

# The FedNow Service

## IMPLEMENTATION DETAILS ON THE FEDERAL RESERVE'S PLANNED INSTANT PAYMENTS SERVICE

August 17, 2020



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# The FedNow Service

“The FedNow Service will facilitate **end-to-end instant payment services** for consumers and businesses, increase competition, and ensure equitable access to banks of all sizes nationwide. The Federal Reserve is uniquely positioned to build an instant payment infrastructure, given our long history of operating payment systems to promote a safe, efficient, and broadly accessible payment infrastructure.”

– Governor Lael Brainard,  
[The Future of Retail Payments in the United States](#)  
(August 6, 2020)

The Board of Governors of the Federal Reserve System (the **Fed**) [announced](#) details of its planned FedNow Service on August 6, 2020 in a [release](#) describing its core functionality and future implementation.

- If launched as described in the release, FedNow will be a real-time gross settlement (**RTGS**) payment system with integrated clearing functionality. It will offer **24x7x365** payment processing for every bank in the United States (**instant payments**).

The initial launch target date is **2023 or 2024**. This release may mark the start of the next phase of implementation work by the Fed and eligible participants.

- The initial launch will provide baseline functionality and help banks manage the transition to a 24x7x365 service. It will include a liquidity management tool (**FedNow LMT**) so that FedNow participants can transfer funds between accounts at the Reserve Banks to meet the liquidity needs associated with instant payments (see slide [10](#)).

The Fed stated that it will take a **phased approach** to implementation, including pilot programs, providing additional features and functionality over time.

# How We Got Here and the Path Forward

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2013 *Strategies for Improving the U.S. Payment System initiative launched by the Fed*

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2017 *Recommendations published by the Fed's Faster Payments Task Force*

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2018 *Fed seeks comments on its role in the U.S. payments system and whether to develop FedNow*

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2019 *Fed announces that it will develop the FedNow Service and issues a proposal for comment*

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## **Fed announces initial FedNow Service details**

- 2020**
- Ongoing implementation will include development of the necessary infrastructure, integration with existing systems and continued engagement with industry stakeholders on features and design.
  - Pilot programs, fee structures, governing terms and a more specific time frame will be announced before the initial release.
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## **Initial release with baseline functionality**

- 2023**  
or  
**2024**
- 24x7x365 functionality for processing domestic payments available to all U.S. banks
  - Liquidity management tool that enables FedNow participants to transfer funds between one another
  - Reports to support FedNow participants' transaction monitoring, reporting and reconciliation
  - Basic fraud prevention tools, such as the ability to set limits on transaction activity
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## **Phased buildout of additional features and functionality**

Features to be released in the future may include:

- 2024**  
onwards
- Support for alias-based payments through directories and application programming interfaces (**APIs**)
    - Alias-based payments would enable end-users to send a payment without knowing the receiver's account number, based on public identifiers such as the receiver's phone number or email address.
  - Enhanced fraud prevention tools, such as centralized monitoring that uses pattern recognition
  - Support for bulk payments and enhanced remittance information
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# The Fed's Operational Role in the Payments System

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**“Our public mission in providing payment services is built on the proposition that all banks and the communities they serve, no matter their size or geographic location, should have equitable access to the U.S. payment system. Through the direct connections that we have with more than 10,000 banks, the FedNow Service will be broadly accessible to banks and the communities they serve across the country.”**

*– Governor Lael Brainard, from the speech linked on the previous page*

In her speech, Governor Brainard noted that the Fed has long provided payment and settlement services alongside similar services provided by the private sector.

- The Fed stated that it does not have plenary supervisory or regulatory authority over the U.S. payments system.
- Instead, the Fed has an operational role, as the operator of several core U.S. payments systems, and it supervises banks and other key market participants that use these and private-sector payments systems.
- As a central bank, the Fed is able to provide interbank settlement through central bank money, thus minimizing liquidity and credit risk.
- Although Vice Chair Quarles dissented from the Fed's 2019 vote on the determination to develop FedNow, [stating](#) that “I do not see a strong justification for the Federal Reserve to move into this area and crowd out innovation when viable private-sector alternatives are available,” he voted in favor of the 2020 FedNow release.
- Acting Comptroller of the Currency Brian Brooks has also questioned the need for government-owned payment systems, [stating](#) that “the ultimate public ownership of the payment rails” could be achieved through decentralization using distributed ledger technology.

# Overview of the Fed's Payment Services

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The Fed currently provides three types of payment services – two that are generally considered retail and one wholesale. None of them are currently available directly to consumers or nonbanks.

## Retail

- **Check Services.** Reserve Banks have long provided check collection services for banks. Banks may send checks to a Reserve Bank, which collects them, calculates net amounts, and credits or debits the account of each bank, typically in one business day. Although checks allow consumers to send payments inexpensively, the period from the receiver depositing a check to its final settlement can be uncertain and relatively lengthy.
- **Automated Clearing House (ACH).** The ACH is a nationwide electronic payment system developed in the early 1970s as a more efficient alternative to checks. The Reserve Banks and the Electronic Payments Network, a private organization, are the two national ACH operators. Payments are settled on a net basis in participants' Reserve Bank accounts, typically in 1-3 days. Banks charge relatively low fees to send ACH payments, which may vary depending on the type of payment and the amount sent.

## Wholesale

- **Fedwire Funds Service.** The Fedwire Funds Service is operated by the Reserve Banks and was the world's first RTGS system. Electronic funds transfers are processed individually and settled in participants' Reserve Bank accounts in real time. Fedwire Funds is often used for large-value, time-critical payments, but it is expensive relative to other methods of sending payments. Banks charge fees that are typically much higher than for ACH and can vary widely, and both the sender and receiver may be charged.

# Stakeholders in the Future of U.S. Payments

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The U.S. payments system is a complex space, with many voices representing different interests.

- The wide variety of comments received by the Fed in response to its 2019 proposal illustrates the **diversity of stakeholders** in the future of U.S. payments: small and midsize banks, large banks, individuals, consumer organizations, merchants, service providers, private-sector operators, fintechs and trade organizations, among others.
- According to Governor Brainard, a system of instant payments run by the Fed will be beneficial to the public, especially for households on fixed incomes or living paycheck to paycheck, small businesses, and the 1 in 10 Americans who regularly work in the gig economy.
- FedNow will compete with the Real-Time Payments (**RTP**) network, the private-sector RTGS service for instant payments launched by The Clearing House (**TCH**) in 2017. The RTP network already provides an RTGS service supporting 24x7x365 instant payments.
- Fed Chair Jay Powell has asserted that despite the existence of the RTP network the United States is “far behind other countries in terms of having real-time payments.”
- Governor Brainard has stated that some existing U.S. retail payment services may have the **look and feel** of instant payments from a consumer’s perspective, but they rely on legacy infrastructure that **actually settles transactions on a deferred basis**, creating risk for the payment system.
  - These payment services either cannot make funds immediately available in a receiver’s bank account during the settlement period, or must do so by providing an intraday or otherwise short-term loan for its duration.



# The Clearing House's Real-Time Payments Network

## STAKEHOLDERS IN THE FUTURE OF U.S. PAYMENTS

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- Launched in 2017, the RTP network operates through a **joint account** at the Federal Reserve Bank of New York, and that account is jointly owned by the participating banks and managed by TCH as their agent.
  - Participating banks must prefund the joint account and maintain sufficient balances to meet liquidity needs so that instant payments can be settled continuously.
  - Settlement is effected through entries in the RTP ledger for the joint account, making RTP settlement equivalent to settlement in banks' individual master accounts.
- The 2020 release summarized the results of a competitive impact analysis, based on which the Fed concluded that FedNow would have no "direct and material adverse effect" on RTP's ability to compete effectively.
  - **Master accounts.** The Reserve Banks currently pay interest on funds held in master accounts, but not the joint account used by RTP. The Fed observed that only one commenter said that this difference would be material to its decision whether to use FedNow instead of RTP. Nonetheless, the Fed "remains committed to creating as much competitive parity as possible, including by paying interest on the joint account."
  - **Access to intraday credit.** Banks using FedNow would have access to 24x7x365 intraday credit from the Fed if they have insufficient funds in their account, whereas banks using the joint account through RTP would only be able to access intraday credit from the Fed during the hours when the Fedwire Funds Service is open. The Fed states that banks could access credit through their master accounts and use FedNow LMT to transfer funds to the joint account.
  - **Antitrust.** The Fed does not believe that the fact that federal antitrust laws do not apply to the Fed puts RTP at a competitive disadvantage, because the requirements of Section 11A of the Federal Reserve Act are designed to ensure that the Reserve Banks compete fairly with the private sector.
- The Fed also expressed concerns that having only one private-sector service would lead to "significant challenges in establishing an accessible infrastructure for instant payments with nationwide reach[,] result in limited competition that could have negative effects on pricing and innovation, and could create a single point of failure in the nation's instant payments infrastructure."



# Key Features of the FedNow Service

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- **Domestic only.** FedNow will initially support only U.S. domestic payments in U.S. dollars. The Fed stated that it will continue to evaluate the costs and benefits of expanding FedNow to allow for cross-border payments, taking account of the regulatory and operational considerations of doing so and the need for cooperation with international operators.
- **Funds available in seconds.** FedNow will be designed to process and settle payments within seconds, from the time a sender initiates a payment until the time the funds become available in the receiver's account. Banks must agree to make funds available to their customers in near real time after receiving notification of settlement. The Fed will request public comment if it identifies any changes to its regulations that are necessary to clarify funds availability.
- **Settlement finality in seconds.** The settlement entries for all FedNow transactions will be final – i.e., unconditional and irrevocable. Banks must still implement procedures to resolve erroneous payments, such as through new transactions initiated by a request for return.
- **Credit transfers, i.e., push only.** FedNow will operate through credit transfers, in which each payment is initiated by the sender to its intended receiver. It will not support debit transfers, in which the receiver initiates a transfer that debits (i.e., pulls) funds from the sender's account. FedNow will, however, provide nonvalue message types, such as a request for payment, to enable a wider variety of transactions. The Fed believes that, at least for the initial launch, the risks of supporting debit transfers – which have higher fraud rates – outweigh the potential benefits.
- **Access through FedLine network.** Participating banks will access the FedNow Service through the FedLine network, a set of electronic connection products that more than 10,000 banks use to access the Fed's payment and information services. FedLine will be enhanced to support the FedNow Service's 24x7x365 processing. Banks will need to test and deploy enhanced or upgraded FedLine components to enable the FedNow Service.
- **Full participation not required.** A bank may choose to enroll in FedNow as a receive-only participant, designate a service provider to process payments on its behalf, or settle payments through the master account of a correspondent bank.

# Key Features of FedNow

## ELIGIBLE PARTICIPANTS

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The FedNow Service will be available to any institution that is eligible to hold an account at a Reserve Bank.

- Entities that may currently hold Reserve Bank accounts include U.S. depository institutions, U.S. branches of foreign banks, certain systemically important financial market utilities, the U.S. Treasury, GSEs, certain international organizations such as multilateral development banks, and non-U.S. states and central banks. For ease of reading, this memo refers to eligible participants as “**banks**” and those not eligible as “**nonbanks**.”
- Nonbanks, such as payments companies and nonbank lenders, **cannot directly participate** in FedNow because they generally are not eligible to hold Reserve Bank accounts.
  - While some commenters urged the Fed to make the FedNow Service directly available to nonbanks, the Fed declined to do so. It stated that the scope of entities that are eligible for Reserve Bank accounts is limited by federal statutes and the Fed’s rules, policies and procedures.
  - The Bank of England, by contrast, [allows non-bank payment service providers to join](#) its RTGS system and settle transactions in central bank money.
- Although nonbanks cannot be direct participants in FedNow, they **may act as service providers or agents** for participating banks.

# Key Features of FedNow

## LIQUIDITY, CREDIT AND THE FEDNOW LMT

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- Because FedNow is an RTGS system, banks will need to manage the liquidity needs associated with instant payments, as well as to satisfy reserve requirements.
- Reserve Banks currently provide liquidity through the Fedwire Funds Service in the form of **intraday credit**, also known as “daylight overdrafts” – a term that may become an anachronism in a world of 24x7x365 instant payments.
  - A bank that faced an unexpected outflow of payments could experience a depletion of its master account balance. Without access to intraday credit, as currently happens when the Fedwire Funds Service is closed, a bank in this situation could have its payments rejected by the FedNow Service, to the detriment of that bank and its customers.
  - To support FedNow’s smooth functioning, the Reserve Banks will provide access to **24x7x365 intraday credit**.
  - This intraday credit will be available on the same terms and conditions as for other Fed services, and the Fed will propose specific changes to its Payment System Risk policy.
  - Banks will still need to manage their master accounts in compliance with Fed policies, including the requirement to avoid negative balances at the close of each business day so as to avoid overnight overdrafts.
  - If a bank has a negative balance at the end of the business day, it will be charged an overnight overdraft penalty for 24 hours, regardless of how quickly the overdraft is cured.
- Certain banks may need to adjust their internal account monitoring practices to manage intraday liquidity needs.
- FedNow LMT will be a core feature of FedNow, enabling participants to transfer funds between their Reserve Bank accounts, including banks’ own master accounts and the RTP joint account, to support liquidity needs related to FedNow payment activity.
  - Use of the FedNow LMT will be available to those who are not full FedNow participants.
  - The Fed anticipates imposing controls on the FedNow LMT to ensure that its use is “limited to liquidity transfers in support of instant payments.” Such controls will include transaction-value limits or limits on the hours of the functionality.
- The Fed considered but **rejected requests to extend discount window hours**, which will continue to be available until the closing of the Fedwire Funds Transfer System on Mon-Fri under the same terms as currently, but noted this view might change over time.

# Key Features of FedNow

## FRAUD PREVENTION TOOLS

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- FedNow will offer fraud prevention tools to help participating banks fulfill their role as the primary line of defense against fraudulent transactions.
- Upon FedNow's initial launch, the tools available will include:
  - the ability to set transaction value limits at an amount lower than the permitted maximum (which will be determined by the Reserve Banks before the initial launch),
  - the ability to specify certain conditions under which transactions would be rejected, such as by account number, and
  - reporting features and functionality, including reports on the number of payment messages that were rejected based on a participant's settings.
- The Fed intends to explore other features that could be made available as part of future releases, such as:
  - value limits that could be tailored to certain uses,
  - aggregate value or volume limits for specific periods (for example, per business day), and
  - centralized monitoring performed by FedNow, such as functionality that leverages advanced statistical methods and historical patterns to identify potentially fraudulent payments.
- In the Fed's view, one of the benefits of FedNow is that, as its operator, the Fed will be in a position to promote the development and adoption of industry-wide standards for disputing fraudulent instant payment transfers.
- While pilot projects and initial implementation may provide useful data for the development of effective controls, banks may ultimately need to make additional investments in enhancing their fraud detection and prevention capabilities.

# Key Features of FedNow

## MESSAGE STANDARD, TRANSACTION VALUE LIMIT AND REPORTING

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### Message Standard

The FedNow Service will use **ISO 20022**, an internationally developed messaging standard for financial services, with at least three payment message types:

- credit transfers, used for typical payments
  - return transfers, to assist banks with exception processing, and
  - interbank funds transfers, for liquidity management-related transfers that do not involve end-users.
- FedNow will also have several nonvalue message types – e.g., a request for return, payment status request and various other administrative messages.

### Transaction Value Limit

- Although the 2019 proposal included a transaction value limit of \$25,000, many commenters argued that it should be increased and the 2020 announcement does not set a limit. Before FedNow's initial launch, the Fed will establish a transaction value limit consistent with market practices and needs at that time.

### Reports

- The FedNow Service will provide transaction-level or summary-level activity reports as part of existing end-of-day reports for other Fed services, or upon request.

# Key Features of FedNow

## BUSINESS DAY AND SEVEN-DAY ACCOUNTING

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### Business Day

- The FedNow Service will operate continuously, with 24-hour business days aligned with the scheduled closing times of the FedWire Funds Service.
  - The FedWire Funds Service is expected to shift to a closing time of 7:00pm ET each day starting in March 2021, which means that the FedNow business day would run from 7:00pm each calendar day until 7:00pm on the next calendar day.
  - Transactions processed after 7:00pm ET and before midnight on a given calendar day would be recorded as occurring on the next calendar day on the Fed's accounting records.

### Seven-Day Accounting

- To implement the FedNow Service, the Reserve Banks will adopt a seven-day accounting regime, with end-of-day balances calculated for each day of the week and transactions occurring on weekends or holidays reported in the same manner as on regular business days.
  - Seven-day accounting is a significant shift from the current practice of five-day accounting and will require FedNow participants to update accounting systems and practices.
  - Seven-day accounting for FedNow does not, however, require or prevent the use of other accounting regimes by participating banks.
  - Some banks – small banks, in particular – may prefer to maintain five-day accounting, and the Fed will provide guidance to assist calculating reserve balances over weekends and holidays.
  - Nonetheless, the Fed believes that seven-day accounting is likely to become the industry standard as adoption of instant payments grows over the long term.

# Interoperability

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- Almost all comments highlighted the benefits of having interoperability between FedNow and RTP, though very few had views on how it should be achieved and many appeared to have varying definitions of what it means.
  - The Fed [defines](#) interoperability “broadly to mean that payment messages are routed or exchanged and settled such that a sender may initiate a payment, and it will seamlessly reach the receiver.”
  - The Fed has stated that it views nationwide reach as a key objective for FedNow and agreed with commenters on the importance of interoperability. Nonetheless, the Fed cautioned that it cannot accomplish interoperability alone, and the form and timeline for achieving it would depend on the level of commitment from the banking sector.
- The 2020 release outlines three primary models of interoperability:
  - **Payment routing.** The sender’s bank routes payments through a specific service based on the paths available to reach the receiver. Card payments and wire transfers use this model.
  - **Interservice message exchange.** Banks may participate in one service, and a payment originated through that service can be cleared, settled and received through another service. ACH payments use this model.
  - **Intermediary banks.** A series of intermediary banks is expected to clear, settle and route each payment. Check payments and certain international payments use this model.
- The Fed stated that it is committed to developing compatible standards and operating procedures that would enable interoperability through the payment routing model.
  - The Fed is open to interoperability based on the interservice message exchange model after FedNow’s initial launch. The release states that the interservice message exchange model has additional complexities, such as challenges relating to technical message exchange and common settlement.
  - The Fed stated that the intermediary bank model can lead to friction in payment flows, making it less attractive for domestic instant payments.



# Features to Be Described in Future Releases

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## Directory Services and Alias-Based Payments

- An alias is a public identifier such as a phone number, email address or social network profile. Alias-based payments enable an end-user to send a payment without knowing the receiver's bank account number.
- The Fed is currently exploring various approaches based on suggestions from commenters.
  - One approach is to connect FedNow to one or more existing directories that could provide routing information for a subset of participants. These directories, however, are often embedded in proprietary P2P payment services, with information only for a closed user group and not designed for broader open access.
  - The Fed is also considering building a directory that could function independently or supplement existing directories. FedNow participants would be able to provide and update alias information for their account holders to a directory of the Fed's if they wish to accept alias-based payments through FedNow.

## Application Programming Interfaces

- An API is a type of software technology that enables computer systems or applications to connect to each other, allowing information to be shared across the systems.
- The Fed recognizes that APIs facilitate value-added end-user services and provide useful tools, such as providing real-time service status updates, providing downloadable information like message specifications as part of automated services, or even initiating and receiving transactions.
- The Fed stated that it will continue to engage with industry stakeholders and explore how best to support APIs in the FedNow Service.