

# ***FedNow<sup>®</sup> Service Operating Procedures***

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# 1. FedNow® Service Terms

**Authorized Connection Profile (ACP)** – A profile that defines connectivity settings to the FedNow Service<sup>1</sup> for a Participant or Service Provider, which are used to process and manage messages and payments on behalf of one or multiple RTNs.

**Connection Party** – A role played by a Participant or Service Provider that maintains an electronic connection to the FedNow Service through which the organization enables one or more RTNs to access the FedNow Service.

**Connection Point** – The grouping of endpoints maintained by a Participant or Service Provider in their role as a Connection Party that enables them to communicate with the FedNow Service.

**Correspondent** – A financial institution (FI) that maintains a Master Account with a Federal Reserve Bank and has agreed to maintain a Settlement Account for another FedNow Participant.

**FedNow Participant** – An FI authorized by a Federal Reserve Bank to send, receive or settle messages through the FedNow Service. Also referred to as Participant throughout Operating Procedures.

**FedNow Service Funds Transfer Business Day** – The funds transfer business day for the FedNow Service as detailed in the FedNow Service Schedule published by the Federal Reserve Banks on the FRBservices.org website. Throughout the Operating Procedures will also be referred to as “FedNow Service cycle day” or “cycle day.”

**Instant Payment Message** – A payment order sent by or received by a FedNow Participant, other than payment orders that are liquidity management transfer (LMT) Payment Messages.

**LMT Payment Message** – A payment order sent by or received by a FedNow Participant instructing a Federal Reserve Bank to effect a Liquidity Management Transfer.

**Nonvalue Messages** – Messages sent through the FedNow Service that are not payments and do not generate any accounting entry by the FedNow Service on the books of any Federal Reserve Bank.

**Ping** - Participant Broadcast Message that the Participant uses to check its connection to the FedNow Service.

**Queue (Endpoint)** – The FedNow Service uses queues to send and receive messages. Queues are defined as either “to-FedNow” or “from-FedNow” to provide clarity on the direction of the messages.

**Respondent** – An FI that uses the Settlement Account of a Correspondent to settle FedNow Service transactions.

**Service Provider** – A party authorized by a FedNow Participant to do one or more of the following on the FedNow Participant’s behalf: initiate, transmit or receive messages on behalf of that FedNow Participant; operate or otherwise manage the Electronic Connection used to send or receive messages on behalf of that FedNow Participant; select the security procedure, profile settings or processing options on behalf of that FedNow Participant; or obtain access to information related to the FedNow Participant through the FedNow Service.

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<sup>1</sup> Does not include any FedLine® connectivity information.

**Value Message** – Value messages are pacs.008 (Customer Credit Transfer), pacs.004 (Payment Return) and pacs.009 (Financial Institution Credit Transfer) messages sent as payment orders through the FedNow Service.

## 2. Introduction

The FedNow Service is an interbank 24x7x365 real-time gross settlement (RTGS) service with integrated clearing functionality that helps enable financial institutions to deliver end-to-end instant payments to their customers. Like other payment and settlement services offered by the Federal Reserve, the service settles obligations between financial institutions by generating entries to Federal Reserve Bank Master Accounts. Through financial institutions participating in the FedNow Service, end customers can send and receive payments any time, any day, anywhere, and have full access to those funds immediately.

The Federal Reserve Banks may change these Operating Procedures at any time and will endeavor to provide at least 30 days' prior notice for material changes.

### a. Terms and Conditions

The terms governing the FedNow Service, including the Federal Reserve Banks' applicable Operating Circulars, govern to the extent of any inconsistency between these Operating Procedures and those terms.

### b. Purpose

This document provides an operational description of the FedNow Service, including expectations, requirements and guidance for FedNow Participants on the use of the service. The Operating Procedures should be used in combination with the documents listed in the table below to provide a comprehensive understanding of the FedNow Service.

Document	Purpose
FedNow Operating Circular 8 and other applicable Operating Circulars	Governs the terms of the FedNow Service and other related terms.
FedNow Service Operating Procedures	Details about the FedNow Service, including expectations, requirements and guidance to be followed by FedNow Participants.
FedNow Service ISO 20022 Message Specifications	ISO 20022 message implementation guidelines for the FedNow Service, the FedNow Service ISO 20022 Implementation Guide and ISO 20022 Message Flows.  This document is itself a technical specification for the FedNow Service which, in combination with the FedNow Service Technical Specifications document, describes how to execute message processing to and from the FedNow Service.
FedNow Service Technical Specifications, available on the FedNow DevRel resource	Provides technical details needed for application development with the FedNow Service.  This must be used in combination with the FedNow Service ISO 20022 Message Specifications document to execute message processing with the FedNow Service.

### c. Service Eligibility

The Federal Reserve Banks may grant FedNow Service access to any organization eligible to maintain a Master Account with a Federal Reserve Bank. This generally includes, but is not limited to, depository institutions, member banks, U.S. branches and agencies of foreign banks, Edge and agreement corporations, and certain organizations for which a Federal Reserve Bank acts as a fiscal agent.

Each Federal Reserve Bank will exercise its discretion in determining whether an organization that is legally eligible for a Master Account will be permitted to use the service.

## d. Roles in the FedNow Service

A financial institution can play one role or a combination of roles in the FedNow Service.

- a. FedNow Participant: Has a FedNow Participant Profile to receive and/or send and receive (instant payments, Liquidity Management Transfers, nonvalue messages, etc.) and has accounting information established for payment settlement, either via a Master Account or Correspondent.
- b. Service Provider: Acts as an agent of a FedNow Participant and is authorized by that Participant to do one or more of the following:
  - Initiate, transmit or receive messages on behalf of the Participant;
  - Operate or otherwise manage the Electronic Connection used to send or receive messages on behalf of the Participant; or
  - Obtain information, select the security procedure, profile settings or processing options on behalf of the Participant.
- c. Correspondent: Maintains a Master Account with a Federal Reserve Bank and has agreed to maintain a Settlement Account for another FedNow Participant.

An organization that is not a financial institution can be a Service Provider in the FedNow Service. To the extent a FedNow Participant uses a Service Provider(s), requirements in these Operating Procedures otherwise applicable to FedNow Participants also apply to the Service Provider when it performs functions as an agent on behalf of a FedNow Participant.<sup>2</sup>

For all instant payments, the originators and beneficiaries must either be FedNow Participants or must have a direct U.S. deposit account relationship with a FedNow Participant. The FedNow Service supports instant payments by non-bank account holders at FedNow Participants on behalf of third parties so long as:

- The non-bank identified as the originator or beneficiary in the instant payment sends or receives the instant payment on behalf of another person that is the ultimate sender or recipient (the “Ultimate End Customer”);
- The non-bank is acting as an agent for the Ultimate End Customer or has entered into an agreement with the Ultimate End Customer to send and/or receive payments on its behalf;
- No intermediary bank other than a Reserve Bank is involved in the funds transfer;
- Any payment received by the non-bank on behalf of the Ultimate End Customer satisfies the payor’s obligation to the Ultimate End Customer; and
- The Ultimate End Customer:
  - Is a resident or otherwise domiciled in the United States; and
  - Will have immediate access to any funds received through the FedNow Service by the non-bank as beneficiary.

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<sup>2</sup> See FedNow Profile section for additional considerations related to multiple Service Providers and correspondents.

## 3. Anti-Money Laundering and Sanctions Compliance

### a. Compliance

Under the terms of the service, the Federal Reserve Banks impose compliance-related requirements on FedNow Participants that use the service on behalf of their customers. Participants must maintain:

- a. Compliance programs that are consistent with applicable anti-money laundering and sanctions laws and reasonably designed to manage compliance risks associated with FedNow Service activity;
- b. Customer due diligence programs consistent with Financial Crimes Enforcement Network (FinCEN) standards; and
- c. Reasonable procedures for screening customer information against current sanction lists and updated lists to the extent customers might be a party to a FedNow Service transaction.<sup>3</sup>

These requirements are independent of, and do not supersede, any obligation a prospective Participant has under applicable law. However, they also are generally consistent with requirements placed on federally supervised financial institutions under applicable law and supervisory standards.

The Federal Reserve Banks maintain the right to terminate or restrict a Participant's access to the service, including if a Participant fails to comply with the Federal Reserve Bank's Operating Circular requirements or applicable law.

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<sup>3</sup> The Federal Reserve Banks do not require real-time transaction screening in their terms, but a FedNow receiver that conducts such screening under its compliance program may use the accept-without-posting feature (ACWP) to facilitate its compliance processes. For more information on use of an ACWP response, please refer to the value messages section.

## 4. General Expectations

These Operating Procedures outline requirements and best practices for Participants and their correspondent banks and Service Providers with respect to the FedNow Service. These organizations are expected to read, understand and adhere to these expectations in connection with each Participant's use of the FedNow Service.

The Federal Reserve Banks reserve the right to terminate, restrict access, impose conditions or adopt controls associated with a Participant's access to the FedNow Service, use of a correspondent bank for settlement, and use of a Service Provider, particularly where such access or use exposes the Federal Reserve Bank or others to risk. These Operating Procedures outline the general steps the Federal Reserve Banks expect to take in managing the service. Nothing in these Operating Procedures limits the Federal Reserve Bank's discretion to take actions beyond those outlined in these procedures. The Board of Governors' Regulation J and the Federal Reserve Banks' Operating Circular 8 supersede these Operating Procedures to the extent of any inconsistency.

Moreover, the Federal Reserve Banks exercise discretion in determining the appropriate course of action in response to the failure by a Participant, correspondent bank, or Service Provider to meet the expectations outlined in these Operating Procedures. A Federal Reserve Bank may choose not to take corrective actions following immaterial and isolated failures by a Participant, correspondent bank, or Service Provider. Material or ongoing failures may trigger more immediate responses by Federal Reserve Banks, which may include but is not limited to contacting the Participant's management, disabling the Participant from sending and/or receiving value messages, suspending the Participant from sending or receiving other messages, or terminating the Participant from the FedNow Service.

### a. Operating Rules

#### Settlement<sup>4</sup>

Participants using the FedNow Service are required to settle all FedNow transactions in their own Master Account or that of a single Correspondent.<sup>5</sup> The service validates the settlement relationship when settling each transaction.

Settlement of value messages becomes final at the earlier of when the FedNow Service records the transaction's debit or credit, or when the FedNow Service sends an Advice of Credit message (pacs.002 for instant payments or pacs.009 for LMT).

#### Responding to Messages

Participants are expected to respond to all messages based on the guidelines outlined in these Operating Procedures. This includes responding to inquiries and requests sent from FedNow Participants or the FedNow Service.

#### FedNow Interface via FedLine Advantage<sup>®</sup>

The FedNow interface is accessible to credentialed subscribers via FedLine Advantage.<sup>6</sup> The FedNow interface enables Participants, or Service Providers acting on their behalf, to pull reports, execute queries and manage components of participation types and settings.<sup>7</sup> All Participants are required to have

<sup>4</sup> Information about Master Accounts and settlement relationships the Federal Reserve Banks can establish can be found in [Operating Circular 1 Account Relationships \(FRBservices.org\)](https://www.frb.org/operating-circulars/1-account-relationships) or the [Federal Reserve Account Structure, Transaction Settlement and Reporting Guide \(FRBservices.org\)](https://www.frb.org/operating-circulars/transaction-settlement-reporting-guide).

<sup>5</sup> Settlement relationships are managed by the National Accounting and Customer Support (NACS) area of the Financial Support Office (FSO), and can be established, updated or terminated by completing the [Operating Circular Appendix 2 - Transaction and Service Fee Settlement Authorization Form \(FRBservices.org\)](https://www.frb.org/operating-circulars/appendix-2-transaction-and-service-fee-settlement-authorization-form).

<sup>6</sup> The FedNow interface can be accessed via FedLine Advantage using a WAN or VPN device.

<sup>7</sup> As defined in the Participant Profile section.

subscribers with access to the FedNow interface or enable their Service Provider to have access to the FedNow interface on their behalf to update components of participation types and settings, as needed.

## b. Account Balance Management

Participants in the FedNow Service are expected to manage their Master Account balances in compliance with Federal Reserve policies, including managing their activities to avoid negative balances at the close of each business day (i.e., to avoid overnight overdrafts) and to stay within intraday overdraft capacity. As a general matter, the Federal Reserve Banks will not reject FedNow value messages (pacs.008, pacs.004, pacs.009) based on a Participant's insufficient balance or overdraft capacity; however, a Federal Reserve Bank may temporarily prevent the Participant from sending value messages through the service if a Participant's intraday overdraft reaches a level that in a Federal Reserve Bank's discretion poses heightened risk to that Federal Reserve Bank. If a Federal Reserve Bank prevents a Participant from sending value messages through the service, the Federal Reserve Banks will notify the Participant.

## 5. Participant and FedNow Service Availability Expectations

- a. **Participant Availability – Planned Downtime**
- b. **Participant Availability – Unplanned Downtime**
- c. **Retrieving and Reviewing Dropped Messages**
- d. **FedNow Service Availability**

The FedNow Service is a 24x7x365 service with no expectations of planned downtime.

Each FedNow Participant and Service Provider should maintain the ability to receive and, if applicable, send messages through the FedNow Service and make funds immediately available, as soon as practicable, but no longer than a few seconds, to its customers on a 24-hour basis each calendar day, including weekends and Federal Reserve holidays.

Liquidity Management Transfer Only Participants<sup>8</sup> are only expected to be available when the LMT window is open.<sup>9</sup>

### a. Participant Availability – Planned Downtime

Participants and Service Providers may need downtime for planned maintenance. Participants' planned downtime should not exceed two sequential hours or 24 hours total per quarter, and any planned downtime must be scheduled on Sundays between 2 a.m. and 6 a.m. ET. Participants and Service Providers are expected to take steps to reduce their need for planned downtime that better accommodates continuous operations over time.

For planned downtime, Participants that are enabled to receive instant payments (Customer Credit Transfer Send and Receive or Receive Only participation types) are required to sign off via a Participant broadcast message (admi.004) or through the FedNow interface, if the downtime affects its ability to respond to pacs.008 and pacs.004 messages within the reserved response time or affect its ability to immediately make the funds available.

Upon acknowledgment of a Participant's request to sign off either via Participant broadcast message (admi.004) or the FedNow interface, the FedNow Service communicates within seconds to all Connection Parties via a FedNow Broadcast Message (admi.004) and the FedNow Service rejects any instant payments (pacs.008 and pacs.004) that are sent to the signed-off Participant. The FedNow Service continues to send all other messages to the relevant queue(s) for the signed-off Participant to retrieve. While signed off from receiving instant payments, Participants may still respond to other messages and initiate all message types.<sup>10</sup> If applicable, Participants should implement internal processes to disable sending messages during their planned maintenance.

An indication that the Receiver FI is taking planned downtime is a delay in the Receiver FI sending the receipt acknowledgement (admi.007) after receiving a nonvalue message.<sup>11</sup> The Receiver FI is required to send a receipt acknowledgement (admi.007) after receiving any nonvalue messages.

The Federal Reserve Banks expect all Participants to meet the above expectations related to availability and will contact Participants not meeting these expectations. Participants should communicate directly with their customers about downtime if their experience is affected.

### b. Participant Availability – Unplanned Downtime

Participants and Service Providers must establish appropriate monitoring and alerting capabilities to resolve availability issues that may arise. The FedNow Participant should contact the Support Center (1-833-FRS-SVCS (377-7827)) for guidance on unplanned downtime and any action to be taken. It is

<sup>8</sup> Participants that have the participation type of LMT Send and Receive or LMT Receive Only.

<sup>9</sup> See Network Limits section for additional details.

<sup>10</sup> See Participant Broadcast for additional details on sign off.

<sup>11</sup> See Receipt Acknowledgement (admi.007) section for additional details.

recommended that Participants sign off from the service so that the FedNow Service can inform other Participants of their status. It is also recommended that Participants implement internal processes to disable sending messages during the unplanned downtime, if applicable. Participants are expected to reconcile all messages delivered by the FedNow Service and respond to applicable messages delivered by the FedNow Service within the required or recommended response times or as soon as able to.<sup>12</sup> This includes messages delivered when the Participant is in unplanned downtime. Participants also are responsible for reconciling and responding to any messages that are dropped from the queue during downtime.

### c. Retrieving and Reviewing Dropped Messages

Participants are expected to retrieve and review all relevant messages delivered by the FedNow Service, including messages that were dropped from queues (i.e., due to message expiration or exceeding the queue depth<sup>13</sup>). Upon review, Participants must respond to applicable messages delivered by the FedNow Service within the recommended response times<sup>14</sup> or as soon as possible if the recommended time has elapsed.

To retrieve and respond to messages that are dropped from the queue, the Participant should follow the steps below. Additional details can be found by referencing sections noted in the footnotes.

Reconcile using Account Activity Reports – Participants:

1. Request the Account Activity Totals Report once back online or at the end of the cycle day via the FedNow interface or via camt.060 with code IATR if intraday or code AATR<sup>15</sup> if end of day (if not enrolled to automatically receive the report at the end of day).
2. Compare the total count of messages received to Participant's internal system count.
  - a. If there is a discrepancy, request the Account Activity Details Report (AADR), which is available after end-of-day processing is complete via the FedNow interface or via camt.060 with code AADR<sup>16</sup> to identify the details for the message(s). If the Participant needs additional information on a specific message or is required to respond to a message, the Participant should use the Adhoc Query Tool using the message ID(s) in the Account Activity Details Report or send a retrieval request<sup>17</sup> (admi.006).
  - b. One retrieval request (admi.006) can be used to request up to 50 messages. Participants can use the retrieval request to retrieve messages for the current or prior seven business days. If a message was sent by the Participant but is not reflected in the report, the FedNow Service did not receive and process the message. The Participant should ensure the message is not a duplicate<sup>18</sup> and then resend it to the FedNow Service with a unique message ID.

Reconcile using the Adhoc Query Tool<sup>19</sup>:

1. Use the Adhoc Query Tool via the FedNow interface and filter by time to see messages that were sent to the FedNow Service and validated before they were sent to the Participant.

Reconcile using Account Activity Reports – Correspondents:

1. Request the Correspondent Account Activity Totals Report once back online or at the end of the cycle day via the FedNow interface or via camt.060 with code CITR if intraday or code CATR<sup>20</sup> if end of day (if not enrolled to automatically receive the report at the end of day).

<sup>12</sup> See Recommended Response Times section for additional details.

<sup>13</sup> See the FedNow Service Technical Specifications, available on the FedNow DevRel resource, for details on queue expiration and depth.

<sup>14</sup> See Recommended Response Times section for additional details.

<sup>15</sup> See Reports and Reconciliation section for additional details.

<sup>16</sup> See Reports and Reconciliation section for additional details.

<sup>17</sup> Retrieval request is not yet available on the FedNow Service.

<sup>18</sup> See Value Message section for additional details.

<sup>19</sup> See Adhoc Query Tool section for additional details.

<sup>20</sup> See Reports and Reconciliation section for additional details.

## d. FedNow Service Availability

The FedNow Service Schedule, including operating hours, can be found on [FRBservices.org](https://frb.services.org). The FedNow Service is a 24x7x365 service. In the event the FedNow Service experiences planned or unplanned operational interruptions, the Federal Reserve Banks will endeavor to notify Participants through its [FRBservices.org](https://frb.services.org) Service Status webpage, direct communication or otherwise. FedNow Participants should monitor such communications and be prepared to act on instructions from the Federal Reserve Bank under such circumstances. Instructions may include, but are not limited to, implementing internal processes to avoid sending messages, accessing the FedNow interface to download a new FedNow public key or requesting an intraday summary report to reconcile activity. When the service resumes, Participants should reconcile any messages that may have been in flight when the outage occurred, using reporting, inquiry requests, etc.

## 6. FedNow Service Customer Testing Environment Overview and Customer Testing Program

- a. Overview of FedNow Service Customer Testing Environment
- b. FedNow Service Required Customer Testing Program

### a. Overview of the FedNow Service Customer Testing Environment

The FedNow Service customer testing environment enables FedNow Participants and Service Providers to test their implementation and ability to use the service. Participants and Service Providers gain access to the customer testing environment as part of the onboarding process. The customer testing environment generally resembles the FedNow Service production environment. FedNow Participants and Service Providers must test their ability to use or continue to use the FedNow Service before moving into the production environment. This includes after making changes to supported functionality, operations, hardware or software that might affect the FedNow Participant's or Service Provider's use of the FedNow Service. All Participants and Service Providers are expected to execute tests to confirm their ability to use the FedNow Service and any of their organization's downstream applications or services. Participants and Service Providers are also expected to receive and respond to messages based on their expected volume.

Participants and Service Providers must be set up for both the test environment and the production environment. It is strongly recommended that Participants and Service Providers simulate their production setup in the customer testing environment (profile settings, participation type(s), etc.) for initial certification. While the production setup can be replicated, the testing environment has unique certificates, connection points and queues.

### b. FedNow Service Required Customer Testing Program

A financial institution or Service Provider may only move into the production environment after the financial institution or Service Provider completes the necessary steps for the Customer Testing Program, inclusive of certification preparation and certification of production readiness.

For financial institutions, the Customer Testing Program is completed at the institution level and therefore FIs are not required to complete this process for every RTN.

For organizations acting as Service Providers, the Customer Testing Program is completed at the organization level and therefore Service Providers are not required to complete this process for every Authorized Connection Profile (ACP), or application onboarded.

While the Customer Testing Program is not required for each application connecting to the FedNow Service, it is the responsibility of the Service Provider to ensure all their application(s) meet the FedNow Service certification requirements (as detailed below) and perform any testing necessary before moving the application into the FedNow Service production environment. For support or validation of additional applications, Service Providers can reach out to the Support Center (1-833-FRS-SVCS (377-7827)).

The FedNow Service Customer Testing Program consists of two parts: (1) Certification Preparation and (2) Certification of Production Readiness.

- a. **Certification Preparation**<sup>21</sup>: A comprehensive testing curriculum that covers FedNow Service functionality and operational readiness. The curriculum has multiple sections focused on different functionality and includes target objectives and desired outcomes for each section. Detailed test scenarios and associated participant actions are provided along with dependencies.
- b. **Certification of Production Readiness**: A point-in-time validation of mandatory functionality that must be executed 30 days prior to production setup. Once certification preparation is completed, the financial institution or Service Provider can begin certification of production readiness.

The certification process includes:

- A. **Certification of Messaging**: The financial institution and/or Service Provider certifies it is able to send and receive all required messages in the test environment for the participation type(s) that the financial institution and/or Service Provider will enable in production.
- B. **Certification of Operational Readiness**: The financial institution and/or Service Provider certifies that it understands the requirements set forth in the Operating Circulars, Operating Procedures and Technical Specifications applicable to the FedNow Service and is prepared to meet the requirements.

### Certification of Messaging

Financial institutions and Service Providers that own Authorized Connection Profile(s) are required to certify they have tested and can successfully send and receive all required ISO 20022 messages for the highest requested participation type.<sup>22</sup>

Participation type levels are based on the ISO 20022 messages that the financial institution or Service Provider is required to support, as listed below. Financial institutions or Service Providers may have either one or a combination of Customer Credit Transfer and LMT enabled, for one RTN or for multiple RTNs the institution supports. If both, the financial institution or Service Provider needs to complete the applicable certification processes for each.

**Note:** Institutions that are only supporting RTNs with the Settlement Only participation type are not required to complete the certification of messaging, as this participation type has no required messages.

Customer Credit Transfer	
Level	Participation Type
Lowest	Customer Credit Transfer Receive Only
Medium	Customer Credit Transfer Send and Receive
Highest	Customer Credit Transfer Send and Receive with RFP

Liquidity Management Transfer	
Level	Participation Type
Lowest	Liquidity Management Transfer Receive Only
Highest	Liquidity Management Transfer Send and Receive

<sup>21</sup> See the Customer Testing Environment Guide for detail on the Customer Testing Program requirements.

<sup>22</sup> See FedNow Service Required Test Cases for Certification for additional details.

After the financial institution or Service Provider has completed the required certifications, the Federal Reserve Banks validate the certification of messaging. Based on data in the test environment from the prior 30 cycle days, this process verifies that all required messages were successfully sent and received. Then, the financial institution or Service Provider is able to begin setup in the FedNow Service production environment, with support from the Federal Reserve Banks.

If the financial institution or Service Provider fails to successfully complete certification, the Federal Reserve Banks coordinate with the financial institution or Service Provider to determine next steps. The financial institution or Service Provider must either attempt the certification process again or enter production with a different participation type that was validated by the Federal Reserve Banks, which may be a lower participation type than initially desired.

### **Certification of Operational Readiness**

Certification of operational readiness is required by all financial institutions, whether using a Service Provider or not, as well as by all Service Providers. Again, certification at the institution level ensures financial institutions and Service Providers do not need to do this more than once. If a financial institution uses a Service Provider, the FI is responsible for ensuring all requirements detailed in the Operating Circulars, Operating Procedures and Technical Specifications are followed.

## 7. FedNow Service Funds Transfer Business Day Rollover (FedNow Service Cycle Day Rollover)

- a. Overview
- b. Additional Details
- c. Process of Cycle Day Rollover

### a. Overview

The FedNow Service processes messages continuously, 24 hours a day, every day of the year. LMT messaging is limited to the specified times as detailed in the FedNow Service schedule. LMT messages are rejected if received outside the specified times.<sup>23</sup> The FedNow Service does not close; however, for accounting and reconciliation purposes, the FedNow Service Funds Transfer Business Day<sup>24</sup> closes and moves to the next cycle day. Accounting end-of-day processes begin once all Federal Reserve debit and credit processing has completed for the cycle day. The scheduled FedNow Service end of cycle day generally aligns with the close of the Fedwire® Funds Service, which is at approximately 7 p.m. ET. If the Fedwire Funds Service extends, FedNow Service's cycle day extends accordingly, but real-time processing of messaging through the FedNow Service is not impacted. On holidays and weekends when Fedwire Funds is unavailable, the FedNow Service rollover is at approximately 7 p.m. ET. The start of each FedNow Service cycle day immediately follows the end of the previous cycle day, with no disruption in message or transaction processing. The cycle day will differ from the calendar date between cycle day rollover and midnight ET each day. Settlement dates are based on the cycle day rather than the calendar date.

### b. Additional Details

#### Informing Participants of Cycle Day Rollover

The FedNow Service sends a broadcast message (admi.004) to all Connection Parties advising them of the cycle day change. If the Fedwire Funds cycle day is extended, then the FedNow cycle day is also extended. A FedNow broadcast message (admi.004) informs Connection Parties of the extension and a subsequent FedNow broadcast (admi.004) is sent once the cycle day changes. Please note: FedNow transactions will continue to process and settle, regardless of cycle day rollover timing.

In addition to intaking broadcasts related to cycle day rollover, Participants should use the time stamps included in messages sent from the FedNow Service to confirm the date processed.

The FedNow Service may not roll at the same time every day and there may be a delay in the FedNow Service rollover compared to the Fedwire timing.

#### Processing Messages During Cycle Day Rollover

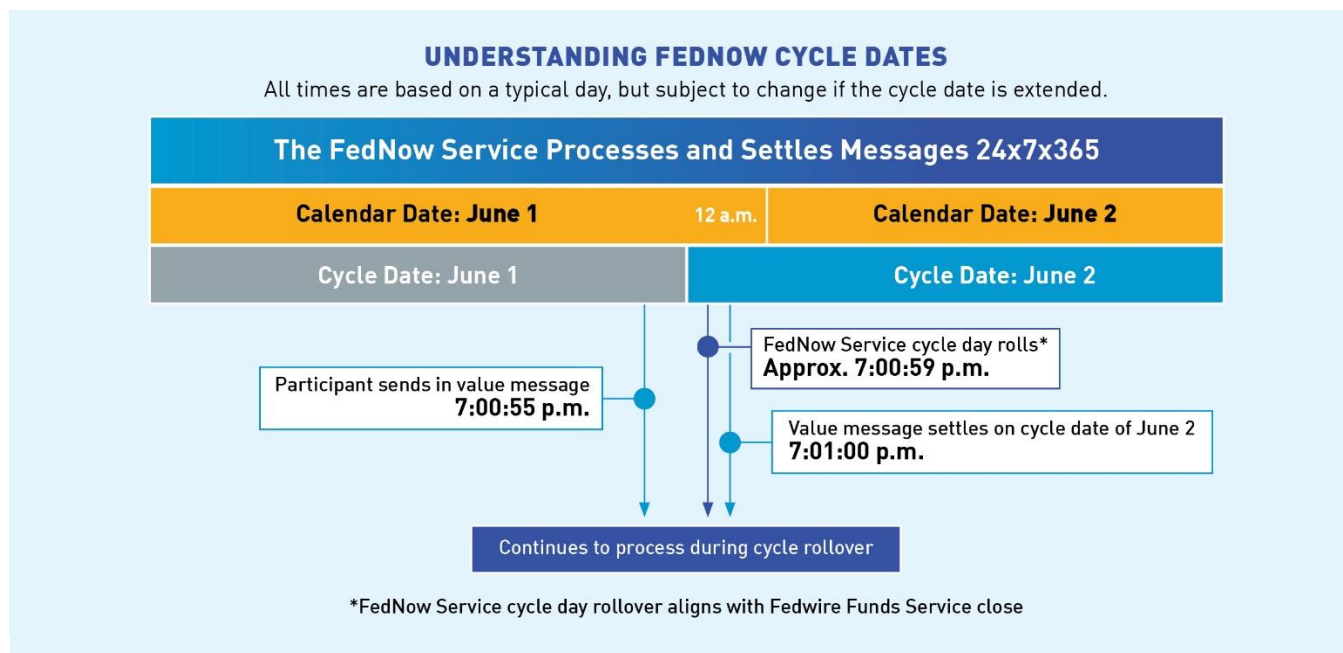
The FedNow Service continues to process payments and other messages before, during and after the cycle day rollover. The cycle day and calendar date are different for messages processed between the funds transfer day rollover and midnight. Messages received during the rollover are not rejected by the FedNow Service unless the message is rejected for failing either technical or business validations.

For example, as depicted below, a payment sent at 7:00:55 p.m. ET on June 1 and accepted/settled at 7:01:00 p.m. ET would have a cycle day of June 2, because the cycle day rollover was 7:00:59 p.m. ET. The FedNow Service assigns the applicable cycle day to the transaction and includes it in the advice of credit message

<sup>23</sup> See the FedNow Service Schedule on FRBservices.org.

<sup>24</sup> Will be referred to as cycle day throughout the Operating Procedures.

(pacs.002/pacs.009) and notifications (camt.054). Participants should always reference the cycle day rather than the calendar date to align with FedNow Service accounting and reporting.



\* All times specified above are based on a typical day, but subject to change if processing times for the Fedwire Funds Service are extended.

### FedNow Service Reporting During Cycle Day Rollover

Participants or their Service Providers who have been granted permission by their Participant(s) may request account balances and FedNow Service activity totals at any time. When the cycle day rolls to a new cycle day at approximately 7:00:59 p.m. ET, a provisional balance for the account balance report may be provided until approximately 9:00 p.m. ET. On non-standard business days, such as weekends and holidays, the provisional balance remains until the next standard business day.<sup>25</sup>

### Daylight Saving Time

The FedNow Service adheres to daylight saving time, impacting the timing of cycle day rollover and related end-of-day reporting activities, when applicable. The time stamps used in the various messages originated by the FedNow Service always contain the offset from UTC, making it easier for Participants to properly identify the time stamp.

<sup>25</sup> See the Reporting and Reconciliation section for additional details.

## c. Process of Cycle Day Rollover

The final column includes potential corrective actions the Participant's system can take to resolve an issue.

Who	Required Steps	If No Exceptions	If Exceptions Occur	Action(s) to Correct Failure
FedNow Service	Sends FedNow Service Broadcast Message (admi.004) with the Service Event Code <b>ROLL</b> to all Connection Parties to inform them of the cycle day closure and rollover.	Connection Parties receive the broadcast message (admi.004) and provide to Participants as needed.	Connection Party does not receive broadcast message.	<ul style="list-style-type: none"> <li>Check cycle day in sent or received messages (Interbank Settlement Date element)</li> </ul>
	Deliver daily FedNow Service end-of-day Account Activity Reports, typically between 7 p.m. ET and 9 p.m. ET, dependent on report, <sup>26</sup> to Participants that have enabled these reports.	FedNow Service Reports are delivered to Participants.	Participant does not receive enabled reports.	<ul style="list-style-type: none"> <li>Validate that the Participant's profile is set up to receive end-of-day reports from the FedNow Service</li> <li>Check broadcast messages to determine if the cycle day was extended. If so, this may delay the availability of end-of-day reports.</li> <li>After end-of-day processing is complete, Participants can download the reports via the FedNow interface or request them for each enabled RTN via report request (camt.060).</li> </ul>

<sup>26</sup> See Reports and Reconciliation section for additional details.

## 8. Message Signing

- a. Overview
- b. Managing Participant Key Pairs
- c. FedNow Service Key Pairs

*Note: Retrieve active Participant public keys via MQ is not yet available on the FedNow Service. This action can be completed via the FedNow interface. The FedNow Service will support this functionality via MQ at a later date.*

### a. Overview

The FedNow Service requires that all messages, sent via Message Queueing (MQ) or Application Programming Interface (API), exchanged with the FedNow Service are cryptographically signed, except for the Participant Broadcast Ping (admi.004) message and API Ping.<sup>27</sup> Additional information on messaging signing, including message format and rules, can be found in the FedNow Service Technical Specifications, including the REST API Technical Documentation, available on the FedNow DevRel resource.<sup>28</sup>

### b. Managing Participant Key Pairs

Message signing uses key pairs, a combination of public and private keys, to provide a layer of security controls to help verify the integrity and authenticity of messages sent and received through the FedNow Service. Key pairs are created locally and exchanged via the FedNow interface or by Message Queuing (MQ). Key pairs are owned by the Connection Party associated with the Authorized Connection Profile. The key pairs must follow the Technical Specifications, available on the FedNow DevRel resource, defined by the FedNow Service. All messages must be signed with the Sender's private key and validated by the Receiver using the public key of the Sender. If the message is not signed, signed with an expired key or signed with a key not recognized by the FedNow Service, the message is rejected (admi.002) with the applicable error code.<sup>29</sup>

All dates related to key pairs, expiration and activation are based on calendar date.

#### Establishing a New Key Pair

There are two separate processes for establishing a new key pair. If the key pair owner is establishing the first key pair or a new key pair after all key pairs have expired, the key pair must be established via the FedNow interface.<sup>30</sup> The initial key pair, defined by the first key loaded onto the FedNow Service or established when there are no active keys, is validated by the Support Center and a subscriber that holds a supervisor, manager or technical role within the FedNow interface via a phone call.

If the key pair owner has at least one active key pair established, the key pair owner must add new key pairs via MQ Messaging.<sup>31</sup> The FedNow Service validates the new key pair and store validated public keys for message verification. The FedNow Service then returns a success or failure notification to the Sender within seconds.

<sup>27</sup> See the Participant Broadcast section for additional details.

<sup>28</sup> For additional information about the FedNow DevRel resource, see the FedNow Service Customer Testing Environment and Program Guide.

<sup>29</sup> See the Error Codes and Descriptions section for additional details.

<sup>30</sup> See FedNow interface How-To Guide for additional details.

<sup>31</sup> See the FedNow Service Technical Specifications, available on the FedNow DevRel resource, for additional details.

## Revoking Keys

Key pair owners may revoke their keys at any point before the expiration date via the FedNow interface<sup>32</sup> or MQ Messaging. If key pair owners are revoking due to a suspected or confirmed compromise of a key, they should do so immediately and notify the Support Center (1-833-FRS-SVCS (377-7827)).

To revoke a key pair via MQ Messaging, the owner should follow the same process as establishing a new key pair when at least one active key pair exists and include *Revoke/Compromise* as the action.<sup>33</sup> If only one key pair exists, the key pair must be revoked via the FedNow interface.

## Active Key Management

Participants may establish as many key pairs as desired. Key pair owners should always have more than one active key pair, eliminating the risk that all keys expire. An industry best practice is to have multiple active key pairs, each with a unique expiration date.

Service Providers can use the same key for all FIs or have different sets of keys for each financial institution (Target RTN). The Federal Reserve Banks will contact the key pair owner if another owner tries to establish the same key pair. In this case, it is recommended that the owner of the existing key pair revoke its key immediately.

The FedNow interface displays all the key pair owner's active keys and the previous six months of revoked or expired keys. Participants may also receive all active key pairs via MQ messaging.

## Key Expiration

Key pairs established via the FedNow interface automatically expire 364 days after established unless their owner designates an earlier expiration date upon creation. Key pairs established via MQ messaging require an expiration date be included, up to 364 days. Key pair owners can see their active keys and expiration dates in the FedNow interface. Key pair owners are responsible for ensuring there is always at least one active key and all keys do not expire. Key pair owners do not need to take action to ensure keys expire on the designated date. Key pair owners do not receive a reminder message before this occurs. After the expiration date, a message signed with the expired key is rejected with the applicable error code.

## Private Key Storage

Key pair owners only exchange public keys with the FedNow Service and must keep their private keys secure. Key pair owners need to maintain the confidentiality of private keys, consistent with the Federal Reserve Banks' Operating Circular No. 5 and any other agreement with the Federal Reserve Banks that imposes confidentiality or information security obligations on a Participant. This includes, but is not limited to, abiding by the Participant's internal information security requirements. At a minimum, key pair owners are required to take all commercially reasonable steps to protect the information. The private key should never be shared outside the organization.

## FedNow Service Production Versus Test Environment

Participants are required to sign all messages, except the Participant Broadcast Ping (admi.004) message, in both the production and the test environment. Key pair requirements are the same in both environments. However, the same key pair cannot be used in both the test environment and the production environment. The management and processes of key pairs also are the same in both environments, including establishment, revoking and managing active keys, as well as private key storage. If a key pair that is used for the production or test environment is compromised, the Participant should revoke it and notify the Support Center.

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<sup>32</sup> See FedNow interface How-To Guide for additional details.

<sup>33</sup> See the Technical Specifications, available on the FedNow DevRel resource, for additional details.

## c. FedNow Service Key Pairs

### FedNow Service Keys

The FedNow Service has multiple key pairs active at a given time and each has a 364-day expiration. Participants are required to maintain a list of all active FedNow Service public keys. The FedNow Service keys are not specific to Participants. Participants must initially use the FedNow interface to obtain the FedNow Service public key to properly authenticate messages received from the FedNow Service. After the Participants have the initial list, they can use the FedNow interface or MQ Messaging<sup>34</sup> to maintain the list. The FedNow Service sends a FedNow Broadcast message (admi.004) with the code FNKY when it establishes a new FedNow Service public key. When Participants receive the FedNow Broadcast message informing of a new key, it is a best practice to check if any FedNow Service public keys have expired or were revoked and to adjust your system accordingly. If the FedNow Service revokes all FedNow Service public keys at once, Participants must retrieve the new FedNow public keys via the FedNow interface.

The FedNow interface displays all active FedNow Service public keys. The FedNow Service typically uses the oldest key pair when signing messages. When the expiration date nears, the FedNow Service switches to the next oldest key.

FedNow Service key components include the key, key name and the key ID. The FedNow Service key name is the same value as the FedNow Service key ID.

### Messages Signed by the FedNow Service

All messages originated by the FedNow Service are signed with the FedNow Service's active, internal private keys and must be validated by the Receiver FI using the corresponding public key. At any time, if Participants suspect a message received is unsigned or is signed with an invalid key, the Participant must follow the below steps related to rejecting and reporting the message.

When a Participant receives messages from the FedNow Service, it must:

- a. Ensure the key ID matches a key in its list of active FedNow Service public keys.
- b. Validate the signature using the FedNow Service public key before acting on the message.

Both steps above must be completed before the Receiver FI processes the message. If either of these steps fail, then the Participant should:

- a. Ensure the FedNow Service public keys list is up to date with FedNow Service public keys.
- b. Respond to the message with Message Reject (admi.002), indicating the received message was rejected.<sup>35</sup>
- c. Call the Support Center (1-833-FRS-SVCS (377-7827)) with notification that it received messages unsigned or signed with expired keys or signed with unrecognized key pair from the FedNow Service.
  - a. Initially, the FedNow Service will not respond to or process admi.002 messages sent from Participants. If a Participant needs to send a Message Reject (admi.002) to the FedNow Service, they must call the Support Center. The FedNow Service anticipates being able to process the admi.002 message at a later date.

<sup>34</sup> See note in Overview section; some key management via MQ functionality is not yet available on the FedNow Service.

<sup>35</sup> See details on the error codes to use in the Error Codes and Descriptions section.

## 9. FedNow Service Profiles Overview

The FedNow Service profile requirements are based on a Participant's or Service Provider's role. A financial institution can play one or a combination of the following roles in the FedNow Service:

- a. **FedNow Participant:** Has a FedNow Participant Profile to receive and/or send and receive (instant payments, Liquidity Management Transfers, reports, etc.) and has established accounting information for payment settlement, either via a Master Account or Correspondent.
- b. **Service Provider:** Acts as an agent of a FedNow Participant authorized by that Participant to do one or more of the following:
  - Initiate, transmit or receive messages on behalf of the Participant;
  - Operate or otherwise manage the Electronic Connection used to send or receive messages on behalf of the Participant; or
  - Obtain information, select the security procedure, profile settings or processing options on behalf of the Participant.
- c. **Correspondent:** Maintains a Master Account with a Federal Reserve Bank and has agreed to maintain a Settlement Account for another FedNow Participant.

An organization that is not a financial institution can be a Service Provider in the FedNow Service. To the extent a FedNow Participant uses Service Provider(s), requirements in these Operating Procedures otherwise applicable to FedNow Participants also apply to the Service Provider when it performs functions as an agent on behalf of a FedNow Participant.

### Participant Using Multiple Service Providers (for the same RTN)

Participants have the option to utilize one or more Service Providers to support the functions listed above. If a Participant uses multiple Service Providers to support the same RTN (i.e., the Participant Profile is connected to the FedNow Service via multiple Connection Parties owned by different Service Providers), the Participant must consider the following:

- Service Providers that are granted permission to access the FedNow interface<sup>36</sup> for a Participant are able to view the other Service Provider's Connection Party Name, ID and permissions assigned by the Participant. Additionally, they can view some message details via the Adhoc Query Tool for all activity for the Participant, regardless of which Service Provider processed the messages.
- Service Providers that are granted permission to receive reports (via FedNow interface and ISO messaging) for the Participant receive reports containing all activity for the Participant, regardless of which Service Provider processed the messages.

### FedNow Service Profile Types

The FedNow Service offers two profile types: a Participant Profile and an Authorized Connection Profile (ACP). One or both are required by all Participants and Service Providers, except for Correspondents that only settle for respondents and choose not to have a Participant Profile.

A Participant Profile is required for each RTN that a financial institution uses to receive and/or send and receive payments and messaging through the FedNow Service, regardless of whether it connects to the FedNow Service directly or via Service Provider(s). Each Participant Profile is associated with a single RTN, and institutions can have multiple RTNs/Profiles enabled on the FedNow Service. The Participant Profile defines the settings and features in the FedNow Service that are enabled for each RTN. A Participant Profile contains participation type(s), components of participation type(s), settings and permissions for a Connection Party. All financial institutions are required to have subscribers with access to the FedNow interface and/or enable their Service Providers to have access to the FedNow interface to update components of participation type(s) and settings, as needed. Correspondents are required to have a FedNow Participant Profile if the

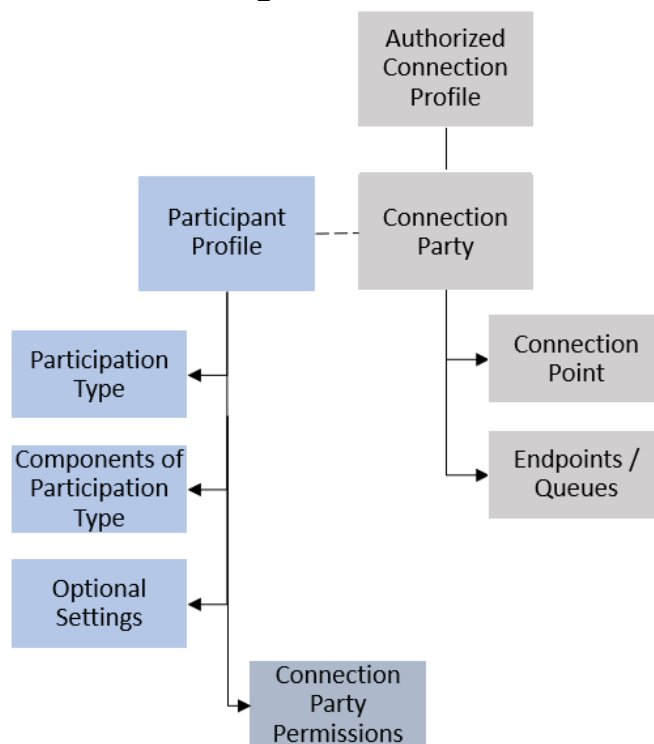
<sup>36</sup> FedNow interface options for general account management are no access, View or Edit access.

Correspondent wants the ability to set net send limits<sup>37</sup> on their direct respondents' activity, or to send or receive messages, including receiving account debit/credit notifications and reporting via ISO 20022 messaging from the FedNow Service. If a Correspondent does not wish to set net send limits, receive messages (including reports) from the FedNow Service or gain access to the FedNow interface, they do not need a Participant Profile.

The Authorized Connection Profile defines FedNow Service connectivity settings used to access the FedNow interface and send or receive messaging via the FedNow Service, on behalf of one or multiple Participants (RTNs). All Participants are required to own an Authorized Connection Profile or to be connected to one via Service Provider(s). The Connection Party provides the Authorized Connection Profile a central MQ connection setup, and if desired, central API setup. Each Participant Profile maps to a Connection Party, owned by an Authorized Connection Profile, allowing messages to flow to and from the FedNow Service, based on the Connection Party Permissions<sup>38</sup> enabled by the Participant Profile.

FedNow Service profiles have multiple components that are configured based on the Participant's and, if applicable, the Service Provider's preferences and usage of the FedNow Service. A Participant Profile is established at the RTN level, and an Authorized Connection Profile is established at the RTN or Electronic Transaction Identifier (ETI) level. The profiles are mapped to each other via a Connection Party, as shown in Figure A.

**Figure A**



<sup>37</sup> See the Correspondent Net Send Limit section for additional details.

<sup>38</sup> See the Connection Party permissions section below.

Profile requirements are based on the organization's type, role and connection setup. The following table shows some common combinations of Participant type and connection setups, with the applicable profile requirements.<sup>39</sup>

Organization Type	Acting as a ...	Connection Setup Options	Profile Requirements for the Organization Type
<b>Financial Institution</b>	Financial Institution	<b>Direct</b> – FI connects directly to the FedNow Service.	<ul style="list-style-type: none"> <li>Participant Profile</li> <li>Authorized Connection Profile</li> </ul>
		<b>Service Provider</b> – FI connects to the FedNow Service via one or more Service Providers.	Participant Profile
		<b>Direct and Service Provider</b> – FI connects directly to the FedNow Service and via one or more Service Providers.	<ul style="list-style-type: none"> <li>Participant Profile</li> <li>Authorized Connection Profile</li> </ul>
<b>Financial Institution</b>	Correspondent	<b>Direct</b> – Correspondent connects directly to the FedNow Service.	<ul style="list-style-type: none"> <li>Participant Profile</li> <li>Authorized Connection Profile</li> </ul>
		<b>Service Provider</b> – Correspondent connects to the FedNow Service via a Service Provider.	<ul style="list-style-type: none"> <li>Participant Profile</li> </ul>
		<b>Direct and Service Provider</b> – Correspondent connects directly to the FedNow Service and via a Service Provider.	<ul style="list-style-type: none"> <li>Participant Profile</li> <li>Authorized Connection Profile</li> </ul>
		<b>No connection</b> – Correspondent is not connected to the FedNow Service, nor does it have a FedNow Profile. Will not be able to receive any messages or reports directly from the FedNow Service.	No profile necessary
<b>Financial Institution</b>	Service Provider	<b>Direct</b> – Service Provider connects directly to the FedNow Service on behalf of one or more FedNow Participants.	Authorized Connection Profile
<b>Service Provider</b>	Service Provider	<b>Direct</b> – Service Provider connects directly to the FedNow Service on behalf of one or more FedNow Participants.	Authorized Connection Profile

<sup>39</sup> This list is not exhaustive.

## 9.1. FedNow Participant Profiles

- a. Parts of Participant Profile
- b. Participant Profile Status

### a. Parts of Participant Profile

#### 1. Participation Type

- **Applicable to:** All Participant Profiles
- **Configured by:** Federal Reserve Banks, based on a request from the Participant or Service Provider. Components configured by the Federal Reserve Banks must be confirmed by Participants.
- **Viewable in:** FedNow interface

The participation type defines the type of service(s) the Participant use within the FedNow Service. There are three participation types: Customer Credit Transfer, Liquidity Management Transfer and Settlement Only. FIs that enable Customer Credit Transfer are automatically opted in to LMT and have the option to opt out if needed. For Participants using a Correspondent, the Correspondent can independently determine whether individual respondents will be allowed to send or receive LMT messages. See Profile Considerations section for additional details. Options within Customer Credit Transfer include the ability to receive only, send and receive instant payments, or send and receive instant payments with the ability to receive a request for payment. Options within LMT include the ability to receive only or send and receive LMTs. Settlement Only Correspondents receive reports and notifications on respondent activity.

The participation types are shown in the following table.

Participation Types	Details	Configurable Components of Participation Type
<b>Customer Credit Transfer</b> Receive Only	<ul style="list-style-type: none"><li>Participant must be able to receive Customer Credit Transfer messages (pacs.008)</li><li>Participant can send and receive payment returns (pacs.004)</li><li>Participants can send RFP (pain.013)</li></ul>	<ul style="list-style-type: none"><li>Reserved Receiver FI Response Time</li><li>Receive Account Debit/Credit Notifications</li></ul>
<b>Customer Credit Transfer</b> Send and Receive	<ul style="list-style-type: none"><li>Participant must be able to send and receive Customer Credit Transfer messages (pacs.008)</li><li>Participant must be able to send and receive payment returns (pacs.004)</li><li>Participants can send RFP (pain.013)</li></ul>	<ul style="list-style-type: none"><li>Maximum transaction value limit – Customer Credit Transfers</li><li>Reserved Receiver FI Response Time</li><li>Receive Account Debit/Credit Notifications</li></ul>
<b>Customer Credit Transfer</b> Send, Receive and Receive Request for Payment (RFP)	<ul style="list-style-type: none"><li>Participant must be able to send and receive Customer Credit Transfer messages (pacs.008)</li><li>Participant must be able to send and receive payment returns (pacs.004)</li><li>Participants must be able receive RFP (pain.013), present RFPs to end customers, respond with RFP Response (pain.014)</li><li>Participants can send RFP (pain.013)</li></ul>	<ul style="list-style-type: none"><li>Maximum transaction value limit – Customer Credit Transfers (must be reasonable relative to anticipated need for RFP responses)</li><li>Reserved Receiver FI Response Time</li><li>Receive Account Debit/Credit Notifications</li></ul>

<b>Liquidity Management Transfer Receive Only</b>	<ul style="list-style-type: none"> <li>Participant must be able to receive LMT messages (pacs.009)</li> </ul>	<ul style="list-style-type: none"> <li>Receive Account Debit/Credit Notifications</li> </ul>
<b>Liquidity Management Transfer Send and Receive</b>	<ul style="list-style-type: none"> <li>Participant must be able to send and receive LMT messages (pacs.009)</li> </ul>	<ul style="list-style-type: none"> <li>Maximum transaction value limit – LMT</li> <li>Receive Account Debit/Credit Notifications</li> </ul>
<b>Settlement Only</b>	<ul style="list-style-type: none"> <li>Participant (Correspondent) can receive reporting and notifications via ISO 20022 messaging from the FedNow Service</li> </ul>	<ul style="list-style-type: none"> <li>Receive Account Debit/Credit Notifications</li> </ul>

## 2. Components of Participation Type

- Applicable to:** All Participant Profiles
- Configured by:** Participants or Service Providers
- Editable in:** FedNow interface

Components of Participation Type	Applicable to
<b>Maximum Transaction Value Limit – Customer Credit Transfer</b>	Customer Credit Transfer Send and Receive <sup>40</sup> Customer Credit Transfer Send, Receive and Receive Request for Payment
<b>Reserved Receiver FI Response Time</b>	Customer Credit Transfer Receive Only Customer Credit Transfer Send and Receive Customer Credit Transfer Send, Receive and Receive Request for Payment
<b>Maximum Transaction Value Limit – LMT</b>	Liquidity Management Transfer Send and Receive
<b>Receive Account Debit/Credit Notifications (Correspondent)</b>	All, if acting as Correspondent

### Maximum Transaction Value Limit – Customer Credit Transfer

The maximum transaction value limit for a Customer Credit Transfer is a configurable amount for pacs.008 messages that is set by Participants and/or Service Provider(s) on their behalf and applies to pacs.008 messages for the sending institution (i.e., instructing agent). The limit applies to all customer credit transfers originating from the Participant Profile's RTN. This field is disabled if Customer Credit Transfer Receive Only is selected.

The FedNow Service uses a default value for the maximum transaction value, which is set lower than the network limit for Customer Credit Transfers.<sup>41</sup> The Participant can adjust the transaction limit by selecting Other Amount and entering the desired value. The value in U.S. dollars must be:

- Equal to or less than the network dollar limit for Customer Credit Transfers
- A whole number
- A numeric value
- A positive value

<sup>40</sup> The maximum transaction limit is only applied when sending a Customer Credit Transfer

<sup>41</sup> See the Network Limits section for additional details.

- Greater than or equal to \$1.00

### **Reserved Receiver FI Response Time**

The FedNow Service uses a payment timeout clock to provide Participants and Service Providers with a predictable time frame to expect payment settlement or rejection.<sup>42</sup> To provide the Receiver FI with a minimum amount of time to indicate whether it intends to accept or reject an instant payment (pacs.008 or pacs.004), the FedNow Service allows FIs to configure a response time frame up to a maximum of five seconds. A Participant and/or Service Provider(s) on its behalf can set the response time to any value between one and five seconds based on the Participant's ability to process and respond within the selected time. Before sending an instant payment to the Receiver FI, the FedNow Service verifies the remaining time meets or exceeds the Receiver FI's reserved time. Setting a lower number reduces the receiving institution's reserved time, but also reduces the chance of a payment timeout rejection before the FI receives or can act on the payment message.

The Receiver FI must be prepared to respond within the indicated reserved response time, although it may have additional time to respond depending on the status of the payment timeout clock when the message is received. The FedNow Service rejects the message if the timeout clock expires before the Receiver FI responds.

The reserved response time does not apply to Liquidity Management Transfers (pacs.009) because the Receiver FI does not provide a response in the message flow.

### **Maximum Transaction Value Limit – Liquidity Management Transfer**

The maximum transaction value limit for Liquidity Management Transfers is a configurable amount for pacs.009 messages that is set by Liquidity Management Transfer – Send and Receive Participants and applies to pacs.009 messages for the sending institution (i.e., instructing agent). The limit applies to all LMTs originating from the Participant Profile's RTN. The field is disabled if Liquidity Management Transfer Receive Only is selected.

The FedNow Service sets the default network limit at the maximum transaction value.<sup>43</sup> The Participant and/or Service Provider(s) on their behalf can decrease the transaction limit by selecting Other Amount and entering the desired value. The value in U.S. dollars must be:

- Equal to or less than the network dollar limit for a Liquidity Management Transfer
- A whole number
- A numeric value
- A positive value
- Greater than or equal to \$1.00

### **Account Debit/Credit Notifications**

Any Participant that is a Correspondent of a FedNow Participant may enable real time notification of respondents' FedNow debits/credits to its account. By default, the notification is disabled. A Correspondent can enable these account debit/credit notifications (camt.054) in its Participant Profile. The setting can be enabled within the Settlement Only Participation Type or under Settings for Participants with Customer Credit Transfer and/or Liquidity Management Transfer Participation Types.<sup>44</sup>

<sup>42</sup> See the Value Messages section for additional details on the payment timeout clock.

<sup>43</sup> See the Network Limits section for additional details.

<sup>44</sup> See the FedNow interface How-To Guide for additional details.

### 3. Settings

Settings	Applicable to	Configured by	Viewable or Editable (in the FedNow interface)
Daily Reports	All Participant Profiles	Participant and/or Service Provider	Editable

#### Daily Reports<sup>45</sup>

The Daily Reports setting refers to automatic distribution of an Account Activity Totals Report and Account Activity Details Report at the end of each day after the FedNow Service cycle day rollover. The FedNow Service sends these reports to enabled Participants via the camt.052 message. By default, the Account Activity Totals Report is enabled, and the Account Activity Details Report is not enabled. Subscribers may adjust these settings to meet their needs and those of each eligible RTN.

Settlement Only Correspondents use the Daily Reports setting for end-of-day distribution of Correspondent reports, as well. The Account Activity Totals Report is a combined report, listing summaries for each respondent RTN enabled on the service. The details report is provided for each respondent RTN and contains fewer details than the standard reports for Participants. By default, the Account Activity Totals Report is enabled, and the Account Activity Details Report is not enabled. Subscribers may adjust these settings to meet their needs and those of each eligible RTN.

### 4. Risk Mitigation

Risk Mitigation	Applicable to	Configured by	Viewable or Editable (in the FedNow interface)
Participant Negative List	Customer Credit Transfer Receive Only Customer Credit Transfer Send and Receive Customer Credit Transfer Send, Receive and Receive Request for Payment	Participant or Service Provider, after being enrolled by the Federal Reserve Banks	Editable
Correspondent Net Send Limit	All, if acting as Correspondent	Correspondent and/or Service Provider	Editable

#### Participant Negative List

To help mitigate fraud, the FedNow Service offers Participants the option to establish a negative list<sup>46</sup> to reject transactions either coming from or to specific accounts based on a Participant negative list. Participants must contact the Support Center (1-833-FRS-SVCS (377-7827)) to enroll in the negative list.

#### Correspondent Net Send Limit

To help mitigate risk, the FedNow Service offers Correspondents the option to set a net send limit on their direct respondent(s).<sup>47</sup>

<sup>45</sup> See the Reporting and Reconciliation section for additional details.

<sup>46</sup> See the Negative List section for additional details.

<sup>47</sup> See the Correspondent Net Send Limit section for additional details.

## 5. Connection Party Permissions

- **Applicable to:** All Mappings Between Participant Profiles and Connection Parties
- **Configured by:** Federal Reserve Banks, based on request from Participant or Service Provider. Components configured by the Federal Reserve Banks must be confirmed by Participants.
- **Viewable in:** FedNow interface

Permissions provide the ability to send and receive message types and/or provide the access level to the FedNow interface. Permissions are configured by the Federal Reserve Banks for every Connection Party that is mapped to the Participant Profile. If the Participant Profile has only one Connection Party mapped to it, then it is enabled for all relevant permissions. A Participant Profile with multiple Connection Parties using multiple Authorized Connection Profiles can grant permissions to specific Connection Parties. Only permissions that are relevant based on the enabled participation type(s) are configurable. For example, if the participation type is Liquidity Management Transfer Send and Receive, the ability to send and receive Customer Credit Transfer and Payment Return are not applicable.

Considerations for a Participant with multiple connection parties:

- Only one Connection Party is permissioned for *Receiving Credit Transfer and Payment Return Message* and *Nonvalue Message Receiving*. However, when the Receiving FI has multiple Connection Parties, the FedNow Service attempts to send certain nonvalue messages to the Connection Party related to the message flow which may be different than the Connection Party permissioned for *Receiving Credit Transfer and Payment Return* and *Nonvalue Message Receiving*. See table in the *Queue* section below for more information.
- Only one Connection Party is permissioned for *Receiving LMT Messages*.
- Only two Connection Parties are permissioned for *Receiving Correspondent Debit/Credit Notification*.
- A Connection Party that is permissioned to receive EOD reporting receives reports containing **all** activity for the Participant, regardless of which Connection Party processed the messages.
- A Connection Party that is permissioned to access the FedNow interface via General Account Management permissions for a Participant can view some message details via the Adhoc Query Tool for **all** activity for the Participant, regardless of which Connection Party processed the messages.
- A Connection Party with *General Account Management – Edit* permission can submit requests for changes to profiles that are configured by the Federal Reserve Banks. A Connection Party with *General Account Management – View* cannot make these requests.

The Connection Party permissions are as follows:

Permissions	Description	Credit Transfer	LMT	Settlement Only
Credit Transfer and Payment Return Message Origination	Send pacs.008 and pacs.004 messages	X		
Credit Transfer and Payment Return Message Receiving	Receive pacs.008, pacs.004 and related pacs.002 messages	X		
LMT Message Origination	Send pacs.009 messages		X	
LMT Message Receiving	Receive pacs.009 related pacs.002 messages		X	
Nonvalue Message Origination	Send camt.056, camt.029, pain.013, pain.014, pacs.028, camt.055, camt.026, camt.028 and admi.007	X	X	

Nonvalue Message Receiving <sup>48</sup>	Receive camt.056, camt.029, pain.013, pain.014, pacs.028, camt.055, camt.026, camt.028 and admi.007	X	X	
Account Balance Report Request Origination	Send camt.060 (ABAR) Receive camt.052	X	X	X
Activity Reports Request Origination	Send camt.060 (AATR, AADR, IATR, CATR, CADR, CITR) Receive camt.052	X	X	X
Report EOD Receiving	Receive the Activity Reports automatically at the end of the day (dependent on daily reports setting)	X	X	X
Administrative Origination	Send admi.004 (Participant broadcast) and admi.006	X	X	X
Administrative Receiving	Receive admi.004 and admi.011	X	X	X
General Account Management – Edit	Edit applicable setting in the FedNow interface. Request changes to profile that are configured by the Federal Reserve Banks.	X	X	X
General Account Management – View	View access to the FedNow interface	X	X	X
Correspondent Debit/Credit Notification Receiving	Receive camt.054	X	X	X
Correspondent Net Send Limit – Edit	Create and edit net send limit for respondent activity	X	X	X

If the *General Account Management – Edit* or the *General Account Management – View* permissions are **not** granted, the Connection Party will have no access to the FedNow interface. *Correspondent Net Send Limit – Edit* allows a Connection Party to edit these functions, regardless of the *General Account Management* access level (Edit or View). There is no view access option for these functions.

## b. Participant Profile Status

- **Applicable to:** All Participant Profiles
- **Configured by:** Federal Reserve Banks, determined by Participant or Federal Reserve Bank (dependent on situation)
- **Viewable in:** FedNow interface

Participant Profiles have different statuses that determine if the Participant can operate in the FedNow Service, send/receive messages or access the FedNow interface. All Participant Profile status changes are managed by the Federal Reserve Banks.

Customer Credit Transfer Send and Receive or Receive only Participants are also required to sign on/off the FedNow Service<sup>49</sup>.

Status	Description of Participant Status
Inactive	<ul style="list-style-type: none"> <li>• A status for a Participant Profile that is initially created</li> <li>• The Participant<sup>50</sup> and Federal Reserve Bank can update the profile via the FedNow interface while in inactive status</li> <li>• Messages cannot be sent and/or received</li> </ul>

<sup>48</sup> If multiple Connection Parties, specific nonvalue messages are not sent to the Connection Party with *Credit Transfer, Payment Return and Nonvalue Message Receiving* permission. See table in the Queue section below for more information.

<sup>49</sup> See Participant Broadcast for additional details.

<sup>50</sup> User's ability to update profiles is controlled by subscriber-level access and permissions.

	<ul style="list-style-type: none"> <li>• Status remains inactive until the profile setup is complete and effective date<sup>51</sup> is set</li> </ul>
Pending Activation	<ul style="list-style-type: none"> <li>• A status for a Participant Profile that has an effective activation date set</li> <li>• The Participant<sup>52</sup> and Federal Reserve Bank can update the profile via the FedNow interface while in pending activation status</li> <li>• Messages cannot be sent and/or received</li> <li>• Status remains as pending activation until the FedNow Service cycle day rollover to the indicated effective date, typically 7:01 p.m. ET</li> </ul>
Active	<ul style="list-style-type: none"> <li>• A status for a Participant Profile once the effective cycle day has commenced</li> <li>• The Participant<sup>53</sup> and Federal Reserve Bank can update the profile via the FedNow interface while in active status</li> <li>• Messages can be sent and/or received</li> <li>• Participants that are Customer Credit Transfer Send and Receive or Receive Only must also sign onto the FedNow Service<sup>54</sup></li> </ul>
Pending Deactivation	<ul style="list-style-type: none"> <li>• A status for a Participant Profile that has a deactivation date set</li> <li>• The Participant<sup>55</sup> and Federal Reserve Bank can update the profile via the FedNow interface while in pending deactivation status</li> <li>• Messages can be sent and/or received</li> <li>• Status remains as pending deactivation until the FedNow Service funds transfer day rollover to the indicated deactivate date, typically at 7:01 p.m. ET</li> </ul>
Deactivated	<ul style="list-style-type: none"> <li>• A deactivated status when the existing Participant Profile (RTN) is no longer in use for the FedNow Service and occurs when the effective cycle day has commenced</li> <li>• Messages cannot be sent and/or received</li> <li>• Participant is unable to access the FedNow interface</li> <li>• Participants that are Customer Credit Transfer Send and Receive or Receive Only will be signed off the FedNow Service<sup>56</sup></li> <li>• Participant Profile can only be reactivated by going through the onboarding process</li> </ul>
Suspended	<ul style="list-style-type: none"> <li>• A status that restricts<sup>57</sup> a Participant's access to the FedNow Service for any reason</li> <li>• Messages cannot be sent and/or received</li> <li>• Participant is unable to access the FedNow interface</li> <li>• Participants that are Customer Credit Transfer Send and Receive or Receive Only will be signed off the FedNow Service<sup>58</sup> <ul style="list-style-type: none"> <li>◦ Once the suspension is lifted, the Participant Profiles will need to sign back onto the FedNow Service to receive instant payments</li> </ul> </li> </ul>

<sup>51</sup> Effective date is decided by the Participant.

<sup>52</sup> User's ability to update profiles is controlled by subscriber-level access and permissions.

<sup>53</sup> User's ability to update profiles is controlled by subscriber-level access and permissions.

<sup>54</sup> See the Participant Broadcast section for additional details about signing on.

<sup>55</sup> User's ability to update profiles is controlled by subscriber-level access and permissions.

<sup>56</sup> See the Participant Broadcast section for additional details about signing on.

<sup>57</sup> The Federal Reserve Banks maintain the right to terminate or restrict a Participant's access to the FedNow Service for any reason.

<sup>58</sup> See the Participant Broadcast section for additional details about signing on.

## 9.2. Authorized Connection Profile

- a. Overview
- b. Parts of Authorized Connection Profile
- c. Authorized Connection Profile Status

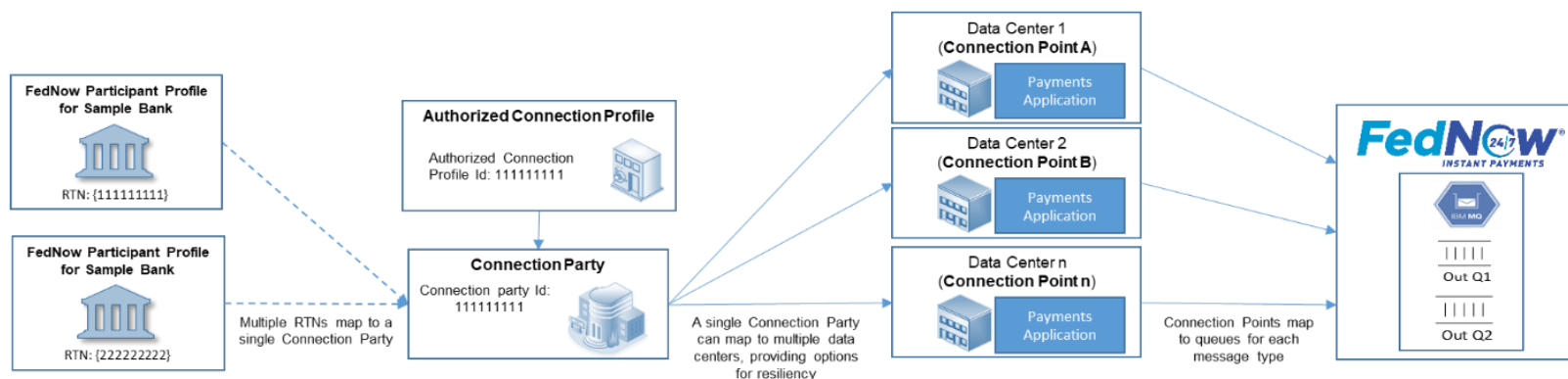
### a. Overview

The Authorized Connection Profile defines FedNow Service connectivity settings used to access the FedNow interface and send or receive messaging via the FedNow Service, on behalf of one or multiple Participants (RTNs). All Participants are required to own an Authorized Connection Profile or to be connected to one via Service Provider(s). The FedNow Service supports two methods of data exchange with Participants: Message Queueing (MQ) and Application Programming Interface (API).

#### Message Queueing (MQ)

MQ is the primary model for data exchange with the FedNow Service and other Participants. It is required for receiving and sending ISO Messages to and from the FedNow Service. To utilize MQ, Participants and Service Providers must have FedLine Advantage or FedLine Direct® with an Authorized Connection Profile, Connection Party, Connection Point and Queues (relationship depicted in Figure D below). All Participant Profiles must be connected to at least one Authorized Connection Profile that supports MQ messaging. Additional details in the section below on each of these components.

Figure D



#### Application Programming Interface (API)

APIs are an optional model for data exchange with the FedNow Service. An API client is required for sending API calls and receiving a response from the FedNow Service. To utilize APIs, Participants and Service Providers must have FedLine Advantage or FedLine Direct with an Authorized Connection Profile enabled to send and receive APIs. APIs allow Participants and Service Providers to programmatically update or receive data via

the FedNow Service with a seamless request and response. The message types supported by APIs are not inclusive of all messages needed to operate on the FedNow Service.<sup>59</sup>

## b. Parts of Authorized Connection Profile

### 1. Connection Party

- **Applicable to:** All Authorized Connection Profiles
- **Configured by:** Federal Reserve Banks, based on request from Participant or Service Provider. Components configured by the Federal Reserve Banks must be confirmed by Participants or Service Providers.
- **Viewable in:** FedNow interface

Each Authorized Connection Profile has a Connection Party that maps to one or more Participant Profiles. The Connection Party provides the Authorized Connection Profile a central connection for MQ setup, API setup and FedNow interface access. Each Participant Profile maps to a Connection Party, owned by an Authorized Connection Profile, allowing messages to flow to and from the FedNow Service, based on the Connection Party Permissions<sup>60</sup> enabled by the Participant Profile. The Connection Party is used to maintain all connection information, including queue names for MQ messaging, and identify the message categories assigned to specific queues.

The Connection Party ID defaults to the RTN or ETI of the Participant or Service Provider. If the Connection Party ID needs to be changed, contact the Support Center (1-833-FRS-SVCS (377-7827)). The Connection Party ID is used to identify the Authorized Connection Profile in either the To or From elements of the Business Application Header (bah.001) for every ISO 20022 message exchanged with the service, which depends on whether the Participant sends or receives the message, respectively.

There is a one-to-one relationship between an Authorized Connection Profile and a Connection Party.

### 2. Connection Point

**Applicable to:** All Authorized Connection Profiles for MQ messaging.<sup>61</sup>

- **Configured by:** Federal Reserve Banks, based on request from Participant or Service Provider. Components configured by the Federal Reserve Banks must be confirmed by Participants or Service Providers.
- **Viewable in:** FedNow interface

A Connection Point is a grouping of queues (also referred to as endpoints) maintained by a Connection Party that enables it to communicate with the FedNow Service. A Connection Party that operates independent data centers may use Connection Points to map queues to a specific data center, enabling data center affinity. A Connection Party with multiple Connection Points can disconnect or connect its Connection Points when conducting maintenance by sending a Participant Broadcast message (admi.004).<sup>62</sup>

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<sup>59</sup> See Operating Procedures section, FedNow Service Messaging – APIs, for the messages supported by API.

<sup>60</sup> See the Connection Party permissions section below.

<sup>61</sup> Connection Point is not applicable for APIs.

<sup>62</sup> Participant Broadcast message admi.004 with code FPCD and FPCR. See the Participant Broadcast section for additional details.

The Participant or Service Provider that owns the Connection Party must name the Connection Point (a maximum of 35 alpha-numeric characters) and can name and configure queues that are outgoing from the FedNow Service (including the message categories they receive and applicable RTNs). The queue setup for each of the Connection Points for a single Connection Party is the same. The Connection Point ID is autogenerated by the FedNow Service.

There is a one-to-many relationship between the Connection Party and Connection Point.

### 3. Queues (Endpoints)

*This section of the Operating Procedures contains confidential information and is not available on the public website. FedNow Participants will be provided access to this section during the FedNow Service onboarding process.*

## c. Authorized Connection Profile Status

- **Applicable to:** All Authorized Connection Profiles
- **Configured by:** Federal Reserve Banks, determined by Participant, Service Provider or Federal Reserve Bank (dependent on situation)
- **Viewable in:** FedNow interface

Authorized Connection Profiles have different statuses that determine if the Participant or Service Provider can operate in the FedNow Service, send/receive messages or access the FedNow interface. All Authorized Connection Profile status changes are handled by the Federal Reserve Banks.

Status	Description of Authorized Connection Profile Status
Inactive	<ul style="list-style-type: none"> <li>• A status for an initial Authorized Connection Profile</li> <li>• The Participant<sup>63</sup> and Federal Reserve Bank can update the Participant Profile via the FedNow interface while in inactive status</li> <li>• Messages cannot be sent and/or received</li> <li>• Status remains inactive until the profile setup is complete and an effective date<sup>64</sup> is set</li> </ul>
Pending Activation	<ul style="list-style-type: none"> <li>• A status for an Authorized Connection Profile that has been assigned an effective activation date</li> <li>• The Participant<sup>65</sup> and Federal Reserve Bank can update the Participant Profile via the FedNow interface while in pending activation status</li> <li>• Messages cannot be sent and/or received</li> <li>• Status remains pending activation until the FedNow Service funds transfer day rollover to the indicated effective date, typically 7:01 p.m. ET</li> </ul>
Active	<ul style="list-style-type: none"> <li>• A status for an Authorized Connection Profile once the effective cycle day has commenced</li> <li>• The Participant<sup>66</sup> and Federal Reserve Bank can update the Participant Profile via the FedNow interface while in active status</li> <li>• Enables the Participant to use the FedNow Service if its Participant Profile is also active</li> <li>• If the Authorized Connection Profile has permissions to receive instant payments, the Authorized Connection Profile must also sign onto the FedNow Service to begin receiving instant payments (pacs.008 and pacs.004)</li> </ul>
Pending Deactivation	<ul style="list-style-type: none"> <li>• A status for an Authorized Connection Profile that has a deactivation date set</li> <li>• The Participant<sup>67</sup> and Federal Reserve Bank can update the Participant Profile via the FedNow interface while in pending deactivation status</li> <li>• Messages can be sent and/or received</li> <li>• Status remains pending deactivation until the FedNow Service funds transfer day rollover to the indicated deactivation date, typically at 7:01 p.m. ET</li> </ul>
Deactivated	<ul style="list-style-type: none"> <li>• A deactivated status when the existing RTN/ETI is no longer in use for the FedNow Service occurs when the effective cycle day has commenced</li> <li>• Participant Profiles mapped to the Authorized Connection Profile will no longer be able to use the connection</li> <li>• Authorized Connection Profile subscribers cannot access the FedNow interface</li> </ul>

<sup>63</sup> User's ability to update profiles is controlled by subscriber level-access and permissions.

<sup>64</sup> Effective date is decided by the Participant.

<sup>65</sup> User's ability to update profiles is controlled by subscriber-level access and permissions.

<sup>66</sup> User's ability to update profiles is controlled by subscriber-level access and permissions.

<sup>67</sup> User's ability to update profiles is controlled by subscriber-level access and permissions.

	<ul style="list-style-type: none"> <li>• When an Authorized Connection Profile is deactivated but it has permission to receive instant payments, the FedNow Service signs off those Participant Profiles</li> <li>• An Authorized Connection Profile can be reactivated only by going through the onboarding process</li> </ul>
Suspended	<ul style="list-style-type: none"> <li>• A status that restricts<sup>68</sup> a Participant's access to the FedNow Service for any reason</li> <li>• Messages cannot be sent and/or received using this Authorized Connection Profile</li> <li>• Authorized Connection Profile subscribers cannot access the FedNow interface</li> <li>• When an Authorized Connection Profile is suspended but it has permission to receive instant payments, the FedNow Service signs off those Participant Profiles <ul style="list-style-type: none"> <li>○ Once the profile is unsuspended, if the Authorized Connection Profile has permission to receive instant payments, the Participant Profiles will need to sign back onto the FedNow Service to receive instant payments</li> </ul> </li> </ul>

<sup>68</sup> The Federal Reserve Banks maintain the right to terminate or restrict a Participant's access to the FedNow Service for any reason.

## 9.3. How to Configure or Request Profile Changes

*This section of the Operating Procedures contains confidential information and is not available on the public website. FedNow Participants will be provided access to this section during the FedNow Service onboarding process.*

## 9.4. FedNow Profile Considerations (Service Providers and Multiple Profiles)

- a. Service Providers and Participants using Service Providers
- b. Participants using a Correspondent
- c. Participant with One Participant Profile Mapped to Multiple Connection Parties
- d. Participant with Multiple Participant Profiles

### a. Service Providers and Participants using Service Providers

A Service Provider and its Participant financial institution (FI) need to coordinate ownership of activities related to profiles and connections. The Service Provider can be responsible for all Participant Profile management activities or play a more limited role.

#### FedNow Interface Permissions

The Service Provider(s) and Participant must coordinate how permissions and responsibilities are managed, especially if a Participant is using multiple Service Providers. This includes determining who can edit Participant Profile configurations through the FedNow interface, send and/or receive different message types, and request and receive reports. If the Service Provider has FedNow interface edit access for a Participant Profile, the Service Provider must inform the Participant about changes made in the FedNow interface on behalf of the Participant (e.g., if the maximum transaction value limit was modified), as needed.

Multiple Service Providers may have the ability to edit the FedNow interface for a Participant. It is the responsibility of the Participant and Service Provider(s) to manage the communication about changes made. A Participant that enables<sup>69</sup> a Service Provider(s) to edit the FedNow interface is allowing the Service Provider(s) to update its Participant Profile. If multiple Service Providers have view or edit access to a Participant profile in the FedNow interface, the Service Provider can view the other Service Provider's Connection Party Name, ID and assigned permissions.

#### Broadcast Messages

The FedNow Service sends broadcast messages to the Connection Party. The Service Provider is responsible for conveying all relevant messages to its Participants.

#### Suspension

If a Participant Profile that connects via a Service Provider's Authorized Connection Profile is suspended, the Support Center (1-833-FRS-SVCS (377-7827)) will work to inform the Service Provider of the suspension. The Service Provider also can see the profile is suspended using the FedNow interface. If the Participant is a Customer Credit Transfer Send and Receive or Receive Only Participant, the Service Provider receives a FedNow broadcast (admi.004) that the Participant has signed off.

### b. Participants using a Correspondent

#### Liquidity Management Transfers (LMT)

For Participants using a Correspondent for settlement, its Correspondent may choose to allow LMT Send and Receive or LMT Receive Only participation types to be enabled for the respondent by reaching out to the Support Center (1-833-FRS-SVCS (377-7827)). If LMT capabilities are allowed by the Correspondent, the respondent may request the desired LMT participation type to be enabled by contacting the Support Center (1-833-FRS-SVCS (377-7827)).

<sup>69</sup> See the Connection Party permissions in the FedNow Participant Profile section.

### Net Send Limit (NSL)

For Participants using a Correspondent for settlement, the Correspondent may choose to set a net send limit on the direct respondent's instant payment activity by entering a threshold value in the FedNow interface. If a net send limit is set for the direct respondent, the direct respondent, including subaccounts and OSRTNs, can view the limit in the FedNow interface. Direct respondents should contact their Correspondents for any questions related to the net send limit and/or rejections observed due to the existence of a net send limit.

## c. Participant with One Participant Profile Mapped to Multiple Connection Parties

A Participant may have multiple Connection Parties mapped to a Participant Profile.

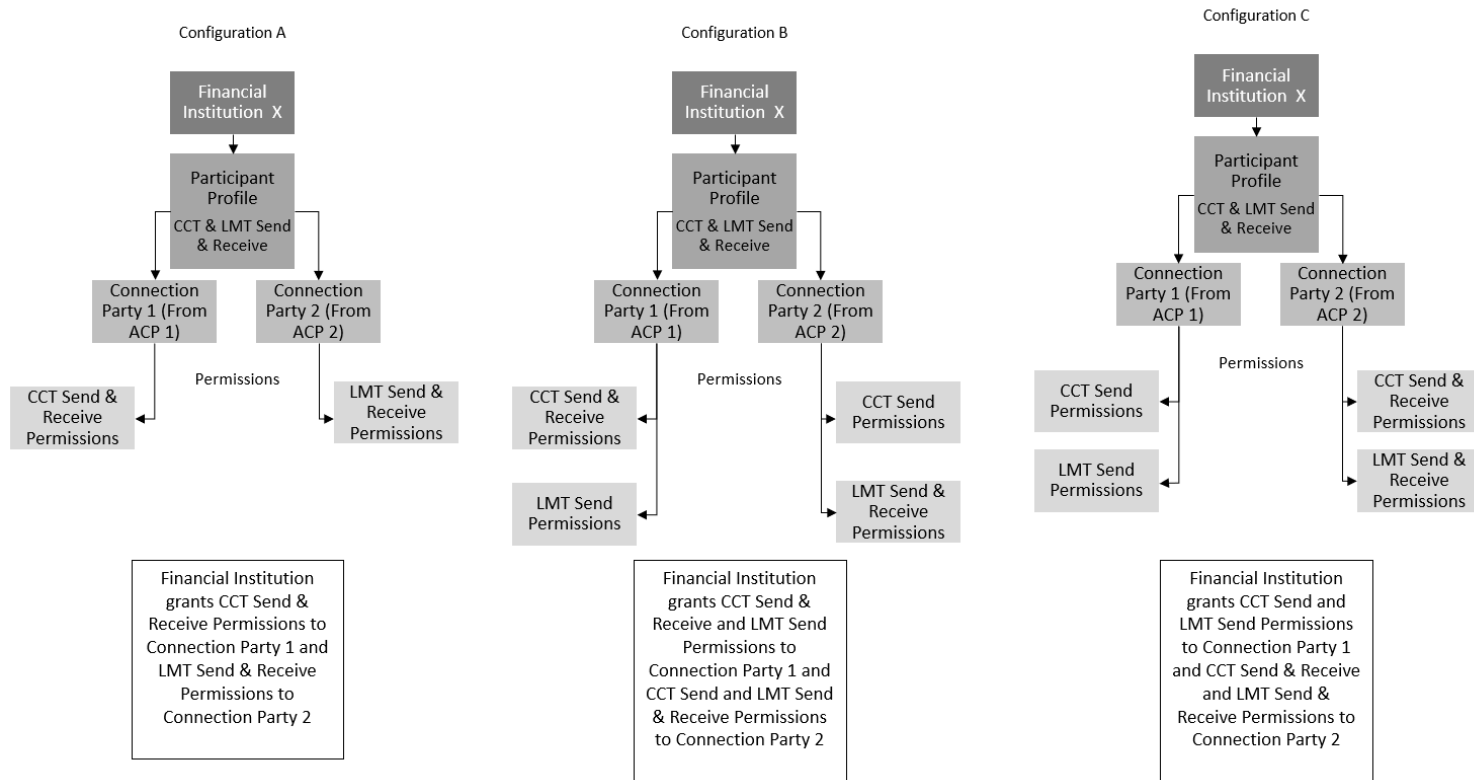
Considerations for a Participant with multiple connection parties:

- Only one Connection Party is permissioned for *Receiving Credit Transfer and Payment Return* and *Nonvalue Message Receiving*. However, when the Receiving FI has multiple Connection Parties, the FedNow Service attempts to send certain nonvalue messages to the Connection Party related to the message flow which may be different than the Connection Party permissioned for *Receiving Credit Transfer and Payment Return* and *Nonvalue Message Receiving*. See table in the *Queue* section below for more information.
- Only one Connection Party is permissioned for *Receiving LMT Messages*.
- Only two Connection Parties are permissioned for *Receiving Correspondent Debit/Credit Notification*.
- A Connection Party that is permissioned to receive EOD reporting receives reports containing **all** activity for the Participant, regardless of which Connection Party processed the messages.
- A Connection Party that is permissioned to access the FedNow interface via General Account Management permissions for a Participant can view some message details via the Adhoc Query Tool for **all** activity for the Participant, regardless of which Connection Party processed the messages.

For example, Financial Institution X has a Participant Profile with a participation type of Customer Credit Transfer (CCT) Send and Receive and Liquidity Management Transfer Send and Receive. Financial institution X is mapped to two Connection Parties. Both Connection Parties can send CCT (pacs.008 and pacs.004) and/or LMT (pacs.009). However, both Connection Parties cannot receive CCT or LMT messages. Only one Connection Party can have permissions to receive all CCT messages (including nonvalue messages) and one (either the same or different) can receive all LMT messages.

Figure F displays three examples of configuration options for a Participant with multiple Connection Parties.

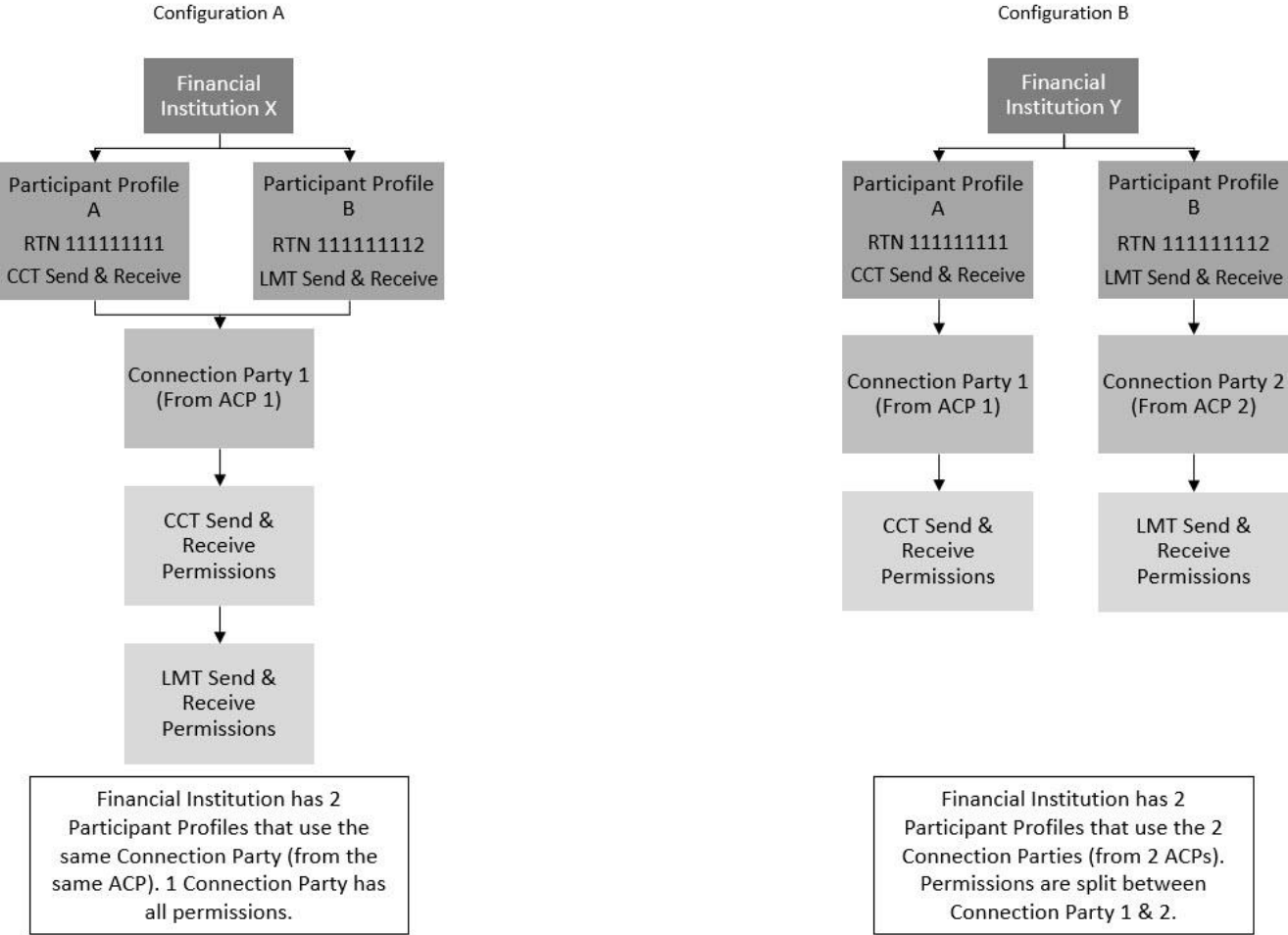
**Figure F**



## d. Participant with Multiple Participant Profiles

A financial institution can have multiple Participant Profiles if it has multiple RTNs enabled on the FedNow Service. A financial institution with multiple Participant Profiles can have one or more Connection Party mapped to. Figure G shows two examples of configuration options for a financial institution with more than one Participant Profile.

Figure G



## 10. FedNow Interface on FedLine Solution Overview

*This section of the Operating Procedures contains confidential information and is not available on the public website. FedNow Participants will be provided access to this section during the FedNow Service onboarding process.*

## 11. Risk Mitigation

The FedNow Service provides optional tools that allow Participants and/or Correspondents to implement risk mitigation functionality such as Correspondent net send limit and negative list. These tools are managed via the FedNow interface using the Risk Mitigation role and specific Connection Party permissions.

### 11.1. Correspondent Net Send Limit

*This section of the Operating Procedures contains confidential information and is not available on the public website. FedNow Participants will be provided access to this section during the FedNow Service onboarding process.*

## 11.2. Participant Negative List for Fraud Mitigation

- a. Overview
- b. Negative List – Functionality
- c. Processing Instant Payments Using the Negative List

### a. Overview

The FedNow Service offers Participants an option to help mitigate fraud using a negative list. This option is intended to augment the Participant's internal fraud mitigation practices. The negative list provides Participants an option to include an additional business validation check during payment processing to reject instant payment messages (pacs.008 and pacs.004) going to or coming from an RTN and account number (an entry pair) in precise elements that match a specific entry pair included in the sending or receiving financial institution's negative list. Each Participant enrolled in the negative list will have a single negative list applicable for all of that Participant's enrolled RTNs.

The negative list is managed by Participants through uploading the file to the FedNow Service interface. The negative list is applied to transactions for any of the Participant's RTNs enrolled for the negative list; it is not applied to all transactions across the network. The FedNow interface provides appropriately credentialed subscribers the ability to look up an exact matching record of an entry pair within their negative list.

The FedNow Service determines which negative list(s) to apply to a given transaction by looking at the instructing agent RTN (Sender FI) and instructed agent RTN (Receiver FI). When a message is sent, the FedNow Service validates the message against the entry pairs from a determined negative list by pulling the instructing agent RTN with Sender account number (Sender) and the instructed agent RTN with Receiver account number (Recipient). Within FedNow ISO 20022 messages, the instructing agent and debtor agent should be the same RTN and the instructed agent and creditor agent should be the same RTN.<sup>70</sup>

### b. Negative List – Functionality

Once enrolled, all instant payment messages sent to or from the enrolled RTN(s) are checked against the Participant's negative list. For each entry pair, the Participant provides instructions for transfer restrictions, such as:

- **Restrict send only** (messages sent to this entry pair are rejected)
- **Restrict receive only** (messages received from this entry pair are rejected)
- **Restrict both send and receive activity** (messages where this entry pair is either the sender or the receiver are rejected)

A message rejected by the Sender FI's negative list receives a pacs.002 message with a code indicating that the Sender's negative list was the reason for rejection. A message rejected by the Receiver FI's negative list results in a pacs.002 to the Sender FI with a code indicating the Receiver FI's fraud controls were the reason for rejection.

For RTN(s) enrolled in the negative list processing option, the negative list check occurs within a timed threshold during the FedNow Service validation phase of message processing. If the negative list checking process exceeds the time limitation, a warning code is logged to indicate a timeout, and the message is not checked against the negative list and continues processing. This check is performed within the payment timeout clock time restrictions.<sup>71</sup>

<sup>70</sup> See the FedNow Service ISO 20022 Implementation Guide for details on debtor and creditor agents.

<sup>71</sup> See the Payment Timeout Clock in the Value Messages section for complete details.

The FedNow Service warning code (F004) is available for enrolled Participants, that may or may not have created a negative list, to view in the Account Activity Details Report (AADR) or via the Adhoc Query Tool in the FedNow interface<sup>72</sup>. Participants should review their AADR or use the Adhoc Query Tool in the FedNow interface to view these messages and any timeout warning codes.

**Enrollment in the Negative List**

At any time, a financial institution can enroll one or more RTN(s) for the negative list processing option by contacting the Support Center (1-833-FRS-SVCS (377-7827)). Any RTN that is not enrolled will not have instant payment messages checked against the Participant’s negative list. RTNs can be added or removed at any time after the initial enrollment by the Support Center (1-833-FRS-SVCS (377-7827)).

The FI designates an administrative RTN, which must be mapped to an Authorized Connection Profile to allow the ACP to view or edit the negative list, from which to manage its negative list and to associate all applicable RTNs. This administrative RTN simplifies negative list management and ensures a consistent list is applied across all the FI’s enrolled RTNs. There can be only one administrative RTN associated with a negative list. All other RTNs enrolled in the negative list are not able to view or edit the negative list. An institution can decide to change the administrative RTN to another enrolled RTN, if needed, and the negative list entries will persist. Negative list entry pairs are only added or removed by uploading a batch file to the FedNow interface.

Overview of the enrollment process (if done after initial onboarding):	
Step 1:	An authorized representative of the financial institution contacts the Support Center to enroll.
Step 2:	Identify which RTN(s) to enroll in this processing option. This can be one, some or all of the institution’s RTNs.
Step 3:	Identify which RTN to designate as the administrative RTN. This RTN must have a FedNow Participant Profile (and must be mapped to the ACP that is the manager of the FI’s negative list) and is the only one that can create and maintain the negative list for the Participant.
Step 4:	From the administrative RTN, Participants can add entry pairs to the negative list via the FedNow interface <sup>73</sup> via a batch file upload. <ul style="list-style-type: none"><li>• Upon successful updating of the negative list entries, the FedNow Service begins performing validation checks against the negative list to process or reject messages based on the Participant’s transfer restriction specifications.</li><li>• Negative list entry pairs are in effect for message checking in near-real-time.</li></ul>

**Unenroll in the Negative List Processing Option**

An FI may unenroll one or more RTNs — or all its RTNs — from the negative list processing option at any time. To unenroll, the Participant must contact the Support Center (1-833-FRS-SVCS (377-7827)).

**Note:** Once unenrollment for all RTNs has begun, the FI’s negative list and any previous entry pairs are removed and irretrievable from the FedNow Service. Before unenrolling all RTNs, financial institutions should download a copy of their most recent negative list from the FedNow interface via a file export.

**Negative List Maintenance**

An FI may view or update its negative list at any time via the designated administrative RTN. Participants enrolled in the negative list must ensure that they have sufficient subscribers for the administrative RTN to manage their negative list without support from the Federal Reserve Banks.

<sup>72</sup> In the unlikely event that a pacs.008 or pacs.004 message is sent through the FedNow Service and should be screened by a Sender or Receiver FI’s negative list but fails to do so, and a timeout warning message is not logged, the Federal Reserve Banks will endeavor to inform any affected Participants with sufficient details regarding any sent or received transactions that were processed but not checked against the negative list.

<sup>73</sup> See FedNow interface How-To Guide for additional details.

Participants designate specific entry pairs (RTNs and account numbers) from other financial institutions to be checked during the processing of all pacs.008 and pacs.004 messages for enrolled RTNs, which is designed to help mitigate risks due to a suspicious counterparty. The Participant is not permitted to add a negative list entry pair from its own institution, as the negative list is not designed to manage which accounts within an FI can send or receive transactions.

Entry addition or removal can occur at any time and become effective in near-real-time. For each entry pair added to the negative list, the following information is required:

- **Entry Pair**
  - Financial institution Routing Transit Number (RTN)
  - Account number (case-sensitive)
- **Transfer Restriction:** Indicates whether the identified entry pair cannot send and/or receive instant payment messages
  - **Restrict send only** (messages sent to this entry pair are rejected)
  - **Restrict receive only** (messages received from this entry pair are rejected)
  - **Restrict both send and receive activity** (messages where this entry pair is either the sender or the receiver are rejected)<sup>74</sup>

Participants can add or delete multiple entry pairs by logging in to the Participant Profile of the administrative RTN and uploading a batch file through the FedNow interface. If a change to an existing entry pair is required, it should be deleted in one batch file upload, then added with the new restrictions in a subsequent batch file upload. A template of the batch file is available for Participants to download via the FedNow interface. Participants can generate an export of their current negative list at any time through the FedNow interface.<sup>75</sup> Participants should review their negative list summary via the FedNow interface prior to — and after — uploading a new negative list so that changes between the two can be identified and/or confirmed. Before adding a new negative list, it is recommended that Participants should download their existing list. For additional historical data control, it is considered best practice for Participants to maintain previously uploaded negative lists.

While both the Sender FI's and Receiver FI's negative lists are checked during message processing, entries within each list are not shared with other Participants in the FedNow Service network.

As referenced in Operating Circular 8, the Federal Reserve Banks maintain the right to add or remove entries from a negative list for any reason, including to improve processing efficiency of the FedNow Service or address other operational issues.

**Special Characters in the Negative List**

The account number field in the entry pair allows for acceptable characters to be included.<sup>76</sup> The majority of special characters are considered as part of the account number. As it relates to any spaces, dashes or forward slashes, these characters are considered differently. They can be included in the account number field when uploading the negative list in the FedNow interface; however, these characters are not considered as part of the account number during the negative list validation in message processing. If a Participant uploads multiple entry pairs with the same RTN and with account numbers that include spaces, dashes or forward slashes, only the first entry pair of the group is accepted during upload validation. The additional entry pairs are rejected as duplicates. If the sample of entry pairs below are uploaded to the FedNow interface as a negative list, the following table indicates the result.

Entry pair uploaded via FedNow interface	Upload Validation Result	Used during negative list validation in message processing
RTN: 999999999 Account Number: 1-234-56-789	RTN: 999999999	RTN: 999999999

<sup>74</sup> Refer to the FedNow Technical Specifications, available on the FedNow DevRel resource, for complete details.

<sup>75</sup> See FedNow interface How-To Guide for additional details.

<sup>76</sup> See FedNow Service ISO 20022 Implementation Guide for list of acceptable characters.

Entry pair uploaded via FedNow interface	Upload Validation Result	Used during negative list validation in message processing
	Account Number: 123456789 (accepted)	Account Number: 123456789
RTN: 999999999 Account Number: 123/456/789	RTN: 999999999 Account Number: 123456789 (rejected as duplicate)	N/A

## c. Processing Instant Payments Using the Negative List

After FI enrollment and creation of the negative list by the administrative RTN, messages are checked for all enrolled RTNs.

Processing steps using the negative list	
<b>Step 1:</b>	Sender FI sends pacs.008 or pacs.004 message to the FedNow Service.
<b>Step 2:</b>	FedNow Service receives the instant payment message and begins the negative list checking process.
<b>Step 3:</b>	As part of the negative list checking process, the FedNow Service determines if either the Sender RTN or Receiver RTN is enrolled for the negative list. Where one or both RTNs are enrolled, the service performs a validation check of the entry pairs (with spaces, dashes and forward slashes omitted) in the message against the negative list(s) established by the FI(s) for the applicable RTN(s).
<b>Step 4:</b>	The sender and receiver entry pairs in the instant payment message are checked against the entry pairs in each Participant's negative list. The service either forwards the message for processing or, if there is an exact entry pair match, rejects the message according to the Participant's specified transfer restrictions (Restrict Send Only, Restrict Receive Only or Restrict Both Send and Receive).
<b>Step 5a:</b>	<b>If the pacs.008/pacs.004 message successfully passes negative list validation</b> (i.e., neither Sender FI nor Receiver FI has an exact match in either negative list), the message passes through the remaining FedNow Service validations and continues processing.
<b>Step 5b:</b>	<b>If the negative list(s) processing exceeds the allotted time threshold before completing the negative list validation</b> , the message bypasses the negative list validation and continues message processing.
<b>Step 5c:</b>	<b>If the pacs.008 or pacs.004 messages contain an entry pair that exactly matches an entry pair in an applicable negative list</b> , it is rejected by the FedNow Service based on the specified transfer restrictions. The Sender FI receives a rejection (pacs.002) with the appropriate error code (see below). <ul style="list-style-type: none"> <li>If a Participant has questions about the processing or rejection of an instant payment message, it can contact the Support Center (1-833-FRS-SVCS (377-7827)).</li> </ul>

### Error Codes Reported for Rejected Messages

When messages are checked against the Sender FI's negative list and rejected, the Sender FI receives a Message Reject (pacs.002) including an error code to inform it that the transaction was rejected because of fraud controls.

#### For transactions that are rejected because of the Sender FI's negative list controls:

- Sender FI receives a pacs.002 rejection with reason code F002 indicating the rejection is due to the entry pair matching its own negative list with a send restriction.

**For transactions that are rejected because of other fraud controls:**

- Sender FI receives a pacs.002 rejection with reason code F101 indicating the rejection is because of a fraud control setting.

**Reporting of Rejected Messages**

Messages that were rejected due to negative list matches are listed in the Sender FI's end-of-day Account Activity Details Report (F002, F101). In addition to the Account Activity Details Report, the Sender FI also can check the status of messages related to fraud checking via the Adhoc Query Tool in the FedNow interface.

**Messages that Bypass Negative List**

If the FedNow Service is experiencing an operational issue and if the negative list becomes unavailable for any reason, the Federal Reserve Banks will endeavor to inform any affected Participants with sufficient details regarding any sent or received transactions that were processed but not checked against the negative list.

## 12. Fraud Reporting

*This section of the Operating Procedures contains confidential information and is not available on the public website. FedNow Participants will be provided access to this section during the FedNow Service onboarding process.*

## 13. Request for Payment Warranties and Expectations

- a. RFP Warranties
- b. Expectations on Sender FI
- c. Suspected Breaches of the RFP Warranty
- d. Process to Address Disputes and Seek a Return of Funds

### a. RFP Warranties

A Request for Payment (RFP) allows a Participant, on behalf of itself or its end customer, to request a payment from another Participant or their end customer.<sup>77</sup> The Request for Payment (RFP) Warranty, which is set forth in the Operating Circular 8 section related to nonvalue messages, requires that RFPs are sent by Participants only for legitimate purposes.

Whether an RFP is sent for a legitimate purpose may depend on the nature of the underlying transaction for which payment is sought. If the customer of the Sender FI is a business, an RFP is not sent by the Sender FI for a legitimate purpose if its business customer seeks payment for anything other than: (i) a current sale or transaction; or (ii) an amount that is due, owed or otherwise previously agreed by the Receiver FI's customer to be paid to the Sender FI's business customer. Alternatively, if the customer of the Sender FI is an individual, an RFP is sent in breach of the RFP Warranty if it is not reasonable for the Receiver FI's customer to have expected to receive the RFP. Further, for the avoidance of doubt, any use of RFP contrary to requirements under applicable law, including laws prohibiting unfair, deceptive, or abusive acts or practices, would not be for a legitimate purpose.

Dissatisfaction with the quality or delivery of goods and services should not give rise to a breach of the RFP Warranty unless additional circumstances indicate the RFP was not sent for a legitimate purpose.

### b. Expectations on Sender FI

Under Operating Circular 8, Sender FIs (FIs sending the RFP) are expected to monitor use of RFP to identify abuses by themselves and/or their customers. At minimum, monitoring must include risk-based procedures to track the volume of RFPs sent by customers to identify potential anomalous activity. In addition, Sender FIs must review, and incorporate into their monitoring, any reports or other information received regarding a customer's use of RFP.

In addition to monitoring, Sender FIs must also have procedures in place to investigate anomalous activity related to RFP use by itself or its customers. Such procedures must include, at a minimum, an inquiry with the relevant customers to confirm that the customers' use of RFP aligns with requirements established by the Sender FI. In addition, such procedures should provide for remedial action that may be taken to address misuse of RFP by customers.

### c. Suspected Breaches of the RFP Warranty

If a Participant receives an RFP, sends a corresponding credit transfer (pacs.008) that is settled, and subsequently determines that the RFP warranty was breached, the Participant may seek a return of funds by sending an ISO 20022 Request for Return (camt.056) (code **WNTB**) message. Return Request (camt.056) messages sent with a WarrantyBreach (**WNTB**) reason code are not cancellation requests for purposes of UCC Article 4A.

If the Participant does not have the camt.056 message enabled, the Participant may contact the Support Center (1-833-FRS-SVCS (377-7827)) to obtain instructions for an alternative means for seeking a return of funds.

<sup>77</sup> See Request for Payment (RFP) (pain.013) section for additional details.

If applicable, the Participant must also report any instances of suspected fraud,<sup>78</sup> per Appendix C of the Operating Circular in accordance with the procedures outlined in Section 12.C Fraud Reporting: Submission Methods.

## d. Process to Address Disputes and Seek a Return of Funds

Participants may seek a return of funds sent in response to an RFP that they reasonably believe was in breach of the RFP Warranty. This is done via Return Request (camt.056) or through alternative procedures obtained by contacting the Support Center. Both processes are designed to relay information between FIs regarding whether an RFP was sent in breach of the RFP Warranty. The claim must be submitted within 95 calendar days of the date the credit transfer was settled. If no credit transfer was sent in response to an RFP that the Receiver FI believes may have been sent in breach of the RFP Warranty, the Receiver FI should nevertheless inform the Sender FI of the allegedly breaching RFP to enable the Sender FI to incorporate the report into its monitoring procedures.

If the process outlined below is insufficient to resolve the dispute, the matter must be addressed outside the FedNow Service. Please note, the Reserve Banks will not make any determination regarding the sufficiency of a claim that an RFP Warranty was breached, or otherwise evaluate claims.

Prior to initiating a claim for breach of the RFP Warranty, the Receiver FI must make a determination, based on facts collected through reasonable diligence, that the RFP Warranty was breached.

The table below provides instructions for the process to seek a return of funds.

Method	Required Steps
Return Request (camt.056) Message <sup>79</sup>	<p><b>Receiver of the RFP:</b></p> <ol style="list-style-type: none"> <li>1. Initiate a Return Request (camt.056)<sup>80</sup> to request a return of funds associated with an alleged breach of warranty within 95 calendar days of the date the underlying credit transfer settled. Within the camt.056, set the reason code to “WNTB.” In the Additional Information element, include: <ol style="list-style-type: none"> <li>1. Any information from its end customer, the Receiver FI’s diligence or elsewhere which supports its claim.</li> <li>2. The reason why the Receiver FI determined that the RFP Warranty was, in fact, breached.</li> <li>3. ISO Message ID of the underlying Credit Transfer.</li> <li>4. End-to-End ID of the underlying Credit Transfer.</li> <li>5. If the Receiver FI believes the RFP Warranty was breached for a reason that includes fraud, also include the associated Fraud Type Code<sup>81</sup> in the “Additional Information” element of the camt.056 message.</li> <li>6. Relevant contact information at the Receiver FI who is responsible for receiving messages concerning this request.</li> </ol> </li> <li>1. Any information that cannot be accommodated within the camt.056 should be communicated bilaterally between the Receiver FI and the Sender FI outside of the FedNow Service.</li> </ol> <p><b>Sender of the RFP:</b></p> <ol style="list-style-type: none"> <li>2. Investigate the claim of the breach of the RFP Warranty. <ol style="list-style-type: none"> <li>a. To obtain any information not included within the camt.056 message, the Sender FI should refer to the contact information included in the camt.056 message provided by the Receiver FI.</li> </ol> </li> </ol>

<sup>78</sup> See Fraud Reporting section for additional details.

<sup>79</sup> See Payment Return and Return Request section for additional details.

<sup>80</sup> Refer to the Return Request section of the FedNow Service Operating Procedures. This process will be the same but must be sent within 95 calendar days of the date the corresponding credit transfer was sent.

<sup>81</sup> As defined in Section 12.b Fraud Reporting: Preparation

3. Respond to the claim within 20 business days of receipt of the camt.056 with one of the following responses:
- a. Accept the return request:
    - I. Respond with a Return Request Response Accepted (IPAY) via camt.029 and include relevant contact information of the Sender FI who is responsible for receiving messages concerning the claim.
    - II. Return the funds with a corresponding payment return (pacs.004) or return the funds outside the FedNow Service.
  - b. Reject the return request:
    - I. Respond with a Return Request Response (RJCR) via camt.029 and include relevant contact information of the Sender FI who is responsible for receiving messages concerning the claim, as well as:
      - a. A statement as to why RFP Warranty was not breached; or
      - b. A statement, and any supporting information, if available, that the Sender FI has already provided the Receiving FI a remedy in at least the full amount of the payment. The statement should have sufficient specificity to allow the Receiver FI to confirm that the remedy was provided.

## 14. FedNow Service Messaging

The FedNow Service offers two methods for exchanging data with the FedNow Service: APIs and MQ. Both of these methods of data exchange support specific messages: API calls and FedNow ISO 20022 messaging. Currently, APIs are optional messaging option, while FedNow ISO 20022 messaging is required.

### 14.1 FedNow Service Messaging – APIs<sup>82</sup>

- a. Overview
- b. System Preparation for APIs
- c. Messages

#### a. Overview

All API calls sent to the FedNow Service must follow the FedNow Service Technical Specifications, including the REST API Technical Documentation (available on the FedNow DevRel resource) to ensure that the request passes FedNow Service validations.

#### b. System Preparation for APIs

System preparation applies to all Participants intending to send API calls and receive responses from the FedNow Service; therefore, these requirements must be implemented and integrated into Participant applications before sending messages. System preparation and requirements for API messaging are as follows:

- Connection to the FedNow Service, including meeting technical, operational and security protocols.
- Active public key(s) for message signature.

#### c. Messages

API Message	Used by	Message Functionality
<b>Ping</b>	Participants	Checks API connection to the FedNow Service. The Ping is first used when setting up API connectivity or to confirm connectivity.
<b>Participant List</b>	Participants	Provides the Participant List (admi.998) on demand. <sup>83</sup> The Participant List API can be called at any time, although the list changes only at the start of each FedNow Service cycle day.

<sup>82</sup> API usage is optional for FedNow Service Participants and Service Providers.

<sup>83</sup> See Participant List section for additional details.

## 14.2 FedNow Service Messaging - FedNow ISO 20022 Messages<sup>84</sup>

- a. Overview
- b. System Preparation for ISO 20022 Messages
- c. Duplicate Messages
- d. Business Application Header
- e. Value Messages
- f. Nonvalue Messages
- g. System Messages
- h. Reporting Messages

### a. Overview

All messages sent to the FedNow Service must follow FedNow Service ISO 20022 message specifications<sup>85</sup> and FedNow Service Technical Specifications<sup>86</sup> to ensure the messages pass the FedNow Service validations. This section provides a general description of the ISO 20022 messages in scope for the FedNow Service. These are split into four categories: value, nonvalue, system and account reporting messages.

### b. System Preparation for ISO 20022 Messages

System preparation applies to all Participants intending to receive or send and receive ISO 20022 messages to the FedNow Service and therefore, these requirements must be implemented and integrated into Participant applications before sending or receiving messages. System preparation and requirements to send and receive ISO 20022 messages over the FedNow Service are as follows.

**When sending ISO 20022 Messages, ensure:**

- Accuracy of the message contents prior to sending the message to the FedNow Service.
- Participant Profile (RTN) has an active status and is enabled to send or receive the message.
- Connection to the FedNow Service, including meeting technical, operational and security protocols.
- Message queues (endpoints) are established with the FedNow Service.
- Active public key(s) for message signature.
- Use of a reliable time server.
- A unique message identifier,<sup>87</sup> also referred to as the unique message ID, assigned to each new message.
- Message follows message size requirements.
- XML syntax is followed.
- Sender FI is an authorized sender.
- FedNow Service ISO 20022 schema rules are followed.
- Sending and Receiving FIs are FedNow Participants.

<sup>84</sup> FedNow ISO 20022 messaging is required for FedNow Service Participants and Service Providers.

<sup>85</sup> Published on the Federal Reserve Financial Services' [MyStandards web portal](#).

<sup>86</sup> See the FedNow Service Technical Specifications, available on the FedNow DevRel resource, which provide additional details that are required to send a completed FedNow Service message.

<sup>87</sup> See the ISO 20022 Specifications for additional details.

### When receiving ISO 20022 Messages, ensure:

- Message is signed with an active FedNow Service public key.<sup>88</sup>
- Message has a unique message ID in the Business Applications Header.<sup>89</sup>
- XML syntax is followed<sup>90</sup>.

## c. Duplicate Messages

### Duplicate Messages from Participants

FedNow Participants must use a unique message identifier for ISO 20022 messages, including when resubmitting a message that was previously rejected. The FedNow Service rejects messages that do not have a unique ID, responding with a message reject (admi.002) and applicable reason code.<sup>91</sup> If the Participant is unsure of the message status after the payment timeout clock<sup>92</sup> has expired, the Participant should take the following actions before submitting another message:

1. Inquire about the message status using a payment status request (pacs.028) to the FedNow Service or search function in the Adhoc Query Tool via the FedNow interface. If the FedNow Service has received and processed the message, the Participant receives a message status update via a pacs.002 or the Adhoc Query Tool.<sup>93</sup>
  - a. If needed, send a retrieval request<sup>94</sup> (admi.006) indicating the unique message ID of the message to be retrieved. The FedNow Service will return a copy of the message.
2. If the payment status request (pacs.028) returns an error indicating no message was found or if the Adhoc Query Tool search does not return the message, the FedNow Service likely did not process the message. The Participant should attempt to resend the message with the same message ID, while adhering to the requirements of the message ID (calendar date, Connection Party ID and reference).
3. If issues persist, the Participant should call the Support Center (1-833-FRS-SVCS (377-7827)) to inquire about the status.

### Duplicate Messages from the FedNow Service

Participants must validate that all messages received from the FedNow Service have a unique message ID in the Business Application Header. There is a potential for Participants to receive a duplicate message for any message type from the FedNow Service. Participants must be prepared to recognize and not process such messages in order to avoid processing the message more than once. The duplicate message will be an identical copy of the previously delivered message, including the Business Application Header<sup>95</sup> and the message ID in the Business Application Header. Participants must take the following steps to ensure the message is unique:

1. Confirm the message ID in the Business Application Header is unique.
  - a. If unique, continue processing.
  - b. If a duplicate message, do not process:
    - For instant payments: Participants must match the original payment message (pacs.008 or pacs.004) with the settlement notification (pacs.002). If the Participant receives a duplicate settlement notification, the duplicate must be ignored.

<sup>88</sup> For steps to follow if not signed with an active public key, see Message Signing section.

<sup>89</sup> For steps to follow if not unique message ID, see Duplicate Messages from the FedNow Service section.

<sup>90</sup> For steps to follow if not in proper format, see Error Code and Description section.

<sup>91</sup> See Error Codes and Descriptions for additional details.

<sup>92</sup> See Value Message Overview Section for timeout clock details.

<sup>93</sup> See Adhoc Query Tool section for additional details.

<sup>94</sup> Retrieval request is not yet available on the FedNow Service. If additional details are required, use the AADR or the Adhoc Query Tool.

<sup>95</sup> The Possible Duplicate warning will not be indicated in the BAH.

- For Liquidity Management Transfers: The Sender FI must match the original payment message (pacs.009) with the settlement notification (pacs.002). The Receiver FI must review the message ID of the pacs.009 and confirm it is not a duplicate before posting.
- For nonvalue and system messages: Participants must review the message ID and ignore duplicates.

## d. Business Application Header

A Business Application Header (BAH) is required for all ISO 20022 messages sent through the FedNow Service, whether sent by FedNow Participants or the FedNow Service.

ISO 20022 Message	Used by	Message Functionality
<b>head.001</b> Business Application Header (BAH)	FedNow Service Participants	Contains information the FedNow Service or Participant uses to determine appropriate processing of the business message (pacs.008, pain.013, etc.). It is used to serve as a bridge between the business content of an ISO 20022 message and the protocols (technical and connectivity requirements) used to transmit the message. <sup>96</sup>

## e. Value Messages

Value messages initiate a funds transfer and are processed and settled through the FedNow Service via the Master Account of the Participant or its Correspondent. Value messages include Customer Credit Transfer (pacs.008), payment return (pacs.004) and Liquidity Management Transfer (pacs.009).

ISO 20022 Message	Used by	Message Functionality
<b>pacs.008</b> Customer Credit Transfer	Participants	Instructs the FedNow Service about a single instant payment where either the initial sender or final receiver, or both, are not FIs.
<b>pacs.004</b> Payment return	Participants	Return of previously received funds.
<b>pacs.009</b> Liquidity Management Transfer	Participants	Instructs a single payment where both sender and receiver are financial institutions.

## f. Nonvalue Messages

A nonvalue message is used to request payment, report the processing status of previously exchanged funds transfer messages, request returns, request more information, and respond to those various requests.

<sup>96</sup> Reference the FedNow Service ISO 20022 Implementation Guide for additional details on the Business Application Header and the FedNow Service Technical Specifications, available on the FedNow DevRel resource, for additional details on the protocols.

The FedNow Service groups nonvalue messages into an inquiry sub-category. This additional category is used for queue management when sending inquiries to the FedNow Service that do not require another Participant to respond – account report requests (camt.052), payment status requests to FedNow Service (pacs.028) and retrieval requests (admi.006)<sup>97</sup>.

ISO Message	Used by	Message Functionality
<b>pain.013</b> RFP	Participant	Request funds on behalf of a recipient.
<b>pain.014</b> RFP response	Participant	Processing status of an RFP previously sent through the FedNow Service.
<b>camt.055</b> RFP cancellation request	Participant	Request to cancel a previously sent RFP (pain.013).
<b>camt.029</b> RFP cancellation request response	Participant	Processing status of an RFP cancellation request.
<b>camt.026</b> Information request	Participant	Request the Participant or customer to provide further information on a previously sent Customer Credit Transfer (pacs.008), payment return (pacs.004) or request for payment instruction (pain.013).
<b>camt.029</b> Information request response	Participant	Processing status of a previously received information request (camt.026).
<b>camt.028</b> Additional payment information	Participant	Respond to an information request (camt.026) with additional information about the initial Customer Credit Transfer (pacs.008), return of funds (pacs.004) or request for payment instruction (pain.013).
<b>camt.056</b> Return request	Participant	Request a Participant to return some or all of a previously settled instant payment or LMT. Also, may be used to meet fraud reporting obligations by indicating a fraudulent transaction using the fraudulent (FRAD) reason code.
<b>camt.029</b> Return request response	Participant	Processing status of a previously sent return request (camt.056).
<b>pacs.028</b> Payment status request	Participant	Request the processing status of a previously sent pacs.008, pacs.009 or pacs.004 message from the FedNow Service.
<b>pacs.028</b> Payment status request	Participant	Request the processing status of a previously sent pacs.008, pacs.004 or pain.013 message from another Participant.
<b>pacs.002</b> Participant payment status	Participant	In response to a previously received instant payment (pacs.008/pacs.004), inform the FedNow Service about the processing status of a previously received instant payment (pacs.008/pacs.004).
<b>pacs.002</b> FedNow payment status	FedNow Service	Informs the recipient of the processing status of a value message (pacs.008, pacs.009, pacs.004).

## g. System Messages

System and administrative messages are used by either the FedNow Service or Participants to communicate Participant status, events or the rejection of messages sent through the FedNow Service.

<sup>97</sup> Retrieval request is not yet available on the FedNow Service.

ISO Message	Used by	Message Functionality
<b>admi.002</b> Message reject	Participant	Inform the FedNow Service that the Participant cannot process the message sent by FedNow Service.
<b>admi.002</b> Message reject	FedNow Service	Inform the Participant that the FedNow Service has rejected the message.
<b>admi.004</b> FedNow broadcast	FedNow Service	Notify FedNow Participants via their Connection Party(ies) of a FedNow Service or FedNow Participant event.
<b>admi.004</b> Participant broadcast	Participant	Notify the FedNow Service of a Participant event or query whether there is a connection (ping) to the FedNow Service.
<b>admi.011</b> FedNow system response	FedNow Service	Respond to a FedNow Participant broadcast (admi.004).
<b>admi.006</b> Retrieval request <sup>98</sup>	Participant	Request the FedNow Service to provide a copy of a messages(s) previously sent or received by the FedNow Participant.
<b>admi.007</b> Receipt acknowledgement	FedNow Service	When sent by the FedNow Service, informs the Participant that a previously sent message was successfully processed by the FedNow Service and delivered to the intended receiver.
<b>admi.007</b> Receipt acknowledgement	Participant	When sent by a Participant, informs Sender FI that a previously sent message has been received by the Receiver FI.
<b>admi.998</b> FedNow Participant file	FedNow Service	A list of active Participants and the FedNow services enabled, including the ability to send and/or receive Customer Credit Transfers and receive requests for payment.

## h. Reporting Messages

The FedNow Service provides reports on each RTN's activity, including value and nonvalue messages. Reports can be provided at the master/primary RTN, subaccount RTN or other secondary RTN (OSRTN) levels.

ISO 20022 Message	Used by	Message Functionality
<b>camt.060</b> Account Reporting Request (Participant and Correspondent)	Participant	<p>Request the FedNow Service to send one of the following account reports.</p> <ul style="list-style-type: none"> <li>• <b>Account Balance Report:</b> Provides account balance reports for Master Accounts and a subset of the account balance report for subaccounts.</li> <li>• <b>Account Activity Totals Report:</b> Provides account activity totals, including value messages and nonvalue messages.</li> <li>• <b>Intraday Account Activity Totals Report:</b> Provides account activity totals on demand throughout a cycle day, including value messages and nonvalue messages.</li> <li>• <b>Account Activity Details Report:</b> Provides account activity details, including value messages and nonvalue messages.</li> <li>• <b>Correspondent Account Activity Totals Report:</b> Provides Correspondents with total account activity for all value messages successfully processed for all respondents.</li> </ul>

<sup>98</sup> Retrieval request is not yet available on the FedNow Service.

		<ul style="list-style-type: none"> <li>• <b>Correspondent Intraday Account Activity Totals Report:</b> Provides account activity totals on demand throughout a cycle day, including value messages.</li> <li>• <b>Correspondent Account Activity Details Report:</b> Provides Correspondents with details on account activity for all value messages successfully processed within the Correspondent's account.</li> </ul>
<b>camt.052</b> Account Reports (Totals and Details)	FedNow Service	Provides the requested report based on report code to the Participant or Correspondent.
<b>camt.054</b> Account Debit/Credit Notification	FedNow Service	Provides a Correspondent with real-time notification of a value message (pacs.008, pacs.004 and pacs.009) that was settled by the FedNow Service for its respondent.

## 15. System Messages

System and administrative messages are used by either the FedNow Service or Participants to communicate Participant status, events or the rejection of messages sent through the FedNow Service. All ISO messages, including system messages, are subject to the FedNow Service ISO 20022 rules and guidelines, security procedures and processing standards. System preparation and requirements<sup>99</sup> for ISO 20022 messages apply to all Participants intending to send system messages to the FedNow Service and therefore should be implemented before sending messages.

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<sup>99</sup> See the FedNow ISO 20022 Messages section for details on requirements.

# 15.1. Participant Broadcast Message (admi.004)

- a. Overview
- b. Additional Details
- c. Participant Broadcast Message Flows

## a. Overview

A Participant broadcast message notifies the FedNow Service of a Participant event. Participant broadcast messages all use the ISO 20022 message admi.004 but include different codes to add detail on the purpose of the broadcast.

## b. Additional Details

### Broadcast Message Events

The table below outlines the events that would require a FedNow Service Participant to send a broadcast message to the FedNow Service. The table also includes the event code that is included in the admi.004 message, description and occurrence.

Code	Event	Description	Occurrence
PING <sup>100</sup>	Connection Check	FedNow Participant checks connection to the FedNow Service	<ul style="list-style-type: none"><li>• Following initial setup on FedNow Service</li><li>• Only as required to check connectivity</li></ul>
FPOF*	Participant Offline	A FedNow Participant or FedNow Service Connection Party signing off from the FedNow Service	<ul style="list-style-type: none"><li>• As needed</li></ul>
FPON*	Participant Online	A FedNow Participant or FedNow Service Connection Party signing on to the FedNow Service	<ul style="list-style-type: none"><li>• When first signing onto the FedNow Service</li><li>• As needed after signing off</li></ul>
FPCD	Connection Point Disconnect	A FedNow Participant disconnecting a Connection Point from the FedNow Service	<ul style="list-style-type: none"><li>• As needed</li></ul>
FPCR	Connection Point Reconnect	A FedNow Participant reconnecting a Connection Point to the FedNow Service	<ul style="list-style-type: none"><li>• If adding an additional Connection Point, when first connecting to the FedNow Service</li><li>• As needed after disconnecting</li></ul>

\* A Participant event that results in a FedNow Service broadcast message to all other Connection Parties.

### Connectivity Check (Ping)

The connectivity check message (admi.004 code PING) can be used to ping the FedNow Service to verify connectivity. If the Participant is connected, the FedNow Service responds within seconds with a FedNow Service system response (admi.011). The ping (admi.004) is the first message Participants send to the FedNow Service to validate their initial active connections. The ping message may be used if a Participant did not receive the expected message to confirm connectivity. However, Participants are not expected to ping the FedNow Service with any regularity. The FedNow Service does not validate the message signature of a ping.

<sup>100</sup> Ping for API Connection is also available. See the FedNow Service Technical Specifications, including the REST API Technical Documentation, available on the FedNow DevRel resource.

## Participant/Connection Party Sign On or Sign Off

The functionality of signing on and off (via admi.004 code FPON or FPOF) is reserved for Participants and Connection Parties<sup>101</sup> that are enabled (via Participation Type and Connection Party Permissions<sup>102</sup>) to receive instant payments (pacs.008 and pacs.004). Therefore, only these Participants and Connection Parties are required to be signed on to the FedNow Service. LMT only or Settlement only Participants do not need to sign onto the FedNow Service to receive and/or send messages. If a Participant or Connection Party without receive-enabled Customer Credit Transfers tries to sign on, the FedNow Service rejects the message. When an instant payment is sent to a Participant, the FedNow Service validates that both the Participant Profile and Connection Party are signed on; if either is signed off, the instant payment is rejected.

Upon activation, all Participant Profiles are signed off by default and therefore must be signed on before the Participant can start receiving instant payments. Upon activation, all Connection Parties are defaulted to signed on. An initial sign on message is not needed for the Connection Party.

After initially signing on via admi.004 code FPON, a Connection Party or Participant can sign off via admi.004 code FPOF or via the FedNow interface. When ready to sign back on to the FedNow Service, this must be done via admi.004 code FPON and cannot be done via the FedNow interface.

A Participant Profile or Connection Party may use the sign off message (admi.004 code FPOF) during maintenance windows or other events when it cannot receive and respond to instant payment messages (pacs.008 and pacs.004). Signing off from the FedNow Service instructs the FedNow Service to reject any instant payments to a Receiver FI that is an impacted RTN. All other messages continue to flow to the RTN, and the RTN may initiate any message while signed off, including value messages. A Participant or Connection Party should limit the time that it is signed off.

When an individual Participant Profile is signed on/off, a FedNow broadcast (admi.004 code FPON or FPOF) is sent to all Connection Parties including the Participant Profile's Connection Party, informing them of the sign on/off. When a Connection Party is signed on/off, a FedNow broadcast (admi.004 code FPON or FPOF) is sent to all other Connection Parties, the Connection Party that signed on/off is not sent the FedNow broadcast. The Connection Party is required to communicate with the Participants they support as needed.

Participants and their Service Providers should check to see if the Receiving FI is active on the service and not signed off before sending a value message to the FedNow Service. While other messages are sent to the signed-off Participant, processing and responding to other types of messages potentially may be delayed if the FI is performing maintenance, with potential implications for the customer experience.

The guidelines to distinguish signing on/off via a Participant broadcast (admi.004 code FPON or FPOF) to a Participant Profile (RTN) versus a Connection Party:

How to sign on: Sign-on via ISO message (admi.004 FPON):			
Profile Type	Message Details	Additional Information	Example
Participant Profile	The Event Parameter element must contain the Routing Transit Number (RTN) that needs to be signed on	<ul style="list-style-type: none"><li>Signs on the Participant Profile listed in the Event Parameter element.</li></ul>	<pre>&lt;EvtInf&gt; &lt;EvtCd&gt;FPON&lt;/EvtCd&gt; &lt;EvtParam&gt;XXXXXXXXXX&lt;/EvtParam&gt; &lt;EvtTm&gt;2022-09-27T15:13:06.5872283- 04:00&lt;/EvtTm&gt; &lt;/EvtInf&gt;</pre>
Connection Party	The Event Parameter element must be left blank	<ul style="list-style-type: none"><li>Signs on the Connection Party and all applicable Participant Profiles under that</li></ul>	<pre>&lt;EvtInf&gt; &lt;EvtCd&gt;FPON&lt;/EvtCd&gt;</pre>

<sup>101</sup> A Connection Party can be owned either by a Participant or Service Provider. See the Authorized Connection Profile section for additional details.

<sup>102</sup> See the FedNow Profile section for additional details.

		<p>Connection Party that were not signed off at a Participant Profile level.</p> <ul style="list-style-type: none"> <li>If the Participant Profile was signed off prior to signing on the Connection Party, the Participant Profile remains signed off until a sign-on is sent with the RTN in the Event Parameter element.</li> </ul>	<p>&lt;EvtTm&gt;2022-09-27T15:13:06.5872283-04:00&lt;/EvtTm&gt; &lt;/EvtInf&gt;</p>
<b>How to sign off: Sign-off via ISO message (admi.004 FPOF):</b>			
Profile Type	Message Details	Additional Information	Example
Participant Profile	The Event Parameter element must contain the RTN that needs to be signed off	<ul style="list-style-type: none"> <li>Signs off the Participant Profile listed in the Event Parameter element.</li> </ul>	<p>&lt;EvtInf&gt; &lt;EvtCd&gt;FPOF&lt;/EvtCd&gt; &lt;EvtParam&gt;XXXXXXXXXX&lt;/EvtParam&gt; &lt;EvtTm&gt;2022-09-27T15:13:06.5872283-04:00&lt;/EvtTm&gt; &lt;/EvtInf&gt;</p>
Connection Party	The Event Parameter element must be left blank.	<ul style="list-style-type: none"> <li>Signs off the Connection Party and all applicable Participant Profiles under that Connection Party.</li> </ul>	<p>&lt;EvtInf&gt; &lt;EvtCd&gt;FPOF&lt;/EvtCd&gt; &lt;EvtTm&gt;2022-09-27T15:13:06.5872283-04:00&lt;/EvtTm&gt; &lt;/EvtInf&gt;</p>

If necessary, the Federal Reserve Banks will sign off a Participant or Connection Party on their behalf.

Scenario (All scenarios assume the Connection Party has Credit Transfer and Payment Return permissions)	Result after last step
1. RTN (Participant Profile) is signed on 2. Connection Party signs off	Status of Participant is signed off Instant payments sent to RTN are rejected
1. RTN is signed on 2. Connection Party signs off 3. Connection Party signs back on	Status of Participant is signed on Instant payments sent to RTN are NOT rejected
1. RTN is signed on 2. Connection Party signs off 3. RTN signs off 4. Connection Party signs back on	Status of Participant is signed off Instant payments sent to RTN are rejected
1. RTN is signed off 2. Connection Party signs on	Status of Participant is signed off Instant payments sent to RTN are rejected
3. RTN is signed off 4. Connection Party signs on 5. RTN signs on	Status of Participant is signed on Instant payments sent to RTN are NOT rejected

### Connection Point Disconnect/Reconnect

The purpose of the Connection Point disconnect/reconnect (via admi.004 code FPCD or FPCR) is to allow a Connection Party with multiple connection points to perform maintenance on a Connection Point while allowing messages to flow to its other Connection Points. While the Connection Point is disconnected, the FedNow Service sends new messages to other Connection Points associated with the Connection Party. If a Connection Party with only one Connection Point tries to disconnect, the admi.004 is rejected by the FedNow Service.

To disconnect, the Connection Party sends an admi.004 with code FPCD, which the FedNow Service acknowledges with an admi.011 message. The Connection Party reconnects its Connection Point by sending an admi.004 with code FPCR and the FedNow Service responds with an admi.011 message. Connection Point disconnections and reconnections can occur only via ISO messaging, not the FedNow interface. The FedNow Service does not send a broadcast message to other Connection Parties about a connect or disconnect.

If a Connection Party that is operating in the production environment adds an additional Connection Point, the Connection Party must connect that new connection point to the FedNow Service by sending an admi.004 with code FPCR once the setup is complete.

## c. Participant Broadcast Message Flows

### Connectivity Check (Ping)

Who	Required Steps
Sender FI	Sends a Participant broadcast message (admi.004) to the FedNow Service to check connectivity, include the appropriate report identification code <b>PING</b> .
FedNow Service	If connected, the FedNow Service: <ol style="list-style-type: none"><li>1. Receives the broadcast message from the Participant.</li><li>2. Within seconds, sends a FedNow Service system response (admi.011) to the Participant to confirm its connection to the FedNow Service. Limited validations are run on the ping message.</li></ol> If not connected, the FedNow Service does not respond.

### Sign On/Off

Sign-off is denoted throughout in parenthesis

Who	Required Steps
Sender FI	Send a broadcast message to the FedNow Service to sign on (or sign off). Include the appropriate report identification code <b>FPON</b> for sign on ( <b>FPOF</b> for sign off).
FedNow Service	Receives broadcast message (admi.004) from Sender FI and runs through all applicable validations: <ul style="list-style-type: none"><li>✓ Valid message signature</li><li>✓ Valid message size</li><li>✓ XML Syntax</li><li>✓ Authorized sender</li><li>✓ Confirm unique message ID</li><li>✓ FedNow Service ISO 20022 schema rules are followed</li><li>✓ Valid participation type if signing on/off an RTN</li><li>✓ Valid connection party permission if signing on/off a connection party</li><li>✓ Event time not future dated</li></ul>

	If message fails validations, the FedNow Service rejects the message immediately and send the Sender FI a <b>Message Reject (admi.002)</b> with the appropriate reason code.
<b>FedNow Service</b>	<p>If message passes validations:</p> <ol style="list-style-type: none"> <li>1. Signs the Participant on (off) the FedNow Service and updates its profile and status in the FedNow interface.</li> <li>2. Sends a FedNow Service response (admi.011) to the Participant to confirm the successful sign on (sign off) to the FedNow Service.</li> <li>3. Sends a FedNow Service broadcast (admi.004) to all other Connection Parties to inform them that the Participant<sup>103</sup> is now signed on (off).</li> </ol>

### Connection Point Disconnect/Reconnect

Reconnect is denoted throughout in parenthesis

Who	Required Steps
<b>Sender FI</b>	Send a broadcast message to the FedNow Service to disconnect (reconnect) a Connection Point. Include the appropriate report identification code <b>FPCD (FPCR reconnect)</b> .
<b>FedNow Service</b>	<p>Receives broadcast message (admi.004) from Sender FI and runs through all applicable validations</p> <ul style="list-style-type: none"> <li>✓ Valid Message Signature</li> <li>✓ Valid Message Size</li> <li>✓ XML Syntax</li> <li>✓ Authorized Sender</li> <li>✓ Confirm Unique Message ID</li> <li>✓ FedNow Service ISO 20022 Schema Rules followed</li> <li>✓ Not disconnecting only (or last) connection point; at least one connection point must remain connected</li> <li>✓ Event time not future dated</li> </ul> <p>If message fails validations, FedNow Service rejects the message immediately and send a <b>Message Reject (admi.002)</b> with the appropriate reason code to the Sender FI.</p>
<b>FedNow Service</b>	<p>If message passes validations:</p> <ol style="list-style-type: none"> <li>1. Disconnects (reconnects) the indicated Connection Point.</li> <li>2. Sends a FedNow Service system response (admi.011) to the FedNow Participant to confirm the successful Connection Point disconnect (reconnect) from the FedNow Service.</li> <li>3. The FedNow Service routes new messages from the disconnected Connection Party to one of the other Connection Points associated with the Connection Party. When reconnected, the FedNow Service routes messages to any of the connected Connection Points.</li> </ol>

<sup>103</sup> If the Connection Party is signing off, the FedNow broadcast does not go to the signed off Connection Party.

## 15.2. FedNow Service Broadcast Messages (admi.004)

1. Overview
2. Additional Details

### a. Overview

A FedNow Service broadcast message notifies FedNow Participants via their Connection Parties of a FedNow Service or Participant event. Connection Parties are expected to share relevant information with their Participants. FedNow broadcast messages have the same unique message ID; Participants with multiple Connection Parties may receive multiple broadcast messages with the same unique message ID. It is a best practice to automatically ingest these messages into your system and take necessary action.

If the FedNow Service's broadcast message is unavailable at any point in time, it is possible that broadcast messages will then be sent out of sequence. In general, it is considered a best practice for Participants to note the time stamp of broadcast messages in order to take any necessary action.

### b. Additional Details

#### Broadcast Message Events

The table below outlines events that would require the FedNow Service to send broadcast messages, which are sent to all Connection Parties regardless of permissions.

Code	Event	Description	Occurrence
FPOF	Participant Offline	A FedNow Participant has signed off and cannot receive instant payments messages (pacs.008 and pacs.004).	As needed
FPON	Participant Online	A FedNow Participant has signed on to the FedNow Service and can receive instant payments (pacs.008 and pacs.004).	As needed
EXTN	System Extension	The FedNow Service cycle day has been extended. Note: Only one broadcast message is sent to inform of an extension.	As needed
ROLL	System Rollover	The FedNow Service has rolled over to the next cycle day.	Daily
FNKY	FedNow Keys	The FedNow Service has established a new key for message signing.	As needed

#### Participant Offline and Online

To avoid rejections, Sender FIs should not send instant payments to signed-off Participants when they receive a FedNow Service broadcast message indicating the Participant has signed off. Once the Participant signs back on again, a new FedNow Service broadcast message informs all Connection Parties that instant payments can again be sent to the Participant.

If a Participant or ACP is suspended, the FedNow Service signs them off, as applicable. A FedNow Service broadcast for Participant Offline (FPOF) is sent and includes the list of RTNs that use this ACP to receive credit transfers (pacs.008 and pacs.004).

System Rollover and Extension

When the FedNow Service rolls to the next cycle day, a FedNow Service broadcast is sent at approximately 7 p.m. ET to inform all Connection Parties about the cycle roll. If the FedNow Service cycle day is extended (e.g., due to a Fedwire extension), a FedNow Service broadcast message informs Connection Parties but does not indicate new timing. Instead, a second system rollover broadcast is sent when the cycle day rolls.

FedNow Keys

Connection Parties receive a broadcast message when the FedNow Service establishes a new key pair. When Participants receive the FedNow Broadcast message informing of a new key, it is a best practice to check if any FedNow Service public keys have expired or were revoked. The FedNow Service may start using the new key immediately, so Participants should be prepared to use it to validate messages sent by the FedNow Service. See the required actions below:

Who	Required Steps
FedNow Service	<div>1. Establishes a new key pair</div> <div>2. Sends a FedNow Broadcast message (admi.004) to all Connection Parties with code FNKY</div>
FedNow Participant	<div>4. Receive FedNow Broadcast message (admi.004)</div> <div>5. Retrieve the latest active FedNow public keys via the FedNow interface or send <i>Get FedNow Service active keys</i> MQ message<sup>104</sup></div>

<sup>104</sup> See the Technical Specifications, available on the FedNow DevRel resource, for additional details.

## 15.3. FedNow Participant List (admi.998)

- a. Overview
- b. Additional Details

### a. Overview

The FedNow Participant list (admi.998) is the message that provides a daily list of all active<sup>105</sup> FedNow Participants who can receive or send and receive instant payments (pacs.008 and pacs.004) or receive requests for payment. The FedNow Service automatically sends the Participant list at the start of the FedNow Service cycle day. The Participant List can also be retrieved via API call.<sup>106</sup>

### b. Additional Details

#### Participant List Content

The list captures all RTNs activated on the FedNow Service that are enrolled in specific participation types (listed below). Details in the Participant list include:

- FI Name
- FI RTN
- Enrolled participation in at least one of the following:
  - **Customer Credit Transfer Receive Only (CTRO):** Participants allowed to receive instant payments (pacs.008 and pacs.004) through the FedNow Service or send payment returns (pacs.004) through the FedNow Service.
  - **Customer Credit Transfer Send and Receive (CTSR):** Participants that may both send and receive instant payments (pacs.008 and pacs.004) through the FedNow Service.
    - **Request for Payment Receive (RFPR):** *If applicable*, Participants can receive a request for payment (pain.013), present it to the end customer and respond to the request for payment (pain.014). Without this service enabled, an RFP message sent to the Participant is rejected by the FedNow Service.

Participant list does **not** include:

- RTNs only enabled for Liquidity Management Transfers (LMTs) or Settlement Only
- signed-on or signed-off Status
  - This status is communicated with a FedNow Service broadcast message (admi.004) to all Participants
  - Once a Connection Party is activated on the FedNow Service, the Participant Broadcast message (admi.004) (FPON/FPOF) is used to determine and continuously track the signed-on or signed-off status of other Participants.

#### Participant List Implementation

The Participant list is used to identify active FedNow Participants and specific enrolled services. To ensure a Receiver FI is enabled to receive a given message type, Sender FI systems should check the latest Participant list and FedNow broadcast (admi.004) messages before sending instant payments or RFP messages to the FedNow Service.

For new Participants, their RTN and Participation Type details are available on the Participant List the day the profile is activated. Once activated, they must send a sign-on broadcast in order to start receiving any instant payments. For current Participants, their RTN and Participation Type details are available on the Participant

<sup>105</sup> Includes Participants with the Participant Profile status of active, suspended or pending deactivation.

<sup>106</sup> See the FedNow Service Technical Specifications, including the REST API Technical Documentation, available on the FedNow DevRel resource.

List when their profile is in an active state. They may sign off and on the FedNow Service at any time throughout the day. All Participants should store their latest sign on/off status to check before sending instant payments or RFP messages to the FedNow Service.

### **Delivery of Participant List**

The Participant list is delivered to all Connection Parties at the start of a new FedNow Service cycle day. Delivery of the report from the FedNow Service is expected to be no longer than 10 minutes following the cycle day rollover. Connection Parties are expected to share the list with all Participants they connect to the FedNow Service as needed. Connection Parties cannot request the Participant list via intraday messaging. The Participant list can be downloaded in XML format via the FedNow interface, and Participants or Service Providers may obtain the details at any time, although the list changes only at the start of each FedNow Service cycle day.

If a Participant changes their participation type intraday, a Sender FI receives a rejection if the new participation type does not support the message sent. For example, if a Participant changes from Customer Credit Transfer Send and Receive with RFP to Customer Credit Transfer Send and Receive intraday, the participation type change is effective immediately and is reflected in the Participant list at the start of the new cycle day. If a Sender FI tries to send an RFP (pain.013) after the participation type has changed, the message is rejected by the FedNow Service. The Sender FI should check the Participant list at the start of the next cycle day.

## 15.4. Receipt Acknowledgement (admi.007)

- a. Overview
- b. Receipt Acknowledgement from the FedNow Service
- c. Receipt Acknowledgement from the Receiver FI
- d. Receipt Acknowledgement in the Operating Procedures

### a. Overview

The receipt acknowledgement (admi.007) is used by both the FedNow Service and Participants. Its purpose is to inform the message sender that the message was received and is being processed. All Participants are required to send the receipt acknowledgement (admi.007) as soon as they receive any nonvalue message listed below:

- Request for payment (RFP) (pain.013)
- RFP response (pain.014)
- RFP cancellation request (camt.055)
- RFP cancellation request response (camt.029)
- Information request (camt.026)
- Information request response (camt.029)
- Additional payment information (camt.028)
- Return request (camt.056)
- Return request response (camt.029)
- Payment status request to Participant (pacs.028)

### b. Receipt Acknowledgement from the FedNow Service

A receipt acknowledgement (admi.007) sent by the FedNow Service to the Sender FI confirms the sender's nonvalue message passed the required FedNow Service validations, was successfully processed and delivered to the intended Receiver FI. If the Sender FI does not receive this receipt acknowledgement, the FedNow Service likely did not process the message. The Sender FI should send a new request with a unique message ID. If the Participant repeatedly does not receive the admi.007 from the FedNow Service, the Participant should check the connection to the FedNow Service with a ping (admi.004) message.

### c. Receipt Acknowledgement from the Receiver FI

A receipt acknowledgement (admi.007) sent by the Receiver FI to the Sender FI acknowledges message receipt. For messages that require additional responses and more time, the recommended response times should be followed in addition to the required admi.007 (for example, the responses in relation to an RFP are still recommended in addition to the admi.007).

The admi.007 sent by the Receiver FI must reference an ISO message the FedNow Service has record of for the FedNow Service to send the admi.007 to the Sender FI.

If the Participant does not receive a receipt acknowledgement from the Receiver FI, the Sender FI should assume the Receiver FI did not receive the message. This could be caused by Receiver FI downtime that causes the message to expire or be dropped from the Receiver FI queue. If the Participant did not receive an admi.007 as expected, they should:

- For requests (pain.013, camt.055, camt.026, camt.056 or pacs.028 messages) the Sender FI can send a new request with a unique message ID.
- For request responses (pain.014, camt.029 and camt.028) the Participant does not need to send an additional response. The Sender FI is responsible for retrieving and reviewing response messages.

If the Participant does not receive any admi.007s from various Receiver FIs or the FedNow Service, the Participant should check its connection to the FedNow Service with the ping (admi.004) message.

## d. Receipt Acknowledgement in the Operating Procedures

Multiple message flows described in these Operating Procedures include receipt acknowledgement (admi.007) sending and receiving from both the FedNow Service and Receiver FI. The admi.007 is not included in the step-by-step flows. Instead, see the callout at the beginning of the applicable message flows.

## 16. Value Messages

- a. Value Message
- b. Payment Timeout Clock
- c. FedNow Service Rejections
- d. Accept Without Posting (ACWP)
- e. Payment Status Request

### a. Value Messages

Value messages instruct funds to be moved between Participants and are processed and settled through the FedNow Service in the Master Account of the Participant or its Correspondent. It is a best practice for Participants to enable all accounts at their institution to receive value payments, but it is at the discretion of the financial institution.

All ISO 20022 messages, including value messages, are subject to FedNow Service ISO rules and guidelines, security procedures and processing standards. System preparation applies to all Participants intending to send or receive FedNow Service value messages and therefore must be implemented before sending messages. This includes following the requirements for all ISO 20022 messages<sup>107</sup> and additional value message requirements:

- Ensure an active Participant Profile is set to one of the below, as appropriate:
  - Customer Credit Transfer Send and Receive OR Customer Credit Transfer Receive Only.
  - LMT Send and Receive OR LMT Receive Only.
- Reference the Participant list and Broadcast Messages to validate that the intended Receiver FI is active and signed on.
- Include the time stamp(s) to determine start of the timeout clock. The time stamp<sup>108</sup> is indicated either in the message header or a creation date time element in the BAH if a time stamp<sup>109</sup> if not in the message header.
- Adhere to the FedNow Service network limits.
- Ensure that the value message is \$0.01 or greater.
- Implement system to support defined receiver response time rules and guidelines.
- Validate that all messages received from the FedNow Service have a unique message ID in the Business Application Header.

### b. Payment Timeout Clock

All value messages (pacs.008, pacs.004 and pacs.009) are subject to the FedNow Service payment timeout clock, which sets expectations for those involved in the transaction.

For instant payments, the payment timeout clock starts based on the time stamp included in the message header or the business application header and ends when the FedNow Service receives a response from the Receiver FI, as long as the payment timeout clock has not expired. If the payment timeout clock expires before sending to the Receiver FI, the FedNow Service rejects the message and sends a message reject (pacs.002) to the Sender FI. If the clock expires after the

<sup>107</sup> See the FedNow ISO 20022 Messages section for details on requirements.

<sup>108</sup> Note: the creation date time element in the BAH is always required.

<sup>109</sup> See the Technical Specifications, available on the FedNow DevRel resource, for additional details.

Receiver FI receives, and potentially responds, to the instant payment but before settlement occurs, the FedNow Service sends a message reject (pacs.002) to the Receiver FI as well.

For LMT (pacs.009) messages, the payment timeout clock starts based on the time stamp included in the message header or the business application header and ends when the FedNow Service settles the transaction.

If the payment timeout clock expires on a value message due to a Sender FI, Receiver FI or the FedNow Service, the payment is rejected and Participants receive a rejection message. In these instances, the Sender FI should resend the payment message with a new message ID.

### c. FedNow Service Rejections

If a message fails validation(s), the FedNow Service can reject value messages using message reject (admi.002) or the payment status report (pacs.002) with code RJCT. The message used depends on the reason for the rejection. All rejection messages from the FedNow Service include an error code(s) to inform the Participant why the message was rejected.<sup>110</sup>

### d. Accept Without Posting (ACWP)<sup>111</sup>

Accept Without Posting (ACWP) is one of the three available responses a Receiver FI can use in its initial response to an instant payment (pacs.008 or pacs.004). When ACWP is used in response to an instant payment, the FedNow Service settles the transaction with finality recording a Participant or Correspondent Master Account debit and credit to the Sender FI and Receiver FI.

Some Participants conduct real-time screening of transactions processed through the FedNow Service for legal or compliance reasons. If a Participant's screening software generates a match that could indicate the identified recipient is not entitled or permitted to receive the payment, the Participant may respond with an Accept Without Posting (ACWP) transaction in response to a request for confirmation of the credit transfer message (pacs.008/004). As a result of its ACWP response, the Participant is relieved of its corresponding obligation to make funds immediately available to its customer, providing an opportunity for it to investigate.

The Federal Reserve Banks require a Participant using the ACWP response to reject the transaction (and return funds) or make funds available to the intended recipient by midnight Eastern Time of the next standard business day<sup>112</sup> (Monday through Friday, except holidays), unless the Participant continues to be concerned that the recipient is not entitled to receive the payment and taking either action would be impermissible under applicable law. In this case, the Federal Reserve Banks require the Participant to provide a status of pending (PDNG) response to the FedNow Service sender by the ACWP availability deadline. A status update also is required upon resolution of the Participant's investigation and in response to inquiries from the FedNow Service sender.

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<sup>110</sup> See the Error Codes and Descriptions section for additional details.

<sup>111</sup> See the Anti-Money Laundering and Sanction Compliance section for additional details.

<sup>112</sup> The FedNow Service sends the pacs.008 to the FedNow Receiver for response (ACTC, RJCT, ACWP). If the FedNow Receiver responds with Accept Without Posting (ACWP) at 11:59 p.m. ET on a Wednesday (that is not a holiday), the FedNow Receiver has to investigate and resolve the concerns it had identified with the related pacs.008 by midnight ET on the next FedNow Service Funds Transfer Business Day (in this example, Thursday, that is not a holiday), unless the FedNow Receiver believes it would be or might be impermissible to reject or accept the Instant Payment Message under applicable law.

## e. Payment Status Request

The payment status request (pacs.028) is used to inquire on the status of a previously sent message.<sup>113</sup> The pacs.028 can either be sent to the FedNow Service or to the Receiver FI.

When inquiring on a value message, a Participant should only send a pacs.028 after the payment timeout clock has elapsed plus a few additional seconds to allow for the message to complete processing. The FedNow Service rejects the pacs.028 if the payment status request is sent while the message is still in process or before the timeout clock expires.

If the Participant needs a copy of the message, the Participant can send a retrieval request<sup>114</sup> (admi.006) to receive a copy of the message or use the Adhoc Query Tool in the FedNow interface.

### Payment Status Request to the FedNow Service

A pacs.028 can be sent by a Participant to the FedNow Service to inquire on the status of a previously sent pacs.008, pacs.004 or pacs.009. In addition, a pacs.028 can be sent by a Participant to the FedNow Service to inquire on the status of a previously received pacs.008 or pacs.004. The FedNow Service runs through validations of the pacs.028 including that the requestor was a party in the original message and that the original message was sent on the current or previous calendar day. After successful completion of the validations, the FedNow Service responds to the request with a pacs.002 within seconds.

In response to a pacs.028 sent to the FedNow Service, the pacs.002 response contains the status when the FedNow Service completed processing the payment message. For example, if a Receiver FI response to a pacs.008 message is Accept Without Posting (ACWP), and the FedNow Service settled the transaction and confirmed with status ACWP, then, this status is the FedNow Service response to the pacs.028, even if the Receiver FI in the meantime offered a subsequent status update (PDNG, BLCK, etc.).

### Payment Status Request to another Participant

A pacs.028 can be sent to the Receiver FI to inquire on the status of a previously sent pacs.008, pacs.004 or pain.013. The Receiver FI should respond to a payment status request immediately.

In response to a pacs.028 sent to the Receiver FI, the pacs.002 or pain.014 response contains the latest status that the Receiver FI has. For example, if a pacs.008 message was accepted by a Receiver FI with an ACWP status, the follow-up status will either be PDNG, BLCK, RJCT or ACCC. If the Receiver FI cannot trace the payment for which a status update is requested, then the Participant should send a pacs.002 RJCT with reason code AG09 (Payment Not Received) or NARR (Narrative).<sup>115</sup>

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<sup>113</sup> Can only be used to inquire on the status of a value message or RFP.

<sup>114</sup> Retrieval request is not yet available on the FedNow Service.

<sup>115</sup> Codes from the ISO 20022 externalized *StatusReason1Code* list. For more information refer to the FedNow Service ISO 20022 Implementation Guide.

# 16.1. Customer Credit Transfer (pacs.008)

- a. Overview
- b. How to Process a Customer Credit Transfer (pacs.008)

## a. Overview

The Customer Credit Transfer message (pacs.008) is designed to send funds between financial institutions' end-user customers. To process a payment across the FedNow Service, the Federal Reserve Banks transfer funds between Master Accounts of the Participants or Participants' Correspondent.

## b. How to Process a Customer Credit Transfer (pacs.008)

Processing of pacs.008 occurs in four sequential stages. Steps within each stage are detailed below, along with expected outcomes, potential outcomes if exceptions or errors occur,<sup>116</sup> and Participant system actions that can resolve the issues described.

### 1. Validation Stage

Who	Required Steps	If No Exceptions	If Exceptions Occur	Action(s) to Correct Failure
Sender FI	Sends the CCT (pacs.008) to the FedNow Service.  (See system and message preparation requirements in the value messages section of these Operating Procedures.)	FedNow Service receives pacs.008 from Sender FI.	FedNow Service does not receive pacs.008 from Sender FI.	Sender FI should wait a minimum of 25 seconds from the payment message time stamp to inquire about its status. This can be done by: 1. Sending a payment status request to the FedNow Service (pacs.028) or searching in the FedNow interface Adhoc Query Tool a. Status is provided if the message was received and processed by the FedNow Service. b. If FedNow Service responds, "message is not found," Participant can resend the message with the same message ID used for the previously sent message. c. If FedNow Service does not respond, check connection via Ping (admi.004) message. <sup>117</sup> 2. If issues persist, contact the Support Center.
FedNow Service	Receives CCT (pacs.008) message from Sender FI and runs through all	Message passes all validations and is sent to the Receiver FI.	Message fails a validation. Depending on the reason, the FedNow Service: 1. Rejects the message immediately and sends a message reject (admi.002) with the appropriate reason code to the Sender FI.	1. Review the error code description. <sup>119</sup> 2. Correct the identified error to ensure subsequent messages sent to the service meet requirements.

<sup>116</sup> The list of exceptions is not exhaustive.

<sup>117</sup> See the Participant Broadcast section for additional details.

<sup>119</sup> See Error Codes and Descriptions section of these Operating Procedures.

Who	Required Steps	If No Exceptions	If Exceptions Occur	Action(s) to Correct Failure
	applicable validations listed below.		2. Continues processing through validations to collect any additional errors. The FedNow Service then sends a payment status message (pacs.002) with the consolidated <sup>118</sup> appropriate error reason code(s).	3. If needed, send a new message with a new unique message ID.

Validations for Customer Credit Transfer	
<ul style="list-style-type: none"> <li>✓ Valid message signature</li> <li>✓ Valid message size</li> <li>✓ XML syntax</li> <li>✓ Authorized sender</li> <li>✓ Confirm unique message ID</li> <li>✓ FedNow Service ISO 20022 schema rules followed</li> <li>✓ Sending and Receiving FIs are FedNow Participants</li> <li>✓ Payment timeout clock has not been exceeded</li> <li>✓ Message is not future dated</li> </ul>	<ul style="list-style-type: none"> <li>✓ Within Receiver FI reserved response time</li> <li>✓ Within FedNow Service network transaction limit or Sender FI transaction limit, if configured to be less than the FedNow Service limit</li> <li>✓ Receiver FI is active/signed on and profile is set to send/receive or receive only for CCT</li> <li>✓ Sender FI is active and profile is set to send and receive CCT</li> <li>✓ Sender and Receiver FIs have valid settlement relationships</li> <li>✓ <b>Optional:</b> Negative list check, if enabled</li> <li>✓ <b>Optional:</b> Correspondent net send limit check, if enabled</li> </ul>

## 2. Response Stage


Who	Required Steps	If No Exceptions	If Exceptions Occur	Action(s) to Correct Failure
Receiver FI	Receives and begins to validate CCT (pacs.008) message from FedNow Service.	Able to open and read the pacs.008 from the FedNow Service.	Unable to validate the FedNow Service message (e.g., unable to read, technical error).  Receiver FI sends message reject (admi.002) to the FedNow Service. <sup>120</sup>	Receiver FI: 1. Checks to ensure the FedNow Service public keys list is up to date. 2. Responds to the message with the Message Reject (admi.002) indicating the received message was rejected. 3. If issues persist, contact the Support Center (1-833-FRS-SVCS (377-7827)).
Receiver FI	Reviews message and responds with: • (ACTC) Accept • (ACWP) Accept Without Posting • (RJCT) Reject	Receiver FI indicates its planned acceptance by sending a payment status	If the Receiver FI does not accept, the Receiver FI could: 1. Indicate its planned rejection by sending a payment status report (pacs.002) with code RJCT to the FedNow Service along with the reason for rejection. The FedNow Service	N/A

<sup>118</sup> The FedNow Service consolidates validation failures when possible.

<sup>120</sup> Receiver FI should also call the Support Center with notification that it rejected with an admi.002. Initially, the FedNow Service does not respond to or process admi.002 messages sent from Participants. The FedNow Service anticipates being able to process the admi.002 message at a later date.

Who	Required Steps	If No Exceptions	If Exceptions Occur	Action(s) to Correct Failure
	<p>Receiver FI should be prepared to send a response to the FedNow Service within its configured reserved response time.</p> <p>Retains the pacs.008 to use for reconciliation.</p>	<p>report (pacs.002) with code ACTC to the FedNow Service before the payment timeout clock expires.</p>	<p>then forwards the message rejection to the Sender FI.</p> <ol style="list-style-type: none"> <li>2. Send a payment status report (pacs.002) with code ACWP to the FedNow Service to indicate the CCT (pacs.008) requires further investigation.</li> <li>3. Not respond before the payment timeout clock or allowable reserved time expires and then the FedNow Service rejects the payment.</li> </ol> <p>The Receiver FI can send a reject message to provide additional details, this is passed onto the Sender FI.</p>	

### 3. Settlement Stage

Who	Required Steps	If No Exceptions	If Exceptions Occur	Action(s) to Correct Failure
<b>FedNow Service</b>	Processes pacs.002 from the Receiver FI and runs through all applicable validations.	Message passes all applicable validations.	<ul style="list-style-type: none"> <li>• Message (pacs.002) failed one or more of the validations.</li> <li>• Receiver FI receives a reject message (admi.002) based on the failed error codes.</li> </ul>	<p>If there is ample time remaining on the payment timeout clock, the FedNow Service sends the rejection message only to the Receiver FI to provide the opportunity to:</p> <ul style="list-style-type: none"> <li>• Review failed validations.</li> <li>• Correct error(s).</li> <li>• Resend a valid pacs.002.</li> </ul> <p>If there is not ample time remaining, the FedNow Service sends a rejection message to both the Sender FI and Receiver FI. The Sender FI should resend the message with a unique message ID.</p>
<b>FedNow Service</b>	<p>Checks that the payment timeout clock has not expired for the CCT (pacs.008).</p>  <p><b>Payment Timeout Clock Stops</b></p>	FedNow Service prepares to settle transaction.	FedNow Service rejects Customer Credit Transfer (pacs.008) due to timeout and sends Payment Status Report (pacs.002) with rejection code indicating the payment timeout clock expiration to Sender FI and Receiver FI.	Sender FI should send a Customer Credit Transfer (pacs.008) message with a new unique message ID.
<b>FedNow Service</b>	Confirms settlement relationships, assigns a settlement date and settles the transaction by recording it.	The transaction settles with finality when the FedNow Service records the respective	Unable to verify settlement relationship(s) and sends pacs.002 with rejection code to Sender FI and Receiver FI.	Sender and Receiver FI should use the FedNow interface to confirm an accurate settlement account is associated with the applicable RTN within the message.

		Master Account debit and credit for the Sender FI, Receiver FI or their respective Correspondents. <sup>121</sup>		
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#### 4. Notification Stage (post-settlement)

The table below outlines the notification stage for two separate scenarios – when the Receiver FI responded with “accept” or “accept without posting” response to a Customer Credit Transfer (pacs.008). *Each of these are separate flows.*

Who	Required Steps (required unless otherwise noted in orange text)	If No Exceptions Occur	If Exceptions Occur	Action(s) to Correct Failure
<b>Process if Receiver FI Accepted (ACTC) pacs.008</b>				
<b>FedNow Service</b>	Sends payment status report (pacs.002) with code ACSC, within seconds, as confirmation to Sender and Receiver FIs (acknowledgment to the Sender FI and advice of credit to the Receiver FI).	Sender FI and Receiver FI receive pacs.002 confirmation that the Customer Credit Transfer settled.  The pacs.002 and pacs.008 are both used to reconcile the transaction.	Sender or Receiver FI does not receive pacs.002 message.	The Participant (either Sender or Receiver FI) should wait a minimum of 25 seconds from the payment message creation date/time stamp to inquire about its status.  1. Sending a payment status request to the FedNow Service (pacs.028) or searching in the FedNow interface Adhoc Query Tool. a. If message was received and processed by the FedNow Service, a status is provided. b. If no response from the FedNow Service, check connection via Ping (admi.004) message. <sup>122</sup> 2. If issues persist, contact the Support Center (1-833-FRS-SVCS (377-7827)).
<b>FedNow Service</b>	<i>If applicable and enabled,<sup>123</sup> sends respective Correspondent(s) an account debit/credit notification (camt.054)</i>	Notifies Correspondent in real time that respondent activity settled in the	Correspondent does not receive the camt.054.	Correspondent can look up settled messages in the activity reports after end-of-day processing is complete.

<sup>121</sup> Timing of debits and/or credits in the Master Accounts may lag payment settlement.

<sup>122</sup> See the Participant broadcast section for additional details.

<sup>123</sup> Only applicable for Correspondents.

Who	Required Steps (required unless otherwise noted in orange text)	If No Exceptions Occur	If Exceptions Occur	Action(s) to Correct Failure
		Correspondent's Master Account.		
Sender FI	<b>Best practice:</b> Upon receipt of acknowledgment (pacs.002), notify end customer of successful or unsuccessful transaction.	End customer is made aware of status of the payment transfer.	End customer is not made aware of the status of the payment.	N/A
Receiver FI	Upon receipt of advice of credit (pacs.002) and matching it to the pacs.008, makes the funds available to the recipient immediately. <sup>124</sup>	Funds are available.	N/A	N/A
	<b>Best practice:</b> Notify recipient of funds availability.	Recipient is made aware of transfer and funds availability.	Recipient is not made aware of the transfer and funds availability.	N/A
	<b>Best practice:</b> Send payment status report (pacs.002) with code ACCC to the FedNow Service indicating funds have been made available to the end recipient (confirmation of posting).	FedNow Service receives pacs.002, validates message. If successful, provides status update to Sender FI.	FedNow Service is not aware that the funds have been made available and therefore, cannot inform Sender FI. <b>-or-</b> Message (pacs.002) fails validation.	Receiver FI can: 1. Review the error code description. <sup>125</sup> 2. Correct the identified error(s) to ensure subsequent messages sent to FedNow Service meet requirements. 3. As needed, send a new message with a new unique message ID.
FedNow Service	If provided by Receiver FI, delivers the confirmation of posting payment status report	FedNow Service sends message to the Sender FI that recipient has	Sender FI does not receive a message to confirm funds were received.	N/A

<sup>124</sup> As soon as practicable, but no longer than a few seconds.

<sup>125</sup> See Error Codes and Descriptions section of these Operating Procedures.

Who	Required Steps (required unless otherwise noted in orange text)	If No Exceptions Occur	If Exceptions Occur	Action(s) to Correct Failure
	(pacs.002) with code 'ACCC' to the Sender FI regarding availability of funds <sup>126</sup> .	received funds from the transaction.		
Sender FI	<b>Best practice:</b> Notify end customer of payment status after receiving the final confirmation of posting (pacs.002) from the FedNow Service. <sup>127</sup>	End customer knows recipient received funds.	End customer is not aware of the completed transaction and funds availability.	N/A

Who	Required Steps (required unless otherwise noted in orange text)	If No Exceptions Occur	If Exceptions Occur	Action(s) to Correct Failure
<b>Process if Receiver FI Responds with Accept Without Posting (ACWP)</b>				
FedNow Service	Sends payment status report (pacs.002) with code ACWP, within seconds, as confirmation to Sender and Receiver FIs (acknowledgment to the Sender FI and advice to the Receiver FI).	Sender FI and Receiver FI receive confirmation that the Customer Credit Transfer settled with a status of ACWP.	Sender or Receiver FI does not receive pacs.002 message.	<p>The Participant (either Sender or Receiver FI) can inquire on the status but should wait a minimum of 25 seconds from the payment message creation date/time stamp.</p> <ol style="list-style-type: none"> <li>Sending a payment status request to the FedNow Service (pacs.028) or searching in the FedNow interface Adhoc Query Tool <ol style="list-style-type: none"> <li>If message was received and processed by the FedNow Service, a status is provided.</li> <li>If no response from the FedNow Service, check connection via Ping (admi.004) message.<sup>128</sup></li> </ol> </li> <li>If issues persist, contact the Support Center (1-833-FRS-SVCS (377-7827)).</li> </ol>

<sup>126</sup> Can only happen if the Receiver FI has informed FedNow Service in step above.

<sup>127</sup> Can only happen if the Receiver FI has informed the FedNow Service in the step 2 lines above.

<sup>128</sup> See Participant Broadcast for additional details.

Who	Required Steps ( <i>required unless otherwise noted in orange text</i> )	If No Exceptions Occur	If Exceptions Occur	Action(s) to Correct Failure
Receiver FI	Investigate CCT (pacs.008) and provide a status update (pacs.002) (ACCC, BLCK, RJCT, PDNG) to the FedNow Service by midnight (ET) of the next standard day (M-F, except holidays).	FedNow Service receives pacs.002, validates message and provides to Sender FI for a status update.	FedNow Service does not receive pacs.002 so the Sender FI and customer are not aware of transaction status. <b>-or-</b> Message (pacs.002) fails validation(s).	Sender FI should submit a payment status request (pacs.028) to the Receiver FI if it has not received the status before the initial deadline.
Receiver FI	<b>Applicable if a payment status request (pacs.028) is sent by the Sender FI</b> Must respond to a payment status request (pacs.028) sent by the Sender FI regarding a Customer Credit Transfer (pacs.008) with a status of 'ACWP.'	FedNow Service sends receipt acknowledgement (admi.007) to the sender of pacs.028 and passes the status update through to the Sender FI. Receiver FI provides latest status.	Receiver FI does not respond to pacs.028 and the Sender FI is not aware of the status of the transaction.	Sender FI can submit another payment status request (pacs.028) to the Receiver FI if it has not received a response.
Receiver FI	After review is complete, if the Receiver FI accepts the transaction, it sends payment status report (pacs.002) with code 'ACCC' to FedNow Service.	Receiver FI makes funds available to end customer and process above for "accepted" (ACCC) is followed.	Receiver FI chooses to block the funds and sends Payment Status Report (pacs.002) with code 'BLCK' to FedNow Service. <b>-or-</b> Rejects transaction and sends Payment Status Report (pacs.002) with code 'RJCT' to FedNow Service. <b>-or-</b> Receiver FI never finalizes the ACWP status of a transaction.	<ul style="list-style-type: none"> <li>If Receiver FI blocks or rejects the pacs.008, it should include justification reason in pacs.002 message for Sender FI to review. FIs can discuss as needed.</li> <li>If Receiver FI rejects the pacs.008, it must also return the funds. Funds should be returned via a payment return (pacs.004) message that includes reference to the original Customer Credit Transfer (pacs.008) message and justification.</li> </ul>

## 16.2. Return Request (camt.056) and Payment Return (pacs.004)

- a. Overview
- b. Additional Details
- c. How to Process a Return Request
- d. How to Process a Payment Return

### a. Overview

The FedNow Service supports exception handling process to return funds from a previously received Customer Credit Transfer (pacs.008) or liquidity management transfer (pacs.009).

A Customer Credit Transfer (pacs.008) can be returned either when a FedNow Participant decides to honor a return request (camt.056) message or when the FedNow Participant cannot apply the funds it received, for example, when rejecting a payment after initially responding with an accept without posting status. If needed, a return request (camt.056) should be sent within 60 calendar days<sup>129</sup> from when the Customer Credit Transfer (pacs.008) settled. Once a payment return (pacs.004) is initiated, the message follows the same end-to-end processing across the FedNow Service as a Customer Credit Transfer (pacs.008).

A liquidity management transfer (pacs.009) can be returned if Participants determine it is necessary. When returning a settled LMT (pacs.009), a new LMT (pacs.009) is used.

Payment returns for funds initially sent via the FedNow Service should be returned via the FedNow Service to facilitate reconciliation processes. If the Participant decides to accept the return request, the return can either be for the full amount of the original payment received or a portion of it.

### b. Additional Details

#### Eligible FedNow Service Participation Types

To send a payment return, a Participant's profile must be configured to include one of the below participation types:

- Customer Credit Transfer Send and Receive
- Customer Credit Transfer Receive Only
- If returning LMT – LMT Send and Receive

#### Message Description Details

The message descriptions below explain how payment return and return request messages work within the FedNow Service, including details on the functionality of message types related to the payment return process.

**Note:** Each of these messages are independent of one another. The Participant that sends the return request (camt.056) is responsible for appropriately referring to the original Customer Credit Transfer within the message.

ISO 2022 Message	Message Descriptions
<b>Return request</b> (camt.056)	Participants use a return request to ask another Participant to return a portion or full amount of a previously settled Customer Credit Transfer (pacs.008) or LMT (pacs.009).

<sup>129</sup> Camt.056 messages used to report fraud or an RFP warranty breach are not subject to the 60-day guideline. Additional information on expectations for these use cases can be found in the Fraud Reporting and Request for Payment Warranties and Expectations sections, respectively.

<b>Return request response</b> (camt.029)	The FedNow Service <sup>130</sup> or Participant uses a return request response to communicate: <ul style="list-style-type: none"> <li>• Return request accepted (IPAY) and funds will be returned.</li> <li>• Return request rejected (RJCR) and funds will <i>not</i> be returned.</li> <li>• Return request pending investigation (PDCR) by the financial institution.</li> <li>• Partially executed return request (PECR) where a portion of requested funds will be returned.</li> </ul>
<b>Payment return</b> (pacs.004)	A Participant uses a payment return message to return funds of a previously accepted Customer Credit Transfer to another Participant. Payment return can be used after accepting a return request or it can be initiated without first receiving a return request, such as when a Participant cannot apply the funds it previously received (even if a return request was not received).
<b>Liquidity management transfer</b> (pacs.009)	To return a previously received LMT, a new LMT (pacs.009) must be sent instead of payment return message (pacs.004). The Participant can reference the original pacs.009 in the End To End reference or in the remittance information.

### Payment Return Value Limit Validation

A payment return (pacs.004) is validated against the FedNow Service network limit. The payment return is not validated against the Participant's value limit even if this is less than the network limit.

### Fraud Reporting with Return Request

The return request (camt.056) message also can be used to report fraud. If a Participant sends an instant payment and later identifies fraud, it can send a camt.056 and include reason code FRAD. This message is processed as noted in Section C below and fulfills the FedNow Service fraud reporting requirement.<sup>131</sup> Camt.056 messages used to report fraud or an RFP warranty breach are not subject to the 60-day guideline.

### Return Request with RFP Warranty Claim

If a reportable transfer is sent in response to a Request for Payment (RFP), and the return request is being sent to initiate a claim of breach of RFP warranty, the appropriate code for breach of warranty (WNTB) is used. In addition to the WNTB code,<sup>132</sup> use the fraud classifier code in the "Additional Information" element to indicate the type of suspected fraud and the suspicious actor, consistent with use of the "FRAD" code when reporting fraud on a customer credit transfer.<sup>133</sup>

### Response Time

The table below outlines the strongly recommended response guidelines for messages related to the payment return process. This table does not include the required receipt acknowledgement (admi.007) that is sent by the FIs receiving the return request (camt.056) and return request response (camt.029). Participants should consider that the response times may differ if the Participant receiving the message is signed off or otherwise not able to respond due to maintenance or other conditions.

Return Request & Response Time Guidelines			
Participant Action	ISO 2022 Message	Response Code	Response Guideline
Participant sends return request	Return request (camt.056)	N/A	A return request should be sent within 60 days of the credit transfer settlement.

<sup>130</sup> A negative return request response is sent by the FedNow Service if the return request fails business validations.

<sup>131</sup> See the Fraud Reporting section for additional details, including alternative options for reporting confirmed fraud.

<sup>132</sup> See Request for Payment Warranties section for additional details.

<sup>133</sup> See the Fraud Reporting section for additional details, including alternative options for reporting confirmed fraud.

FI that receives the return request should provide a response within the given time frame to the FI that sent the request.	Return request response (camt.029)	Return request accepted (IPAY) -or- Partially executed return request (PECR)	(Final response) - As soon as possible, but no later than midnight (ET) of the next standard business day (M-F, except holidays). Participant should immediately: 1. Provide final response (either IPAY or PECR) 2. Simultaneously, initiate a payment return
		Return request rejected (RJCR)	(Final response) - As soon as possible, but no later than midnight (ET) of the next standard business day (M-F, except holidays)
		Return request pending (PDCR)	(Initial response) - As soon as possible, but no later than midnight (ET) of the next standard business day (M-F, except holidays) • (Final response) - Final response to PDCR will be IPAY, PECR or RJCR as soon as the FI has concluded the investigation for further information, or within 10 standard business days (M-F, except holidays)

### c. How to Process a Return Request (camt.056)

This outlines the process for a return request (camt.056) and is followed by the return process in Section D below if the request was accepted.

Processing of return requests (camt.056) occurs in three sequential stages. Steps within each stage, expected outcomes and potential outcomes if exceptions or errors occur<sup>134</sup> are explained below. Return request is a nonvalue message, and Participant requirements are detailed in the nonvalue message section. Below is an example of a Participant that sent the Customer Credit Transfer (pacs.008) and later requests to have the payment returned by sending a return request (camt.056).

*Not included in the message flow:* The FedNow Service sends a receipt acknowledgement (admi.007) to the FedNow Sender to acknowledge processing of specific nonvalue messages (including camt.029 and camt.056). Additionally, the Receiver FI is required to send a receipt acknowledgement (admi.007) to the Sender FI acknowledging the receipt of the nonvalue message (including camt.029 and camt.056).<sup>135</sup>

#### 1. Validation Stage

Who	Required Steps	If No Exceptions	If Exceptions Occur	Action(s) to Correct Failure
Sender FI	Sends the return request (camt.056) to the FedNow Service, including: <ul style="list-style-type: none"> <li>Return request Reason code.</li> <li>Message details for the original Customer Credit Transfer</li> </ul>	FedNow Service receives camt.056 from Sender FI.	FedNow Service does not receive camt.056 from Sender FI.	<ul style="list-style-type: none"> <li>Sender FI should resend the camt.056 if this is a one-time non-receipt of admi.007.</li> <li>Sender FI should check its connection to the FedNow Service with a ping (admi.004) if multiple admi.007 are not received.</li> </ul>

<sup>134</sup> The list of exceptions is not exhaustive.

<sup>135</sup> See the receipt acknowledgement (admi.007) section for additional details.

	(pacs.008) or LMT (pacs.009).			
<b>FedNow Service</b>	Receives return request (camt.056) message from Sender FI and runs through all applicable validations listed below.	Message passes all validations and is sent to the Receiver FI.	<p>Message fails validation. Depending on the reasons, the FedNow Service:</p> <ol style="list-style-type: none"> <li>1. Rejects the message immediately and sends a message reject (admi.002) with the appropriate reason code to the Sender FI.</li> <li>2. Continues processing through validations to collect any additional errors. The FedNow Service sends a negative return request response (camt.029) with all<sup>136</sup> applicable error reason codes.</li> </ol>	<p>The Participant should:</p> <ol style="list-style-type: none"> <li>1. Review the error code description.<sup>137</sup></li> <li>2. Correct the identified error(s) to ensure all subsequent messages sent to FedNow Service meet requirements.</li> <li>3. If needed, send a new message with a new unique message ID.</li> </ol>

#### Validations for Return Request

<ul style="list-style-type: none"> <li>✓ Valid Message Signature</li> <li>✓ Valid Message Size</li> <li>✓ XML Syntax</li> </ul>	<ul style="list-style-type: none"> <li>✓ Authorized Sender</li> <li>✓ Confirm Unique Message ID</li> <li>✓ FedNow Service ISO 20022 Schema Rules followed</li> </ul>
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## 2. Response Stage

Who	Required Steps	If No Exceptions	If Exceptions Occur	Action(s) to Correct Failure
<b>Receiver FI</b>	Receives return request (camt.056) message from FedNow Service and begins to validate the message	Able to open and read the camt.056 from the FedNow Service.	Not able to validate message from FedNow Service (unable to read, digital signature, technical error, etc.). Receiver FI sends message reject (admi.002) to the FedNow Service. <sup>138</sup>	<ol style="list-style-type: none"> <li>1. Ensure the Participant's internal FedNow Service public keys list is up to date.</li> <li>2. Respond with a message reject (admi.002) indicating the received message was rejected.</li> <li>3. If issues persist, contact the Support Center.</li> </ol>
<b>Receiver FI</b>	Reviews message to determine if it intends to accept the message	Sends FedNow Service a return request response (camt.029) with code <b>IPAY</b> indicating it intends to accept the return request. <b>-or-</b>	Intends to reject return request (camt.056) and responds to the FedNow Service with return request response (camt.029) with code <b>RJCR</b> to FedNow Service along with the reason for rejection. <b>-or-</b> Return request (camt.056) requires further review and responds to the FedNow Service with return request response (camt.029) with code <b>PDCR</b> to FedNow Service.	N/A

<sup>136</sup> FedNow Service consolidates validation failures when possible.

<sup>137</sup> See Error Codes and Descriptions section of these Operating Procedures.

<sup>138</sup> Receiver FI should also call the Support Center (1-833-FRS-SVCS (377-7827)) with notification that it rejected with an admi.002. Initially, the FedNow Service does not respond to or process admi.002 messages sent from Participants. The FedNow Service anticipates being able to process the admi.002 message at a later date.

		Sends FedNow Service a return request response (camt.029) with code <b>PECR</b> indicating it intends to partially accept the return request.		
<b>FedNow Service</b>	Validate return request response (camt.029) from Receiver FI and passes through to Sender FI.	Sender FI is informed of the status of the return request.	Return request response (camt.029) fails validations. <b>-or-</b> Sender FI does not receive the return request response (camt.029).	If the request response (camt.029) fails validations, the Receiver FI should: 1. Review the error code description. <sup>139</sup> 2. Take necessary steps to correct the error identified and ensure that all subsequent messages sent to FedNow Service meet requirements. 3. Send a new message, as needed, with a new unique message ID. <b>-or-</b> If the message receipt (admi.007) has been received from the Receiver FI, the Sender FI should wait for the receiving FedNow Participant to respond with a camt.029 message indicating their intention to either honor or reject the request or communicate that a request is still pending. If no response is received by midnight (ET) of the next standard business day (M-F, except holidays), then another return request (camt.056) may be sent.

### 3. Payment Return Stage

**For the return request message flow, this stage is only applicable if the Receiver FI responded with IPAY or PECR.** If the Receiver FI intends to return the payment, they should initiate a payment return (pacs.004) message immediately. If the Receiver FI responded with reject (RJCR), then the Payment Return process has concluded at the Response Stage.

Payment returns for funds initially sent via the FedNow Service should be returned via the FedNow Service to facilitate reconciliation processes.

<sup>139</sup> See Error Codes and Descriptions section of these Operating Procedures.

## d. How to Process a Payment Return (pacs.004)

Processing of payment returns (pacs.004) occurs in four sequential stages. Initiating and subsequent message flow for a payment return (pacs.004) follows the same end-to-end processing across the FedNow Service as a Customer Credit Transfer (pacs.008). See *How to Process a Customer Credit Transfer (pacs.008)* for the steps, exceptions and Participant system actions that can resolve the issues described.

## 16.3 Liquidity Management Transfer (Financial Institution Credit Transfer) (pacs.009)

- a. Overview
- b. Additional Details
- c. How to Process an LMT (pacs.009)

### a. Overview

A Liquidity Management Transfer (LMT), also referred to as a Financial Institution Credit Transfer, is used to transfer funds between the Master Accounts or Correspondent account(s) of two FedNow Participants, or between a FedNow Participant's Master Account and a joint account. Excess Balance Account (EBA) agents may also use LMTs to transfer funds between an EBA account and the EBA agent's Master Account, in support of liquidity needs associated with instant payment activity.

### b. Additional Details

#### Usage and Availability of LMT

LMTs (pacs.009) are limited to transfer liquidity between FIs in support of liquidity needs associated with instant payments activity. The FI that is receiving the LMT (pacs.009) is not required to respond to the transfer with an accept or reject. They receive a pacs.009 when the payment has been settled in their Master Account, if the pacs.009 passes all FedNow Service validations.

Liquidity Management Transfers are allowed during specific windows.<sup>140</sup> The FedNow Service offers the option for FIs to participate in the FedNow Service for the sole purpose of supporting liquidity management transfers and funding or defunding Participants' joint account.

#### Joint Account Funding

FIs who participate in a private-sector instant payment service backed by a joint account maintained by the Federal Reserve Banks may use the FedNow Service for sending and receiving LMTs to and from a Master Account or Correspondent account, and the joint account. The joint account agent needs to request the enablement of the liquidity management transfer feature of the FedNow Service to send, receive and settle LMT messages sent through the FedNow Service. FIs in the private-sector service need to enable the LMT Participation Type in their FedNow Service Participant Profile to receive or send and receive FedNow Service LMTs.

#### Returning an LMT

If a Participant needs to return a previously received pacs.009 the Participant must initiate a new pacs.009. This can be after receiving a return request (camt.056) or if the initial Receiver FI determines that the LMT must be returned. The Participant can reference the original pacs.009 in the End To End reference or in the remittance information.

#### LMT Specific Risk Mitigant Controls

- Liquidity Management Transfer (LMT) Maximum Transaction Value Limit<sup>141</sup>
  - pacs.009 messages that contain a dollar value that exceeds the limit are rejected by the FedNow Service.
  - Participants can configure their maximum LMT limit to be less than the Network limit set by the FedNow Service.

<sup>140</sup> See Network Limits section for additional details.

<sup>141</sup> See Network Limits for LMT Maximum Transaction Value Limit.

- LMT Cumulative Daily Limit.<sup>142</sup>
  - A cumulative daily value limit an FI is eligible to send via the FedNow Service. The limit is set by the Federal Reserve Banks and monitored for breaches of the daily cumulative limit on an ex-post basis. The cumulative daily value limit is based on the FedNow Service cycle day, not LMT hours.

## c. How to Process an LMT (pacs.009)

Processing of LMTs (pacs.009) occurs in three sequential stages. Steps within each stage are detailed below, along with a column with expected outcomes, potential outcomes if exceptions or errors occur,<sup>143</sup> and Participant system actions that can resolve the issues described.

**Note:** Unlike the process for Customer Credit Transfers, the FedNow Service does *not* seek confirmation of Receiver FI's intention to accept before settling an LMT. The FedNow Service delivers a pacs.009 to confirm processing and as an advice of credit to the Receiver FI.

### 1. Validation Stage:

Who	Required Steps	If No Exceptions	If Exceptions Occur	Action(s) to Correct Failure
Sender FI	<p>Sends the LMT (pacs.009) to the FedNow Service.</p> <p>(See system and message preparation guidelines in the value messages section of these Operating Procedures.)</p>	FedNow Service receives pacs.009 from the Sender FI.	FedNow Service does not receive pacs.009 from the Sender FI.	<p>The Sender FI should wait a minimum of 25 seconds from the payment message creation date/time stamp to check message status by:</p> <ol style="list-style-type: none"> <li>1. Sending a payment status request to the FedNow Service (pacs.028) or searching in the FedNow interface Adhoc Query Tool <ol style="list-style-type: none"> <li>a. If the message was received and processed by the FedNow Service, a status is provided.</li> <li>b. If the response message is not found, the Participant can resend it with the same message ID as the previously sent message.</li> <li>c. If no response from the FedNow Service, check connection via Ping (admi.004) message.<sup>144</sup></li> </ol> </li> <li>2. If issues persist, contact the Support Center.</li> </ol>

<sup>142</sup> See Network Limits for LMT Maximum Transaction Value Limit.

<sup>143</sup> The list of exceptions is not exhaustive.


<sup>144</sup> See the Participant broadcast section for additional details.

Who	Required Steps	If No Exceptions	If Exceptions Occur	Action(s) to Correct Failure
<b>FedNow Service</b>	Receives (pacs.009) message from Sender FI and runs through all applicable validations listed below.	Message passes all validations and is sent to the Receiver FI.	Message fails a validation. Depending on the reason, the FedNow Service: 1. Rejects the message immediately and sends a Message reject (admi.002) with the appropriate reason code to the Sender FI. 2. Continues processing through validations to collect any additional errors. The FedNow Service then sends a Payment Status Message (pacs.002) with the consolidated <sup>145</sup> error reason codes.	The Participant should: 1. Review the error code description. <sup>146</sup> 2. Correct the identified error(s) to ensure subsequent messages service meet requirements. 3. If needed, send a new message with a new unique message ID.

#### Validations for LMT

<ul style="list-style-type: none"> <li>✓ Valid message signature</li> <li>✓ Valid message size</li> <li>✓ XML syntax</li> <li>✓ Authorized sender</li> <li>✓ Confirm unique message ID</li> <li>✓ FedNow Service ISO 20022 schema rules followed</li> <li>✓ Sending and Receiving FIs are Participants</li> <li>✓ Payment timeout clock has not been exceeded</li> <li>✓ Message is not future dated</li> </ul>	<ul style="list-style-type: none"> <li>✓ Within the FedNow Service transaction limit for LMT or the Sender FI transaction limit for LMT if configured for less than the FedNow Service limit</li> <li>✓ Receiver FI is active and profile is set to Send and Receive or Receive Liquidity Management Transfers</li> <li>✓ Sender FI is active and profile is set to Send and Receive Liquidity Management Transfers</li> <li>✓ Sender and Receiver FIs have valid settlement relationships</li> <li>✓ LMT is sent within the valid LMT window</li> <li>✓ <b>Optional:</b> Correspondent net send limit check, if enabled</li> </ul>
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## 2. Settlement Stage

Who	Required Steps	If No Exceptions	If Exceptions Occur	Action(s) to Correct Failure
<b>FedNow Service</b>	<p>Confirms settlement relationships, assigns a settlement date and settles transaction by recording it.</p> <p> <b>Payment Timeout Clock Stops</b></p>	The transaction settles with finality when the FedNow Service records the debit and credit to the Sender FI and Receiver FI designated master	N/A	N/A

<sup>145</sup> FedNow Service consolidates validation failures when possible.

<sup>146</sup> See the Error Codes and Descriptions section of these Operating Procedures.

		or joint accounts, respectively. <sup>147</sup>		
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### 3. Notification Stage (Post-Settlement)

Who	Required Steps	If No Exceptions Occur	If Exceptions Occur	Action(s) to Correct Failure
<b>FedNow Service</b>	Sends Payment Status Report (pacs.002) with code ACSC, within seconds, as confirmation to Sender FI and LMT (pacs.009) to the Receiver FI.	Sender FI and Receiver FI receive pacs.002 and pacs.009, respectively, from the FedNow Service.	Sender or Receiver FI does not receive pacs.002 or pacs.009 messages from the FedNow Service.	<p>To inquire about the status of an LMT (pacs.009), the Sender FI can send a payment status request (pacs.028) but would receive a response only after the payment timeout clock has elapsed plus a few additional seconds to allow for the message to complete processing. The Receiver FI can send a retrieval request<sup>148</sup> (admi.006) to receive a copy of the pacs.009.</p> <p>The Receiver FI also can contact the Sender FI for additional information.</p>

<sup>147</sup> Timing of debits and/or credits in the Master Accounts may lag payment settlement.

<sup>148</sup> Retrieval request is not yet available on the FedNow Service.

# 17. Nonvalue Messages

## a. Nonvalue Messages

The FedNow Service processes nonvalue messages that do not generate an accounting entry. Nonvalue messages include request for payment, request for information, request for return of funds, request for payment cancellation, and other administrative messages and can be sent from a Participant either to another Participant or to the FedNow Service. All ISO 20022 messages, including nonvalue messages, are subject to the FedNow Service ISO rules and guidelines, security procedures and processing standards. System preparation and compliance with ISO message requirements<sup>149</sup> apply to all Participants intending to send nonvalue messages to the FedNow Service.

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<sup>149</sup> See the FedNow ISO 20022 Messages section for details on requirements.

# 17.1. Request for Payment (RFP) (pain.013)

- a. Overview
- b. Zero-dollar RFP
- c. RFP and RFP Cancellation Request Usage
- d. RFP Processing Recommended Response Time Guidelines
- e. How to Process an RFP
- f. How to Process and RFP Cancellation Request

## a. Overview

A Request for Payment (RFP) allows a Participant, on behalf of itself or its end customer, to request a payment from another Participant or their end customer. If accepted, the Participant must initiate a Customer Credit Transfer (pacs.008). All Participants enabled for Customer Credit Transfers can send an RFP to a Receiver FI. The Receiver FI must have the appropriate FedNow Service participation type enabled to receive RFPs, i.e., Customer Credit Transfer Send and Receive with Receive Request for Payment and have the ability to present the RFP to the end customer.

## b. Zero-dollar RFP

The zero-dollar RFP market practice provides end users (e.g., billers) an opportunity to assess other end users' (e.g., customers) readiness to receive and act upon RFPs prior to sending them actual RFPs. While it is not required, the use of zero-dollar RFP messages prior to sending regular RFPs is recommended to improve the overall biller/customer experience with RFP onboarding. The zero-dollar RFP market practice is based on the existing RFP message flow and uses a subset of the RFP (pain.013) and RFP response (pain.014) messages.<sup>150</sup>

The processing of a zero-dollar RFP is similar to processing RFPs, with some simplified steps. A few of the differences are listed below. For full details on the processing of zero-dollar RFPs, see the Zero-dollar RFP Market Practice Guide.<sup>151</sup>

1. Admi.007 messages: admi.007 is not required from the Receiver FI, but the FedNow Service will still send the admi.007 upon receipt of pain.013 and pain.014.
2. Recommended response timelines: Zero-dollar RFP response should be sent instantly (whereas the response to regular RFPs may depend on the requested execution date, among other things).
3. Message codes: Only two response codes are used for zero-dollar RFP responses: Accepted (ACTC) and Rejected (RJCT). FIs should not use the codes: Received (RCVD) and Presented (PRES) for Zero-Dollar RFPs, since the RFP is not actually presented to the end user.

## c. RFP and RFP Cancellation Request Usage

Below is a high-level description of RFP messages, potential use cases and message status codes.<sup>152</sup>

<sup>150</sup> The FedNow Service applies the same validation for zero-dollar RFPs as for regular RFP messages. Absence or presence of elements that are required or not desired, respectively, from a zero-dollar RFP market practice or regular RFP message, will not cause the FedNow Service to reject the message.

<sup>151</sup> The FedNow Service zero-dollar RFP market practice guide available on the [MyStandards web portal](#).

<sup>152</sup> See the FedNow Service ISO 20022 Implementation Guide for additional details.

Message	RFP Message Description	Potential Usage <sup>153</sup>
Request for payment (RFP) (pain.013)	Sender FI requests funds.	<p>A Sender FI can initiate an RFP on behalf of itself or its end customer, which can be:</p> <ul style="list-style-type: none"> <li>• Individuals</li> <li>• Businesses</li> <li>• Government agencies</li> </ul> <p>...for services that include:</p> <ul style="list-style-type: none"> <li>• Payment or repayment of a debt between two individuals</li> <li>• Bill pay</li> <li>• Tax or fee collection.</li> </ul> <p>RFPs can request an immediate payment or payment in the future.</p>
RFP response (pain.014)	Receiver FI informs Sender FI about an RFP message's processing status.	<p>RFP response options:</p> <ul style="list-style-type: none"> <li>• Received (RCVD): Confirms RFP was received by the Receiver FI.</li> <li>• Presented (PRES): RFP was presented to the end customer for response.</li> <li>• Accepted (ACTC): Forthcoming payment via Customer Credit Transfer (pacs.008).</li> <li>• Rejected (RJCT): Account ineligible, an issue with the RFP or end customer rejected/will not pay, etc.</li> </ul>

Below is a high-level description of RFP Cancellation Request messages, potential use cases and status codes.<sup>154</sup>

Message	RFP Cancellation Message Description	Potential Usage <sup>155</sup>
RFP cancellation request (camt.055)	Sender FI asks to cancel a previously sent RFP (pain.013).	<p>An RFP cannot be changed. Instead, Sender FI must cancel the initial RFP and submit a new RFP to address:</p> <ul style="list-style-type: none"> <li>• Duplicate RFP.</li> <li>• Error in initial RFP.</li> <li>• RFP is no longer applicable.</li> <li>• RFP was paid via another channel, etc.</li> </ul>
RFP cancellation request response <sup>156</sup> (camt.029)	Receiver FI informs Sender FI about the processing status of a previous RFP cancellation request (camt.055).	<p>RFP cancellation request response options:</p> <ul style="list-style-type: none"> <li>• Cancelled (CNCL): RFP was cancelled by Receiver FI.</li> <li>• Rejection of cancellation (RJCR): Either the RFP will be sent by the Receiver FI, or the RFP was previously rejected.</li> <li>• Pending investigation (PDCR): Additional messages to follow.</li> </ul>

<sup>153</sup> Not all inclusive.

<sup>154</sup> See the FedNow Service ISO 20022 Implementation Guide for additional details.

<sup>155</sup> Not all inclusive.

<sup>156</sup> Participant can inquire about the status using an information request (camt.026). See the Information Request section for additional details.

## d. RFP Processing Recommended Response Time Guidelines

Key Term <sup>157</sup>	Description
Expiry date	Indicates the date – or date and time (ET) – by which the end customer or Receiver FI should accept or reject the RFP. An expiration date without a time has a default value of midnight ET on the specified date. This action is based on calendar date, not cycle day. For example, an RFP with a requested expiry date of Friday, Oct. 15, the Receiver FI should allow the end customer to act upon the RFP until 23:59:59 ET on Friday, Oct. 15. Note this date/time may be later than or equal to the requested execution date to accommodate late payments, for example.
Requested execution date	Indicates the date – or date and time (ET) – by which the end customer or Receiver FI should initiate the Customer Credit Transfer (pacs.008), assuming the RFP was accepted. This action is based on calendar date, not cycle day. This is similar to the due date.

Below, see guidelines for Participants to respond to RFP and RFP cancellation request messages. These guidelines are a strong recommendation for Participants responding to the indicated message. Response times may differ if the Participant receiving the message is signed off from the service or unable to respond due to maintenance or other conditions.

RFP Response Time Guidelines			
Participant Action	Message	Response Code <sup>158</sup>	Recommended Response Time
Receiver FI provides an initial RFP response to the Sender FI.  <i>This optional step is a recommended best practice.</i>	Initial RFP Response (pain.014)	Received (RCVD)	<ul style="list-style-type: none"> <li>Immediately: Receiver FI should inform the Sender FI that the request for payment was received.</li> <li>Follow up as soon as possible after status is determined: When the initial RFP response (pain.014) is RCVD, the Receiver FI should provide a status update to the Sender FI when the Accepted (ACTC) or Rejected (RJCT) status is determined.</li> </ul> <p>If automatically accepted: If automatic approval is enabled between the Receiver FI and its customer, there is no need to include the interim received or presented responses.</p>
		Presented (PRES)	<ul style="list-style-type: none"> <li>As soon as possible: Receiver FI should inform the Sender FI once the RFP (pain.013) is presented.</li> <li>Follow up as soon as possible after status is determined: When the initial RFP response (pain.014) is Presented (PRES), the Receiver FI should provide a status update to the Sender FI when the Accepted (ACTC) or Rejected (RJCT) status is determined.</li> </ul> <p>If automatically accepted: If automatic approval is enabled between the Receiver FI and its customer, there is no need to include the interim received or presented responses.</p>
Receiver FI provides a final RFP response to the Sender FI.	Final RFP Response (pain.014)	Accepted (ACTC)	Up to the RFP expiry date (pain.013), the Receiver FI must send the Customer Credit Transfer (pacs.008) immediately or by the requested execution date.
		Rejected (RJCT)	<ul style="list-style-type: none"> <li>Immediately, if the Receiver FI is the rejecting party (include the reason code<sup>159</sup>).</li> <li>As soon as possible, if the Receiver FI's end customer is the rejecting party (include reason code).</li> </ul>

<sup>157</sup> See the FedNow Service ISO 20022 Implementation Guide for additional details.

<sup>158</sup> See the FedNow Service ISO 20022 Implementation Guide for additional details.

<sup>159</sup> See the FedNow Service ISO 20022 specifications for a list of reason codes.

RFP Cancellation Request Response Time Guidelines			
Participant Action	ISO 20022 Message	Response Code	Recommended Response Time
Sender FI asks Receiver FI to cancel a previous RFP.	RFP cancellation request (camt.055)	N/A	A Sender FI can request an RFP cancellation if the payment has not been made.
Receiver FI provides an initial response to the Sender FI.  <i>This optional step is a recommended best practice.</i>	Initial RFP cancellation request response (camt.029)	Pending (PDCR)	Immediately: Receiver FI should inform the Sender FI that the request is being investigated.
Receiver FI provides a final response to Sender FI that payment has been executed.	Final RFP cancellation request response (camt.029)	Cancelled (CNCL)	Immediately or up to the requested execution date of the initial RFP (pain.013).
		Rejected (RJCR)	<ul style="list-style-type: none"> <li>Immediately on confirmation from the customer/Receiver FI.</li> <li>Required if status is PDCR pending.</li> </ul>

## e. How to Process an RFP

Requests for payment and requests for payment response requirements are detailed in the nonvalue message section of these Operating Procedures.

*Not included in the message flow below:* The FedNow Service sends a receipt acknowledgement (admi.007) to the FedNow Sender to acknowledge successful processing of specific nonvalue messages, including pain.013 and pain.014. Additionally, the Receiving FI is required to send a receipt acknowledgement (admi.007) to the FedNow Sender acknowledging the receipt of the nonvalue messages, including pain.013 and pain.014.<sup>160</sup>

### 1. Sending and Validation Stage

Who	Required Steps
Sender FI	Sends the RFP (pain.013) to the FedNow Service.
FedNow Service	<ol style="list-style-type: none"> <li>1. Receives RFP (pain.013) from the Sender FI and runs through all applicable validations listed below.</li> <li>2. If the message passes all validations, the pain.013 is sent to the Receiver FI.</li> <li>3. If the message fails validation, depending on the reason, the FedNow Service: <ul style="list-style-type: none"> <li>o Rejects the message immediately and sends a Message Reject (admi.002) with the appropriate reason code to the Sender FI.</li> </ul> </li> </ol>

<sup>160</sup> See the receipt acknowledgement (admi.007) section for additional details.

- Continues processing through additional validations to collect any additional errors and send a negative RFP Response (pain.014) with the consolidated<sup>161</sup> appropriate error reason codes.<sup>162</sup>

#### Validations for RFP (pain.013)

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>✓ Valid message signature</li> <li>✓ Valid message size</li> <li>✓ XML syntax</li> </ul> | <ul style="list-style-type: none"> <li>✓ Authorized sender</li> <li>✓ Confirm unique message ID</li> <li>✓ FedNow Service ISO 20022 schema rules followed</li> </ul> |
|---|--|

## 2. Response Stage

Who	Required Steps
Receiver FI	<ol style="list-style-type: none"> <li>1. Receives the RFP (pain.013).</li> <li>2. Validates the message content based on the Receiver FI's criteria. The Receiver FI can reject the message for technical or business reasons (e.g., wrong account or invalid account number).</li> <li>3. Notifies the end customer of the RFP (pain.013) as soon as possible following the response time guidelines. As a best practice: <ul style="list-style-type: none"> <li>• Respond to the Sender FI with an RFP response (pain.014) indicating the RFP (pain.013) has been received (RCVD).</li> </ul> <p><b>And (as separate message) / or</b></p> <ul style="list-style-type: none"> <li>• Respond to the Sender FI with an RFP response (pain.014), including its Presented (PRES) status to indicate the end customer has viewed the RFP.</li> </ul> </li> </ol>
Receiver FI accepts the RFP	<ol style="list-style-type: none"> <li>1. The end customer informs the Receiver FI that it accepts the RFP.</li> <li>2. The Receiver FI sends a pain.014 with the ACTC code to the FedNow Service.</li> <li>3. The pain.014 must pass all validations before the FedNow Service forwards it to the Sender FI.</li> <li>4. The Receiver FI prepares and sends the Customer Credit Transfer (pacs.008) to the Sender FI by midnight ET of the requested execution date in the original RFP.</li> </ol> <p><i>This completes the RFP transaction. No further action is necessary on the pain.013 or pain.014 messages.</i></p>
Receiver FI rejects the RFP	<ol style="list-style-type: none"> <li>1. The end customer informs the Receiver FI that it rejects the RFP.</li> <li>2. The Receiver FI sends a pain.014 with the RJCT code and reason code(s) to the FedNow Service.</li> <li>3. The pain.014 must pass all validations before the FedNow Service forwards it to the Sender FI.</li> </ol> <p><i>This completes the RFP transaction. Any additional discussion between the Sender and Receiver FI should occur offline.</i></p>

## f. How to Process an RFP Cancellation Request

Requirements for RFP cancellation requests and RFP cancellation request response are detailed in the nonvalue message section.

<sup>161</sup> The FedNow Service consolidates validation failures when possible.

<sup>162</sup> See the Error Codes and Descriptions section for additional details.

Not included in the message flow below: The FedNow Service sends a receipt acknowledgement (admi.007) to the Sender FI to acknowledge successful processing of specific nonvalue messages, including camt.055 and camt.029. Additionally, the Receiver FI is required to send a receipt acknowledgement (admi.007) to the FedNow Sender acknowledging the receipt of the nonvalue message, including camt.055 and camt.029.<sup>163</sup>

## 1. Sending and Validation Stage

Who	Required Steps
Sender FI	<ol style="list-style-type: none"> <li>The Sender FI or its end customer wants to cancel the RFP it initiated. Before sending a cancellation...</li> <li>The Sender FI should confirm the initial RFP (pain.013) has either: <ul style="list-style-type: none"> <li>Not been accepted or rejected by the Receiver FI or its end customer; status is either Received (RCVD) or Presented (PRES).</li> <li>Been accepted by the Receiver FI (or end customer), but the subsequent Customer Credit Transfer (pacs.008) was not received.</li> </ul> </li> <li>Sender FI verifies the expiry date has not elapsed or been exceeded, then sends an RFP cancellation request (camt.055) to the FedNow Service.</li> </ol>
FedNow Service	<ol style="list-style-type: none"> <li>Receives an RFP cancellation request (camt.055) from the Sender FI and runs through all applicable validations listed below.</li> <li>If the message passes all validations, the FedNow Service sends the camt.055 to the Receiver FI.</li> <li>If the message fails validation, the FedNow Service: <ul style="list-style-type: none"> <li>Rejects the message immediately and sends a message reject (admi.002) with the appropriate reason code(s) to the Sender FI.</li> <li>Continues processing through additional validations to collect any additional errors and send a negative RFP Cancellation Request Response (camt.029) with the consolidated<sup>164</sup> appropriate error reason code(s).<sup>165</sup></li> </ul> </li> </ol>

### Validations for RFP Cancellation Request (camt.055)

- ✓ Valid message signature
- ✓ Valid message size
- ✓ XML syntax

- ✓ Authorized sender
- ✓ Confirm unique message ID
- ✓ FedNow Service ISO 20022 schema rules followed

## 2. Response Stage

Who	Required Steps
Receiver FI	<ol style="list-style-type: none"> <li>Receives the RFP cancellation request (camt.055).</li> <li>Verifies the initial RFP (pain.013) was not rejected or accepted – or if accepted, the subsequent Customer Credit Transfer (pacs.008) has not yet been sent.</li> <li>As a best practice, the Receiver FI should send an RFP cancellation request response (camt.029) of pending (PDCR) if an immediate accept (CNCL) or reject (RJCR) if not possible.</li> </ol>

<sup>163</sup> See the receipt acknowledgement (admi.007) section for additional details.

<sup>164</sup> The FedNow Service consolidates validation failures when possible.

<sup>165</sup> See the Error Codes and Descriptions section for details on error codes.

<b>Receiver FI honors the cancellation request</b>	<p>The Receiver FI should:</p> <ol style="list-style-type: none"> <li>1. Cancel the original RFP (pain.013) it received.</li> <li>2. Send an RFP cancellation request response (camt.029) with a cancelled (CNCL) response code to the FedNow Service.</li> <li>3. If the message passes all validations, the FedNow Service forwards the camt.029 to the Sender FI.</li> </ol>
<b>Sender FI</b>	<ol style="list-style-type: none"> <li>1. The Sender FI receives the RFP cancellation request response (camt.029) message with the RFP cancellation request response code CNCL indicating the request was cancelled.</li> <li>2. The Sender FI should notify its end customer of the request status.</li> </ol> <p><i>No further action is needed.</i></p>
<b>Receiver FI does not honor the cancellation request</b>	<ol style="list-style-type: none"> <li>1. The Receiver FI sends an RFP cancellation request response (camt.029) with a rejection (RJCR) response code to the FedNow Service indicating the initial RFP cancellation request is rejected.</li> <li>2. If the message passes all validations, the FedNow Service forwards the camt.029 message to the Sender FI.</li> </ol>
<b>Sender FI</b>	<ol style="list-style-type: none"> <li>1. The Sender FI receives the RFP cancellation request response (camt.029) with the RFP cancellation request response code RJCR indicating the request was rejected.</li> <li>2. The Sender FI should notify its end customer of the request status.</li> </ol> <p><i>Any additional discussion between the Sender and Receiver FI should occur offline. If the payment was sent, the Sender FI may use the payment return (pacs.004) process to return the Customer Credit Transfer (pacs.008).</i></p>

## 17.2. Information Request (camt.026)

- a. Overview
- b. Additional Details
- c. Information Request Processing Recommended Response Time Guidelines
- d. How to Process an Information Request (camt.026)

### a. Overview

An information request is used by a Sender FI, Receiver FI or on behalf of their end customer to communicate with another Participant for more information on an instant payment (pacs.008 or pacs.004) or an RFP (pain.013).

### b. Additional Details

#### Information Request Overview and Usage

Below is a high-level description of information request messages, potential use cases and message status codes.<sup>166</sup> Subsequent sections provide the more detailed message flow.

ISO 20022 Message	Message Descriptions	Potential Usage <sup>167</sup>
Information Request (camt.026)	Receiver FI asks the Sender FI to provide further information on a previously sent Customer Credit Transfer (pacs.008), payment return (pacs.004) or RFP instruction (pain.013).	<p>For a Customer Credit Transfer (pacs.008) or payment return (pacs.004), the Receiver FI or end customer:</p> <ul style="list-style-type: none"> <li>• Responds with Accept Without Posting (ACWP) and needs more information for further investigation due to legal or compliance reasons.</li> <li>• Responds with accept (ACTC) but requires more information about the payment source or amount.</li> </ul> <p>For the RFP (pain.013), the Receiver FI or end customer:</p> <ul style="list-style-type: none"> <li>• Finds the payment request contains missing or incorrect information.</li> <li>• Requires further information on the payment amount or payment request expiry date.</li> <li>• Requests an extension of the expiration date.</li> </ul>
Information Request Response (camt.029)	Sender FI informs the Receiver FI about the processing status of a previously received information request (camt.026) message.	<p>Information request response options:</p> <ul style="list-style-type: none"> <li>• Pending (PDNG): Information request is being reviewed.</li> <li>• Payment instruction is duplicate (IDUP).</li> <li>• Additional information will be sent (INFO) in an additional payment information message (camt.028)</li> </ul>

<sup>166</sup> See FedNow Service ISO 20022 Implementation Guide for additional details.

<sup>167</sup> Not all inclusive.

		<ul style="list-style-type: none"> <li>• Payment initiated (IPAY)</li> <li>• No further information available (NINF)</li> </ul>
Additional Payment Information (camt.028)	Sender FI provides additional information to the Receiver FI.	Used to provide additional information to the Receiver FI before or at the same time as an information request response message (camt.029).

### c. Information Request Processing Recommended Response Time Guidelines

The table below outlines response guidelines for information request process messages. These guidelines are a strong recommendation for Participants responding to the indicated message. Participants should consider that the response time may differ if the Participant receiving the message is signed off from the service or not able to respond due to maintenance or other conditions.

Information Request Response Time Guidelines			
Participant Action	ISO 20022 Message	Response Code	Response Guideline
Sender FI provides initial response to Receiver FI, if needed.	Initial information request response (camt.029)	Pending (PDNG)	As soon as possible, but no later than midnight (ET) of the next standard business day (M-F, except holidays). <ul style="list-style-type: none"> <li>• Update every five standard business days (M-F, except holidays) until final response is provided.</li> </ul>
Sender FI provides a response to the Receiver FI.	Initial or final information request response (camt.029)	Additional information sent (INFO)	As soon as possible, but no later than midnight (ET) of the next standard business day (M-F, except holidays).
		No further information available (NINF)	
		Duplicate payment (IDUP)	
		Payment initiated (IPAY)	As soon as possible, but no later than midnight (ET) of the next standard business day (M-F, except holidays). <ul style="list-style-type: none"> <li>• In case of IPAY, a payment must be initiated immediately.</li> </ul>
Sender FI provides response to the Receiver FI if camt.029 code INFO was previously sent.	Additional Payment Information (camt.028)	Additional Information Sent (INFO)	Simultaneously with the information request response (camt.029).

### d. How to Process an Information Request (camt.026)

Requirements for information request, information request response and additional payment information are detailed in the nonvalue message section.

Not included in the message flow below: The FedNow Service sends a receipt acknowledgement (admi.007) to the Sender FI to acknowledge successful processing of specific nonvalue messages, including camt.026, camt.029 and camt.028. Additionally, the Receiver FI is required to send a receipt acknowledgement (admi.007) to the FedNow Sender acknowledging the receipt of nonvalue messages, including camt.026, camt.029 and camt.028.<sup>168</sup>

## 1. Sending and Validation Stage

Who	Required Steps
Receiver FI	Sends an information request (camt.026) to the Sender FI to obtain more information about pacs.008, pacs.004 or pain.013 messages.
FedNow Service	<ol style="list-style-type: none"> <li>1. Receives information request (camt.026) from the Receiver FI and runs through all applicable validations listed below.</li> <li>2. If the message passes all validations, sends the camt.026 to the Sender FI.</li> <li>3. If the message fails validation, the FedNow Service rejects the message immediately and sends a message reject (admi.002) with the appropriate reason code to the Sender FI.</li> </ol>

Validations for Information Request Messages	
<ul style="list-style-type: none"> <li>✓ Valid message signature</li> <li>✓ Valid message size</li> <li>✓ XML syntax</li> </ul>	<ul style="list-style-type: none"> <li>✓ Authorized sender</li> <li>✓ Confirm unique message ID</li> <li>✓ FedNow Service ISO 20022 schema rules followed</li> </ul>

## 2. Response Stage

Who	Required Steps
Sender FI	<ol style="list-style-type: none"> <li>1. Receives the information request (camt.026) from the Receiver FI.</li> <li>2. Notifies the end customer of the information request (camt.026).</li> <li>3. Responds to the Receiver FI with an information request response (camt.029) message with information request response codes.</li> <li>4. If the Sender FI responds with INFO, the information request response (camt.029) should be followed by an additional payment information (camt.028) message with the details.</li> </ol> <p>Note: If the Sender FI is unable to retrieve or find the message specified in the camt.026 using the message ID, the Sender FI should respond with another camt.026 to explain that the message ID was not found and include the case identification of the original camt.026.</p>
FedNow Service	<ol style="list-style-type: none"> <li>1. Receives the information request response (camt.029) from the Sender FI and runs through all applicable validations (see above).</li> <li>2. If the message passes all validations, the camt.029 is sent to the Receiver FI.</li> <li>3. If the message fails validation, the FedNow Service rejects the message immediately and sends a message reject (admi.002) with the appropriate reason code to the Sender FI.</li> </ol>
Receiver FI	<ol style="list-style-type: none"> <li>1. The Receiver FI and end customer determine action based on information received from the Sender FI.</li> <li>2. A Receiver FI can reach out to the Sender FI offline for more information.</li> </ol>

<sup>168</sup> See the receipt acknowledgement (admi.007) section for additional details.

## 17.3. Account Credit/Debit Notification (camt.054)

- a. Overview
- b. How to Process an Account Credit/Debit Notifications (camt.054)

### a. Overview

The FedNow Service offers account debit/credit notifications<sup>169</sup> on an opt-in basis for Correspondents that have enabled a Participant Profile. The FedNow Service uses an account credit/debit notification (camt.054) message to provide these Correspondents with real-time notice of a value payment (pacs.008, pacs.009, pacs.004) that was processed and settled by the FedNow Service. If the Correspondent enables the account credit/debit notification option, the Correspondent may permit up to two Connection Parties per Participant Profile to receive the credit/debit notifications.

The credit/debit notification (camt.054) shows settlement of funds. Transactions that are rejected and not settled do not generate a credit/debit notification (camt.054), nor will the transaction be included in Correspondent activity details/totals reports, as it has not been settled in the Master Account.

### b. How to Process an Account Credit/Debit Notifications (camt.054)

The table below depicts the message flow of an account debit/credit notification via a one-way message from the FedNow Service directly to a Correspondent, as well as ways the Participant's system can resolve issues.

Who	Required Steps	If No Exceptions	If Exceptions Occur	Action(s) to Correct Failure
Correspondent	Within the FedNow Service profile, enable credit/debit notifications (camt.054) to support reconciliation of respondents' activity.	Correspondent receives notifications for each credit or debit transaction settled across the FedNow Service for activity on its respondents' RTNs.	No notifications are received.	Confirm the credit/debit notifications (camt.054) service is enabled for the desired respondent RTN via the correspondent's Participant Profile settings and permissions.
Respondent	Sends or receives an instant payment message (pacs.008 or pacs.004) or a LMT (pacs.009) to be processed via the FedNow Service.	The FedNow Service processes and completes settlement of the transaction.	N/A	N/A
FedNow Service	Settles the transaction and notifies both the Sender and Receiver FIs of the transaction settlement.	The respondent receives the payment status notification (pacs.002 or pacs.009).	N/A	N/A
	Sends the Correspondent an account debit credit notification (camt.054 with identification ADCN) to confirm funds settlement, but not to indicate ACSC or ACWP status.	Correspondent receives the camt.054.	Correspondent does not receive the notification.	Confirm the credit/debit notifications (camt.054) service is enabled for the respondent/Correspondent settlement relationship via their FedNow Service Participant Profile settings and permissions.

<sup>169</sup> Also referred to as correspondent notifications.

## 18. Reports and Reconciliation

### a. System Preparation for Sending Report Requests

The FedNow Service provides reports about RTN activity, including value and nonvalue messages. Reports can be retrieved via ISO 20022 messaging or the FedNow interface.

All ISO 20022 messages, including reporting messages, are subject to FedNow Service ISO rules and guidelines, security procedures and processing standards. System preparation applies to all Participants intending to send or receive FedNow Service reporting messages and therefore, must be implemented before sending or receiving messages. This includes following the requirements for all ISO 20022 messages<sup>170</sup> and additional reporting message requirements:

- Include the appropriate report identification code to ensure the FedNow Service responds with the appropriate report.

Code	Participant Report Name	Code	Correspondent Report Name
ABAR	• Account balance report	CATR	• Correspondent activity totals report
AATR	• Account activity totals report	CADR	• Correspondent activity details report
AADR	• Account activity details report	CITR	• Correspondent intraday totals report
IATR	• Intraday activity totals report		

- Identify single or multiple RTNs for the requested report.
- For an account balance report, identify the type of account, such as master (M) or single routing number (S).
- Identify who is requesting the report:
  - Account owner.
  - Service Provider on behalf of a Participant.
  - Correspondent on behalf of itself.
  - Correspondent on behalf of a respondent.
- Identify FedNow Service cycle day or range of dates for the activity totals/activity details report.

<sup>170</sup> See the FedNow ISO 20022 Messages section for details on requirements.

# 18.1. FedNow Service and Accounting Reports

- a. Overview
- b. Additional Details
- c. List of Available Reports (FedNow Service and Accounting)
- d. How to Initiate a FedNow Service Report Request (camt.060)

## a. Overview

The FedNow Service provides reports so Participants can reconcile their FedNow Service activities. Participants must monitor their balances to ensure appropriate funding because the FedNow Service does not check balances before processing transactions. Correspondents also can receive reports on their respondents' activities.

All reports can be requested via camt.060 messages, and reports are provided via camt.052 messages. Reports with the same information contained in the camt.052 message can be accessed via the FedNow interface. Four report categories support reconciliation of FedNow Service activity: FedNow Service reports, Correspondent reports, Adhoc Query Tool, and Accounting reports (which include FedNow account activity). Report access limitations via ISO messaging and the FedNow interface are based on Connection Party permissions.

## b. Additional Details

### Seven-day Accounting and Reconciliation

The FedNow Service operates on a seven-day accounting model, including weekends and holidays. Individual FIs are not required to adopt this model. Reports provided by the FedNow Service and accounting aid in account reconciliation.

### Receiving FedNow Service Reports at EOD or On Demand

Participants may choose to receive account activity totals (AATR), account activity details (AADR), Correspondent activity totals (CATR) and/or Correspondent activity details (CADR) reports automatically at the end of the day via the FedNow interface setting. Account balance (ABAR), intraday activity totals (IATR) and Correspondent activity totals (CITR) reports can be requested intraday using ISO 20022 messaging (camt.060). Reports can be downloaded via the FedNow interface.<sup>171</sup> Only Participants that have the setting enabled and have an active profile will receive EOD reports automatically. If the setting is enabled to receive EOD reports, or if a Participant requests an intraday report and the Participant has had no activity on the FedNow Service for a given cycle day, a report is generated with zeroes in all fields.

### Access to FedNow Service Reports<sup>172</sup>

Access to Account Balance Report (ABAR) is available for master/primary account or subaccount. All other FedNow Service Reports are available to all account types.

Participants may view their own account activity and that of RTNs associated with their accounts. In order to receive a report, the Participant must have Connection Party permissions related to request origination and/or EOD report receiving enabled.

<sup>171</sup> See FedNow interface How-To Guide for additional details.

<sup>172</sup> Reference the Participant Profile section for additional details.

A FedNow Participant Profile with multiple Connection Parties (owned by different Service Providers) may choose to allow multiple Service Providers report access. The reports include all activity for the Participant Profile (RTN), not specific to the activity through one Connection Party as reports are filtered at the Participant level and not by Connection Party.

A Connection Party mapped to multiple Participant Profiles can obtain activity reports for all Participant Profiles that have enabled the permission for the Connection Party.

When requesting a report via ISO message for an RTN without permissions enabled, the request is rejected. If requesting for multiple RTNs and some have permissions enabled, the reports are provided for the permissioned RTNs only.

Correspondents with a FedNow Participant Profile may receive account balance reports (camt.052) on demand and can automatically receive end-of-day Correspondent activity totals and activity detail reports, if enabled. Correspondents may choose to establish a settlement-only Participant Profile for the sole purpose of accessing these reports. Correspondents also may enable real-time credit/debit notifications (camt.054) for near-real-time reconciliation. Correspondents that do not have a Participant Profile or are not connected to the FedNow Service only receive reports related to FedNow Service activity for their respondent(s)' activity via Accounting Reports.

### **Account Activity Details Report Delivery via ISO Messaging**

The Account Activity Details Report includes the transaction level information per RTN. The specifications for this report call for pagination.

Currently, pagination for the details report is not available. Until pagination is available, the details report follows the below:

- The AADR is provided as one page in an ISO message (camt.052), regardless of message count.
- If an RTN has more than 15,000 messages in the cycle day, the details report is not available via ISO messaging (either at EOD or by request).
  - If the Participant is enabled to receive the report automatically and it is over 15,000 messages, the report is not delivered.
  - If the Participant sends an ISO camt.060 request for the report and the report is over 15,000 messages, the request is rejected with a message reject (admi.002) and error code E301.
- If an RTN has more than 15,000 messages in the cycle day, the full report can be downloaded via the FedNow interface.

Once pagination is available:

- Each page of the AADR is provided as one ISO Message (camt.052) and includes its page number.
- Pagination is set at or below 5,000 messages per camt.052.
- The Transactions Summary component occurs on the first page only.
- The end of the report is indicated using the Last Page Indicator field.
- The AADR is available for download via FedNow interface and includes page numbers and last page indicator.

### **Obtaining Historical FedNow Service Reports**

Historical FedNow Service reports can be obtained via the account activity report request (camt.060 with code AATR, AADR, CATR, CADR) for the previous 90 cycle days.

The Adhoc Query Tool in the FedNow interface provides some details for historical messages for the previous seven cycle days.

If an AATR or AADR report request includes multiple dates or RTNs, the FedNow Service provides individual reports by RTN for each cycle day.

Guidelines for requesting historical account activity totals or detail reports for a specific date or range of dates:

Reporting Request	Result
1. Request sent when the profile is active for cycle day(s) reports when the Participant Profile was active and had FedNow Service activity.	Separate report is sent for each cycle day.
2. Request sent when the profile is active for a cycle day(s) report when the Participant Profile was active status but did not have FedNow Service activity.	Separate report for each cycle day reflects zeroes in all fields.
3. Request sent when the profile is active, but for cycle day(s) when the Participant Profile was in inactive, pending activation, suspended or deactivated.	Separate report for each cycle day reflects zeroes in all fields.
4. Request sent when the profile is active, for cycle days that include dates when the Participant Profile was active and other dates when it was inactive, pending activation, suspended or deactivated.	Separate report for each cycle day, report has zeroes in all fields if no activity or profile status for day is inactive, pending activation, suspended or deactivated.

## Accounting Reports

Participants may access information about their FedNow Service activity via Accounting Reports offered through Account Management Information (AMI) with proper credentialing. For further information, see the [Account Management Guide](#) on [FRBservices.org](#).

## FedNow Service Reporting During Cycle Day Rollover

Participants or their Service Providers may request account balances and FedNow Service intraday activity totals at any time. When the cycle day rolls to a new cycle day at approximately 7:01 p.m. ET, a provisional balance for the account balance report may be provided until accounting has completed its end-of-day cycle process. On non-standard business days, such as weekends and holidays, the provisional balance remains until the next standard business day.

The FedNow Services adheres to daylight saving time, impacting the timing of cycle day rollover and related EOD reporting activities, when applicable. The time stamps used in the various messages originated by the FedNow Service always contain the offset from UTC, making easier for Participants to properly identify the time stamp.

## Real-Time Notifications

Immediate reconciliation functions are supported by real-time advices, acknowledgments and notifications of credit/debit activity using the below. When Participants receive these, they must validate that the message ID is unique.<sup>173</sup>

- For instant payments (pacs.008 and pacs.004) - advice of credit and acknowledgments (pacs.002).
- For liquidity management transfer – acknowledgment (pacs.002) and liquidity management transfer (pacs.009).
- For Correspondents - Credit/debit notifications (camt.054) show respondent settlement activity<sup>174</sup> for both instant payment and LMT.

<sup>173</sup> See Duplicate Messages in FedNow ISO 20022 ISO Messages section for additional details.

<sup>174</sup> See Account Credit Debit Notification section for additional details.

## c. List of Available Reports (FedNow Service and Accounting)

Report Name	Default FedNow Profile Setting	Reporting Availability	Report Details
<b>FedNow Service Reports</b> Available via Account Report Request (camt.060) or the FedNow interface			
Account Balance Report (camt.052)  Report code: ABAR	N/A	Intraday by request  Download PDF via the FedNow interface	Data for each RTN is provided in real time at a summary level, including account balance and related information for the Master Account RTN and subaccount(s).  This report includes balance information for: <ul style="list-style-type: none"> <li>• FedNow Service</li> <li>• Fedwire Funds Service</li> <li>• Fedwire Securities Service</li> <li>• National Settlement Services</li> <li>• Prefunded ACH</li> <li>• All other activity settling in the account</li> </ul> Account balance reports are not available to Service Providers or subaccount holders unless the accounting form is completed to grant affiliate access to the Master Account.
Account activity totals report (camt.052)  Report code: AATR	Enabled for automatic end-of-day distribution by default; can be disabled by Participants and/or Service Providers.	Generated after cycle day rollover and typically distributed by 7:30 p.m. ET (unless the cycle date is extended)  Download XML, CSV or PDF via the FedNow interface	Data is at a summary level per RTN.  Account activity totals reports include both value messages and nonvalue messages.  Account activity totals report data elements: <ul style="list-style-type: none"> <li>• Total debit amount accepted</li> <li>• Total number of debit transactions accepted</li> <li>• Total number of value messages rejected</li> <li>• Total credit amount accepted</li> <li>• Total number of credit transactions accepted</li> <li>• Total number of rejected value messages sent</li> <li>• Value messages include: <ul style="list-style-type: none"> <li>• Instant payments (pacs.008 and pacs.004)</li> <li>• LMT (pacs.009)</li> </ul> </li> <li>• Total number of nonvalue messages received</li> <li>• Total number of nonvalue messages sent</li> <li>• Nonvalue messages include: <ul style="list-style-type: none"> <li>• Return request (camt.056) and return request response (camt.029)</li> <li>• RFP (pain.013) and RFP response (pain.014)</li> <li>• RFP cancellation request (camt.055) and RFP cancellation request (camt.029)</li> <li>• Information request (camt.026) and information request response (camt.029)</li> <li>• Additional payment information (camt.028)</li> </ul> </li> </ul>
Intraday account activity totals report (camt.052)  Report code: IATR	N/A	Intraday by request  Download XML, CSV or PDF via the FedNow interface	<ul style="list-style-type: none"> <li>• Total number of nonvalue messages received</li> <li>• Total number of nonvalue messages sent</li> <li>• Nonvalue messages include: <ul style="list-style-type: none"> <li>• Return request (camt.056) and return request response (camt.029)</li> <li>• RFP (pain.013) and RFP response (pain.014)</li> <li>• RFP cancellation request (camt.055) and RFP cancellation request (camt.029)</li> <li>• Information request (camt.026) and information request response (camt.029)</li> <li>• Additional payment information (camt.028)</li> </ul> </li> </ul>

Account activity details report (camt.052)  Report code: AADR	Disabled for automatic end-of-day distribution by default; can be enabled by Participants and/or Service Providers.	Generated after cycle day rollover and typically distributed by 9:00 p.m. ET (unless the cycle date is extended) Download XML via the FedNow interface	<p>Data is at the transaction level per RTN. Includes successfully processed and rejected messages within the cycle day.</p> <p>Includes both value messages and nonvalue messages. Value messages and nonvalue messages are the same as in the account activity totals report:</p> <ul style="list-style-type: none"> <li>• Message identification</li> <li>• Message type</li> <li>• Creation date/time</li> <li>• Business processing date/time</li> <li>• Acceptance date/time</li> <li>• Instructing agent</li> <li>• Instructed agent</li> <li>• Amount</li> <li>• Message status</li> <li>• Additional information<sup>175</sup></li> </ul> <p>Note: The Local Instrument element is not currently provided in the Account Activity Details Report. The element is planned for usage at a later date.</p>
Correspondent account activity totals report (camt.052)  Report code: CATR	Enabled for automatic end-of-day distribution by default; can be disabled by Participants and/or Service Providers.	Generated after cycle day rollover and typically distributed by 7:30 p.m. ET (unless the cycle date is extended)  Download XML, CSV or PDF via the FedNow interface	<p>Correspondents can receive a Correspondent account activity totals report with all their respondent RTN totals:</p> <ul style="list-style-type: none"> <li>• Sub-totaled by each direct respondent RTN.</li> <li>• Includes only the value messages that were successfully settled in the Correspondent's account.</li> </ul> <p>Correspondents can request either their own activities report (AATR/IATR) or respondents' reports (CATR/CITR) using the account report request message (camt.060) or via the FedNow interface. If requesting for respondent's activity, the report includes activity for all respondents. If Correspondents have enabled automatic end-of-day distributions, they receive both AATR and CATR reports.</p> <p>Note: The Local Instrument element is not currently provided in the Account Activity Details Report. The element is planned for usage at a later date.</p>
Correspondent intraday account activity totals report (camt.052) Report code: CITR	N/A	Intraday by request  Download XML, CSV or PDF via the FedNow interface	

<sup>175</sup> For Participants using the negative list, the additional information field shows fraud rejection codes (F002, F101) or a timeout warning code (F004). See Section 10 for more information.

Correspondent account activity details report (camt.052)  Report code: CADR	Disabled for automatic end-of-day distribution by default; can be enabled by Participants and/or Service Providers.	Generated after cycle day rollover, and typically distributed by 9:00 p.m. ET (unless the cycle date is extended) Download XML via the FedNow interface	Report contains the same account information as the Participant report above, except it only includes value messages that were successfully settled within the Correspondent's account. Includes an individual report for each Correspondent/Respondent RTN relationship.  Correspondents may request reports on their own activities (AADR), reports for all their respondents (CADR) or a single respondent's report (CADR) using the account report request message (camt.060) or FedNow interface. If a Correspondent has automatic end-of-day distribution enabled, they receive their AADR and all their respondents' CADR.
<b>Accounting Reports</b> For details on how to access these reports, see the <a href="#">Account Management Guide</a> on <a href="#">FRBservices.org</a> .			
Daily statement of account	Automatically provided to Master Accounts; Non-Account Holders (including Subaccounts and Other Secondary RTNs) must subscribe via the Accounting Information Services (AIS) form.		<ul style="list-style-type: none"> <li>• Available to Master Account holders and subscribing non-account holders.</li> <li>• Provides summary debit and credit totals (for all services) at the transaction code and RTN level (e.g., by their own, subaccount RTNs, other secondary RTNs (OSRTNs) and respondent RTNs.</li> </ul>
Financial institution reconciliation data file FIRD file	Must subscribe to receive. In addition, must request to have FedNow Service detail included.		<ul style="list-style-type: none"> <li>• Available to subscribing Master Account holders.</li> <li>• Allows automation of internal reconciliation and posting functions for Participants' convenience.</li> <li>• Designed to interface with an institution's internal accounting system.</li> <li>• Includes all transaction data in: <ul style="list-style-type: none"> <li>• Daily statement of account</li> <li>• Fedwire Funds</li> <li>• Fedwire Securities</li> <li>• FedNow Service details can be included by subscription.</li> </ul> </li> </ul>
Statement of account spreadsheet file SASF	Must subscribe to receive. In addition, must request to have FedNow Service detail included.		<ul style="list-style-type: none"> <li>• Available to subscribing Master Account holders.</li> <li>• Statement provided in spreadsheet format to assist with reconciliation functions.</li> <li>• Includes: <ul style="list-style-type: none"> <li>• Credit/debit activity posted by Federal Reserve Banks</li> <li>• Detailed information about transactions for Master Accounts</li> <li>• Respondent activity for Correspondent FIs</li> <li>• Fedwire Funds, Fedwire Securities and FedNow Service details can be included within subscription</li> </ul> </li> </ul>

## d. How to Initiate a FedNow Service Report Request (camt.060)

While FedNow Service reports vary in their timing, content and purpose, report requests and retrieval offer similar message flow and issue resolutions:

### 1. Sending and Validation Stage

Who	Required Steps	If No Exceptions	If Exceptions Occur	Action(s) to Correct Failure
Sender FI	Sends the report request (camt.060) to the FedNow Service.	FedNow Service receives request with all necessary details.	Request cannot be processed due to missing or incorrect details.	<ol style="list-style-type: none"> <li>1. Review the error code description.<sup>176</sup></li> <li>2. Correct the identified error(s) to ensure all subsequent messages sent to FedNow Service meet requirements.</li> <li>3. If needed, send a new message.</li> </ol>
FedNow Service	Receives ) message from Sender FI and runs through all applicable validations listed below.	Message passes all validations.	Message fails validation. The FedNow Service rejects the message immediately and sends a Message Reject (admi.002) with the appropriate reason code to the Sender FI.	

### Validations for Account Report Request (camt.060)

<ul style="list-style-type: none"> <li>✓ Valid message signature</li> <li>✓ Valid message size</li> <li>✓ XML syntax</li> <li>✓ Authorized sender</li> </ul>	<ul style="list-style-type: none"> <li>✓ FedNow Service ISO 20022 schema rules followed</li> <li>✓ Valid reporting period, as applicable</li> <li>✓ Valid profile status</li> </ul>
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### 2. Response Stage

Who	Required Steps	If No Exceptions	If Exceptions Occur	Action(s) to Correct Failure
FedNow Service	The FedNow Service delivers the requested camt.052 report with corresponding report code Report options.	Report(s) is received by Participant within seconds.	Report(s) is not received by Participant.	<p>The Participant should send a new request or can download the report via the FedNow interface.</p> <p>Note: If the request includes multiple historical reports, response from the FedNow Service could take longer.</p>

<sup>176</sup> See the Error Codes and Descriptions section.

## 18.2. Adhoc Query Tool

*This section of the Operating Procedures contains confidential information and is not available on the public website. FedNow Participants will be provided access to this section during the FedNow Service onboarding process.*

# Appendix

- a. Consolidated Response Times
- b. Support
- c. Network Limits
- d. Error Codes and Descriptions
- e. FedNow Service Required Test Cases for Certification
- f. FedNow Service ISO Messaging Charts

## A. Consolidated Response Times

This section provides a consolidated view of the required and recommended response times for Participants on the FedNow Service. Information below is also included in the corresponding sections.

Below are message response requirements. The requirements are enforced by the FedNow Service and Federal Reserve Banks.

Instant Payment Response Time Requirements			
Participant Action	ISO 20022 Message	Response Code	Response Guidelines
Participant responds to the instant payment within the specified time frame.	Customer Credit Transfer (pacs.008) or Payment Return (pacs.004)	Accept (ACTC) Reject (RJCT)	(Final response) - Within Receiver FI reserved response time.
		Accept Without Posting (ACWP)	(Initial response) - Within Receiver FI reserved response time.
		Pending (PDNG) Reject (RJCT) Block (BLCK) Accept (ACCC)	(Final response, after ACWP) - No later than midnight (ET) of the next standard business day (M-F, except holidays), unless investigation is still pending. If investigation is ongoing response of pending (PDNG) must be provided.

Below are message response guidelines that we strongly recommend Participants follow. Participants should consider that response times may differ if the Participant receiving the message is signed off from the service or not able to respond due to maintenance or other conditions.

If an initial response or the admi.007 is not received after sending nonvalue message, the Participant can send a payment status request (pacs.028) or an information request (camt.026) at midnight (ET) of the next standard business day (M-F, except holidays).

Return Request & Response (camt.029) Time Guidelines			
Participant Action	ISO 20022 Message	Response Code	Response Guidelines
Participant sends return request	Return request (camt.056)	N/A	A return request should be sent within 60 days <sup>177</sup> of the credit transfer settlement.
Participant responds to the return request sender within the specified time frame.	Return request response (camt.029)	Return request accepted (IPAY) Partially executed return request (PECR)	<p>(Final response) - As soon as possible, but no later than midnight (ET) of the next standard business day (M-F, except holidays).</p> <p>Participant should immediately:</p> <ol style="list-style-type: none"> <li>1. Provide final response (either IPAY or PECR).</li> <li>2. Simultaneously, initiate a payment return.</li> </ol>

<sup>177</sup> Camt.056 messages used to report fraud or an RFP warranty breach are not subject to the 60-day guideline. Additional information on expectations for these use cases can be found in the Fraud Reporting and Request for Payment Warranties and Expectations sections, respectively.

		Return request rejected (RJCR)	(Final response) - As soon as possible, but no later than midnight (ET) of the next standard business day (M-F, except holidays).
		Return request pending (PDCR)	(Initial response) - As soon as possible, but no later than midnight (ET) of the next standard business day (M-F, except holidays).  (Final response) - Final response to PDCR will be IPAY, PECR or RJCR as soon as the FI has concluded its investigation, or within 10 standard business days (M-F, except holidays).

RFP Response (pain.014) Time Guidelines			
Participant Action	Message	Response Code <sup>178</sup>	Recommended Response Time
Receiver FI provides an initial RFP response to the Sender FI.  <i>This optional step is a recommended best practice.</i>	Initial RFP Response (pain.014)	Received (RCVD)	<ul style="list-style-type: none"> <li>Immediately: Receiver FI should inform the Sender FI that the request for payment was received.</li> </ul> Follow up as soon as possible after status is determined: When the initial RFP response (pain.014) is RCVD, the Receiver FI should provide a status update to the Sender FI when the Accepted (ACTC) or Rejected (RJCT) status is determined. If automatically accepted (ACTC): If automatic approval is enabled between the Receiver FI and its customer, there is no need to include the interim received or presented responses.
		Presented (PRES)	<ul style="list-style-type: none"> <li>As soon as possible: Receiver FI should inform the Sender FI once the RFP (pain.013) is presented.</li> <li>Follow up as soon as possible after status is determined: When the initial RFP response (pain.014) is Presented (PRES), the Receiver FI should provide a status update to the Sender FI when the Accepted (ACTC) or Rejected (RJCT) status is determined.</li> </ul> If automatically accepted (ACTC): If automatic approval is enabled between the Receiver FI and its customer, there is no need to include the interim received or presented responses.
Receiver FI provides a final RFP response to the Sender FI.	Final RFP Response (pain.014)	Accepted (ACTC)	Up to the RFP expiry date (pain.013), the Receiver FI must send the Customer Credit Transfer (pacs.008) immediately or by the requested execution date.
		Rejected (RJCT)	<ul style="list-style-type: none"> <li>Immediately, if the Receiver FI is the rejecting party (include the reason code<sup>179</sup>).</li> <li>As soon as possible, if the Receiver FI's end customer is the rejecting party (include reason code).</li> </ul>

RFP Cancellation Request Response (camt.055) Time Guidelines			
Participant Action	ISO 2022 Message	Response Code	Recommended Response Time

<sup>178</sup> See the FedNow Service ISO 2022 Implementation Guide for additional details.

<sup>179</sup> See the FedNow Service ISO 2022 specifications for a list of reason codes.

Sender FI asks Receiver FI to cancel a previous RFP.	RFP cancellation request (camt.055)	N/A	A Sender FI can request an RFP cancellation if the payment has not been made.
Receiver FI provides an initial response to the Sender FI. <i>This optional step is a recommended best practice.</i>	Initial RFP cancellation request response (camt.029)	Pending (PDCR)	Immediately: Receiver FI should inform the Sender FI that the request is being investigated.
Receiver FI provides a final response to Sender FI that payment has been executed.	FINAL RFP cancellation request response (camt.029)	Cancelled (CNCL)	Immediately or up to the requested execution date of the initial RFP (pain.013).
		Rejected (RJCR)	<ul style="list-style-type: none"> <li>Immediately on confirmation from the customer/Receiver FI.</li> <li>Required if status is PDCR pending.</li> </ul>

#### Information Request Response (camt.029) Time Guidelines

Participant Action	ISO 20022 Message	Response Code	Response Guideline
Sender FI provides initial response to Receiver FI, if needed.	Initial information request response (camt.029)	Pending (PDNG)	As soon as possible, but no later than midnight (ET) of the next standard business day (M-F, except holidays). Update every five standard business days (M-F, except holidays) until final response is provided.
Sender FI provides a response to the Receiver FI.	Initial or final information request response (camt.029)	Additional information sent (INFO)	As soon as possible, but no later than midnight (ET) of the next standard business day (M-F, except holidays).
		No further information available (NINF)	
		Duplicate payment (IDUP)	
		Payment initiated (IPAY)	As soon as possible, but no later than midnight (ET) of the next standard business day (M-F, except holidays). In case of IPAY, a payment must be initiated immediately.
Sender FI provides response to the Receiver FI if camt.029 code INFO was previously sent.	Additional payment information (camt.028)	Additional information sent (INFO)	Simultaneously with the information request response (camt.029).

## B. Support

Participants that connect to the FedNow Service via a Service Provider should contact that provider for questions or issues related to the connection or other activities the provider performs or manages. Participants or Service Providers with issues or questions that cannot be answered by the provided documentation should contact the Support Center via 1-833-FRS-SVCS (377-7827).

If a Participant wishes to offboard from the FedNow Service, the Participant must contact the Support Center.

FedNow Service support is available via the Support Center 24x7x365. However, the list below summarizes the FedNow Service-related activities not fully available during weekends, holidays or specific hours due to activities extending beyond the FedNow Service. For additional support contacts, navigate to the [Find Your Contacts](#) page on FRBservices.org and search by RTN. These activities include, but are not limited to, the below.

### Account Balances via FedNow Service

- There may be a short period where account balance reports are not available via either a FedNow Service ISO 20022 message (camt.060) or FedNow interface. This typically occurs around 7:00 p.m. to 7:05 p.m. ET during the end-of-day rollover process on standard business days. If the balance is not available, the request is rejected. Participants either can resend the request after waiting a short time or request a FedNow Service account activity totals report via an ISO message (camt.060) or the FedNow interface.
- The account balance report may have up to a one-minute delay in FedNow activity captured, even though FedNow Service transactions are final and settled in real time.

### Account Balances via Fedwire Funds

- The Account Balance report is available via Fedwire Funds, but FedNow Service activity is displayed with the All Other Available category.

### Account Balances via Account Management Information (AMI)

- The Account balance report and drill-down capabilities to view FedNow Service totals in AMI may not be available during the end-of-day rollover process.
- AMI may not be available for short time periods on non-standard business days (weekends and holidays), but the account balance report is available via the FedNow interface.
- The account balance report in AMI may have up to a one-minute delay in FedNow activity captured, even though FedNow Service transactions are final and settled in real time.

### Correspondent-Respondent Relationship Changes

- Support for activities related to Correspondent-respondent relationships is limited to standard business days and hours (Monday-Friday, except standard Federal Reserve Bank holidays).
- Updates or changes to Correspondent-respondent relationships can be made during standard business days and hours and scheduled to take effect outside standard business days and hours.

### Mergers

- Support for activities related to mergers and acquisitions are limited to standard business days and hours (Monday-Friday, except standard Federal Reserve Bank holidays).
- Updates or changes related to mergers and acquisitions can be made during standard business days and hours and can be scheduled to take effect outside standard business days and hours.

### Account Open and Closing

- Support for activities related to account open and closing are limited to standard business days and hours (Monday-Friday, except standard Federal Reserve Bank holidays).
- Updates or changes related to account opening and closing can be made during standard business days and hours and scheduled to take effect outside standard business days and hours.

## C. Network Limits

Network limits are set by the FedNow Service, are subject to change and apply to all Participants and Service Providers that have enabled the related services. Participants may change some settings as long as they do not exceed the network limits.

Network Limits	Description	Value	Applicable to
Customer Credit Transfer maximum transaction value limit	<p>The maximum transaction value limit for Customer Credit Transfer and payment return (pacs.008 and pacs.004).</p> <ul style="list-style-type: none"> <li>Pacs.008 and pacs.004 messages exceeding the limit are rejected by the FedNow Service.</li> <li>The limit for customer credit transfer is defaulted to \$100,000; Participants can configure their limit up to the customer credit transfer maximum value limit.<sup>180</sup></li> </ul>	\$500,000	<p>Participants that have any of the following participation types enabled in their Participant Profiles:</p> <ul style="list-style-type: none"> <li>Customer Credit Transfer send and receive</li> </ul>
Liquidity Management Transfer (LMT) maximum transaction value limit	<p>The maximum transaction value limit for LMT (pacs.009).</p> <ul style="list-style-type: none"> <li>Pacs.009 messages exceeding the limit are rejected by the FedNow Service.</li> <li>Participants can configure their limit to be less than the limit set by the FedNow Service.<sup>181</sup></li> </ul>	\$2,500,000	<p>Participants that have any of the following participation types enabled in their Participant Profiles:</p> <ul style="list-style-type: none"> <li>Liquidity Management Transfer send and receive</li> </ul>
Liquidity Management Transfer (LMT) operating hours	<p>The hours in which Participants enrolled in LMT can send and/or receive Financial Institution Transfers (pacs.009).</p> <ul style="list-style-type: none"> <li>Pacs.009 messages sent outside these hours are rejected by the FedNow Service.</li> </ul>	See FedNow Service Schedule on FRBservices.org	<p>Participants that have any of the following participation types enabled in their Participant Profiles:</p> <ul style="list-style-type: none"> <li>Liquidity Management Transfer send and receive</li> <li>Liquidity Management Transfer receive only</li> </ul>
LMT daily limit	A cumulative daily send value limit at the FI level. The cumulative daily value limit is based on the FedNow Service cycle day, not LMT hours.	\$10,000,000	<p>Participants that have any of the following participation types enabled in their Participant Profiles:</p> <ul style="list-style-type: none"> <li>Liquidity Management Transfer send and receive</li> </ul>

<sup>180</sup> See FedNow Profile section for additional details regarding parameters for configuration.

<sup>181</sup> See FedNow Profile section for additional details regarding parameters for configuration.

Timeout clock	Maximum allowable time for a transaction (pacs.008, pacs.004 or pacs.009) to settle or be rejected.	20 seconds	Participants that have any of the following participation types enabled in their Participant Profiles: <ul style="list-style-type: none"> <li>• Customer Credit Transfer send and receive</li> <li>• Customer Credit Transfer receive only</li> <li>• Liquidity Management Transfer send and receive</li> </ul>
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## D. Error Codes and Descriptions

*This section of the Operating Procedures contains confidential information and is not available on the public website. FedNow Participants will be provided access to this section during the FedNow Service onboarding process.*

## E. FedNow Service Required Test Cases for Certification

*This section of the Operating Procedures contains confidential information and is not available on the public website. FedNow Participants will be provided access to this section during the FedNow Service onboarding process.*

## F. FedNow Service ISO Messaging Charts<sup>182</sup>

**Table 1** – Customer Credit Transfers; table below outlines the requirements for coding based on participation type.

Customer Credit Transfer Messages	Credit Transfer Receive Only		Credit Transfer Send/Receive		Send/Receive with Receive RFP	
	Send	Receive	Send	Receive	Send	Receive
<b>pacs.008</b> – Customer Credit Transfer	Prohibited	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory
<b>pacs.002</b> – Payment Status Report	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory
<b>pacs.002 ACTC</b> – Accepted Technical Validation	Mandatory	N/A	Mandatory	N/A	Mandatory	N/A
<b>pacs.002 ACSC</b> – Accepted and Settled	N/A	Mandatory	N/A	Mandatory	N/A	Mandatory
<b>pacs.002 RJCT</b> – Rejection	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory
<b>pacs.002 ACWP</b> – Accept Without Posting	Optional	Mandatory	Optional	Mandatory	Optional	Mandatory
<b>pacs.002 ACCC</b> – Confirmation of posting	Optional	Conditional	Optional	Mandatory	Optional	Mandatory
<b>pacs.002 PDNG</b> – Pending following ACWP	Optional	Conditional	Optional	Mandatory	Optional	Mandatory
<b>pacs.002 BLCK</b> – Blocked following ACWP	Optional	Conditional	Optional	Mandatory	Optional	Mandatory
<b>pacs.028</b> – Payment Status Request	Optional	Mandatory	Optional	Mandatory	Optional	Mandatory
Payment Returns	Credit Transfer Receive Only		Credit Transfer Send/Receive		Send/Receive with Receive RFP	
	Send	Receive	Send	Receive	Send	Receive
<b>camt.056</b> – Return Request	Optional	Mandatory	Optional	Mandatory	Mandatory	Mandatory
<b>camt.029</b> – Return Request Response	Mandatory	Conditional	Mandatory	Conditional	Mandatory	Mandatory
<b>pacs.004</b> – Payment Return	Optional	Optional	Mandatory	Mandatory	Mandatory	Mandatory

Requests for Payment	Credit Transfer Receive Only		Credit Transfer Send/Receive		Send/Receive with Receive RFP	
	Send	Receive	Send	Receive	Send	Receive
<b>pain.013</b> – Request for Payment (RFP)	Optional	Prohibited	Optional	Prohibited	Optional	Mandatory
<b>pain.014</b> – Request for Payment Response	N/A	Conditional	N/A	Conditional	Mandatory	Conditional
<b>camt.055</b> – RFP Cancellation Request	Optional	Prohibited	Optional	Prohibited	Optional	Mandatory
<b>camt.029</b> – RFP Cancellation Request Response	N/A	Conditional	N/A	Conditional	Mandatory	Conditional
Information Request Messages	Credit Transfer Receive Only		Credit Transfer Send/Receive		Send/Receive with Receive RFP	
	Send	Receive	Send	Receive	Send	Receive
<b>camt.026</b> – Information Request	Optional	Mandatory	Optional	Mandatory	Optional	Mandatory
<b>camt.029</b> – Information Request Response	Mandatory	Conditional	Mandatory	Conditional	Mandatory	Conditional
<b>camt.028</b> – Additional Payment Information	Optional*	Conditional	Optional	Conditional	Optional	Conditional
Account Reporting Messages	Credit Transfer Receive Only		Credit Transfer Send/Receive		Send/Receive with Receive RFP	
	Send	Receive	Send	Receive	Send	Receive
<b>camt.060</b> – Account Reporting Request	Optional	N/A	Optional	N/A	Optional	N/A

<sup>182</sup> Does not include any requirements for non-ISO messaging (i.e. MQ Messages)

<b>camt.052 – Account Balance Report</b>	N/A	Optional	N/A	Optional	N/A	Optional
<b>camt.052 – Account Activity Totals Report</b>	N/A	Optional	N/A	Optional	N/A	Optional
<b>camt.052 – Account Activity Details Report</b>	N/A	Optional	N/A	Optional	N/A	Optional
<b>camt.054 – Account Debit/Credit Notification</b>	N/A	Optional	N/A	Optional	N/A	Optional
<b>System Messages</b>	<b>Credit Transfer Receive Only</b>		<b>Credit Transfer Send/Receive</b>		<b>Send/Receive with Receive RFP</b>	
	<b>Send</b>	<b>Receive</b>	<b>Send</b>	<b>Receive</b>	<b>Send</b>	<b>Receive</b>
<b>admi.002 – Message Reject</b>	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory
<b>admi.007 – Receipt Acknowledgement</b>	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory
<b>admi.004 – FedNow Broadcast</b>	N/A	Mandatory	N/A	Mandatory	N/A	Mandatory
<b>admi.004 – Participant Broadcast</b>	Mandatory	N/A	Mandatory	N/A	Mandatory	N/A
<b>admi.011 – FedNow System Response</b>	N/A	Mandatory	N/A	Mandatory	N/A	Mandatory
<b>admi.006 – Retrieval Request</b>	Optional	N/A	Optional	N/A	Optional	N/A
<b>admi.998 – FedNow Participant File</b>	N/A	Mandatory	N/A	Mandatory	N/A	Mandatory

\*FIs should use the camt.028 when providing additional information to another Participant.

**Table 2 – FI Credit Transfers – Liquidity Management Transfers;** table below outlines the requirements for coding based on participation type.

Credit Transfer Messages	Settlement Only <sup>183</sup>		Liquidity Management Transfers (LMT) Receive Only		LMT Send/Receive	
	Send	Receive	Send	Receive	Send	Receive
<b>pacs.009 – FI Credit Transfer</b>	Prohibited	Prohibited	Prohibited	Mandatory	Mandatory	Mandatory
<b>pacs.002 – Payment Status Report</b>	Prohibited	Prohibited	N/A	N/A	N/A	Mandatory
<b>pacs.028 – Payment Status Request</b>	Prohibited	Prohibited	Prohibited	N/A	Optional	N/A
Account Reporting Messages	Settlement only		LMT Receive Only		LMT Send/Receive	
	Send	Receive	Send	Receive	Send	Receive
<b>camt.060 – Account Reporting Request</b>	Optional	N/A	Optional	N/A	Optional	N/A
<b>camt.052 – Account Balance Report</b>	N/A	Optional	N/A	Optional	N/A	Optional
<b>camt.052 – Account Activity Totals Report</b>	N/A	Optional	N/A	Optional	N/A	Optional
<b>camt.052 – Account Activity Details Report</b>	N/A	Optional	N/A	Optional	N/A	Optional
<b>camt.054 – Account Debit/Credit Notification</b>	N/A	Optional	N/A	Optional	N/A	Optional
System Messages	Settlement only		LMT Receive Only		LMT Send/Receive	
	Send	Receive	Send	Receive	Send	Receive
<b>admi.002 – Message Reject</b>	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory	Mandatory
<b>admi.004 – FedNow Broadcast</b>	N/A	Mandatory	N/A	Mandatory	N/A	Mandatory
<b>admi.004 – Participant Broadcast</b>	Prohibited	N/A	Mandatory	N/A	Mandatory	N/A
<b>admi.011 – FedNow System Response</b>	N/A	N/A	N/A	Mandatory	N/A	Mandatory
<b>admi.006 – Retrieval Request</b>	Prohibited	N/A	Optional	N/A	Optional	N/A
<b>admi.998 – FedNow Participant File</b>	N/A	Mandatory	N/A	Mandatory	N/A	Mandatory

<sup>183</sup> Stand-alone participation type.