to-business (C2B) transaction demonstrates that RTP offers many features beyond traditional money movement. One example is a small business that wants to send electronic invoices to its customers, along with the ability for customers to view and respond immediately with payment. The small business wants to have the payment and remittance data instantly downloaded to its accounting software program to avoid manually entering payment remittances, which can take time and introduce errors.



Use case scenario: Consumer to Business scenario with request for payment. Steve, an Acme customer, is presented with a link from his FI's customer facing application that displays an invoice. An option to immediately pay all or a portion of the invoice is made available. Once Steve instructs his FI to pay, his FI sends the payment directly to Acme's checking account while Acme's FI routes the remittance information directly to Acme's accounting system.

- 1 Acme Plumbing creates an invoice to be presented to Steve, their customer, for payment. Acme's accounting system creates a file containing a link to the invoice, (including remittance info) and a Request for Payment for its customers.
- 2 Acme's FI uses appropriate customer authentication and payment verification processes to verify Acme's Accounting personnel has authority to make payment requests.
- 3 Acme's FI submits the Request for Payment (RFP) messages to the RTP core infrastructure.
- 4 The RTP core infrastructure validates the payment request and routes the message to Steve's FI for distribution to the customer.
- 5a Once Steve's FI has received the payment request, it validates that Steve has elected to receive RFPs. Steve's FI then posts the message to his account.
- 5b Steve is presented with a RFP that has a "Pay Now" button. Upon selecting the "Pay Now" button, Steve is presented with a pre-populated payment message including all pertinent data (i.e., remittance information, payment amount, etc.).
- 6 Once the payment is authorized and submitted, Steve's FI sends the payment message including the related remittance information and a reference ID to the RFP to Acme's FI via RTP. RTP core infrastructure processes the payment as it would any other payment on the System.
- 7 Acme's FI informs Acme Plumbing that the customer's payment, and related remittance data, has been received and funds are available in Acme's account.
- 8 Acme Plumbing receives remittance information into their accounting system via their FI's interface, avoiding manual entry of payment information, and applies payment to the appropriate customer account.
- 9 Acme send confirmation that payment has been posted to Steve via a Payment Acknowledgement message through RTP

Note: The exchange of information between buyer and seller goes beyond the remittance detail that typically accompanies C2B electronic payments. Remittance data is essential and enables the supplier to apply payment to the correct invoice, account for any differences, and reconcile those differences. In this immediate payment example, the payment request, notification message, and confirmation message all provide additional value for a time-sensitive transaction.

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Business Case Considerations

04: Business Case Considerations

The RTP business case should be a collaborative effort with input and knowledge coming from the business, operations, and technology teams. This partnership is essential to building the business case for RTP as FIs analyze the current operating model that is supporting the products within the bank. The knowledge gathered by the Operations teams through their experience with the client, understanding of their organization's products and services, and processes that drive the FI's business makes their participation integral to developing a well-rounded and intelligent business case for RTP.

- **Client Needs and Expectations:** By assessing client needs and leveraging their knowledge of the client, Operations teams can combine their day-to-day experience with the business case to determine areas where there are opportunities to better serve or meet the needs and expectations of the client.
- **Products and Services:** The Operations team has an understanding of not only the organization's products and services, but also the customer's level of acceptance of its products. This unique view into the organization's functions will help strengthen the case for how the FI can leverage RTP to support an FI's existing product and service portfolio.
- **Operating Models and Processes:** The Operations team should assess existing operating models to identify any changes that may be needed to support RTP. This assessment should include an evaluation of resources that may be needed for 24/7 coverage or who have knowledge or skillset around a specific topic (e.g. ISO 20022). This assessment will help the Operations team understand the ways that RTP can drive value for the organization. This review can also provide an understanding of the operational costs associated with implementing RTP.

Optimizing the organization for client needs and aligning it against the internal business case for implementing the RTP model contributes to the cost analysis that supports the business case. The Operations team can provide additional value by assessing the various opportunities for implementing RTP and determining where the organization can drive the most value.

Business Case Considerations for RTP



New Product Ideation

Consider opportunities for new products and markets created by faster payments to deliver innovative products that transform the industry and drive adoption of RTP.



Impacted Products and Service Offerings

Assess customer needs alongside existing product and service offerings to determine the foundation for your organization's RTP strategy.



Competitive Opportunities

Understand competitive opportunities across use cases. Develop your own value-added products and pricing strategies that align with your customers' demand.



Impacted Investments and Associated Costs

Determine investment areas and associated costs to understand the overall cost and impact to your organization.

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05: Impacted Areas: Key Considerations

RTP represents a true transformation of the U.S. payments ecosystem and will impact the entire value chain for participating FIs. The capabilities provided will require FIs to evaluate their operating models to determine what impacts RTP implementation will have. Considerations should be given to determine the impact of your financial institution's RTP implementation on **Client Experience, Shifting of Transaction Volume, Retail vs. Wholesale Customer Service Methodologies, Connectivity, and Reporting.**

Your institution's level of implementation (for example, receiving only, or sending and receiving) should also be kept in mind when considering overall impacts to existing operations.

IMPORTANT

Support for 24/7 operations does not need to be labor intensive

The instinctive reaction that most organizations have when faced with the challenges of implementing a 24/7 system is to hire additional resources to meet and fulfil client expectations. However, it is important for FIs to first identify the processes in which they believe the most resources will be required and then determine methods for automating these processes. As such, routine procedures such as fraud monitoring, sanctions screening, and credit decisioning can be automated to maintain a reasonable staffing model.

Key RTP Considerations

Topic 1: Considerations for Client Experience

Due to the automation required and transparency of transaction status for RTP, customers will be able to provide self service via their FIs digital channels. This self service capability will reduce customer reliance on FI customer service channel for issue resolution and investigations.

Real-Time View of Financial and Non-Financial Information: RTP will allow customers to have real-time insight into the status of payments and messages sent through the RTP system. This transparency is expected to reduce the need for customers to reach out to service representatives for inquiries.

Aliases and Directories: At the FI's discretion, RTP users may have the ability to provide aliases in lieu of account numbers to avoid providing sensitive routing and account information when receiving an RTP payment. These aliases will be maintained in directories that users may access to retrieve a recipient's alias and send their payment quickly and easily. Such external directories are not offered as part of RTP; however, participating FIs may access these directories through third parties.

The use of aliases and directories may be new to the institution, introduced through RTP. As these capabilities become further defined, additional detail will be released to assist in training customers about fundamental concepts such as:

- Using aliases to make payments
- Enrolling an alias in a directory
- Maintaining an alias

Stakeholders



RTP Payment Operations



Client Servicing Operations



Treasury Operations



Call Center / Customer Service



Product Management



Branch / Teller Operations



Credit Operations



Fraud Analysts



Directory Operations



AML / OFAC



Tokenization Operations



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Key RTP Considerations

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Additional Considerations

Key RTP Considerations

Topic 1: Considerations for Client Experience (cont'd)

Payment Certainty: RTP users sending payments will have to be educated on the meaning of “Payment Certainty”. As funds cannot be retrieved from a receiver’s account once it is sent, senders must be diligent when initiating their payments. If a payment is sent in error, a Request for Return of Funds message may be sent by the initiators FI to the receiver’s FI. Customers will have to adjust to the idea of payment certainty and adapt to the new processes established for attempting to receive a return of funds.

Secure Transactions: Because RTP operates on a good funds model, the payment risk is associated with the originator of the transaction. As such, if the FI decides to roll-out products with additional controls, customers may need to be educated about why additional authentication steps are required when initiating an RTP payment. Further, if the FI opts to use token services to mask account information, account holders can be assured that sensitive account information is protected throughout the lifecycle of an RTP payment.

Topic 2: Shifting of Customer Volume

The introduction of a new type of payment to the payment ecosystem may cause a shift in volume across existing payment methods. It is important to remember that each payment method (e.g. RTP, ACH, check, debit card, wire) has its own set of payment attributes and therefore may be needed to address specific customer needs. The addition of RTP as a new product may cause a shift in an FI’s payment volumes. The Operations teams at participating FIs will need to work closely with their business partners to determine how RTP will affect volumes across each of their payment methods and even across payment channels (i.e. online, mobile, branch-initiated, etc.).

Tips/Fact Check



During the initial deployment of RTP, call centers should expect a higher call volume from customers inquiring and requesting information regarding RTP. In order to alleviate this call volume over time, it would be advantageous for these inquiries to be reported to the Product Management team so processes can be altered or materials can be delivered to answer questions, improve customer service, and increase efficiency.

Tips/Fact Check



The introduction of RTP changes the fundamental method in which payments have been conducted over the past several decades. The initial implementation and adoption of RTP will create a buzz amongst customers which will lead to questions and inquiries to help desks, call centers, and branches. Ensuring client facing representatives at each touch point receive the appropriate training to interface with customers will be important in ensuring they are knowledgeable and well equipped with informative responses. In turn, customers receive a positive customer experience and develop an acceptance of the payment method that is essential to the adoption of RTP.

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Key RTP Considerations

Topic 3: Differences Between Retail and Wholesale Customers

Each FI participating in the RTP system will have different considerations for their retail and wholesale practices. Each group will have varying tolerance levels to the introduction of RTP and the Operations team should design their operating models based on the specific needs of each group.

For example, corporate clients of a commercial banking division may not necessarily send payment transactions on a 24/7 basis. These clients normally maintain regular business hours for conducting payment transactions and do not need “round-the-clock” attention to accommodate their needs. However, customers of an FI’s retail division will conduct their payment activities during hours that are convenient to them. It is important for FIs to understand the differences in their customer / client behavior in order to provide the appropriate customer experience and system usability.

FIs should think through the different customer needs that may impact operating / coverage models, including:

- Referral queue for fraud decisioning
- Referral queue for credit decisioning
- Small Business / COD scenarios
- Transaction dollar limits
- Call Center staffing
- File or Batch payments



Stakeholders



RTP Payment Operations



Client Servicing Operations



Treasury Operations



Call Center / Customer Service



Product Management



Branch / Teller Operations



Credit Operations



Fraud Analysts



Directory Operations



AML / OFAC



Tokenization Operations



Topic 4: Connectivity Options

FIs who have made the decision to participate in the RTP system will need to determine the best method for their organization to connect to TCH’s RTP system. Connection options include:

- **Direct Connection:** FIs may connect directly to RTP by building and maintaining their interface(s) to the RTP switch.
- **Connect through Third-Party Service Provider:** FIs may benefit by connecting through a TPSP where the initial investment in infrastructure or timeline for a direct connection does not make sense.



Decision Point

Each participating FI that chooses to participate in the RTP system will need to determine its method of connectivity to the system. Participants may connect directly or through an authorized Third-Party Service Provider (TPSP).

This decision may impact the FI’s operating model depending on the role of the TPSP.

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Key RTP Considerations

Topic 5: Reconciliation and End-of-Day Processing

FIs should consider how RTP will affect their current reporting process. Traditionally, FIs have a distinct end-of-day cut-off at which time reports are logically generated. With a 24/7 system, the Operations team should examine their existing reporting timeline and assess how to best incorporate new RTP reporting based on established System windows. FIs will have the ability to receive system reporting for each established reconciliation window.

New reports that should be considered include:

- Daily Reconciliation Reports, which include
 - Payment value and volume summaries
 - Transaction level reports

Stakeholders



RTP Payment Operations



Client Servicing Operations



Treasury Operations



Call Center / Customer Service



Product Management



Branch / Teller Operations



Credit Operations



Fraud Analysts



Directory Operations



AML / OFAC



Tokenization Operations


HIGH IMPACT
MEDIUM IMPACT
LOW IMPACT

Topic 6: Regulatory Compliance

RTP is a new form of payment that must be reviewed by compliance teams to ensure that the FI is meeting all requirements of applicable regulations. In particular, compliance teams may want to answer the following questions:

- How do disclosures and account agreements need to be updated to incorporate RTP for consumer and business accounts?
- How do RTP payments fit into the posting order disclosures we make to our customers?
- What impact, if any, does RTP implementation have on my existing BSA compliance program?
- Are existing AML controls sufficient, or is additional functionality for real-time monitoring needed?

Stakeholders



RTP Payment Operations



Client Servicing Operations



Treasury Operations



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Product Management



Branch / Teller Operations



Credit Operations



Fraud Analysts



Directory Operations



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HIGH IMPACT
MEDIUM IMPACT
LOW IMPACT

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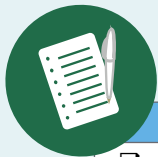
Key RTP Considerations

Planning, Execution, and Delivery

Additional Considerations

Planning, Execution, and Delivery of RTP

TCH has identified ten key RTP capabilities that an Operations team should consider in order to provide their FI with a smooth transition to the new RTP functionality. The **Planning, Execution, and Delivery of RTP** section offers an in depth description of these topics and highlights the detailed considerations of which specific Operations Stakeholders should be aware.



10 Key Characteristics that Operations Should Consider

<input type="checkbox"/> 24/7/365	<input type="checkbox"/> Safety and Security
<input type="checkbox"/> Immediate Availability	<input type="checkbox"/> Cash Flow Control
<input type="checkbox"/> Payment Certainty	<input type="checkbox"/> Adaptability
<input type="checkbox"/> Ubiquity	<input type="checkbox"/> Global Standards
<input type="checkbox"/> Extensibility	<input type="checkbox"/> Tokenization

Topic 1: 24/7/365

FIs considering implementing RTP must be prepared to deliver the capability at anytime, 24/7/365, with high availability. Since FIs must receive in order to participate, this 24/7 model will be operational regardless of whether FIs are also sending RTP transactions.

Each Operations Team will need to review their staffing structure to determine how they will handle a system that operates 24/7. Where global organizations may be able to institute a “follow-the-sun” methodology with resources available in other countries, non-global organizations may alternatively look to a stand-in service using a third-party technology enabler or potentially extend these services to an offshore night time facility.

As organizations identify their resource and staffing needs for the implementation of RTP, it is important to note that automation can play a pivotal role in staffing. By utilizing sophisticated customer facing applications, processing systems and fraud / sanction screening systems, customers are provided with increased transparency and inquiry services and less room is left for human error—allowing for FIs to maintain a reasonable overhead for the service. Another manner in which automation will assist FIs with maintaining a reasonable number of resources is the transparency and immediacy of payment statuses. As customer call volume is generally centered around a missing payment, real-time confirmation and availability of funds are expected to ease the volume of customers calling to inquire about their fund transfer status.

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Key RTP Considerations

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Planning, Execution, and Delivery of RTP

Topic 1: 24/7/365 (continued)

The implementation of a 24/7/365 system can be a daunting task for any FI, but many RTP operations (such as dispute resolution, most customer service, most treasury/liquidity operations) can be done during normal business hours and only need to be 24/7 if the FI chooses to do so. It is important for all members within the Operations team to receive consistent messaging on how the 24/7/365 characteristic of RTP will be handled within the organization to reduce any miscommunication. The following topics are comprehensive and should be addressed within each Operations team:

Key Consideration Topics for all Operations Teams – 24/7/365

- Staffing model or staffing plan to support a 24/7/365 model
- Training on product and/or process changes that support the 24/7/365 nature of RTP
- Internal communication to increase awareness of RTP and the roles and responsibilities of staff around how a 24/7/365 staffing model will be handled
- New tools available on digital channels to assist customers for inquiries on payments

In addition to these comprehensive topics, further considerations related to the 24/7/365 characteristic of RTP are listed in the table below according to specific Operations Stakeholder groups:

Operations Stakeholders	Additional Considerations
RTP Payment Operations	<ul style="list-style-type: none"> • 24/7 flow of payments through the payment process • Change management and maintenance process in a 24/7 operation (i.e. no scheduled downtime) • No end of day required process for FIs to manage a process to reconcile payments made/received against payment transactions processed by RTP. This can be done using reports provided by RTP at reconciliation windows
Treasury Operations	<ul style="list-style-type: none"> • Impacts to liquidity management and cash flow • Addition of new reconciliation windows that occur at different times (including weekends) • Potential changes to support hours to ensure support for 24/7 real-time gross settlement model and react to system alerts regarding settlement account positions • Process for providing supplemental funding or conduct draw downs from prefunded account
Fraud Analysts	<ul style="list-style-type: none"> • Ability to support 24/7 fraud decisioning
AML / OFAC Analysts	<ul style="list-style-type: none"> • Consider screening and other processes and controls necessary to support compliance obligations and resolution of any flagged transactions • Availability of analysts to address flagged transactions in a timely manner

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Key RTP Considerations

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Planning, Execution, and Delivery of RTP

Topic 2: Immediate Availability of Funds

Immediate availability of funds allows recipients to receive funds in their FI account within seconds of the sender's FI accepting the payment transaction. Operations teams affected by RTP should receive consistent messaging regarding how their organization will handle immediate availability of funds and should address the following topics:

Key Consideration Topics for all Operations Teams – Immediate Availability of Funds

- Internal communication for the awareness and meaning of immediate availability of funds
- Training of staff on how to handle new business processes to ensure customers receive their funds immediately

Immediate availability of funds poses several additional considerations to various Operations Stakeholder groups as described in the table below:

Stakeholders



RTP Payment Operations



Client Servicing Operations



Treasury Operations



Call Center / Customer Service



Product Management



Branch / Teller Operations



Credit Operations



Fraud Analysts



Directory Operations



AML / OFAC



Tokenization Operations



HIGH IMPACT
MEDIUM IMPACT
LOW IMPACT

Operations Stakeholders	Additional Considerations
RTP Payment Operations	<ul style="list-style-type: none"> • Immediate availability of cash • Customer liquidity management flows • True available balance in a customer's account is reflected correctly on all portals • Frequent monitoring and response to discrepancies identified in reconciliation process • Monitor and respond to discrepancies identified in reconciliation process
Treasury Operations	<ul style="list-style-type: none"> • Monitoring of balance in settlement account to ensure continuous service for sending applications
Client Servicing Operations	<ul style="list-style-type: none"> • Ability to have internal visibility into the lifecycle of a transaction, the order of posting, and the true available value of the account in order to respond to customer questions • Ability to react near-immediately to customer requests (inquiry, problem resolution, etc.) • Plan for handling overdraft decisions (i.e., will overdrafts be allowed or will overdraft decisions be automated) • Process for verifying and responding to customer reported exceptions or discrepancies
Call Center / Customer Service	<ul style="list-style-type: none"> • Tools and training to respond to requests immediately (e.g., case management system that is capable of handling the immediacy of RTP and showing linked payment and non-payment messages) • Ability to disable RTP services upon client request or report of account takeover • Channel reporting must be aligned with the internal visibility of the transaction in the lifecycle so the client servicing team is able to see the same information a customer is able to see regarding their account
Fraud Analysts	<ul style="list-style-type: none"> • Automated fraud capabilities to accommodate 24/7 transaction processing • Understanding and assessment of fraud filters and rules as they apply to RTP
AML / OFAC Analysts	<ul style="list-style-type: none"> • Automated AML and sanction capabilities to accommodate immediate availability of funds • Impact of immediate fund availability to the normal AML/OFAC scanning procedures • Understanding of how AML/OFAC decision-making can impact the flow of transactions for RTP

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Topic 3: Payment Certainty

Payment certainty ensures that a payment is not able to be revoked or recalled once it is authorized and submitted to the RTP system. RTP has a message that can be used to request the return of funds sent in error. Participants should establish a process for handling incoming Request for Return of Funds (RrRF) and determine under what conditions they will initiate such requests. All Operations teams affected by RTP should address the following topics around payment certainty:

Key Consideration Topics for all Operations Teams – Payment Certainty

- Internal communication regarding the awareness and meaning of payment certainty
- Process to initiate investigation upon receipt of a Request for Return of Funds from a customer
- Training of staff regarding the FI's procedures for handling the return of funds

In addition to these topics, the following Stakeholder groups may have additional topics to consider when thinking about payment certainty:

Operations Stakeholders	Additional Considerations
RTP Payment Operations	<ul style="list-style-type: none"> • Tactical processes to handle requests for return of funds (may be automated) • Research discrepancies identified in automated reconciliation to determine if RrRF initiation is necessary
Call Center / Customer Service	<ul style="list-style-type: none"> • Detailed procedures for customer service operators to guide them on how to deal with payment certainty and return of funds process • Detailed scripts to assist customer service representatives regarding customer education of payment certainty
Branch / Teller Operations	<ul style="list-style-type: none"> • Training and awareness of payment certainty to assist customers with any needs or issues (e.g., Request for Return of Funds sent in error) • Knowledge of how to handle payments that are made in error, including the ability to refer to the proper Payment Operations back-office groups

Stakeholders



RTP Payment Operations



Client Servicing Operations



Treasury Operations



Call Center / Customer Service



Product Management



Branch / Teller Operations



Credit Operations



Fraud Analysts



Directory Operations



AML / OFAC



Tokenization Operations


HIGH IMPACT
MEDIUM IMPACT
LOW IMPACT

Tips/Fact Check

During the initial onset of RTP, customers will be adjusting to the changing nature of payments. This initial period may generate a higher number of customer inquiries to the call center pertaining to payment certainty. However, once users are comfortable with RTP, it is expected that call center volumes will subside and there will be less call volume concerning RTP due to the transparency and readily available transaction information through digital channels.

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Topic 4: Extensible Messaging

Extensible messaging capabilities will be used in RTP to support value-added products for end-user customers and improve operational efficiency. Additional message types such as Request for Payment or Request for Information are part of the RTP message toolkit that will allow for inter-bank messaging. This capability will remove the need for outside messaging or FI-to-FI phone calls that can be time consuming or confusing.

The ISO 20022 standard message format for RTP enables a rich and consistent data set. FIs can embrace this opportunity to build new and innovative products by embedding extensive information not available in current payment messages into RTP payment messages. The quantity and quality of data carried in these messages can be extended to include remittance notes and additional supplementary information. This functionality can be used to deliver innovative products that reduce the need for custom development in specific geographic markets or industries to deliver to specific client needs.

Further, the use of the ISO 20022 data format will enable multinational FIs and corporates to utilize one message standard across all payment related activities.

All Operations teams affected by RTP should address the following topics around extensible messaging:

Key Consideration Topics for all Operations Teams – Extensible Messaging

- Internal communication regarding the meaning and details of extensible messaging
- Targeted training for what extensible messaging means and the various value-added capabilities offered
- Potential integration options to relay remittance advice to third-party applications (e.g. A/R or A/P systems) as a service to account holders

Stakeholders


 RTP Payment Operations

 Client Servicing Operations


 Treasury Operations

 Call Center / Customer Service

 Product Management

 Branch / Teller Operations

 Credit Operations

 Fraud Analysts

 Directory Operations

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Topic 4: Extensible Messaging (continued)

Some groups will need extensive in-depth knowledge of the ISO 20022 messaging format that will be used. In these cases, additional considerations should be considered for certain Stakeholder groups as outlined in the following table:

Operations Stakeholders	Additional Considerations
RTP Payment Operations	<ul style="list-style-type: none"> Understand how the back-office would handle ISO 20022 messaging Inclusion of ISO 20022 SME who has deep understanding of how payment and non-payment messages are structured
Product Management	<ul style="list-style-type: none"> Knowledge/understanding of extensible messaging in order to speak proficiently about and build value added products integrated with RTP
Client Servicing Operations	<ul style="list-style-type: none"> Awareness and understanding of extensible messaging
Call Center / Customer Service	<ul style="list-style-type: none"> Detailed training on the various message types offered by RTP (e.g. payment messages, request for payment messages, remittance advice messages, etc.)
Fraud Analysts	<ul style="list-style-type: none"> Ability to leverage the additional data that will be available in ISO 20022 messages to enhance fraud detection
AML / OFAC Analysts	<ul style="list-style-type: none"> Ability to process the additional data that will be available in ISO 20022 messages in real-time, as applicable

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Topic 5: Safety and Security

Given the enhanced payment speed and funds availability within RTP, safety and security of the system is of utmost importance to TCH and participants to minimize the risk of fraud.

RTP includes a centralized fraud-monitoring utility that generates notifications to affected participants in scenarios of suspected fraud. This utility detects patterns in network-level activity that could be indicative of fraud or money mule activity so that participants can react to and prevent future misuse of the network.

Additionally, RTP rules require strong authentication and customer identity procedures be completed prior to initiating a real-time payment. In order to ensure the proper controls are in place to prevent fraud from a customer servicing perspective, FIs should establish appropriate security checks for customer identification and authentication in any application that allows account holders to initiate RTP transactions.

All Operations teams affected by RTP should address the following topics around safety and security:

Key Consideration Topics for all Operations Teams – Safety and Security

- Setup of fraud notifications from TCH during provisioning process
- Process when notified by TCH of suspected fraudulent activity
- Strong authentication requirements for any application that initiates real-time payments
- Monitoring of customers with the ability to send Request for Payment

Some areas of the Operations team will have a more robust need for specific capabilities associated with the safety and security of RTP activity. These considerations are highlighted in the table below.

Operations Stakeholders	Additional Considerations
RTP Payment Operations	<ul style="list-style-type: none"> • Process for reacting and responding to TCH generated reports of suspected fraudulent activity • Proper security measures will need to be established in order to ensure proper identification and authentication of customers who want to change/update any alias, if used
Product Management	<ul style="list-style-type: none"> • Ensure strong authentication is used in all applications through which account holders can initiate RTP transactions
Call Center / Customer Service	<ul style="list-style-type: none"> • Ability to ensure identity of a caller to ensure access to an account if allowing telephone-initiated RTP transactions • Script for explaining why transactions may have failed if FI chooses to stop payments due to suspected fraud
Fraud Analysts	<ul style="list-style-type: none"> • Tolerance threshold for receiving network-level potential fraud notifications • Processes for reacting to network-level fraud notifications • Monitoring of 24/7 payment activity

Stakeholders



RTP Payment Operations



Client Servicing Operations



Treasury Operations



Call Center / Customer Service



Product Management



Branch / Teller Operations



Credit Operations



Fraud Analysts



Directory Operations



AML / OFAC



Tokenization Operations


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Topic 6: Cash Flow Control

The RTP system provides end-users with better control over their cash flows which is important for those small businesses and consumers who are cash constrained. All Operations teams affected by RTP should address the following topics around cash flow control:

Key Consideration Topics for all Operations Teams – Cash Flow Control



- Training of staff regarding how real-time settlement will impact their organization's liquidity position
- Internal communication and awareness of impacts to customer accounts and liquidity

All customer facing groups should be aware of the immediate effects of a customer's debits and credits to their account balances when making an RTP transfer. These customers may experience a period of adjustment as funds will be available in real-time and access will be immediate.

Additional considerations for cash flow control are listed below according to specific Operational Stakeholder groups:

Operational Stakeholders	Additional Considerations
RTP Payment Operations	<ul style="list-style-type: none"> • Management of real-time settlement and customer expectations of payment timing
Product Management	<ul style="list-style-type: none"> • Development of standard FAQ communications to be used by customer service teams
Call Center / Customer Service	<ul style="list-style-type: none"> • Define process for documenting frequently asked questions and providing feedback to product management for developing standard answers

Stakeholders


 **RTP Payment Operations**
 **Client Servicing Operations**
 **Treasury Operations**
 **Call Center / Customer Service**
 **Product Management**
 **Branch / Teller Operations**
 **Credit Operations**
 **Fraud Analysts**
 **Directory Operations**
 **AML / OFAC**
 **Tokenization Operations**


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Topic 7: Adaptability

The RTP system will have a modularized flexible architecture capable of adapting to evolving and changing market needs. By-leveraging the ISO 20022 standard, used across the international financial markets, RTP messages will use data rich standard industry messages to support the development of new and innovative FI services. As more message types enter the system, FIs will be able to enhance their messaging capabilities without requiring message specific development. Further, as the ISO 20022 methodology is an international standard, the messaging standard will allow for a common message standard to build interoperability between multiple international domestic real time systems. As ISO 20022 becomes the de facto standard for payment messages internationally, FIs will benefit through reduced cost of development and implementation / maintenance of new products and services that can be built to take advantage of the underlying RTP system.

Participating FIs will have the ability to launch initiatives to deliver products that serve new business models. The flexibility of the message framework encourages users to build message types specific to their needs and to tailor usage to meet market defined requirements.

Stakeholders



RTP Payment Operations



Client Servicing Operations



Treasury Operations



Call Center / Customer Service



Product Management



Branch / Teller Operations



Credit Operations



Fraud Analysts



Directory Operations



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Topic 8: Global Standards


The RTP system will remain consistent with international global standards for ISO 20022 to retain compatibility to the greatest extent possible while meeting domestic U.S. requirements. TCH remains closely involved in the development of defining ISO 20022 XML real time payment messaging standards as a part of the ISO 20022 Real Time Payments Drafting Group—to help synchronize global financial service standards across borders.


With many large U.S. and international corporates and banks already using ISO 20022 messaging standards, RTP implementation may be simpler than implementation of a system using a proprietary format. Leveraging this international standard will allow FIs to support their global customers and ensure U.S. FIs move in tandem with global markets and remain competitive in the payments landscape.

Though cross border transactions will not be a Day 1 activity, FIs should consider how international transactions may affect their RTP processes. Specifically, the Operations team should have the capability to:

1. Determine the type of ISO 20022 functionality their organization chooses to accommodate
2. Estimate the volume of messages their organization can expect to receive and transmit to prioritize development and support of different ISO 20022 functionality
3. Determine method of routing for ISO 20022 messages enterprise-wide

Stakeholders


 RTP Payment Operations

 Client Servicing Operations

 Treasury Operations

 Call Center / Customer Service

 Product Management

 Branch / Teller Operations

 Credit Operations

 Fraud Analysts

 Directory Operations

 AML / OFAC

 Tokenization Operations



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Topic 9: Ubiquity

The RTP System will be accessible by all FIs regardless of size or charter type. As a result, RTP payments will have the capability of reaching the vast majority of U.S. account holders. As the reach of RTP is expected to grow on a steady basis, FIs should consider how this will affect the volume of RTP transactions they anticipate will be processed through their core system.


As ubiquity is expected to be achieved over time, the Operations teams should determine how their FI will handle real-time payments and messages to recipients who may not yet be registered users. This includes customers who do not have access to applications that initiate RTP payments but who are receiving request for payments. During this initial period, FIs can provide users the option to use other channels, such as ACH, to complete the payment transaction.

As RTP becomes more accepted through the payments ecosystem, FIs can potentially provide their customers with a menu of payment transfer options and services to choose from when needing to complete a transfer of funds. FIs can look forward to leveraging RTP's ubiquity to build new products and services for their customers.

As each Operations team begins their analysis around how to accommodate a real-time system that is expected to grow to ubiquitous coverage, their organization's projected volume and reach of RTP will guide them in their staffing and build decisions.

Stakeholders


 RTP Payment Operations

 Client Servicing Operations


 Treasury Operations

 Call Center / Customer Service

 Product Management

 Branch / Teller Operations

 Credit Operations

 Fraud Analysts

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Topic 10: Tokenization (optional)

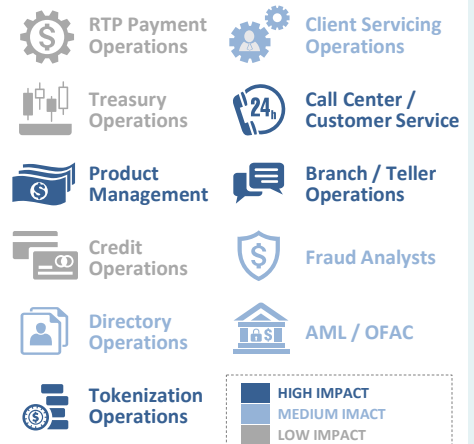
FIs may choose to enhance customer account data privacy through the use of tokenization services to encrypt receiver account information as it is transmitted through the system. Most Operations team stakeholders will only need an overview of how tokenization works. It is important that all team members receive consistent messaging around tokenization:

Key Consideration Topics for all Operations Teams – Tokenization

- Internal communication regarding the process and details of tokenization
- Targeting training regarding tokens and how tokenization works

Certain stakeholder groups will need a more detailed understanding regarding the how the FI intends to leverage tokens for RTP transactions and how account information is protected. Additional considerations for tokenization are listed below according to specific Operations Stakeholder groups:

Stakeholders



Operations Stakeholders	Additional Considerations
Tokenization Operations	<ul style="list-style-type: none"> • FIs that have chosen to build an in-house token vault will need to form a Tokenization Operations team to support this functionality • A Tokenization Operations team will also need the appropriate tools and defined processes to manage and monitor tokenization at their FI
Call Center / Customer Service	<ul style="list-style-type: none"> • Develop call center scripts to assist with customers who have questions around account data privacy • Ability to research transactions that may have been sent to tokenized account numbers (i.e. ability to identify customer through token or actual RT and account number)
Branch / Teller Operations	<ul style="list-style-type: none"> • Targeted training on RTP account data privacy to assist with walk-in customers who may have RTP tokenization related questions • Ability to research transactions that may have been sent to tokenized account numbers (i.e. ability to identify customer through token or actual RT and account number)

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Additional Considerations

Implementing RTP will be an organization-wide effort where the Business, Operations, and Technology teams should collaborate on certain decisions and efforts. Business related considerations in which the Operations team can provide knowledge and insight on are **Internal Communication** and **Level of Participation**. Each topic is covered in the “Additional Considerations” section.

Topic 1: Internal Communication

The adoption of RTP will have enterprise-wide impacts for FIs. RTP capabilities provide new product opportunities for all customer segments across consumer, business, and wholesale banking. Furthermore the adoption of these capabilities may change the usage of other payment products by customers. Technology and Operations organizations will have to address new technology and processes from front-end channels through payment processing and accounting. With such broad reaching impacts throughout the organization, FIs need to develop and execute multifaceted communication plans to inform the organization of ongoing changes.

Communications will be unique in that real time payments do not just represent an incremental change, but rather a new standard for the speed of business. For most customers, their exposure to the new speed of business will become the “new normal”. Participating FIs will experience a significant change in the characteristics of the payments network. These new characteristics will require a change in how FI staff view payments:

- 24/7/365 operations
- Payment certainty
- Immediate availability of funds to DDA accounts
- Potential liquidity impacts/cash flow control
- Multiple reconciliations windows per day
- Value-added messaging
- Security through tokenization
- Potential for global payment transactions

Given the changes in adoption and product offerings over time, internal communications management will have to be dynamic and ongoing. Stakeholder management and internal communication begins with the project execution of RTP capability and continues throughout the product life cycle.

Important



When communicating the approach of RTP to your internal organization, there are several key themes that you should keep in mind:

- Communicate the nature of the transformational change (What is RTP? Why is RTP necessary to your organization? How will RTP enhance the products and services of your organization?)
- Discuss the expected time line and process of implementing RTP
- Be sure to communicate and support your organization’s commitment to RTP
- Identify the target audience for each communication topic to ensure that the appropriate information is communicated to the right groups

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Additional Considerations

Topic 1: Internal Communication (continued)

To provide clear and consistent information, all Operations teams should receive internal communication on RTP's features and characteristics. This communication should be clear and consistent across all groups within the Operations teams. Depending on the level and role of the individual, communication may need to be tailored to provide more or less functional detail to communicate message topics. These areas should be considered in addition to the baseline messaging provided throughout the Operations teams.

Below are the strategic Operations team functions that should be targeted for internal communication regarding the key RTP message topics.

Key Operations Teams

- Payment Operations (Back Office)
- Treasury Operations
- Product Management
- Credit Operations
- Directory Operations
- Tokenization Operations
- Client Servicing Operations
- Call Center / Customer Service Representatives
- Branch / Teller Operations
- Fraud Analysts
- AML / OFAC Analysts

Key Message Topics

- 24/7/365
- Immediate Availability of Funds
- Payment Certainty
- Ubiquity
- Extensible Messaging and ISO 20022 capabilities
- Account Data Privacy – Tokenization and Directory
- Convenience
- Cash Flow Control
- Adaptability
- Global Standards
- New Real Time Payment Related Products
- New Customer Applications/Tools

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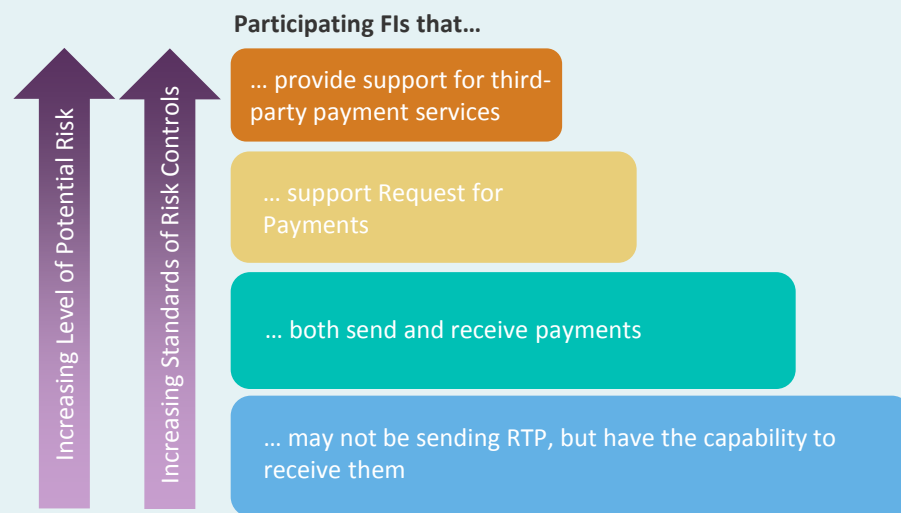
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Additional Considerations

Additional Considerations

Topic 2: RTP Functionality Level

As FIs make the decision to on-board onto the RTP system, a decision needs to be made regarding the level of functionality the FI wishes to offer their clients. TCH will provide a tiered approach to risk control associated with the activities that a financial institution is offering. This approach will be additive in nature based on level of participation.



All participants must meet a minimum set of privacy and security standards in order to participate, even if to "Receive Only." Starting with the "Send RTP" functionality, the level of risk materially increases and continues to accumulate with each increasing level of capability the FI makes available to their customer. In order to mitigate these risks, each access level entails adherence to incremental security safeguards and risk mitigation requirements that must be met in order to maintain the level of network security needed for RTP.

Decision Point



Each participating FI must decide on the level of functionality in which it intends to participate. Participants will have the option of the following capabilities:

- Receive RTP
- Send RTP
- Support Request for RTP
- Support third-party payment services

Stakeholders



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Topic 2: RTP Functionality Level (continued)

Receive Real-Time Payments

“Receive Payment” capability means that a participating FI with this capability is only able to receive payments from other registered participants of the RTP network. An FI with only “Receive Payment” capability will not be able to send payments on behalf of its customers via RTP.

An FI who has “Receive Real-Time Payments” capability must meet the following minimum requirements:

- Comply with FFIEC guidelines as applied through prudential regulator examination
- Make funds immediately available to recipient’s DDA account
- Report fraudulent behavior to The Clearing House and/or sending FIs (note: Can be facilitated through TCH offering)
- React to alerts from centralized activity monitoring utility

Increasing Level of Potential Risk

Increasing Standards of Risk Controls

... may not be sending RTP, but have the capability to receive them

Send and Receive Real-Time Payments

Participants with the capability to “Send Real-Time Payments” capability are able to transfer payments through the RTP system in addition to receiving real-time payments. As risk level increases with the ability to send payments, participants must have the ability to meet the increased level of requirements to participate in RTP.

An FI who has “Send and Receive Real-Time Payments” capability must meet the following minimum requirements:

- Comply with all “Receive Only” requirements
- Have a minimum of two (dual) factor authentication (as defined through the RTP governance process)
- Ensure robust customer onboarding and KYC process
- Require registration of customers sending payments
- Screen for real-time fraud and risk for payments being originated

Increasing Level of Potential Risk

Increasing Standards of Risk Controls

... both send and receive payments

... may not be sending RTP, but have the capability to receive them

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Topic 2: Level of Participation (continued)

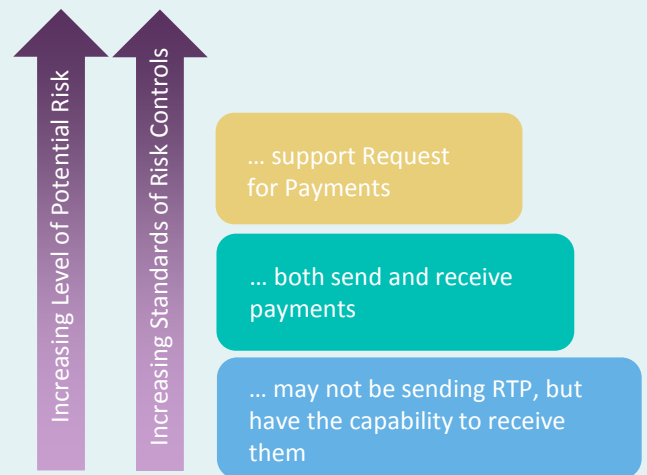
Support Request for RTP

Participants with “Support Request for Payment” capability are able to transmit end-user Requests for Payment to other end-users through RTP. As this functionality has an increased risk profile, a participant must meet the capability requirements established for:

- “Receive RTP”
- “Send RTP”

Additionally, a participant with this functionality must meet the following requirements:

- Make warranties and representations that Requests for Payment are for legitimate purposes
- Screen and monitor Request for Payment initiators, with the ability to identify abusive or fraudulent use and take corrective actions including suspension of initiator access to the network (as defined through the RTP governance process)
- Respond to network reports of abuse of Request for Payment



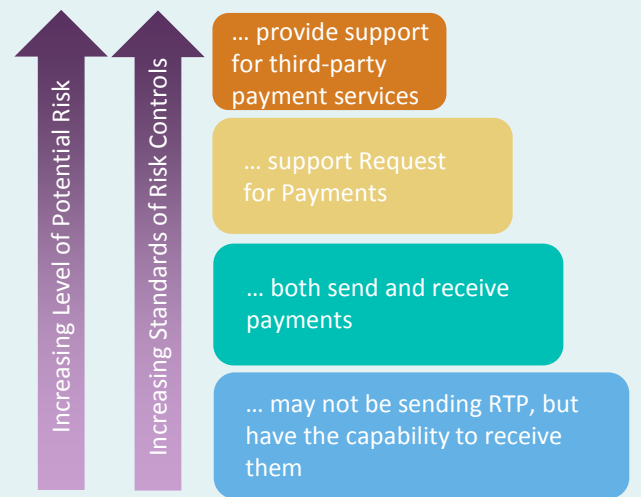
Support for RTP originated by third-party payment services

Some FIs may choose to initiate payments for non-bank third-party payment services. A participating FI that wishes to support third-party payment services must meet the capability requirements established for:

- “Receive Real-Time Payments”
- “Send Real-Time Payments”
- “Support Request for Payments”

The participating FI must also meet the following capability requirements:

- Make warranties and representations that the third-party is abiding by rules for payment origination
- Apply the same requirements to third-party payment services that are applied to FIs that send Real-Time Payments and allow Requests for Payment (as applicable)
- Follow FFIEC guidelines regarding third-party relationships
- Understand that FIs and third-parties are subject to the RTP network rules and penalties, including fines and suspended activity on the network
- Limit third-parties from originating volume greater than their financial resources can support in the case of third-party failure



In addition TCH will require third parties to apply to participate in the RTP, enter into an agreement with TCH to abide by RTP system requirements for third parties, certify that the third party meets certain prudential and risk management requirements, and comply with certain consumer protection laws and regulations as if the third party was a depository FI.

06: Considerations Checklist

Below is a checklist organized by groups within a typical FI's organization that serves as a quick reference for some of the considerations listed throughout this document. This list is not intended to be inclusive of all considerations that must be made when implementing RTP, but it can help spur conversation about RTP impacts throughout an FI's operations.

Risk, Fraud, and Compliance

- ☐ How do Reg E consumer disclosures need to be updated to include RTP payments? What should the posting order of RTP transactions be relative to other transaction types (e.g. ACH, checks, card payments, wires)?
- ☐ How do account agreements with business customers need to be updated?
- ☐ How will the institution ensure compliance with all aspects of BSA for RTP transactions, including screening for potential OFAC violations as necessary?
- ☐ Do existing AML controls need to be updated given the implementation of RTP?
- ☐ How will the institution implement real-time fraud monitoring for RTP transactions?
- ☐ If sending transactions, what dollar limits will be implemented for retail customers? What dollar limits will be implemented for commercial and wholesale customers?
- ☐ What additional training will be necessary for fraud and OFAC analysts regarding RTP?
- ☐ What authentication methods are used prior to allowing an account holder to send an RTP payment?
- ☐ What due diligence process will be necessary to ensure that customers initiating Request for Payment messages are credible and using such transactions for a valid business purpose?
- ☐ What due diligence process will be necessary to allow payment service providers to access RTP services through our institution?

Payment Operations

- ☐ As a default, all account holders should be eligible to receive RTP. Should you allow your account holders to opt out of receiving RTP? If so, how will this process be managed, and how will the system prevent acceptance of payments for accounts that are opted-out?
- ☐ What end-of-day reconciliation processes need to be established?
- ☐ Will account holders be required to enroll to receive Requests for Payments? If so, what does this enrollment process look like? How will the FI track requests for enrollment and opt-outs for RFPs?
- ☐ What will be the process for investigating a Request for Return of Funds received from another institution? Can this process be automated?
- ☐ What will the process be for account holders to initiate a Request for Return of Funds? To what extent can this be automated?
- ☐ What monitoring will be necessary to ensure that RTP SLAs regarding response times are consistently met? What additional monitoring will be necessary to ensure other performance metrics (% positive responses, % timeouts) will be met?
- ☐ How will customers initiating RFP messages be monitored to ensure proper use?

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Product Management

- ☐ What will use of non-payment message—such as Request for Payment, Remittance Advice, and others—be incorporated into existing and new products?
- ☐ What level of participation is necessary to support products that will be integrated with or developed to leverage RTP? How will that level of participation impact Operations?
- ☐ Is the use of a directory service necessary for the products that will be offered? How will aliases be resolved and managed outside of RTP?

Customer Service and Communications

- ☐ What training will be given to call center and in-branch employees so that they will be able to speak generally about RTP and its impacts on customers?
- ☐ Will a specialized call center team be established to answer account holder questions related to RTP? If so, will customers be given a specific number to call for RTP-related questions?
- ☐ What additional personnel will be necessary to support RTP?

Treasury Management and Deposit Operations

- ☐ How will supplemental funding and drawdowns of the settlement account be supported operationally?
- ☐ How will treasury management prepare for weekends and holidays to ensure a sufficient balance is maintained in the settlement account until the next opportunity to provide supplemental funding?
- ☐ What is the process for monitoring the balance of the settlement account, especially upon RTP system notifications regarding the Low Watermark and High Watermark levels configured by the FI?
- ☐ What is the preferred reconciliation/reporting time, if TCH is offering multiple reconciliation windows per day?
- ☐ What process will be defined to respond to discrepancies identified through reconciliation?

Technology

- ☐ Will the FI connect directly to TCH or through a third-party service provider (TPSP)?
- ☐ If using third-party vendors for products and services that are already implemented but that are being integrated with RTP, what party will manage the technical connection and how will the integration be accomplished?
- ☐ How will the technology team respond to notifications of connection and/or timeout issues?
- ☐ How will the FI manage and monitor multiple connections, if necessary?
- ☐ If using a third-party service Provider (TPSP), how will the technology team ensure the vendor is notifying them of any outage or technical issues disrupting service to the FI's account holders?

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Governance will be established to provide the structure and on-going routines to ensure the effectiveness and integrity of the Real-Time Payments System. Operating rules will be established to ensure timely, secure, and accurate payments, messaging and settlement. Various attributes and schedules will be defined that participating FIs must be aware of such as transaction limits, settlement windows, and performance SLAs. These may change over time, but all changes will be well communicated. The general framework for the operating rules for TCH's RTP System is outlined below.

RTP Requirements	Operating Rules and Procedures	FI Requirements
All payments are originated by the payer	<ul style="list-style-type: none"> A legal basis must be provided for credit transfers that are authorized by a payer Rights and obligations of all parties to the transaction must be defined- including the payer, the payee, the sending FI, the receiving FI, and the payment system operator 	<ul style="list-style-type: none"> Customers must be provided with products and services to send and receive credit transfers
FI customers have the ability to send or receive payments 24 hours a day, 7 days a week, 365 days a year	<ul style="list-style-type: none"> FIs must be able to receive and respond to payments and non-payment messages 24/7/365 within an established SLA 	<ul style="list-style-type: none"> 24/7/365 as a receiving FI FIs must have the ability to perform necessary risk management and compliance functions such as customer authentication, authorization, regulatory compliance screening, and anti-fraud screening 24/7/365 in an automated fashion
Senders and receivers will have complete, timely information about the status of RTP	<ul style="list-style-type: none"> Receiving FIs must accept or reject the majority of payments within seconds and all payments in a reasonable time FIs must make immediate notification of payment status to senders and receivers or provide a channel for senders and receivers to view payment status 	<ul style="list-style-type: none"> FIs must integrate accurate RTP status inquiry, notification, and feedback into online and mobile banking services
Receiving FIs will provide immediate availability of funds to recipients 24/7/365	<ul style="list-style-type: none"> Receiving FIs must make funds available to receivers within seconds for any accepted payment Payments can be rejected for risk management, inability to post, or legal compliance Payments may be held for review for a reasonable time only when necessary for risk management and legal compliance purposes (expected to be a small percentage of payments in the ordinary course of business). After review, FIs must accept or reject payments- not withhold availability 	<ul style="list-style-type: none"> Receiving FIs must either post or memo post funds for payments received immediately Receiving FIs must be able to either accept or reject most payments automatically without manual review 24/7/365
Real-time exchange of financial and non-financial messages that support a variety of use cases	<ul style="list-style-type: none"> Sending FIs must adhere to standard formats and usage rules for payment and non-payment messages Receiving FIs must make all relevant information from payment and non-payment messages available to receivers Receiving FIs must act on administrative messages 	<ul style="list-style-type: none"> FIs must develop products, services, and processes to create, deliver, and respond to payment, non-payment, and administrative messages

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RTP Requirements	Operating Rules and Procedures	FI Requirements
System wide limits on transaction value, updated periodically based on objective criteria	<ul style="list-style-type: none"> Limits on the value of transactions cleared through the payment system will be established by the RTP System RTP System rules may include a process for revising the transaction value limit Sending FIs may set lower value limits for their customers Receiving FIs may not set a transaction limit lower than the system wide limit An initial transaction limit will be established for the RTP system with the intention to review and raise the limit over time 	<ul style="list-style-type: none"> Policies and procedures must be available for a sending FI to set their transaction value limit and have it apply to payment origination Risk management policies and procedures must be available to accept payments up to the system wide transaction value limit FIs must have the ability to identify the potential structuring of transactions made to avoid established transaction limits
Funds cannot be taken back from the receiver; payer can request return of payment made in error	<ul style="list-style-type: none"> The legal basis for payment finality will be established by the RTP System The RTP System will not provide a basis for sending FIs to reclaim funds from receiving FIs for unauthorized payments (the sending FI only has obligation to verify payment authorization) 	<ul style="list-style-type: none"> FIs must have effective processes and technology to prevent unauthorized payment origination Sending FIs must have policies and procedures in place for handling customer claims for unauthorized transfers and funds sent in error Receiving FIs must have policies and procedures to respond to requests to reclaim funds sent in error
An inter-FI process including electronic messaging to support Requests for Return of Funds sent in error	<ul style="list-style-type: none"> A process for senders to request return of payments sent in error must be established by each FI An inter-FI process for handling Requests for Return of Payments sent in error will be established by each sending FI Timely responses for Response to Request for Return of Funds will be requested. 	<ul style="list-style-type: none"> FIs must have products and services with features that prevent errors in sending payments Sending FIs must establish policies and procedures for handling customer Requests for Return of Funds sent in error Receiving FIs must establish policies and procedures for responding to requests to reclaim funds sent in error
Settlement process and legal framework that reduces or eliminates potential for settlement failure	<ul style="list-style-type: none"> The RTP System must have rules that establish the legal basis for inter-FI net settlement and settlement procedures 	<ul style="list-style-type: none"> FIs must have the capability to monitor, manage, and fund their settlement pool or net settlement across all settlement windows FIs must develop a process to respond to situations where settlement exposure has reached its limit
Use of a unique code in lieu of an account number that cannot be used to debit the account (token)	<ul style="list-style-type: none"> The Secure Digital Payments company is developing an approach for tokenizing account numbers. 	<ul style="list-style-type: none"> FIs must create and operate their own Token Vault, outsource their tokenization process to a Token Service Provider, or leverage TCH's token services FIs must integrate tokenization into products and services FIs must have the ability to educate customers on tokenization

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RTP Requirements	Operating Rules and Procedures	FI Requirements
Senders can initiate payment using an alias for the receiver such as a telephone number or e-mail address (Alias)	<ul style="list-style-type: none"> RTP system should establish alias registration, maintenance, and routing policies and procedures 	<ul style="list-style-type: none"> FIs should support alias routing in payment products and services FIs should administer alias enrollment and maintenance for customers
Participating FIs must meet minimum levels of standards for security and privacy protection	<ul style="list-style-type: none"> RTP system rules should reference external security and privacy standards All FIs must meet data protection standards Sending FIs must meet rigorous standards for sender authentication and payment authorization FIs should ensure their compliance with security and privacy standards are auditable and audited An FI's security standards should not unnecessarily restrict usability 	<ul style="list-style-type: none"> Most security and data protection requirements should apply across all channels and products and not to a specific payment system
Support for anti-fraud, anti-money laundering, and OFAC / sanctions compliance processes	<ul style="list-style-type: none"> Sending FIs should have rules that require them to provide the necessary data for regulatory compliance needed by the receiving FI 	<ul style="list-style-type: none"> FIs should have policies and procedures to obtain data required for regulatory compliance during the payment initiation process Automated anti-fraud screening may be required to meet expectations to accept or reject payments in seconds or minutes
Use global message standards and define processes consistent with global practices	<ul style="list-style-type: none"> RTP system should avoid unnecessary divergence from operating rules for payments systems in other countries RTP System should develop rules to govern international payments for the long term 	<ul style="list-style-type: none"> FIs should adapt products and services to use international standard payment formats and processes
Tiered approach to fraud prevention and mitigation segmented by activity-based system participation	<ul style="list-style-type: none"> RTP should ensure the minimum requirements for risk control are associated with the activities that a financial institution is offering and will be additive in nature for each increasing level of potential risk RTP System to create a centralized utility that analyzes network-level data to identify and report potential fraudulent behavior (e.g., detect anomalous send/receive activity; excessive complaints) <ul style="list-style-type: none"> Velocity checks on origination, receive, and request for payment volumes Detection of patterns that indicate potential networked fraud or money mule activity Alerts with reason codes upon detection of anomalous activity for impacted financial institutions 	<p>All participants must comply with FFIEC guidelines as applied through prudential regulator examination</p> <ul style="list-style-type: none"> All participants must report fraudulent behavior to TCH and/or sending FIs (note: this could be facilitated through TCH offering) All participants must react to alerts from centralized activity monitoring utility Sending FIs must establish a minimum of two factor authentication (as defined through RTP governance process) Sending FIs must require registration of customers sending payments Sending FIs must screen for fraud and risk in real-time for payments being originated (continued)

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RTP Requirements	Operating Rules and Procedures	FI Requirements
Tiered approach to fraud prevention and mitigation segmented by activity-based system participation (continued)	<ul style="list-style-type: none"> RTP will ensure the minimum requirements for risk control will be associated with the activities that a financial institution is offering and will be additive in nature for each increasing level of potential risk FI needs to create a centralized utility that analyzes network-level data to identify and report potential fraudulent behavior (e.g., detect anomalous send/receive activity, excessive complaints) <ul style="list-style-type: none"> Velocity checks on origination, receive, and request for payment volumes Detection of patterns that indicate potential networked fraud or money mule activity Alerts with reason codes upon detection of anomalous activity for impacted financial institutions 	<p>Request for payment participants (above requirements plus)</p> <ul style="list-style-type: none"> Make warranties and representations that Requests for Payment are for legitimate purposes Screen and monitor request for payment initiators, with the ability to identify abusive or fraudulent use and take corrective actions including suspension of initiator access to the network (as defined through RTP governance process) Respond to network reports of abuse of Request for Payment <p>Originated by third-party payment service participants (above requirements plus)</p> <ul style="list-style-type: none"> Make warranties and representations that third-party is abiding by rules for payment origination Apply same requirements to third-party payment services that are applied to FIs that send RTP and allow requests for payment (as applicable) Follow FFIEC guidelines regarding third-party relationships Allow network to enforce rules against FIs and third-parties by allowing network to levy fines and suspend activity on the network Prohibit third-parties from originating volume greater than their financial resources can support in the case of third-party failure

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Your questions and comments are very important to us. For more information about RTP, please contact us using the information provided below.

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