Messaging

FIN

Operations Guide

This user guide explains what a FIN user requires to plan and implement the FIN service. The document also describes how to configure, operate, and use FIN. This document is for FIN users and anyone that performs technical or administrative roles in connection with the FIN service.

24 July 2015

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Preface

Purpose of the document

This user guide explains what a FIN user requires to plan and implement the FIN service. The document also describes how to configure, operate, and use FIN.

Audience

This document is for the following audience:

- users that plan to implement a new connection to the FIN service
- users that configure and maintain the FIN interface, and manage the organisation's use of FIN
- users that perform operational tasks that ensure that the organisation's FIN interface operates correctly
- everyday users of the FIN service

Significant changes

The following tables list all significant changes to the content of the FIN Operations Guide since the August 2014 edition. These tables do not include editorial changes that SWIFT makes to improve the usability and comprehension of the document.

Updated information	Location
BIC terminology	Throughout the document

Related documentation

- BIC Policy
- Certificate Administration Guide
- FIN Error Codes
- FIN Service Description
- FIN System Messages
- Network Access Control Guide
- Standards MT General Information
- SWIFT General Terms and Conditions
- SWIFTNet Link Service Description
- SWIFTNet Naming and Addressing Guide

Part A

FIN Implementation

This part of the document contains information for anyone that plans and implements a new connection. It also explains how to subscribe to the FIN service. This part of the document is particularly useful to first-time users of the FIN service.

1 Connection to FIN

1.1 Organise Your Connection to FIN

Purpose

To use the FIN messaging service you must first organise your connection to FIN and subscribe to the relevant messaging services and products.

How to organise your connection to FIN

1. Identify an appropriate connectivity option. For more information about connectivity options, see the Connectivity Packs at www.swift.com > Support > Documentation > A-Z > Connectivity.
2. Subscribe to the SWIFT services and products that you require to access FIN (see "Become a FIN User" on page 8).
3. Verify that you have the components necessary to install FIN (see "Pre-Implementation" on page 8).
4. Plan and co-ordinate your installation with the relevant suppliers (see "Pre-Installation and Installation" on page 9).
5. Test the environment before you use FIN to send or receive live messages (see "Test" on page 9).
6. Confirm your readiness to SWIFT before the planned cut-over date (see "Go Live" on page 9).

Tip SWIFT has developed a series of roadmaps to help you to plan, order, and track the implementation of your connection to FIN. These roadmaps are available at www.swift.com > Ordering > Join SWIFT.

Related information

Visit www.swift.com to find the latest available information about the following SWIFT services and products:

- versions of all SWIFT software (releases and patches)
- documentation
- training courses
- online support services, which include the following types of service:
  - support information and operational status of the FIN systems
  - online billing
  - customer profile management
  - additional online ordering

1.2 Become a FIN User

How to become a FIN user

The following actions are prerequisites if you want to use FIN:

1. Join SWIFT.

   To join SWIFT and subscribe to the FIN service, follow the instructions at www.swift.com > Ordering > Join SWIFT.

2. Register for the necessary Message User Groups and Closed User Groups, depending on the business requirements.

3. Register your security officers.

Related information

You can find information about how to subscribe to FIN at www.swift.com > Ordering > Ordering > Order products and services.

1.3 Pre-Implementation

Checklist

Depending on your connectivity choice, you may require the following items to install your FIN connection:

- a cut-over letter
- SWIFTNet Link software
- a SWIFTNet Link identifier
- a Virtual Private Network (VPN) identifier (for managed customer-premises equipment connections)
- SWIFTNet Public Key Infrastructure secrets
- FIN interface software and passwords
- Directory products (if applicable)
- FIN security equipment
- communication lines
- connectivity equipment

Tip The roadmap contains a checklist that can help you to track the status of the items in the previous list.

1.4 Pre-Installation and Installation

Plan and co-ordinate

1. Plan and co-ordinate the installation of your FIN environment with the relevant suppliers. The suppliers can include a SWIFT Network Partner and a SWIFT Service Partner.
2. If required, integrate connectivity to FIN into your Local Area Network (LAN) environment. SWIFT recommends the use of firewalls.

   For more information about network integration, see the Network Access Control Guide.

1.5 Test

Purpose

Before you access FIN in live mode, you must use the login and select process to log in to FIN in Test and Training mode. You log in when in Test and Training mode to verify your connectivity.

SWIFT activates Test and Training destinations for new users on the next possible weekend following the submission of a valid order. Test and Training destinations enable you to send and receive messages in test mode.

Testing in Testing and Training mode

Send and receive test messages for all the message types that you send and receive in live mode.

1.6 Go Live

How to go live

1. Submit an Operational Readiness Form to SWIFT at least 3 weeks before your planned cut-over date.
2. Ensure that you receive the readiness confirmation acknowledgement from SWIFT.

   If you have sent the *Operational Readiness Form* and received acknowledgement from SWIFT, then you can proceed with the planned cut-over activities.
3. Use your live BIC to establish Relationship Management Application authorisations with your correspondents before the planned cut-over date.
4. On the Monday after the cut-over, use your live BIC to log on to FIN.

2 Maintain FIN-Related Information

2.1 FIN-Related Information

Test and Training BICs

SWIFT automatically assigns FIN users a primary Test and Training BIC. Typically, the primary Test and Training destination address is the same as the live address, except that the 8th character is a zero (0). The primary Test and Training BIC remains active throughout the life of the SWIFT BIC.

Users can request additional Test and Training destinations. Additional Test and Training destinations start with the characters ZY.

A FIN user can request the registration of a branch identifier for Test and Training destinations.

2.2 Update Customer Information

Purpose

The *Manage your profile* facility allows you to maintain the important administrative information about your institution and the FIN users within your institution. SWIFT requests that you keep this information up-to-date to support you in your use of FIN.

How to update your information

1. Log in to online customer services at www.swift.com.
2. Select *Manage your profile*.
3. Update and maintain administrative data that relates to your use of the FIN service.

   Administrative data includes the following types of information:

   - subscription to online services
   - user information
   - company information

2.3 Register for a FIN Message User Group

Purpose

A Message User Group is a group of users that register to use a specific message type, or group of message types, for a particular business. The Message User Group also serves to exchange new messages within a controlled user community. FIN restricts the use of those message types to Message User Group members. Registration to a Message User Group is free of charge.

You can find more information about which message types require a Message User Group registration in the Standards MT General Information. The latest version of this document is available at www.swift.com > Support > Documentation > A-Z > Standards MT.

How to register for a FIN Message User Group

If you have subscribed to the FIN service, then you can register for a Message User Group through the SWIFT ordering facility. You can find the SWIFT ordering facility at www.swift.com/ordering.

Tip To withdraw from a Message User Group, you also use the SWIFT ordering facility.

2.4 Lead Times for Changes to Published BIC Information

Types of changes

Customers can find information about the rules that govern the following types of changes in the BIC Policy:

- changes to, or registration of live BICs (financial or non-financial institutions)
- changes to, or registration of, branch identifiers
- changes of SWIFT user category

How to request changes to published BIC information

- To modify published BIC information, follow the instructions at www.swift.com > Ordering > Ordering > Change configuration.

  Allow a lead time of 1 month for SWIFT to implement a change to BIC information in FIN. During the lead time, SWIFT also publishes the change in the next available update of the *BIC Directory*, which is available on www.swiftrefdata.com. The lead time starts on the Monday after receipt of your request.

2.5 Lead Time for Changes to Non-Published Information

Types of changes

Customers can find information about the rules that govern the following types of changes in the BIC Policy:

- addition of non-published branch identifiers
- change of institution name or address

How to request changes to non-published BIC information

To modify non-published BIC information, follow the instructions at www.swift.com > Ordering > Ordering > Change configuration.

Allow a lead time of 3 weeks for SWIFT to implement the change in FIN. The lead time starts from the Monday after receipt of your request.

2.6 Test and Training BICs and Branch Identifiers

Test and Training destination

SWIFT automatically assigns a primary Test and Training destination to FIN users. The Test and Training destination can be either a BIC of a financial institution or a BIC of a non-financial institution. The primary Test and Training BIC remains active throughout the life of the BIC of the financial institution or the BIC of the non-financial institution.

How to register additional Test and Training BICs or branch identifiers

To register additional Test and Training BICs or branch identifiers, follow the instructions at www.swift.com > Ordering > Ordering > Order products and services > Business Identifier Code (BIC).

2.7 De-activation of a BIC

Rules

Customers can find information about the rules that govern the de-activation of a BIC (financial or non-financial institution) in the BIC Policy.

How to request de-activation of a BIC

1. Ensure that you have settled all outstanding balances with SWIFT.
2. Use the SWIFT ordering facility at www.swift.com/ordering.

   To de-activate the BIC outside of a *BIC Directory* publication date, send an MT 074 Broadcast Request to SWHQBEBBBCT.

   You can find the *BIC Directory* publication dates at www.swift.com > Products & services > By type > Reference Data > Related Links Directories Publication Schedule

Note You must make the de-activation request at least 15 business days before the de-activation date that you require.

The MT 074 Broadcast Request message alone does not constitute a request for de-activation.

Part B

FIN Configuration

This part of the document contains information for anyone that configures and maintains the FIN interface. It also explains how to use the FIN service (for example, how to configure delivery subsets).

3 Configure the FIN Interface

FIN and SWIFTNet

You send and receive FIN messages within an InterAct envelope. You must configure your FIN interface to use both your SWIFTNet address and your FIN address. Your SWIFTNet address is your Distinguished Name (DN). Your FIN address is your BIC and logical terminal. The InterAct envelopes are always sent to, and received from, the FIN bridge at SWIFT.

For more information about how to configure your FIN interface as described in this section, see your vendor-specific interface documentation.

FIN interface parameters

You must configure your FIN interface with the correct FIN and SWIFTNet parameters.

For FIN, you use the following parameters:

- your destination (business party identifier)
- your logical terminal

For SWIFTNet, you use the following parameters:

- your requestor DN
- your responder DN
- the service name
- your signer DN

Example

This example shows the FIN parameters that enable a user to connect to the live FIN service. The example uses the destination (business party identifier) GEBKGB2L, and the FIN interface name fincbt1.

The FIN interface parameters that you use to send a message are as follows:

- The requestor DN is: `cn=fincbt1,o=gebkgb2l,o=swift`
- The responder DN is `cn=fb1,cn=fin,o=swift,o=swift` (this is the FIN Bridge [`fb`] at SWIFT)
- The service name is `swift.fin`

The FIN interface parameters that you use to receive a message are as follows:

- The requestor DN is `cn=fb1,cn=fin,o=swift,o=swift`
- The responder DN is `cn=fincbt1,o=gebkgb2l,o=swift`
- The service name is `swift.fin`.

FIN dynamically allocates the FIN bridge number (for example, fb1, fb2) that your FIN interface receives when it connects to SWIFTNet. Your FIN interface automatically handles the actual setup of the FIN bridge number.

For more information about SWIFTNet naming and addressing, see the SWIFTNet Naming and Addressing Guide.

Your interface may support multiple destinations and multiple logical terminals. For more information about the capabilities of your interface, and how to configure it, see your interface vendor documentation.

4 Service Messages and System Messages

FIN

The FIN service uses three types of messages, as shown in the following table.

Message type	Use
Service messages Control messages	Service and control messages relate to either system commands (Login) or to acknowledgements (ACK, select negative acknowledgement, negative user acknowledgement).
System messages MT category 0	The exchange of system messages occurs either as part of the customisation of the user's FIN operating environment or for the provision of information about FIN messages. The following message types are examples of system messages: • user-to-SWIFT messages (delivery subset redefinition requests, retrieval requests) • SWIFT-to-user messages (retrieved messages, non-delivery warnings)
User-to-user messages MT categories 1-9	User-to-user messages enable users to perform financial transactions.

Service messages

Service messages have a 2-digit numbering scheme. Service messages exist for the exchange of operational instructions between the user and FIN, for the management of the General Purpose Application and FIN sessions, and for the related message exchange.

Examples of service messages are as follows:

- 02 Login Request Message
- 22 Login Positive Acknowledgement

System messages

System messages have a 3-digit numbering scheme. System messages exist for the exchange of instructions that are necessary to configure a user's FIN operating environment, and for the provision of information about FIN messages.

The following message types are examples of system messages:

- MT 044 Undelivered Report Rules Redefinition
- MT 064 Undelivered Report Rules Change Report
- MT 082 Undelivered Messages Report at a Fixed Hour

Related information

For more information about service and system messages, see FIN System Messages.

5 Maintain FIN-Related Information

Maintenance procedure

For information about how to maintain your FIN-related information, see "FIN-Related Information" on page 10.

6 Configure Delivery Subsets

About this section

This section provides information about how to configure the different delivery subsets.

Value-date criteria and shared delivery subsets

You can request value-date ordering of your value-date-sensitive messages. You can also specify that you want to share delivery subsets between logical terminals. For more information, see "Share Delivery Subsets" on page 21, and "Value Date of Today" on page 22.

6.1 Logical Terminal-Directed Delivery Subsets

Overview

SWIFT configures the logical terminal-directed delivery subset for every logical terminal. The logical terminal-directed delivery subset receives system messages that FIN has addressed to a specific logical terminal. The logical terminal-directed delivery subset takes priority over messages from other delivery subsets.

The logical terminal-directed delivery subset contains all system messages other than the following message types:

- MT 081 Daily Check Report
- MT 092 SWIFT-to-User Message
- MT 094 Broadcast
- MT 096 FINCopy to Server Destination Message. This message is used in FINCopy and FINInform services.

6.2 Delivery Subsets

Overview

You can define delivery subsets and specify how FIN delivers messages to a destination. FIN queues the destination-directed messages in the delivery subsets.

You can specify the following criteria for the delivery subsets:

- message priority
- message category
- message type
- service code
- branch identifier
- specific field tags

Message priority, message category, message-type criteria can be combined with the branch-code criteria to enable more granular distribution of traffic across delivery subsets.

When you re-define your delivery subsets, FIN re-assigns, to the new set of delivery subsets, messages that it has already queued for the destination. FIN makes the re-assignment before it assigns new traffic for the destination to those delivery subsets.

During a session, FIN delivers messages that arrive for a previously emptied delivery subset before it resumes delivery of messages in the current delivery subset.

Shared delivery subsets

By default, delivery subsets are not shared. To empty delivery queues more quickly or to distribute traffic equitably across logical terminals, you can choose to receive messages from a delivery subset through more than one logical terminal. You must specify whether you want to operate in shared mode by means of the MT 047 Delivery Instructions Redefinition Request, specifying which shared delivery subset mode is required. Delivery subset sharing is then enabled for all logical terminals of the requesting BIC. To revert to non-shared mode, a second MT 047 must be issued.

Delivery subset sharing can also be requested for a specific session using MT 077 Additional Selection Criteria for FIN. Sharing mode requested by MT 077 ends at session termination. For more information about using MT 077 to share delivery subsets, see FIN System Messages.

For more information about how to share delivery subsets, see "Share Delivery Subsets" on page 21.

Default order of message priority

If you have not defined any delivery subsets, then SWIFT defines three default delivery subsets for the destination-directed messages.

The default delivery subsets use the following message priorities:

- **SYSTEM**

  FIN queues all system messages in this delivery subset.

- **URGENT**

  FIN queues all urgent priority messages in this delivery subset.

- **NORMAL**

  FIN queues all normal priority messages in this delivery subset.

6.3 Delivery Subset Definition Report

Introduction

You can request a report that shows the current delivery subset definitions.

How to query the definition of your delivery subsets

Send an MT 035 Delivery Instruction Request to FIN.

FIN responds with an MT 055 Delivery Instructions Report, which provides the following information:

- the delivery subsets that FIN currently holds for the destination of the requesting logical terminal
- the status of value-date ordering for the destination (that is, active or inactive)
- whether delivery subset sharing has been activated

- if delivery subset criteria have been combined

Related information

For more information about the MT 035 and the MT 055, see FIN System Messages.

6.4 Delivery Subset Definition Rules

About delivery subset definition rules

You can define up to 30 delivery subsets for each destination.

You can only define delivery subsets for destination-directed messages as follows:

- system messages MT 081, MT 092, MT 094, and MT 096
- all urgent-priority messages
- all normal-priority messages

You must carefully consider how you assign message priorities, message categories, and message types to the delivery subsets at your destination, and how these criteria may be combined with the brand code criteria. You must ensure that the correct logical terminals receive the appropriate messages.

If you redefine your delivery subsets, then you must review your use of the select command for your logical terminals. The purpose of the review is to ensure that you have selected the correct delivery subsets.

How to redefine the delivery subsets

To redefine a delivery subset, to activate delivery subset sharing, or select value-date ordering (or to request both actions), send an MT 047 Delivery Instructions Redefinition Request from a General Purpose Application.

FIN responds with the following messages:

- An MT 008 System Request to QUIT to all logical terminals for the destination. The MT 008 indicates the time at which FIN processes the MT 047.
- An MT 067 Delivery Instructions Redefinition Report in a General Purpose Application to the logical terminal that issued the MT 047. The MT 067 confirms that FIN has redefined the delivery subset.

Note FIN cannot process an MT 047 until all logical terminals at the requesting destination are logged out from all FIN sessions. As a result, FIN processes MTs 047 at midnight for the requesting user. FIN aborts any sessions that are still open after the specified time.

MT 047 parameters

The following instructions apply to each MT 047 that you send:

- Include all FIN message categories and priorities (explicitly or by default).
- Do **not** assign a message type of a given priority to more than one subset.

MT 067

The MT 067 Delivery Instructions Redefinition Report confirms the redefinition of the delivery subsets, and provides the following information:

- the delivery subsets
- the new definitions for each delivery subset
- whether the user has requested value-date ordering for the destination
- whether delivery subset sharing has been activated and in which mode
- whether delivery subset criteria have been combined

Changes to Standards

If SWIFT introduces changes to Standards, then the following changes apply to your subsets:

- SWIFT adds any new message types to your last defined subset.
- You must redefine any delivery subsets that refer to deleted message types.

Value-date sensitive message

The value-date-sensitive messages are as follows:

- The MT 910.
- The Category 1 and 2 messages that contain field 30, or field 32A (date portion), or both.

  MTs 192, 195, 196, 292, 295, and 296 are not value-date-sensitive.

FIN applies value-date ordering to all delivery subsets for a specific destination that can contain value-date-sensitive messages.

Related information

For more information about the MT 047, see FIN System Messages.

6.5 Share Delivery Subsets

How to enable logical terminals to share delivery subsets

1. send an MT 047 Delivery Instructions Redefinition Request from a General Purpose Application, specifying O or L in field tag 348.

   If option O is chosen, then delivery subset sharing is activated using the overflow mechanism designed to empty delivery queues more quickly. If option L is chosen, then delivery subset sharing is activated using the load balancing mechanism to provide equitable delivery of messages across all logical terminals that have selected the same delivery subset(s).

2. Send an MT 077 Additional Selection Criteria for FIN from a General Purpose Application. Specify Y in field tag 118 of the message.

   There is no explicit response from FIN. This change applies to the next FIN session.

Related information

For more information about the MT 077 Additional Selection Criteria for FIN, see FIN System Messages.

6.6 Value Date of Today

How to restrict the delivery of messages to those with a value date of today or earlier

send an MT 077 Additional Selection Criteria for FIN from a General Purpose Application. Specify Y in field 116. You must already have set the value-date ordering option field in the MT 047 to Y.

There is no explicit response from FIN. This change applies to the next FIN session.

If you choose to receive messages that have a value date of today or earlier, then messages that have a later value date remain undelivered. Messages that have a later value date appear on the sender's undelivered message reports. SWIFT recommends that you choose to receive messages that have a value date of today or earlier only as an emergency procedure.

Value-date-sensitive messages

The value-date-sensitive messages are as follows:

- The MT 910.
- The Category 1 and 2 messages that contain fields 30 and or 32A (date portion), or both. Messages that are not value-date-sensitive are the MTs 192, 195, 196, 292, 295, and 296.

Related information

For more information about the MT 077, see FIN System Messages.

7 Configure Automatic Reporting Parameters

7.1 Undelivered Message Reports

Types of undelivered message reports

You can receive undelivered message reports at a fixed hour, at cut-off time, or upon request, as follows:

- MT 082 Undelivered Message Report at a Fixed Hour
- MT 083 Undelivered Message Report at Cut-off Time
- MT 066 Solicited Undelivered Message Report

In the absence of a request to change the undelivered message report rules, you will receive an MT 082 each day at 08:00 local time.

How to configure the undelivered message reports

All system messages that relate to these reports are FIN system messages.

The following table shows the requests that you can make:

Request	Message to send	FIN response
To query the undelivered message report rules	an MT 048 Undelivered Report Rules Request to FIN	an MT 068 Undelivered Report Rules with the parameters currently set for the requesting logical terminal
To change the undelivered message report rules	an MT 044 Undelivered Report Rules Redefinition to FIN	an MT 064 Undelivered Report Rules Change Report to confirm the changes
To check the undelivered messages now	an MT 046 Undelivered Message Report Request	an MT 066 Solicited Undelivered Message Report request with the current status of undelivered messages for the requesting logical terminal

Note FIN responses (MT 064 and MT 068) reflect the options that you have specified in the MT 044. SWIFT generates an MT 082 and an MT 083 according to the options that you specified in the MT 044. FIN delivers the MT 066 according to the options that you specified in the MT 046.

Report-request parameters

Use the MT 044 to configure the following parameters for the undelivered message reports:

- the suppression of undelivered message reports during holiday periods
- the report generation time, for which the parameters are as follows:
  - nn = at a fixed hour every day, where nn is the hour between 00 and 23 (MT 082)
  - CF = at cut-off time for each country that has messages that are undelivered (MT 083)
  - RQ = upon request only (MT 046), that is, no unsolicited report generation (MT 082, MT 083)

The report parameters that set the delivery range are as follows:

- RT = all messages that remain undelivered at report time
- nn = all messages that remain undelivered for more than nn hours (range: 00<=nn<=24)
- VD = value-date-sensitive messages that remain undelivered after the receiver's cut-off time on the value date

Related information

For more information about undelivered message reports, see FIN System Messages.

7.2 Daily Check Report

Types of daily report

The daily check report that FIN sends depends on whether FIN or the General Purpose Application has generated the report.

The reports are as follows:

- MT 081 Daily Check Report for General Purpose Application
- MT 081 Daily Check Report for FIN

Report content

The daily check report lists the following information, for each logical terminal, and for each closed session since the last daily check report:

- the start date and time, and the stop date and time
- the first and last input sequence number
- the first and last output sequence number
- the number of messages sent
- the delivery attempts that FIN has made

The General Purpose Application generates a Daily Check Report for each logical terminal. FIN generates a report for all logical terminals that belong to the destination. The Daily Check Report for FIN lists information separately for each logical terminal at the destination. The FIN Daily Check Report does not include information about current sessions.

How to configure the Daily Check Report

FIN and the General Purpose Application generate reports at different times. You can make the following requests.

Request	Message to send	FIN response
To query the daily check generation time.	An MT 049 Daily Check Report Time Query to a General Purpose Application or FIN	An MT 069 Daily Check Report Time Status. The MT 069 confirms the hour, local to the destination, for the application that the request is sent from. The MT 069 applies to all logical terminals of the requesting destination.

Request	Message to send	FIN response
To change the daily check report generation time.	An MT 045 Daily Check Time Change Request to a General Purpose Application or FIN	An MT 065 Time Change Report for Daily Check Report to confirm the time change.

Note All times in the Daily Check Report are local time. By default, FIN generates the report at midnight.

Related information

For more information about the Daily Check Report, see FIN System Messages.

Part C

FIN Operations

This part is for anyone that performs operational tasks that ensure that the customer's FIN interface functions correctly. For example, this part describes how to use the correct sequence of instructions to access FIN.

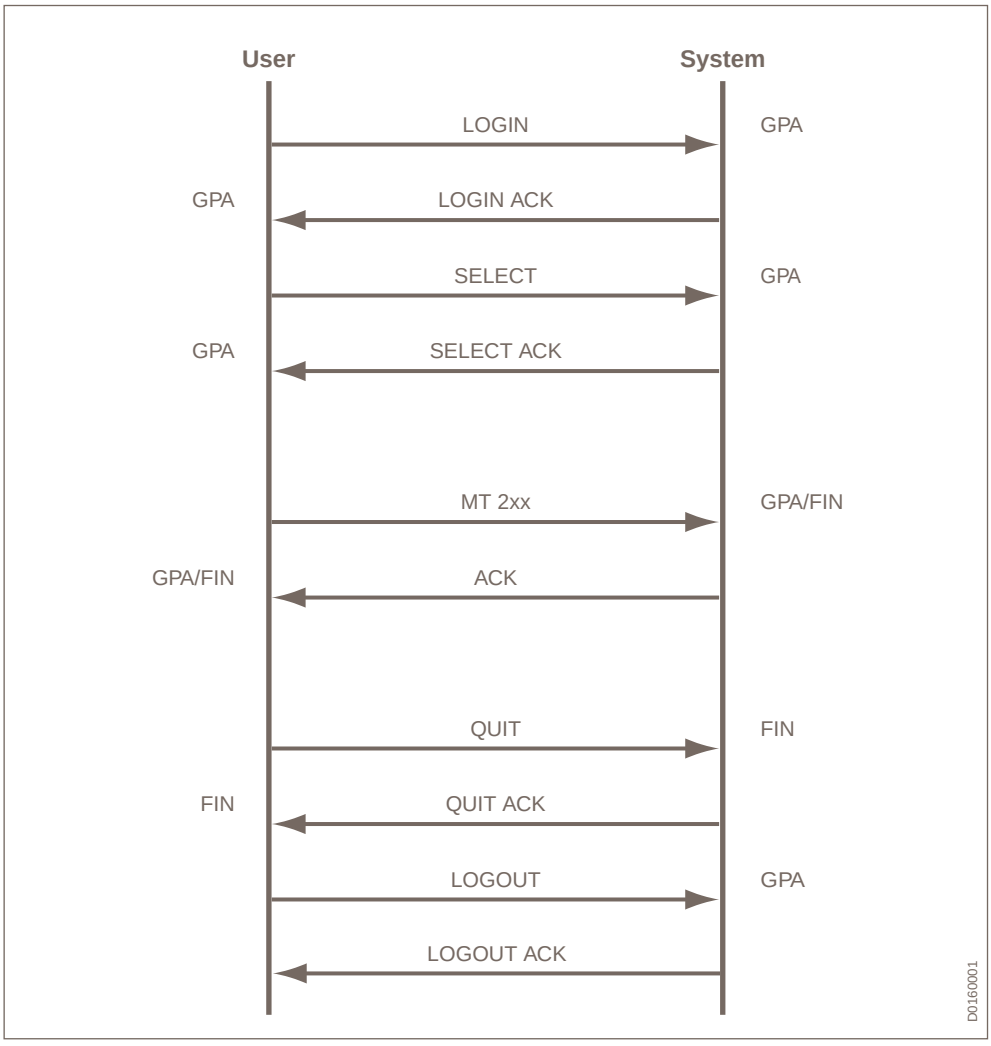
8 Overview of Access to FIN

Login, select, quit, logout

The secure login and select process guarantees that a user that accesses the FIN messaging service has the authorisation to do so. Secure login and select uses a positive acknowledgement (ACK) or negative acknowledgement (NAK) to confirm to the user whether the connection is with FIN. The normal sequence that you use to access and quit the system for each logical terminal is as follows:

1. Log on to FIN to access the General Purpose Application. For more information, see "Log in to the General Purpose Application" on page 29.
2. Select FIN. For more information, see "Select FIN" on page 32.
3. Send and receive messages. For more information about how to send messages, see "Prepare a FIN Message" on page 45. For more information about how to receive messages, see "Receive and Process Messages" on page 75.
4. Quit FIN. For more information, see "Quit FIN" on page 35.
5. Log off from the General Purpose Application to terminate the logical connection between the logical terminal and FIN. For more information, see "Logout From the General Purpose Application" on page 36.

How to access and quit FIN



Only a master can send messages that relate to log in, select, quit, log out, and all user-initiated session aborts or requests for session termination. A synonym cannot send these messages.

Related information

For more information about how to use system messages to access and quit FIN, see FIN System Messages.

For more information about possible error codes, see FIN Error Codes.

For more information about synonyms, see the FIN Service Description.

9 Log in to the General Purpose Application

9.1 Login Request

Purpose

You use the 02 Login Request Message to initiate a General Purpose Application session for a logical terminal. A logical terminal can establish only one session at a time with the General Purpose Application.

Only a master can issue the login request. Synonyms automatically log in with the master. Synonyms cannot log in independently.

You can specify the re-establishment of your General Purpose Application session after an interruption. This minimises the number of messages that you must subsequently send with Possible Duplicate Emission and Possible Duplicate Message trailers.

How to log in your logical terminal to the General Purpose Application

Send a 02 Login Request Message.

FIN processes the request as follows:

- FIN validates the login request.
- If you included a day or a time in the previous Logout Command from this logical terminal, then FIN verifies that you have not sent the login request before the day or the time that you specified in the logout command.
- FIN authenticates the login request.

Your interface authenticates the response from FIN.

Related information

For more information about the 02 Login Request Message format and parameters, see FIN System Messages.

9.2 Re-Establish a General Purpose Application Session After an Interruption

Purpose

You can re-establish a General Purpose Application session after an interruption.

An interruption can be due to a connection failure.

How to re-establish a broken General Purpose Application session

If you selected the option to re-establish a General Purpose Application session (when you initiated the session), then you can use the 02 Login Request Message to re-establish that session for a logical terminal. Re-establishment resembles a normal session initiation, but you must provide extra information in the 02 Login Request Message.

You must add the following types of information to the 02 Login Request Message:

- last input sequence number sent

- last output sequence number received
- last input sequence number ACK received
- last output sequence number ACK sent

FIN uses the same session number. Your interface and FIN use information in the 02 Login Request Message and the related 22 Login Positive Acknowledgement to synchronise with each other.

FIN applies the same validation and authentication process for a login request to re-establish a broken General Purpose Application session as for a normal login request.

FIN continues to assign sequential input sequence numbers and output sequence numbers within resynchronised General Purpose Application sessions.

Note You may notice gaps in output sequence numbers across resynchronised General Purpose Application sessions. FIN accounts for any such missing output sequence numbers as a possible duplicate message. You can see the Possible Duplicate Message trailer in the subsequent messages that you receive from FIN.

Related information

For more information about the 02 Login Request Message and the 22 Login Positive Acknowledgement, see FIN System Messages.

9.3 Login Result

Response to 02 Login Request Message

A login request (to establish or re-establish a session) can be successful or unsuccessful.

If the login is successful, then FIN returns a 22 Login Positive Acknowledgement.

If the login is unsuccessful, then FIN returns a 42 Login Negative Acknowledgement.

22 Login Positive Acknowledgement

The login positive acknowledgement contains the General Purpose Application window size (always 1) and the session number. The login positive acknowledgement also provides the following information:

1. For a new General Purpose Application session, the login positive acknowledgement gives information about the previous General Purpose Application session. FIN resets your General Purpose Application input sequence number and output sequence number to 000001.
2. For a request to re-establish a General Purpose Application session, the login positive acknowledgement gives information about the session that you want to re-establish. Your interface uses this information to synchronise with FIN.

If your logical terminal has successfully logged on to the General Purpose Application, then it can establish a FIN session.

42 Login Negative Acknowledgement

If a login request fails because of a syntax or semantic error, then FIN returns a login negative acknowledgement to the logical terminal that has issued the login command.

The login negative acknowledgement includes an error code in the form Lnn, where nn is a 2-digit number that indicates the reason for rejection.

If you do not receive a response from FIN, then you must consult the FIN operational status at www.swift.com > Support > Operational status.

Related information

For more information about the 22 Login Positive Acknowledgement, and the 42 Login Negative Acknowledgement, see FIN System Messages.

10 Select FIN

10.1 Select Command

Purpose

You use the select command to establish a FIN session for a logical terminal. A logical terminal can establish only one session at a time with FIN, but you can open and close multiple FIN sessions consecutively.

Only a master can issue the select command. Synonyms are automatically logged in when the master logs in. Synonyms cannot send a select command independently.

You can specify that your FIN session can be re-established following an interruption. This minimises the number of messages that you must subsequently send with Possible Duplicate Emission and Possible Duplicate Message trailers.

If you select the logical terminal-directed delivery subset (for logical terminal-directed system messages), then FIN outputs messages from that delivery subset before any other delivery subsets. FIN empties the user-defined delivery subsets in the same order in which the subsets appear in the select command.

You can use the select command, in combination with appropriately defined delivery subsets, to separate types of operations. Examples of operations for which you can use the select command are as follows:

- to send and receive messages on different terminals
- to receive urgent messages separately

Prerequisites

1. Before you can establish a FIN session, your logical terminal must be logged in to the General Purpose Application.
2. You must determine the session parameters for the session, which include the following parameters:
   - The FIN window size
   - the session synchronisation flag
   - the session status (input, output, or both)
   - the delivery subsets which the logical terminal is to receive output messages from FIN.

     For more information, see "Configure Delivery Subsets" on page 18.

How to establish a FIN session

To establish a FIN session, send a 03 Select Command.

FIN processes the select command as follows:

- FIN validates the select command.
- FIN authenticates the select command of your logical terminal, and your interface authenticates the response from FIN.

- If you included a day or time in the previous QUIT Command from this logical terminal, then FIN verifies that you have not sent the select command before the day or the time that you specified in that QUIT Command.

Related information

For more information about the 03 Select Command message format and parameters, see FIN System Messages

10.2 Re-Establish a FIN Session After an Interruption

Purpose

You can re-establish a FIN session after an interruption.

An interruption can be due to a connection failure.

How to re-establish a broken FIN session

If you selected the option to re-establish a FIN session (when you initiated the session), then you can use the 03 Select Command to re-establish that session for a logical terminal. Re-establishment resembles a normal session initiation, but you must provide extra information in the 03 Select Command.

The following list includes the types of information that you must add to the 03 Select Command:

- last input sequence number sent
- last output sequence number received
- last input sequence number ACK received
- last output sequence number ACK sent

FIN uses the same session number.

Your interface and FIN use information in the 03 Select Command and the corresponding 23 Acknowledgement of a Select Request to synchronise with each other.

FIN applies the same validation and authentication process for a select command to re-establish a broken FIN session as for a normal select command.

FIN continues to assign sequential input sequence numbers and output sequence numbers within resynchronised FIN sessions.

Note You may notice gaps in output sequence numbers across resynchronised FIN sessions. FIN accounts for any such missing output sequence numbers as a possible duplicate message. You can see the possible duplicate message in the subsequent messages that you receive from FIN.

Related information

For more information about the 03 Select Command message format and parameters, see FIN System Messages.

10.3 Select Command Result

Response to 03 Select Command

A select command can be successful or unsuccessful.

If the select is successful, then FIN returns a 23 Acknowledgement of a Select Request.

If the select is unsuccessful, then FIN returns a 43 Select Negative Acknowledgement.

23 Acknowledgement of a Select Request

The positive select acknowledgement contains the following information:

- The FIN window size.
- The session number.
- If it is a new FIN session, then the Select ACK provides information that relates to the previous FIN session. The Select ACK includes the last FIN session number.
- If you sent the select command to re-establish a previous FIN session, then the Select ACK provides information about the session that you want to re-establish. Your interface uses this information to synchronise with FIN.

If your logical terminal has successfully established a FIN session, then it can send and receive FIN messages according to the selection criteria that you specified in the select command.

43 Select Negative Acknowledgement

The 43 Select Negative Acknowledgement message contains an error code in the form Snn, where "nn" is a 2-digit number. The 43 Select Negative Acknowledgement indicates the reason for rejection.

If you do not receive a response from FIN, then you must consult the FIN operational status at www.swift.com > Support > Operational status.

11 Quit FIN

11.1 User-Initiated Quit from a FIN session

Purpose

You use the 05 Quit Command to end the current FIN session.

Only a master can issue the Quit Command. Sessions for synonyms automatically are quit with the master. A synonym cannot end a FIN session independently of the master.

Optionally, you can specify the next allowed date and time for a select command. FIN does not accept new 03 Select Commands from the logical terminal before this time.

How to quit a FIN session

To end a FIN session, send a 05 Quit Command.

FIN returns a 25 Quit Acknowledgement after it has acknowledged all input and output messages.

After you have sent the 05 Quit Command, the logical terminal still operates within the General Purpose Application. You can send another 03 Select Command to establish another FIN session.

25 Quit Acknowledgement

FIN always responds with a 25 Quit Acknowledgement. There is no negative acknowledgement for the 05 Quit Command. However, FIN can include an error code in the acknowledgement.

Related information

For more information about quitting a FIN session, see FIN System Messages and FIN Error Codes.

11.2 SWIFT-Initiated Request to Quit a FIN Session

About the MT 008 System Request to Quit

FIN uses the MT 008 System Request to Quit message to request the logical terminal to end the FIN session.

How to interpret the request

If FIN wants to request the logical terminal to end a FIN session, then it sends an MT 008 System Request to Quit. FIN specifies the day and time by which it wants the logical terminal to quit the FIN session. FIN will abort the session if the logical terminal that was addressed in the MT 008 has not acted upon the request within the specified day or time limit.

Related information

For more information about the MT 008, see FIN System Messages and FIN Error Codes.

12 Logout From the General Purpose Application

12.1 User-Initiated Logout From the General Purpose Application

Purpose

You use the 06 Logout Command to end the General Purpose Application session and, with it, the logical link between the logical terminal and FIN.

Only a master can issue the Logout Command. Synonyms are automatically logged out with the master. Synonyms cannot log out independently.

Optionally, you can specify the next allowed date and time for a login. FIN does not accept new 02 Login Request Messages from the logical terminal before this time.

How to log out from the General Purpose Application

To log out from a General Purpose Application session, send a 06 Logout Command.

FIN returns a 26 Logout Acknowledgement.

26 Logout Acknowledgement

FIN always responds with a 26 Logout Acknowledgement. There is no negative acknowledgement for the 06 Logout Command. However, FIN can include an error code in the acknowledgement.

Related information

For more information about how to log out from the General Purpose Application, see the FIN System Messages and FIN Error Codes.

12.2 SWIFT Initiated Request to Logout a General Purpose Application Session

About the MT 009 System Request to Logout

FIN uses the MT 009 System Request to Logout to request a logical terminal to log out from a General Purpose Application before a specified date or time.

How to interpret the request

To request that you to log out from a General Purpose Application session, FIN sends an MT 009 System Request to Logout. The MT 009 specifies the date and time by which FIN has requested the logical terminal to log out from a General Purpose Application.

FIN will abort the session if the logical terminal that was addressed in the MT 009 has not acted upon the request within the specified day or time limit.

Related information

For more information about the MT 009 and service message 14, see FIN System Messages and FIN Error Codes.

13 Status Reports

13.1 Report on Login, or Select Status

Purpose

You can request the MT 041 Select Status Request for FIN to show the login or select status of the logical terminal. You can request the report from either FIN or General Purpose Application.

In FIN, you can request the Select status details for either a specific logical terminal or for all of the logical terminals of your destination.

How to request a report

To request a report on the login or select status of the logical terminal, send an MT 041 Select Status Request for FIN.

FIN returns an MT 061 Select Status Report for FIN.

MT 061 Select Status Report for FIN

The MT 061 Select Status Report for FIN contains the following information:

- For each logical terminal that you have specified, the report shows whether there is a FIN session open. If there is an open FIN session, then the report shows whether the session is open for input, output, or both.
- The report shows whether you have specified value-date ordering for the destination.

Whether the select status is for output only, or for input and output, the report shows the delivery subsets that the logical terminal has currently selected. The report also shows whether the logical terminal-directed queue is selected.

Related information

For more information about the MT 041 and the MT 061, see FIN System Messages.

13.2 Logical Terminal History Report

Purpose

You use the MT 036 Logical Terminal History Request to view the General Purpose Application login history of a logical terminal for a specific period.

Because FIN does not safe-store the 02 Login Request Message, you can only retrieve the login history of a logical terminal if you request a logical terminal history report.

Prerequisite

Before you can make a logical terminal history request, you must decide on the reporting period.

The start date must be within the last 30 days. The end date must be no later than the start date plus 7 days.

How to request a logical terminal History Report

To query your General Purpose Application the login history for a specified period of time, send an MT 036 Logical Terminal History Request to a General Purpose Application.

FIN returns an MT 056 Logical Terminal History Report.

MT 056 Logical Terminal History Report

The report contains information about the login history of the logical terminal that you specified in the MT 036.

The MT 056 Logical Terminal History Report includes the following details:

- the login attempt
- the result of the login
- session information

Related information

For more information about the MT 036 and the MT 056, see FIN System Messages.

13.3 Logical Terminal Session History Report

Purpose

You use the MT 031 Session History Request to view details about closed General Purpose Application or FIN sessions.

Prerequisites

1. Before you can use the MT 031 Session History Request, you must consider the type of session history that you want to see, and send the request from the General Purpose Application or FIN as appropriate:
   - If you want to see the General Purpose Application session history for a specific logical terminal at your destination, then send the request from the General Purpose Application.
   - If you want to see the FIN session history for a specific logical terminal, or for all logical terminals at your destination, then send the request from FIN.
2. Decide on the reporting period for the request.

   The start date must be within the last 30 days. The end date must be no later than the start date plus 7 days.

To request a logical terminal session history report

To query the number of messages that you sent and received for all closed General Purpose Application or FIN sessions for a specified period of time, send an MT 031 Session History Request to a General Purpose Application or FIN.

FIN returns an MT 051 Session History Report.

MT 051 Session History Report

The information in the report is the same as that in the session line of a quit or logout acknowledgement.

For each session that you have selected to report on, the report includes the following details:

- session number
- start date and time
- stop date and time
- reason for session closure
- quantity of messages sent and received
- first and last input sequence numbers
- first and last output sequence numbers

Note The report does not include information about current sessions.

If you want to see similar information on a daily basis, then you can request an MT 081 Daily Check Report. For more information, see "Daily Check Report" on page 24.

Related information

For more information about the MT 031 and the MT 051, see FIN System Messages.

14 Authentication and Authorisation in FIN

14.1 Login and Select Authentication

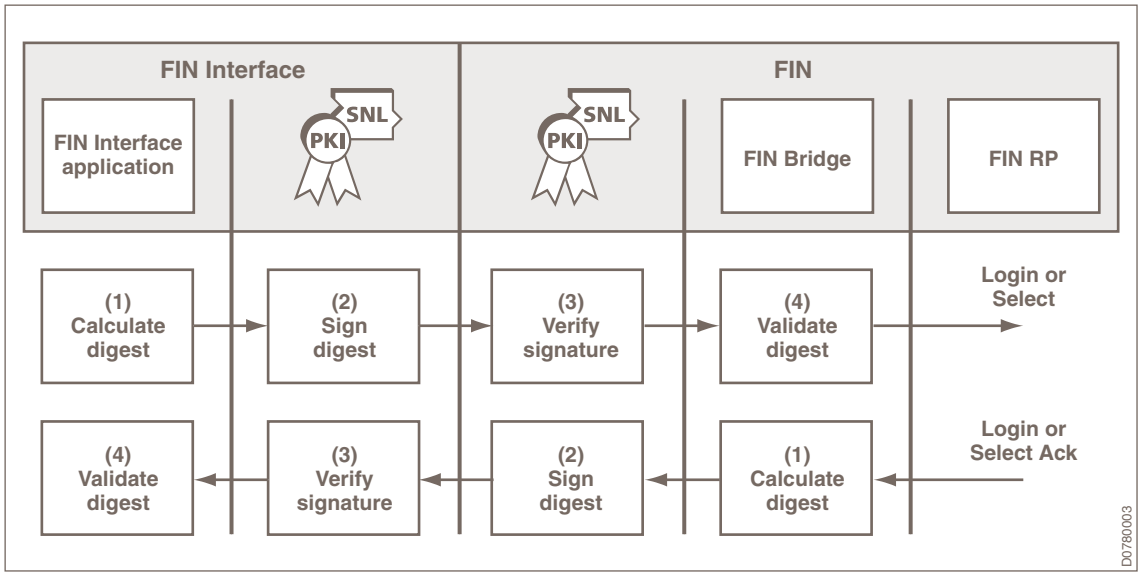
Purpose of secure login and select

SWIFT enforces the secure login and select process to protect FIN against unauthorised access.

Description

FIN uses a 4-step message authentication process (as illustrated in the following diagram) to authenticate login and select requests and acknowledgements. Message authentication always begins with the sender that signs the message and ends with the receiver that verifies the message.

For login and select, FIN repeats the 4-step process twice: once when the FIN interface sends the login or select request to FIN, and again when FIN sends the login or select acknowledgement to the FIN Interface.



The sender performs the first two steps of the authentication process. For login and select requests, the sender is the FIN Interface. For login and select acknowledgements, the sender is the FIN Bridge.

The process is as follows:

1. The sender's application uses the text of the message to be authenticated (that is, the text of the login or select request or acknowledgement) to calculate a message digest.
2. The sender's SWIFTNet Link uses SWIFTNet Public Key Infrastructure to sign the message digest.

   To sign login and select requests for live destinations, the sending destination must use a SWIFTNet Public Key Infrastructure certificate that is stored in the Hardware Security Module (HSM). HSM-stored certificates have the policy ID 1.3.21.6.2.

   The owning live sending destination must sign login and select requests for test destinations. The sending destination can use either a business or a lite certificate to sign

Test and Training login and select messages. Business or lite certificates for test traffic can be stored on either the HSM or on a disk.

The receiver performs the last two steps of the authentication process. For login and select requests, the receiver is the FIN Bridge. For login and select acknowledgements, the receiver is the FIN Interface.

3. The receiver's SWIFTNet Link verifies the SWIFTNet Public Key Infrastructure digital signature on the message digest.
4. The receiver's application validates the signed message digest. To do this, the receiver's application uses the received message text (that is, the text of the login or select request or acknowledgement) to recalculate the digest. The receiver's application then compares this recalculated value with the value of the signed digest. If the values match (and the signature verification in step 3 was successful), then the message is authentic.

   In addition to signature verification, the FIN application also ensures that the sender has correctly formatted the login and select request, and has used the correct DN and certificate.

   As a final check, the FIN interface (user application) must also ensure that the login and select acknowledgement is signed by a valid DN representing FIN application.

14.2 FIN User-to-User Message Authentication

Description

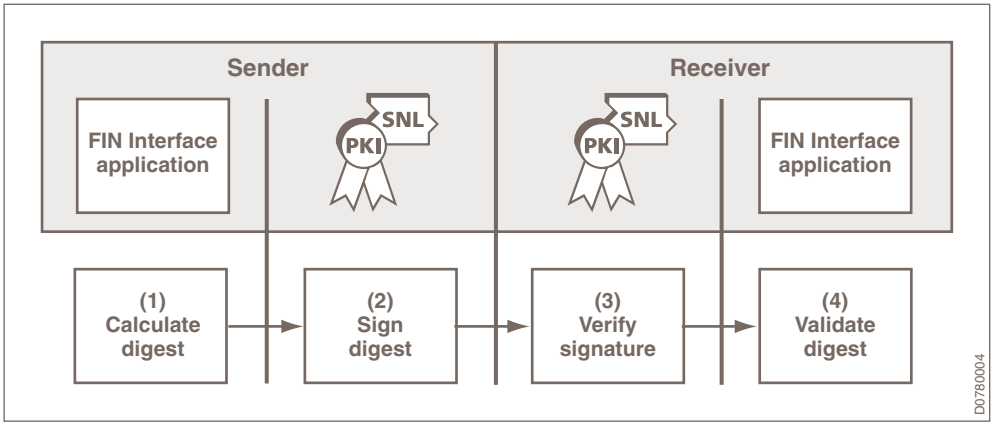
Authenticated user-to-user messages use the same 4-step message authentication process as described for login and select. See "Login and Select Authentication" on page 40.

The authentication process is as follows (the sender performs the first two steps):

1. To calculate a message digest, the sender's application uses the sender and receiver BIC and block 4 of the FIN user-to-user message that requires authentication.
2. The sender's SWIFTNet Link uses SWIFTNet Public Key Infrastructure, to request the Hardware Security Module (HSM) to sign the message digest, and appends the signature to the message.

   The receiver performs the last two steps of the authentication process.
3. The receiver's SWIFTNet Link verifies the SWIFTNet Public Key Infrastructure digital signature on the message digest.
4. The receiver's application validates the signed message digest. To do this, the receiver's application uses the received message text to recalculate the digest, and compares this recalculated value with the value of the signed digest. The receiver's application also performs all remaining checks (for example, it validates the SignDN and the certificate policy ID).

FIN user-to-user message authentication process



Message authorisation

The Relationship Management Application is used to confirm the existence of a business relationship between correspondents. The Relationship Management Application enables users to exchange authorisations to send and receive FIN messages.

All live FIN messages that require a digital signature also require an authorisation-to-send. The relevant correspondent provides this authorisation.

Authorisations are optional for FIN Test and Training messages.

Note Subscription to the Relationship Management Application is mandatory and automatic for all FIN users. The provision and use of the Relationship Management Application service are governed by the SWIFT General Terms and Conditions.

For more information about message authorisation, see the SWIFTNet RMA Service Description.

Related information

For more information about FIN security, see the following documents:

- SWIFTNet Service Description
- SWIFTNet Naming and Addressing Guide
- Certificate Administration Guide

14.3 Authentication of MT 670 and MT 671 Standing Settlement Instruction (SSI) Messages

Authentication process

1. The sender of the MT 670 calculates a message digest as described above except that it only uses data from block 4. In the case of the MT 670, the sending BIC is included in this block. The field tag that contains the distribution information is excluded from this calculation.
2. Upon receipt of the MT 670, SWIFT sends an MT 671 that contains both the signed content of the MT 670 and the signature information to the recipients of the distribution list detailed in the MT 670. SWIFT does not modify the signed content of the MT 670.

3. The receiver of the MT 671 verifies the signature using the public key of the sender of the initial MT 670 as described above. If the MT671 does not contain a faithful copy of the MT 670's content, then it generates an authentication failure, which alerts the receiver.

Part D

FIN User Guide

This part is for anyone that uses the FIN service. For example, this part explains how to prepare and send a FIN message.

15 Prepare a FIN Message

15.1 Message Format

FIN

FIN messages must comply with the FIN message formats and the Standards for FIN. FIN rejects non-compliant messages.

FIN messages can have a maximum input length of either 2,000 characters or 10,000 characters. FIN limits the maximum output length to 2,600 or 10,600 characters, respectively. The maximum output length for retrieved messages, including headers and trailers, is 11,325 characters. For more information about the maximum length of FIN messages, see the Standards MT General Information.

For general information about the message standards for FIN, see the Standards MT documentation. For more information about the format of FIN messages, see FIN System Messages and SWIFTNet Service Description.

Use of the BIC in the header of a FIN message

You can use business party identifier addresses or 11-character addresses (which is the business party identifier plus the branch identifier), in the header and the text of FIN messages. See 16 "Message Structures" on page 51 for detailed information on the information required in message header fields.

You must respect any agreements that you have made with message correspondents about the use of business party identifier addresses.

Tip For maximum efficiency of processing at the receiving end, use a BIC11 wherever appropriate.

You cannot use a non-connected BIC in the header of a SWIFT message. A non-connected BIC has the number 1 in the eighth position.

How to use the BIC in the text of a FIN message

You can use the following types of address to identify financial or non-financial institutions in FIN message text:

- BICs (SWIFT or non-SWIFT financial or non-financial institutions)
- names and postal addresses
- national or network codes

Tip Use BICs wherever possible.

In the text block of a message, you should not use BICs that are not published in a SWIFT Directory, as other users might not be able not recognise such BICs.

For more information about BICs, see the *BIC Directory*, which is available on www.swiftrefdata.com.

15.2 Character Sets

15.2.1 X Character Set

Description

The FIN interfaces that communicate with SWIFT use Extended Binary Coded Decimal Interchange Code (EBCDIC) character code.

Note FIN does not allow the use of characters *Cr* and *Lf* in the single line fields 108, 113, 115, and 433 in the User Header block.

X character set - SWIFT

Character set	Code
Alphabetical characters A to Z (upper case) a to z (lower case)	EBCDIC
Numeric characters 0 to 9	EBCDIC
Special characters / - ? : ( ) . , ' + CR LF SPACE	EBCDIC

15.2.2 Y Character Set

Format

The Y character set is the same as the Electronic Data Interchange For Administration, Commerce, and Transport (EDIFACT) Level A character set as defined in ISO 9735.

Y character set - EDIFACT Level A

Character set	Code
Alphabetical characters A to Z (upper case)	EBCDIC
Numeric characters 0 to 9	EBCDIC
Special characters / - ? : ( ) . , ' + = ! " % & * < > ; SPACE	EBCDIC

15.2.3 Z Character Set

Format

The Z character set contains all of the characters in the X and the Y character sets as well as the additional characters {, @, _, and #.

Z character set

Character set	Code
Alphabetical characters A to Z (upper case) a to z (lower case)	EBCDIC
Numeric characters 0 to 9	EBCDIC
Special characters / - ? : ( ) . , ' + = ! " % _ & * < > ; { @ # CR LF SPACE	EBCDIC

15.2.4 Representation of Non-SWIFT Characters

Description

A number of characters are not allowed in one or more of the SWIFT character sets. To use these characters in a field where the format does not allow it, SWIFT recommends using the character's hexadecimal EBCDIC code, preceded by two question marks (??) as escape sequence. The use of this encoding must be bilaterally agreed between the sender and receiver of the message.

SWIFT EBCDIC codes

Character	Description	EBCDIC
<	Less-than sign	4C
!	Exclamation mark	4F
&	Ampersand	50
|	Vertical bar	5A
$	Dollar	5B
*	Asterisk	5C
;	Semicolon	5E
^	Circumflex	5F
%	Percent sign	6C
_	Low line (underscore)	6D
>	Greater-than sign	6E
`	Grave accent	79
#	Number sign	7B
@	Commercial At sign	7C
=	Equal sign	7E
"	Quotation mark	7F
~	Tilde	A1
[	Left square bracket	AD

Character	Description	EBCDIC
]	Right square bracket	BD
{	Left curly bracket	C0
}	Right curly bracket	D0
\	Reverse solidus (backslash)	E0

Example

The character @ is represented as ??7C in a field that is restricted to characters from the X character set.

15.3 Enter, Sign, and Send a FIN Message

Preparation sequence

You use the following standard sequence to send a message to FIN:

- enter the message
- authorise the message
- sign the message
- send the message

FIN interface

Your FIN interface may offer several options to enter, authorise, sign, and send FIN messages. The FIN interface performs some of the necessary functions either automatically or on request.

Your interface may perform some of the following tasks automatically:

- assign the next input sequence number
- add a Training trailer to Test and Training messages
- calculate the checksum
- authorise the message
- calculate the information necessary for the receiver to authenticate the message
- insert the message into a InterAct envelope, together with the necessary header information
- sign the message
- transfer the message to FIN

Related information

For more information about the options and the capabilities of your FIN interface, see the documentation that your FIN interface vendor provides.

For more information about FIN security, see "Authentication and Authorisation in FIN" on page 40.

15.4 Message Priority and Delivery Notification

When to set the message priority

You select the priority for the messages that you send according to normal business decisions and the current situation. For example, if it is nearly the receiver's cut-off time, then you can choose to send important messages with urgent priority.

Delivery notification

As good business practice, SWIFT recommends that you select the delivery notification option when you send a critical message.

Messages that you can consider to be critical are as follows:

- messages that are of systemic importance
- messages that relate to your top transactions (for example, the top 5 percent, by value, of the messages that you process)

15.5 Time Zones, Cut-Off Times, and Non-Banking Days

Reports

You can request from FIN a number of reports that help you to track delivery patterns in your correspondents' countries.

The reports are as follows:

- the Time Zone Status Report
- the Cut-off Time List Report
- the Non-Banking Days List Report

How to request these reports

You can request the reports shown in the following table::

Request	Report type	FIN response
To query the local time in use in specified SWIFT regions or in all SWIFT regions	An MT 037 Time Zone Status Request to the General Purpose Application or FIN	An MT 057 Time Zone Status Report
To query the cut-off times in use in specified SWIFT regions or all SWIFT regions	An MT 042 Cut-off Times List Request to the General Purpose Application	An MT 062 Cut-off Time List Report
To query the non-banking days in all SWIFT regions for the following 2 weeks	An MT 043 Non-Banking Days List Request to the General Purpose Application	An MT 063 Non-Banking Days List Report

MT 057 Time Zone Status Report

The MT 057 Time Zone Status Report shows the local time in use in a specified SWIFT region or in all SWIFT regions. The local time is given as Delta Time, where GMT is equal to 12:00 (midday), GMT+1 is given as 13:00, and GMT-5 is given as 07:00.

MT 062 Cut-off Time List Report

The MT 062 Cut-off Time List Report shows the official business cut-off times for a specific SWIFT region or for all SWIFT regions.

The *BIC Directory* can list several cut-off times for certain countries. However, this report, and the SWIFT system in general, usually reflect only one. The report states cut-off times in the requestor's local time.

If a country has no specific cut-off time, then FIN uses the default 00:00. The report converts the default to local time. For more information about cut-off times, see the *BIC Directory*, which is available on www.swiftrefdata.com.

MT 063 Non-Banking Days List Report

The MT 063 Non-Banking Days List Report shows the non-banking days, bank holidays, and weekends, for the next 2 weeks, for all of the countries that FIN serves.

A non-banking day is a full holiday that applies to the entire country. The report does not include half-day holidays, or holidays that apply only to parts of the country.

16 Message Structures

16.1 Block Structure and Format

16.1.1 Block Structure

Format

The format of all messages follows a block structure, which allows the inclusion of blocks inside higher-level blocks. Each message block contains data of a particular type and has a particular purpose.

Elements of a block

A block always consists of the elements in the following table:

start of block indicator	The character { indicates the beginning of a block.
block identifier	1 to 3 alphanumeric characters used to define block contents.
separator	The character : indicates the end of the Block Identifier.
block contents	The information that corresponds to the Block Identifier. The Block Content consists of any fixed part information, followed by blocks, sub-blocks (or both) that contain variable format or optional information.
end of block indicator	The character } indicates the end of a block.

Message blocks

Messages consist of 1 to 5 blocks, as shown in the following table:

Block Identifier	Block name	Mandatory or optional
1	basic header	mandatory
2	application header	optional
3	user header	optional
4	text	optional
5	trailers	optional

Description

The blocks begin with a 1-digit Block Identifier.

- **Basic Header**

  The only mandatory block is the Basic Header. The Basic Header contains the general information that identifies the message, and some additional control information. The FIN interface automatically builds the Basic Header.

- **Application Header**

  The Application Header contains information that is specific to the application. The Application Header is required for messages that users, or the system and users, exchange. Exceptions are session establishment and session closure.

- **User Header**

  The User Header is an optional header.

- **Text**

  The Text is the actual data to transfer.

- **Trailer**

  The trailer either indicates special circumstances that relate to message handling or contains security information.

Note All alphabetic characters in all headers and in the text of user-to-system messages must be in upper case. This rule does not apply to the following fields: 108:<mur>, 113:<banking-priority>, 114:<payment-release-information-sender>, 115:<payment-release-information-receiver>, or 433:<sanctions-screening-information-receiver>, which may contain lower-case characters.

The system does not recognise lower-case letters as being equivalent to upper-case letters.

16.1.2 Service Identifiers

Description

The service identifier identifies the type of message. The service identifier in a message must belong to the set of identifiers that SWIFT has defined for the application.

List of service identifiers

The following table provides a numerical list of service identifiers, the application in which they appear, and their names:

Value	Application	Name
01	General Purpose Application or FIN	Message (system and user-to-user)
02	General Purpose Application	Login Request Message
03	General Purpose Application	Select Command
05	FIN	Quit Command
06	General Purpose Application	Logout Command
14	General Purpose Application	System Request to Remove Logical Terminal
21	General Purpose Application	Acknowledgement of General Purpose Application and FIN Messages
22	General Purpose Application	Login Positive Acknowledgement
23	General Purpose Application	Acknowledgement of a Select Request
25	FIN	Quit Acknowledgement
26	General Purpose Application	Logout Acknowledgement

42	General Purpose Application	Login Negative Acknowledgement
43	General Purpose Application	Select Negative Acknowledgement

16.1.3 General Purpose Application Format

Overview

A General Purpose Application message consists of one or more blocks, as described in the following table.

General Purpose Application message blocks

Block Identifier	Block name	Mandatory or optional
1	Basic Header	mandatory
2	Application Header	optional
4	Text	optional
5	Trailers	optional

Description

- **Application Header**

  The Application Header format differs between input and output messages. The Application Header is present only for Service Identifier 01 messages (General Purpose Application and FIN).

- **Text**

  The presence of the Text block depends on the message type and the service identifier.

- **Trailer**

  The Trailer block is present for all messages that have a Service Identifier 01 and for Test and Training messages that have Service Identifier 03 (Select) or 06 (Logout).

16.1.4 FIN Format

Overview

FIN messages consist of one or more blocks, as described in the following table.

FIN message blocks

Block Identifier	Block name	Mandatory or optional
1	Basic Header	mandatory
2	Application Header	optional
3	User Header	optional
4	Text	optional
5	Trailers	optional

Description

- **Basic Header**

  The Basic Header has the same format for both input and output messages. However, the information in the Basic Header relates to the sender when the message is input and to the receiver in the output version of the same message.

- **Application Header**

  The Application Header is specific to the FIN application, and the format differs between input and output messages. The Application Header is only present for Service Identifier 01.

- **User Header**

  The User Header is optional in the FIN application.

- **Text**

  The presence of the Text block depends on the message type and the service identifier. The text of the banking messages (categories that SWIFT has reserved for user-to-user messages) begins with a `{` at the beginning of the block indication. The Block Identifier, the separator `4:`, and the first field of the message text follow. The format of the message text (that starts with `CrLf` and ends with `-`) remains unchanged. For additional information, see the Standards MT General Information.

- **Trailer**

  The Trailer block is present for all messages that have Service Identifier 01 and for Test and Training messages that have Service Identifier 05 (Quit).

16.1.5 Basic Header

Format

The following table describes the Basic Header layout.

Basic header layout

The Basic Header has the following layout:

Block Identifier	Must be the first character within the block. The Block Identifier for the Basic Header is 1.
Application Identifier	Must designate the application that has established the association used to convey the message.
Service Identifier	Identifies the type of message. The identifier used must belong to the set of identifiers defined for the application.
Logical Terminal address	The system must know the logical terminal address, and the logical terminal address must be active.
Session Number	When present, must be numeric. Must also equal the current application session number of the application entity that receives the input message.

Sequence Number	• For all General Purpose Application messages or General Purpose Application service messages that have Service Identifiers 01, 03, or 06, the sequence number must be equal to the next expected number. • For all General Purpose Application messages that have Service Identifiers 21, 23, 26, or 43, the sequence number must be equal to that of the acknowledged service message. • For all FIN messages or FIN service messages that have Service Identifiers 01 or 05, the sequence number must be equal to the next expected number. • For all FIN messages that have Service Identifiers 21 or 25, the sequence number must be equal to that of the acknowledged service message.

Example

```
{1:F01BANKBEBBAXXX2222123146}
```

16.1.6 Application Headers in a General Purpose Application

16.1.6.1 General Purpose Application Header - Input

Description

The Application Header appears on all input messages (Service Identifier 01).

From: **User** **To:** **General Purpose Application**

Format

Block Identifier	2
Input Identifier or Output Identifier	I
Message Type	3 digits that indicate the message type.
Recipient's address	All General Purpose Application messages from the user must be sent to the following address: SWFTXXXXXXXX. Exceptions are the MT 074 Broadcast Request and the MT 090 User-to-SWIFT Message, which the user explicitly sends to a Headquarters department or a Customer Support Centre address.(1)

(1) Users must use the Customer Support Centre and Headquarters addresses that SWIFT has specified for the General Purpose Application. Users must not address the MT 074 Broadcast Request and the MT 090 User-to-SWIFT Message in the General Purpose Application to logical terminal X.

Example

```
{2:I042SWFTXXXXXXXX}
```

16.1.6.2 General Purpose Application Header - Output

Description

The Application Header appears on all output messages (Service Identifier 01).

From: **General Purpose Application** **To:** **User**

Format

Block Identifier	2
Input Identifier or Output Identifier	O
Message Type	3 digits that indicate the message type.
Time	The first occurrence of the Time field contains the system time and date. This field is the time, in Greenwich Mean Time (GMT), at which General Purpose Application generated the message.
Message Input Reference	This is the system message input reference field. The message input reference contains a pseudo logical terminal or SWIFT Headquarters address.
Date	This field contains the output date, which is local to the receiver.
Time	The second occurrence of the Time field contains the output time and date. This field represents the receiver's local time.

Example

```
{2:O0561427970305ABLRXXXXGXXX00000111909703051527}
```

16.1.7 Application Headers in FIN

16.1.7.1 FIN Application Header - Input

Description

The Application Header appears on all input messages (Service Identifier 01). The input Application Header describes the type of message, its addressee, and which optional sending parameters can be used.

From: **User** **To:** **FIN**

Format

Block Identifier	2
Input Identifier or Output Identifier	I
Message Type	3 digits that indicate the message type.
Destination Address	This address is the 12-character SWIFT address of the receiver of the message, but with a logical terminal code of *X*. The Destination Address field defines the destination to which the message is sent. The system replaces the *X* with a specific logical terminal code on delivery of the message according to the delivery control that the receiving

	user exercises. The Branch code field is mandatory and validated. The user may use the default XXX, as in the following example. If the destination is SWIFT, then the address must be SWFTXXXXXXX, except for the MT 074 Broadcast Request and the MT 090 User-to-SWIFT Message (see FIN System Messages).
Message Priority	This field must have one of the following values: • S (System) for user-to-system messages • U (Urgent) or N (Normal) for all user-to-user messages. If the message priority is S, then the Delivery Monitoring and Obsolescence Period fields must not be present.
Delivery Monitoring (optional)	Valid combinations of delivery monitoring options and message priority are as follows: • priority U must request Delivery Monitoring option 1 (non-delivery warning) or 3 (non-delivery warning and delivery notification) • priority N may optionally request Delivery Monitoring option 2 (delivery notification)
Obsolescence Period (optional)(1)	Applies the default values of 3 units (15 minutes) for priority U (Urgent) and 20 units (100 minutes) for priority N (Normal). The system assumes the default value for the Obsolescence Period field, regardless of the value that the user specifies.

(1) If the Obsolescence Period parameter is present, then the Delivery Monitoring parameter must also be present (error code: H25).

Example

```
{2:I202BANKDEFFXXXXU3003}
```

16.1.7.2 FIN Application Header - Output

Description

The Application Header appears on all output messages (Service Identifier 01). The output Application Header defines the type of message, who sent it and when, and when FIN delivered it.

From: **User** **To:** **General Purpose Application**

Format

Block Identifier	2
Input Identifier or Output Identifier	O
Message Type	3 digits that indicate the message type.
Time	The first occurrence of the Time field is input time, local to the sender. For SWIFT-generated system

	messages, the input time is the time (in GMT) at which the system generated the message.
Message Input Reference	The input message input reference. FIN assigns a unique message input reference to every input message. The message input reference is a 28-character string that represents the date (local to the sender) on which the sender input the message, the sender's full SWIFT address, the input session number, and the input sequence number For SWIFT-generated system messages, the input message input reference is the system message input reference. The system message input reference shows a pseudo logical terminal address (for example, *DYLRXXXXXXXX*) that identifies as the sender the particular suite of programmes which generated the message within the system.
Date	The output date, which is local to the receiver.
Time	The second occurrence of the Time field is the output time, local to the receiver.
Message Priority	FIN delivers all system-originated messages with priority S (system).

Example

```
{2:O0511511010606ABLRXXXXGXXX00000130850105141149S}
```

16.1.8 User Header in FIN

Description

This is an optional header. It can be assigned by the sender and by the central system. If assigned by the sender, then this header always appears on the output message. Relevant parts of the User Header are repeated in related system messages and acknowledgements.

Application: FIN

From: **User** **To:** **User or System**

Format

The following table describes the format of the user header. Note that the fields must appear in the order described in the table:

Service identifier (FINCopy only)	For any message that the user submits to a FINCopy service, block 3 requires an additional field 103. This field contains a 3-character service identifier that is unique to a specific FINCopy service. The use of a unique identifier makes it possible to support access to multiple services within the same interface.
Banking priority	Field 113:`<banking-priority>`. The sender of the message assigns this 4-character banking priority. Field 113 containing only blanks or spaces is accepted by the system.
Message user reference	Optional field 108:`<message-user-reference>`. The sender of the message assigns the message user reference. If the sender has not defined the message user reference in field 108, then the system uses the transaction reference number for retrievals and associated system messages and acknowledgements. The transaction reference number is in field 20 or 20C::SEME of the text block of user-to-user

	FIN messages. The format of field 108 is 16x. Field 108 containing only blanks or spaces will be accepted by the system.
Validation flag	Field 119:<validation-flag>. Indicates whether FIN must perform a special validation. The following are examples of the values that this field may take(1): • REMIT identifies the presence of field 77T. To use only in MT 103. • RFDD indicates that the message is a request for direct debit. To use only in MT 104. See Error Code C94. • STP indicates that FIN validates the message according to straight-through processing principles. To use only in MTs 102 and 103.
Balance checkpoint date and time (MIRS only)	Field 423:<balance-checkpoint-date-and-time>(4) This field contains the balance checkpoint date and time consisting of a date (YYMMDD) and a time (HHMMSS[ss], where 'ss' indicates hundredths of a second). The market infrastructure that is subscribed to the Market Infrastructure Resiliency Service will always copy this reference from field tag 13G of the last MT298/091 that it sent into the related MT 298/093 or MT 097 that it generates.
Message input reference (MIRS only)	Field 106 <mir>(5)(6) This field contains the MIR of the payment message that is related to the notification messages in which this field is present. The market infrastructure that is subscribed to MIRS will copy it from the received payment message. In a FINCopy scenario, this field must contain the MIR of the related MT 096.
Related reference (MIRS only)	Field 424: <related-reference>(5) This field contains the reference of the payment that is related to the notification messages in which this field is present. The payment itself was not the result of a FIN message. The value of this field must correspond to the related reference (field 21) in the MT298/093. The format of field 424 is 16x. Field 424 containing only blanks or spaces will be accepted by the system.
Addressee information (FINCopy only)	Field 115:<payment-release-information-receiver>.(2) The central institution inputs information in the MT 097 FINCopy Message Authorisation/Refusal Notification, in Y-Copy mode. FINCopy copies the information to the receiver of the payment message. Field 115 containing only blanks or spaces will be accepted by the system. For more information, see the FINCopy Service Description.

Sanctions Screening information for the receiver	Field 433: `<sanctions-screening-information-receiver>`(3). The screening service inputs information in the MT 097 FINCopy Message Authorisation/Refusal Notification, in Y-Copy mode. FINCopy copies the information to the receiver of the screened message. The following values can be present in this field: • AOK: message automatically released by screening service • FPO: compliance officer has flagged the screening result as false positive • NOK: compliance officer has flagged the screened message as suspect The code word can optionally be followed by additional information (up to 20 characters from the x character set).

(1) For more information, see Message Format Validation Rules and the standards MT Category volumes at www.swift.com > Support > Documentation > A-Z > Standards MT.

(2) Tag 115 is only valid for output messages.

(3) Tag 433 is only valid for output messages.

(4) Tag 423 must be present in block 3 of the MT 097 and the MT298/093 sent by a market infrastructure that is subscribed to MIRS.

(5) Tag 106 or 424 must be present in block 3 of all notification messages which are sent by a market infrastructure that is subscribed to MIRS.

(6) Tag 106 must be present in block 3 of an MT 097 sent by a market infrastructure that is subscribed to MIRS.

Example

```
{3:{108:PRIORITY 2}}
```

16.1.9 Text

Description

The text is the actual data to transfer. The presence of a Text block depends on the message type and the service identifier.

Format

system message or service message	Fields within the Text block are seen as sub-blocks of block 4 and are delimited by further pairs of curly brackets. Each such sub-block begins with a 3-digit tag followed by a colon.
user-to-user message	All message text within block 4 begins with Carriage Return and Line Feed <CrLf> and ends with <CrLf> followed by a hyphen -. Each field within the text begins with a tag number between colons, followed by the appropriate variable content.

Examples

Example of Text block in a system message or a service message:

```
{4:{305:A}{177:0907310000}{177:0907312359}
```

Example of Text block in a user-to-user message:

```
{4:<CrLf>
:20:FILEREF1<CrLf>
:21R:UKSUPPLIER990901<CrLf>
:28D:1/1<CrLf>
:50H:/8754219990<CrLf>
MAG-NUM INC.GENERAL A/C<CrLf>
BANHOFFSTRASSE 30<CrLf>
ZURICH, SWITZERLAND<CrLf>
:30:130905<CrLf>
:59:/1091282Beneficiary 1<CrLf>
:71A:OUR<CrLf>
:21:TRANSREF1<CrLf>
:32B:GBP12500,<CrLf>
-}
```

16.1.10 Trailers

Introduction

FIN adds trailers to a message for control purposes, to convey additional information, and to indicate that special circumstances apply to the handling of the message.

One or more trailers may appear in block 5 of a FIN message. Users must take note of trailer information, particularly Possible Duplicate Emission and Possible Duplicate Message trailers.

FIN formats trailers as a global block (with Block Identifier 5) that contains one or more blocks. Each block contains a given trailer. Each trailer begins with a 3-letter code, which is followed by a colon, and then by the trailer information.

There are two categories of trailers, as follows:

- user trailers, which the user adds to the message
- system trailers, which the system adds to the message

Reading conventions

This section describes the format of the trailers using the following reading convention:

- The variables are within chevrons, for example `<time>`
- The optional values are within square brackets, for example, `{SYS:[<time><mir>]}`

16.1.10.1 User Trailers

Description

The order in which the user trailers appear in the following table is the order in which they should appear within a message.

Order of the user trailers

1.	Checksum
2.	Training

3.	Possible Duplicate Emission

16.1.10.2 System Trailers

Description

FIN adds system trailers to convey additional or special information. An empty Proprietary Authentication Code trailer is appended to copy service messages that use double authentication to indicate to the receiver that the service is operating in bypass mode.

Delayed messages, possible duplicate messages, and message references, all follow system trailers and may appear in any order.

Order of the system trailers

The following table shows the order of the system trailers:

1.	PAC Trailer
2.	Checksum
3.	System-Originated Message
4.	Training
5.	Possible Duplicate Message
6.	Delayed Message
7.	Message Reference

16.1.10.3 PAC Trailer

Description

The PAC trailer is added by FIN to indicate that a copy service is operating in bypass mode.

Format

The PAC trailer is always empty.

16.1.10.4 Checksum Trailer

Description

FIN computes the Checksum trailer according to the receiver's address (12 characters, in which an X replaces the 9th character) plus the Text block. The Checksum trailer allows the system and the computer-based terminal to check that messages have not been corrupted due to a system malfunction or an undetected transmission error. If FIN detects a checksum error on input, then FIN rejects the message. If the receiver detects a checksum error, then it should reject the message. FIN then resends the message with a Possible Duplicate Message (PDM) trailer (up to a maximum of 10 PDMs).

Note The Checksum trailer is mandatory for FIN and General Purpose Application messages (Service Identifier 01).

Format

{CHK:<checksum-result>}

where <checksum-result> = 12!h

16.1.10.5 System-Originated Message Trailer

Description

The system message or service message that a system pseudo logical terminal generates has a System-Originated Message trailer (SYS). All solicited system messages (Service Identifier 01) contain the message input reference of the user request, and may also contain the time.

Format

{SYS:[<time><mir>]}

where <time> is optional.

16.1.10.6 Test and Training Message Trailer

Description

The Test and Training message trailer is mandatory for FIN and General Purpose Application messages (Service Identifier 01) that a Test and Training logical terminal either sends or receives.

Format

{TNG:}

The Training trailer has a tag only, and has no value.

16.1.10.7 Possible Duplicate Emission Trailer

Description

The sender of a message uses the Possible Duplicate Emission trailer to warn the receiver that it may have sent the message twice. The Possible Duplicate Emission trailer only applies to FIN user-to-user messages (that is, Service Identifier 01 and message categories that FIN reserves for banking messages). There can be multiple possible duplicate emissions. The system does not verify the order of Possible Duplicate Emission trailers or restrict the number of such trailers (except for maximum message length).

The system accepts, but does not process, correctly formatted Possible Duplicate Emission trailers that the user has applied to user-to-system messages. This means that the system does not check to see whether the original message exists. Therefore, a retrieval request that has a Possible Duplicate Emission trailer may be processed twice if the system received the original message.

Note Either a computer-based terminal can add the Possible Duplicate Emission trailer automatically or a user can add this trailer manually. The message input reference and the time of any previous possible messages may follow the Possible Duplicate Emission trailer.

Format

{PDE:[<time><mir>]}

where<time><mir> refers to the emission of the previous possible issue.

16.1.10.8 Possible Duplicate Message Trailer

Description

The system adds a Possible Duplicate Message trailer to any output message (General Purpose Application and FIN Service Identifier 01) that it re-sends because of an invalid prior delivery. If a system pseudo logical terminal receives a report request with a possible duplicate message, then the response has a plain possible duplicate message (without the optional delivery reference). The system may add other possible duplicate messages as a result of unsuccessful delivery attempts.

Format

{PDM:[<time><mor>]}

where <time> and the message output reference <mor> are that of the previous attempt.

Note For messages recovered after a system failure, the optional fields may not be present.

16.1.10.9 Delayed Message Trailer

Description

The system adds the Delayed Message trailer to all FIN user-to-user output messages that have exceeded the obsolescence period. Users must ignore Delayed Message trailers that appear in General Purpose Application or system messages.

The obsolescence period is as follows:

- U = 15 minutes
- N = 100 minutes

Format

{DLM:}

The Delayed Message trailer has a tag only, and has no value.

16.1.10.10 Message Reference Trailer

Description

The Message Reference trailer specifies the message reference of the original user message in MT 096 FINCopy to Server Destination Message.

Format

{MRF:<date><full-time><mir>}

where <mir> is the message input reference of the original user message, the fields of which are copied in the MT 096 FINCopy to Server Destination Message.

Note The message reference is specific to FINCopy. The system automatically generates the Message Reference trailer in the MT 096 FINCopy to Server Destination Message. The message reference can only be reused in field 109 of the MT 096 FINCopy to Server Destination Message to identify the MT 096 to which the MT 097 is a response. The format of the message reference is subject to change.

16.2 Multi-Section Messages

Description

Some system messages may potentially exceed the maximum message length of 10,000 characters. Such messages divide into as many sections as necessary. The maximum length is 9,999 and the minimum length is 0001.

The Text block is divided into several Text blocks. This division is always done in such a way that a block internal to the Text block has no divisions.

Each section is a message that has its own sequence number. Each section has a Basic Header, an Application Header (if applicable), a Text block, and a Trailer block.

All sections have a first block of text that identifies the section (202) and a second block that identifies the total number of sections that the message contains (203).

There are no multi-section messages on input.

17 Message References

17.1 Message References

Purpose

The message input reference uniquely identifies messages that the sending user inputs to FIN. The message output reference uniquely identifies messages that FIN outputs to the receiving user.

Both SWIFT and the user can use the message input reference or message output reference to identify FIN messages. Examples of use include delivery monitoring, retrievals, and traffic reconciliation.

The sender of a message can assign a message user reference. The message user reference can contain up to 16 characters from the permitted character set and identifies a message in a way that the sender determines.

Message input reference

The message input reference comprises the following elements:

- the date on which FIN accepted the message (the time zone is that of the logical terminal that sent the message)
- the sending FIN address
- the session number
- the input sequence number

SWIFT provides the receiver with the message input reference.

Message output reference

The message output reference does not refer to a particular message: it refers to a specific attempt to deliver a particular message. A given message may have multiple associated message output references, one for each time that FIN attempts to deliver that message.

Customers can use any of the associated message output references to refer to a message, regardless of whether FIN has delivered or aborted the message.

The message output reference consists of the following information:

- the date on which FIN attempted to deliver the message, expressed in relation to the time zone of the logical terminal to which that message was sent
- the SWIFT address of the intended receiving FIN address
- the session number
- the output sequence number

Message user reference

The message user reference is a free-format field in the optional user header of FIN user-to-user messages.

SWIFT quotes the message user reference in the following messages:

- the message acknowledgement (positive acknowledgement [ACK] or negative acknowledgement [NAK])
- the output message to the receiver
- related system messages (for example, non-delivery warnings, delivery notifications, and undelivered message reports)

If the sender does not assign a message user reference to a message, then FIN uses the contents of field 20 or 20C::SEME in its place in all acknowledgements and in system messages 010, 011, and 019. This rule applies as long as all alphabetical characters are upper case.

17.2 Input Sequence Number and Output Sequence Number

Input and output messages

FIN assigns a 6-digit input sequence number to every message that you send from a logical terminal to FIN (General Purpose Application or FIN) (that is, every message that your logical terminal inputs to FIN).

FIN assigns a 6-digit output sequence number to every message that FIN (General Purpose Application or FIN) attempts to send to a logical terminal (that is, every message that FIN outputs to your logical terminal).

In General Purpose Application

Within a General Purpose Application, input sequence numbers and output sequence numbers begin at 000001 for each new General Purpose Application session that a logical terminal opens.

After each new login of a logical terminal, the first General Purpose Application message from that logical terminal that General Purpose Application receives has an input sequence number of 000001. The input sequence number is usually the select command (to select FIN). Similarly, the first message that General Purpose Application attempts to send to that logical terminal has an output sequence number of 000001.

In FIN

FIN assigns input sequence numbers to messages that a logical terminal inputs, and that FIN receives. FIN assigns output sequence numbers to messages that FIN attempts to output to a logical terminal.

Within FIN, input sequence number, and output sequence number, numbering is consecutive across all FIN sessions for a given logical terminal. If a logical terminal closes a FIN session in which the last input sequence number used has a value of 364857 and the last output sequence number used has a value of 736853, then the next time that the logical terminal opens a new FIN session, the input sequence number of the first message from the logical terminal that FIN receives within the new session has a value of 364858. The output sequence number of the first message that FIN attempts to send to the logical terminal has a value of 736854.

Input sequence number and output sequence number numbering

Input sequence numbers and output sequence numbers roll over from 999999 to 000000. FIN assigns an input sequence number of the FIN session to the Quit Command. The Quit Command input sequence number is the last input sequence number of that FIN session. FIN assigns a General Purpose Application input sequence number to the logout. The Logout Command input sequence number is the last input sequence number in that General Purpose Application session. The master and its synonyms share the same session numbers, input sequence numbers, and output sequence numbers.

Note Within a single session, a maximum of 500,000 input messages or 500,000 output messages can be exchanged. Session numbers roll over from 9999 to 0000. The FIN or the General Purpose Application session terminates if too many messages are sent or received.

Similar rollover logic is also used for message session numbers (that is, after session number 9999, the session number rolls over to 0).

18 Track Delivery Status

18.1 Process Acknowledgements

FIN response

In response to every General Purpose Application or FIN message that it receives, FIN sends an acknowledgement service message to the sending logical terminal, as follows:

- General Purpose Application Message: SWIFT responds with a 21 Acknowledgement of a General Purpose Application Message from a logical terminal (ACK/NAK)
- FIN message: SWIFT responds with a 21 Acknowledgement of a FIN message from a logical terminal (ACK/NAK)

The 21 Acknowledgement contains the message validation result and confirms that FIN has safe-stored the message.

If the 21 Acknowledgement indicates a NAK, then you can correct and re-send the message. No Possible Duplicate Emission trailer is necessary because the original message successfully reached FIN, but FIN did not queue the message for output.

18.2 Trace the Delivery Status of a Message

Background

You may want to know the delivery status of a message.

Procedure

Send an MT 022 Retrieval Request (History) to SWIFT with all the required information.

SWIFT returns an MT 023 Retrieved Message (History). The message status is provided in tag 431. The message delivery history is provided in tag 281.

For more information about the meaning of the message status, see FIN Error Codes.

18.3 Re-Send Unacknowledged Messages

When to re-send

If you have NOT received an acknowledgement of a General Purpose Application or FIN message within the time-out period (15 minutes), then you must re-send the message with a Possible Duplicate Emission trailer.

Important Standards for FIN recommend that if you re-send a message with a Possible Duplicate Emission trailer, then you follow the Possible Duplicate Emission trailer with the message input reference that you used in the original attempt.

However, SWIFT's recommended use of Possible Duplicate Emission trailers (in response to the user's or SWIFT's system problems) does not always permit use of the message input reference. SWIFT strongly recommends that receivers implement measures that protect against duplicate instructions.

Using the Possible Duplicate Emission trailer

Any message that you send with a Possible Duplicate Emission trailer that does not reference the original message input reference must be the same as the original message for which the success of the emission is doubtful.

If you use the same Possible Duplicate Emission trailer, then receivers can check for message duplicates if there is no message input reference in the Possible Duplicate Emission trailer. Receivers can check on fields in the message, including originator, transaction reference number, and authenticator result.

Your FIN interface may automatically re-send a timed-out message.

18.4 Non-Delivery Warning and Delivery Notification

Non-delivery warning and delivery notification prerequisites

When you send a message, you can choose to receive a non-delivery warning for that message (urgent priority only), or a delivery notification, or both (urgent priority only). For more information, see "Message Priority and Delivery Notification" on page 49.

Purpose of the non-delivery warning

FIN sends an MT 010 Non-Delivery Warning if it cannot deliver a message before the obsolescence period expires.

An MT 010 includes an indication of the current status of the message. For example, FIN has made no delivery attempts because the user has either not opened a FIN session or has not selected the relevant delivery subset.

Obsolescence periods are as follows:

- 15 minutes for a message that you send with urgent priority
- 100 minutes for a message that you send with normal priority

Purpose of the delivery notification

FIN sends an MT 011 Delivery Notification when a recipient successfully receives a message.

In certain recovery situations, some delivery information that FIN holds can be lost. In such cases, FIN re-delivers the message with a Possible Duplicate Message trailer. FIN generates a new MT 011 for this re-delivery.

18.5 Undelivered Message Reports

About undelivered message reports

FIN produces an undelivered message report, which contains a reference to all messages that a logical terminal has sent that FIN has not successfully delivered at report generation time.

The following table shows the undelivered report options that you can select:

Undelivered message report option	How to receive this report
An MT 066 Solicited Undelivered Message Report.	To receive this report, send an MT 046 Undelivered Message Report Request.

Undelivered message report option	How to receive this report
An unsolicited MT 082 Undelivered Messages Report at a Fixed Hour. FIN generates the report at a fixed hour each day. FIN generates 1 report in each 24-hour period. For new destinations, the default parameters for the MT 082 are as follows: • Holiday Suppression = 0 • Time or Report Generation - 0800 Local to User • Undelv Options - RT	You automatically receive the MT 082 report unless you have requested otherwise through an MT 044 Undelivered Report Rules Redefinition.
An unsolicited MT 083 Undelivered Message Report at Cut-off Time. FIN generates the report at the cut-off time of each country in which the logical terminal that receives the report has sent messages, and where these messages remain undelivered at report generation time. You can receive several reports in a 24-hour period.	You automatically receive the MT 083 report if you have specified that you want to receive it (rather than the MT 082).

Report contents

The undelivered message reports contain information according to the undelivered message reporting options, which are as follows:

- all messages that are undelivered
- all messages that are undelivered for more than a predefined number of hours (from 0 to 24)
- all value-date-sensitive messages that are undelivered after the receiver's cut-off time on the value date

Request	Report type	FIN response
To query the undelivered message report rules	An MT 048 Undelivered Report Rules Request	An MT 068 Undelivered Report Rules
To change the undelivered message report rules	An MT 044 Undelivered Report Rules Redefinition	An MT 064 Undelivered Report Rules Change Report

Related information

For more information about how to change the options for undelivered message reports, see the Configuration section, "Undelivered Message Reports" on page 23.

18.6 Daily Check Report

About the Daily Check Report

FIN automatically generates a Daily Check Report for both FIN and the General Purpose Application. You can specify the time at which SWIFT generates the report.

In the General Purpose Application, FIN generates a separate report for each logical terminal. In FIN, FIN generates one report for the destination. The Daily Check Report lists information separately for each logical terminal at the destination.

Contents of the Daily Check Report

The Daily Check Report lists the following information for each logical terminal, for each session that the user has closed since the last Daily Check Report:

- the start date and time, and the stop date and time
- the first and last input sequence number
- the first and last output sequence number
- the number of messages sent
- the delivery attempts made

The Daily Check Report does not include information about current sessions.

How to query and request the report

You can request the following:

Request	Report type	FIN response
To query the generation time of the daily check report	An MT 049 Daily Check Report Time Query	An MT 069 Daily Check Report Time Status
To change the generation time of the daily check report	An MT 045 Daily Check Time Change Request	An MT 065 Time Change Report for Daily Check Report

Related information

For more information about how to configure the MT 081 Daily Check Report, see the Configuration section, "Daily Check Report" on page 24.

18.7 Delayed NAK

Purpose

If FIN cannot fulfil a command or a request that you sent earlier, even though it sent a positive acknowledgement, then FIN sends an MT 015 Delayed NAK. You can receive an MT 015 from the General Purpose Application or FIN.

Use of MT 015

The MT 015 message notifies you that FIN has rejected a previous message. FIN sends an MT 015 Delayed NAK for any request or any command for which the normal response to that request or that command does not contain an error code field.

The requests or commands to which the MT 015 Delayed NAK applies are as follows:

- all General Purpose Application messages, except the MTs 020 and 022 retrieval requests
- all FIN system messages (MT 0nn) except the MTs 020 and 022 retrieval requests

The MT 015 Delayed NAK contains a code (in the form Vnn) that explains why FIN could not perform the command.

The MT 015 Delayed NAK also contains a System-Originated Message trailer, which states the input time and the message input reference of the original request.

Related information

For more information about Vnn codes, see FIN Error Codes.

18.8 Message Abort

About message abort

FIN aborts any acknowledged message in the following cases:

- FIN has not been able to deliver the message successfully within 14 days after acknowledgement for live messages (4 days after acknowledgement for Test and Training messages), and within 7 days after acknowledgement for system messages.
- FIN has made 11 unsuccessful delivery attempts.
- The message is addressed to a receiver destination that has become disabled while the message is in queue.
- The message is a FINCopy message for which FIN has aborted the copy.
- The message is a FINCopy message for a copy service operating in Y-Copy mode, and the service administrator or the subscriber to the Sanctions Screening service has rejected the MT 096 copy message.
- The message is a FINCopy message for a copy service operating in Y-Copy mode, and the MT 096 copy message is itself aborted (for example, due to 11 unsuccessful delivery attempts).

If FIN aborts a message, then it sends an MT 019 Abort Notification to notify the sender that it could not deliver the message. System messages are aborted after 7 days. Abort notifications are not generated for Test and Training traffic when Undelivered Test and Training traffic is aborted after 4 days.

What to do if you receive an MT 019 Abort Notification

If you receive an MT 019 Abort Notification, then it indicates that FIN was unable to deliver the message successfully. On receipt of the notification, check the error code to establish the reason for the abort. If you re-send the message, then you must add a Possible Duplicate Emission trailer. Note that if a message which was copied in the context of a FINInform service operating in Y-Copy mode is aborted, then the abort notification will contain a copy service code even though the original message did not contain field tag 103.

19 Troubleshooting

19.1 Message Investigation

About this section

If you have a query about a message that you cannot resolve by the mechanisms described in "Track Delivery Status" on page 69, then you can attempt to retrieve the message. For more information about message retrieval, see "Message Retrieval" on page 78.

How to investigate further

If you cannot resolve your query, then you can request that the SWIFT Internal Audit Department investigates the message.

You must make a request within 3 months of the original input of the message. If you provide sufficient details to enable SWIFT to investigate, then SWIFT normally responds within 14 days.

To request an investigation by the SWIFT Internal Audit Department, send an MT 999 Free Format Message to SWHQBECAXCIO.

You must provide the following information:

- the name and address of the requesting institution and the person to contact
- the date and time the message was sent
- the session sequence number and the input sequence number or output sequence number
- the type of information that you require (for example, the time of delivery and a copy of the message that includes the text)
- the full reason for the request

20 Receive and Process Messages

20.1 Your FIN Interface

About your interface

Your FIN interface performs certain tasks automatically. It may happen that you do not know some of these activities. The automatic tasks can include those shown in the following table (the order may vary, depending on your interface).

Automatic task	Follow-up action
Removal of the InterAct envelope	
Local safe storage of the message	
Verification of the Checksum trailer	If correct, respond to FIN with a positive acknowledgement. If incorrect, respond to FIN with a negative acknowledgement. The acknowledgement message is a 21 User Acknowledgement service message, user ACK (positive user acknowledgement) or user negative acknowledgement.
Verification that the output sequence number is the next in the expected order	In case of missing or duplicate output sequence numbers, operator alert.
Verification that an authorisation to receive the message from the sender exists	In case of problems, operator alert.
Verification of the authenticity of the message	In case of problems, operator alert.
Verification that a Training trailer is only present, and always present, on Test and Training messages	In case of problems, operator alert.
Perform check for duplicate messages, by means of any Possible Duplicate Emission or Possible Duplicate Message trailer, or other indication within the message. Such indications can include fields that the message has repeated from an earlier message.	

20.2 Receive Messages

Overview

When your logical terminal has successfully logged on to a General Purpose Application and selected FIN, FIN starts to output messages that it has queued in the delivery subsets that the logical terminal has selected.

Process

1. FIN empties the user-defined delivery subsets in the order in which the subsets appear in the select command. Within each delivery subset, FIN outputs the messages as shown in the following table.

Situation	SWIFT response
You requested value-date ordering for the destination.	FIN outputs value-date sensitive messages in value-date order. FIN outputs the earliest value-date message first.
A message contains more than 1 value-date field.	FIN uses the field with the earliest value date for value-date ordering.
There are several queued messages that have the same value date.	FIN delivers the messages according to message priority and the time at which it queued the message.
You did not request value-date ordering, or there are no value-date sensitive messages in the queue.	FIN outputs the messages according to priority and the time at which it queued the message, as follows: • system messages, first-in, first-out • urgent priority messages, first in, first out • normal priority messages, first in, first out

If FIN receives messages for a delivery subset that has already been emptied, then it will deliver those messages before continuing the delivery of messages from the delivery subset currently being emptied. This is also true for messages to be delivered through the logical terminal -directed delivery subset.

2. To avoid double processing, you must check for duplicate messages.

   Some indications of a duplicate message are as follows:

   - the presence of a Possible Duplicate Emission or Possible Duplicate Message trailer
   - other indications within the message (for example, repeated fields from a previous message)

Related information

For more information about FIN message security, see "Authentication and Authorisation in FIN" on page 40.

20.3 Receive Messages from Logical Terminal-Directed

About the logical terminal-directed delivery subset

FIN queues logical terminal-directed system messages in each logical terminal's logical terminal-directed delivery subset.

The logical terminal-directed contains all system messages, with the following exceptions:

- MT 081 Daily Check Report
- MT 092 SWIFT-to-User Message
- MT 094 Broadcast
- MT 096 FINCopy to Server Destination Message. You use this message for FINCopy and FINInform services.

Process

If you choose to receive messages from the logical terminal-directed, then FIN empties the logical terminal-directed (on a FIFO basis) before any other delivery subsets.

You cannot reassign messages in the logical terminal-directed to another delivery subset.

20.4 Messages in Queue

About messages in queue

You can query the number of messages that a logical terminal has in each delivery subset. You can also query all of the messages, in all delivery subsets, for all of the logical terminals at a destination.

How to query the messages in queue

To query the number of messages that FIN has queued to you in each delivery subset, send an MT 032 Delivery Subset Status Request to a General Purpose Application or FIN.

FIN responds with an MT 052 Delivery Subset Status Report.

Related information

For more information about how to specify value-date criteria or how to share delivery subsets between logical terminals, see the Configuration section "Share Delivery Subsets" on page 21.

For more information about how to request a delivery subset definition report, see the Configuration section "Delivery Subset Definition Report" on page 19.

21 Retrieval

21.1 Message Retrieval

Retrieval options

The sender or receiver of a FIN message can either retrieve the delivery history only, or the delivery history and the message text. In both cases, the request options are the same.

Retrieval requests

You can request a retrieval in the following circumstances:

- Up to 124 days after the message has been sent (4 days for Test and Training messages).
- As a single retrieval or as part of a multiple retrieval. You can retrieve up to 99 messages at a time.
- The message to be retrieved has been successfully delivered to the receiver, that is, when the receiving messaging interface has sent a positive acknowledgement.

Tip SWIFT recommends that you contact your local Customer Support Centre before you attempt to retrieve large numbers of messages.

You can request that FIN sends the retrieved messages to any of the following destinations:

- any logical terminal at your destination
- SWIFT Headquarters
- a Customer Support Centre
- a Customer Security Management logical terminal

Note A synonym cannot specify another synonym as the receiver. A retrieval request cannot be sent for the following messages: MT 021 and MT 023. The text of messages sent or received in Local Text Mode cannot be retrieved. LOGOUT, SELECT, and QUIT messages can only be retrieved using MIR, MIR range and input time range as retrieval criteria.

Retrieval criteria

You can use one of the following criteria to retrieve messages:

- By a specific message input reference or message output reference.
- By a range of message input references or message output references, within an optional time range of up to 24 hours.
- By message user reference (for FIN user-to-user messages only). If there is no message user reference in the message, then you can use the transaction reference number if the alphabetical characters in the transaction reference number are in upper case. The transaction reference number is in field 20 or 20C::SEME of the text block of user-to-user FIN messages. You must specify the date and time range.
- By message type (General Purpose Application or FIN) or message category (FIN only). You must specify the session, date, logical terminal, and optional time range.

- By input or output time range for a given logical terminal, date, and session of that logical terminal.

A retrieval request that involves messages older than 4 days may require operational intervention by SWIFT, and can therefore take longer.

You can retrieve messages only if you use the message identification criteria that is known to FIN.

The following list offers some examples of no longer valid criteria for message retrieval:

- You cannot use message type or category criteria to retrieve a message that FIN NAKed because of an Application Header error.
- You cannot use a message user reference to retrieve a message that FIN NAKed because of a User Header error.
- You cannot use a message output reference or output sequence number reference to retrieve a message that FIN has not attempted to output.
- You cannot use an incorrect input sequence number to retrieve a message that FIN NAKed because of an input sequence number error. You must specify the input sequence number that the NAK mentions.

21.2 Retrieve Message Text or Message History (or Both)

To request a message retrieval

The following table shows how to make message retrieval requests:

Request	Message	FIN response
retrieve a message text and history	020 Retrieval Request (Text and History) to SWFTXXXXXXXX.	MT 021 Retrieved Message (Text and History)
retrieve a message history (no message text)	022 Retrieval Request (History) to SWFTXXXXXXXX.	MT 023 Retrieved Message (History)

Note To retrieve General Purpose Application messages you must send the retrieval request in a General Purpose Application. To retrieve FIN messages you must send the retrieval request in FIN.

Related information

For more information about how to request a message retrieval, see FIN System Messages.

21.3 Retrieval Response

Response to a retrieval request

If you have requested a message retrieval, then FIN responds with a message retrieval response. The response is either an MT 021 Retrieved Message (Text and History) or an MT 023 Retrieved Message (History).

FIN inserts status codes within a retrieval report to indicate the status of the message in question (for example, delivered, rejected, or aborted). If FIN cannot retrieve the message that you have requested, then the error codes or special text messages indicate the reason.

Delivery history

If FIN has attempted multiple deliveries of a message, then all histories that relate to that message appear in the same section of the retrieved message.

The history of a message includes the following information:

- details of when the message was input
- the message user reference, if any
- details of all delivery attempts that the FIN system has made (these include successful deliveries)
- the current status of the message and, if delivered, confirmation of where and when FIN delivered it

If you request a retrieval by message user reference, and there are several messages with that message user reference, then FIN retrieves all of the messages (up to 99) within the time range that you specified in the retrieval request.

Multiple messages

If you retrieve multiple messages, then the following rules apply:

- FIN sends the responses as a multi-section, retrieval-response system message.
- Each retrieved message is contained within a separate section of the retrieval-response system message.
- Each section of the retrieval-response has its own sequential system message input reference.
- FIN queues the retrieved messages in the system message input reference sequence. Retrieved messages may be interspersed with other messages.

System messages

The following information relates to retrieved system messages:

- Retrieved input system messages contain a pseudo logical terminal in the message output reference.
- Retrieved output system messages show a pseudo logical terminal as the sending logical terminal in the message input reference.

Note A pseudo logical terminal is a FIN system logical terminal. FIN uses pseudo logical terminals to send and receive system messages in the same way that user logical terminals send and receive user-to-user messages.

Related information

For more information about the MT 021 and the MT 023, see FIN System Messages.

21.4 FIN Bulk Retrieval

Bulk retrieval of FIN messages is available to users that have subscribed to the FIN Bulk Retrieval Service. After having subscribed to the service, FIN users send an MT 024 Bulk Retrieval Request. Upon receipt of the retrieval request, SWIFT begins recovering messages from safe storage. Once all relevant traffic has been recovered, the FIN messages are delivered to the requestor using the FileAct Store and Forward messaging service.

The bulk retrieval service retrieves the following messages:

- messages with service type 01

  For example, the QUIT message is not retrieved.

- FIN application messages
- messages that have been successfully delivered (that is, for which a delivery acknowledgement has been sent by the receiving interface)

22 Test and Training

22.1 Test and Training Modes

About Test and Training

FIN supports two types of testing in Test and Training: full function mode and local test mode.

Within each test mode, you can choose to work either with the current or the future message standards. The selection of current or future applies to both the messages that you send and the messages that you receive. FIN maintains separate delivery queues for current-format and future-format messages.

FIN usually makes future message standards available for testing 4 months before live implementation.

Warning There is no concept of current or future formats in system messages. System messages (for example, retrievals) may contain embedded future or current user-to-user messages.

Note If a message sent by a Test and Training user in current mode is still pending delivery when a new Standards is activated, then the message will be aborted.

Full function mode

In full function mode, you can exchange messages with another Test and Training user that works in full function mode or you can send and receive self-addressed messages. FIN applies the same routing restrictions to messages that you exchange with other users in full function mode as it applies to live messages that you send. FIN does not apply routing restrictions to self-addressed messages (that is, the same BIC is both sender and receiver) that you send and receive in full function mode.

The following information applies to the full function mode:

- If you request a range retrieval in full function mode that covers messages that you have exchanged in local test mode, then FIN only reports the history of those messages. FIN sends an error code 047 in the MT 021 retrieval response instead of the text portion.
- If you send an MT 074 Broadcast Request, then FIN validates the request and returns an ACK or NAK. FIN does not process the request further. You can retrieve an MT 074.

Local test mode

Local test mode allows you to test locally (that is, without a correspondent). You can exchange test messages with the FIN system.

The following information applies to local test mode:

- You must not specify any delivery subsets when you select FIN from within a General Purpose Application.
- FIN does not apply message usage restrictions.
- FIN validates any user-to-user messages that you send against the FIN message standards. FIN safe-stores the message and then returns an ACK or a NAK in the normal way. FIN then drops the messages, and does not queue the messages for delivery.

- You can request FIN to send you sample messages from a tank file. This request allows you to test receipt of messages as if a correspondent had sent the messages.

FIN validates any system messages that you send, but it does not process these messages. The exception is the MT 073 Message Sample Request. Consequently, FIN does not generate any reports that you request and does not send any retrieved messages.

22.2 Login to Test and Training

Prerequisite

When you send a Test and Training message, you must use the sender's and receiver's Test and Training BIC in the message header. You can use both live and Test and Training BICs in the text of Test and Training messages.

The SWIFTNet Distinguished Names (DNs) that your FIN interface uses for the InterAct envelope are the same as for live messages. Your FIN interface handles this without any need for user intervention.

To log in to FIN in Test and Training mode

Use your Test and Training business party identifier to log in to FIN in Test and Training mode. Users can choose between business and lite certificates for Test and Training.

The default mode is the full function mode Current. To change your Test and Training mode, send an MT 072 Test Mode Selection message from a General Purpose Application before you select FIN.

The following table shows how to specify your Test and Training mode:

Test type	Option
Full Function Mode, Current	FC
Full Function Mode, Future	FF
Local Test Mode, Current	LC
Local Test Mode, Future	LF

Warning If you are working in local test mode, then the following rules and restrictions apply when you select FIN:

- You must not select any delivery subsets.
- FIN restricts your FIN window size to 12.

22.3 Receive Sample Messages in Local Test Mode

About the tank file

You can request FIN to send a sample of messages from the tank file. The messages that FIN sends comply with the current or future message standards, depending on your selection of current or future mode.

Signing tank file messages

The FIN Bridge signs the tank file messages that FIN outputs to users.

How to use the tank file

The following table shows how to request sample Test and Training messages from FIN in Local Test Mode:

Request	FIN response
Send an MT 073 Message Sample Request to FIN. To request a specific message, indicate the message identifier number that is in the first field 20 or 20C::SEME of the message. You can only indicate the message identifier if you have already received the message, and you want to request it again (for example, for testing purposes). If you request a sample of message, then specify the following information: • Specify the number of messages that you want FIN to send. You can request up to 999 messages in one MT 073. • Specify a seed (that is, a starting point in the tank file). If you specify the same seed in subsequent MT 073 requests, then FIN starts to send messages from the same place in the tank file. Specifying the same seed allows you to request the same sample of messages repeatedly. If you request more test samples of a specific message type or category than exist in the tank file, then FIN stops sending the messages when it has sent all of the test samples.	Test message as requested.

Related information

For more information about the MT 073, see FIN System Messages.

22.4 Live Versus Test and Training Mode

Differences between FIN in live and Test and Training modes

The following table identifies the main differences between the FIN live and Test and Training environments.

	FIN Live	FIN Test and Training
Validation	Users cannot use Test and Training destinations in the text of live messages.	Users can use live and Test and Training destinations in the text of Test and Training messages.
Training trailer validation	The sender of a message cannot use the Training trailer.	The sender of the message must use the Training trailer on all messages.
Message destination		A Test and Training destination can have additional attributes to the live destination. This enables testing of future situations.

	FIN Live	FIN Test and Training
Routing restrictions	FIN applies normal routing restrictions to self-addressed messages.	FIN does not apply routing restrictions to self-addressed messages in full function mode or to messages a user sends or receives in local test mode. When testing in full function mode with another user, FIN applies the same routing restrictions to live and Test and Training messages.
Message retrieval	FIN allows message retrievals for up to 124 days after the message was sent. It is possible to retrieve traffic of the last 124 days in a bulk file. Requests for up to 1 hour of traffic sent and received in the previous 24 hours are treated as urgent requests.	FIN allows message retrievals for up to 4 days after the message was sent. Bulk retrieval is only allowed for the previous 24 hours.
Message abort	FIN aborts any messages that it has not delivered within 14 days. FIN notifies the sender that it has aborted the message.	FIN aborts any messages that it has not delivered within 4 days. Abort notifications are not generated when messages are aborted because they are too old.
Unsolicited reports		FIN does not generate any unsolicited reports for Test and Training destinations that have not logged in for the previous 5 days. Examples of unsolicited reports include the MT 082 Undelivered Message Report at a Fixed Hour and the MT 081 Daily Check Report.
Broadcasts		FIN does not deliver broadcast messages or SSI Update Notifications addressed to all users to Test and Training destinations. FIN validates broadcast messages from Test and Training addresses, but does not process them.
Authentication	Users can only use business certificates that are stored on an HSM.	Users can use lite or business certificates stored on HSM or on disk.
Undelivered message reports	Undelivered message reports (that is, MTs 082, 083, and 066) can have up to 999 sections.	Undelivered message reports (that is, MTs 082, 083, and 066) can only have 100 sections.

23 Broadcasts

23.1 SWIFT-Initiated Broadcasts

Standard headings

SWIFT-initiated broadcasts have standard headings, as shown in the following table.

/30/CURRENCY	/01/CODE CHANGE
	/02/DECIMAL VALUE CHANGE
	/03/ADDITION
	/04/DELETION
	/99/OTHER
/31/SWIFT NOTIFICATION	/01/GENERAL (1)
	/02/OPERATIONAL(2)
	/03/TECHNICAL(3)
	/04/DIRECTORY MODIFICATIONS
	/05/BIC DIRECTORY UPDATE(4)
	/06/LOCATION NOTIFICATION - COUNTRY
/32/BROADCAST AMENDMENT	/01/BROADCAST SEQUENCE NUMBER OF ORIGINAL BROADCAST
/33/LOCAL NOTIFICATIONS	/01/CHANGES IN LOCAL BANKING CONDITIONS /02/HOLIDAY NOTIFICATION COUNTRY
/40/REVOKED CERTIFICATES	
/41/TIME ZONE CHANGE	
/42/EXCEPTIONAL SITUATION	
/43/STRIKE NOTIFICATION	

(1) A general notification can be any general message about SWIFT (for example, planned courses, workshops, and Standards changes).

(2) An operational notification concerns any planned event in one of the SWIFT systems that affects FIN or a General Purpose Application (for example, a database rebuild).

(3) A technical notification relates to any unplanned, unforeseen event in one of the SWIFT systems that affect FIN or a General Purpose Application (for example, emergency maintenance of a processor).

(4) SWIFT updates the *BIC Directory* on a monthly basis.

23.2 Broadcasts that are Initiated by a User or a National Representative

Standard headings

User-initiated broadcasts must carry one of the standard headings, as shown in the following table.

/01/BANK(1)	/01/OPERATIONAL
	/02/CLOSURE
	/03/BRANCH CLOSURE
	/04/MERGER(2)
	/05/OWNERSHIP CHANGE
	/06/CHANGE OF OFFICERS(2)
	/07/CHANGE IN AUTHORISED SIGNATURES(2)
	/08/TELEPHONE/FAX NUMBER CHANGE(2)
	/09/ADDRESS CHANGE(2)
	/10/STANDING ORDERS
	/11/CHANGE OF NAME(2)
	/12/HOLIDAY
/02/LOCAL NOTIFICATIONS	/01/DOMESTIC CLEARING SYSTEM CHANGES
	/02/HOLIDAY NOTIFICATION
/04/TELEX	/01/CHANGE
	/02/GARBLED
	/03/FAILURE
	/04/END OF USE
/05/SWIFT BIC(3)	/01/CHANGE
	/02/ADDITION
	/03/DEACTIVATION
/06/WARNING LOST OR STOLEN	/01/INSTRUMENTS (GENERAL WARNING)
	/02/DRAFTS
	/03/CHEQUES
	/04/TRAVELLERS CHEQUES
	/05/BANK CARDS
/07/FRAUD NOTIFICATION	/01/GENERAL
	/02/DRAFTS

	/03/CHEQUES
	/04/TRAVELLERS CHEQUES
	/05/MONEY LAUNDERING
/08/CURRENCY	/01/REVALUATION
	/02/DEVALUATION
	/03/DECIMAL VALUE CHANGE
/09/BROADCAST AMENDMENT	/01/BROADCAST SEQUENCE NUMBER OF ORIGINAL BROADCAST
/10/BUSINESS CONTINUITY PLANNING	/01/NATURAL CATASTROPHE
	/02/OTHER
/20/REVOKED CERTIFICATES	
/21/TIME ZONE CHANGE	
/22/DUPLICATION WITHOUT PDE(4)	
/23/STRIKE NOTIFICATION	
/24/EXCEPTIONAL SITUATION	
/25/SECURITIES SSI	
/99/OTHER	

(1) The keyword /01/BANK is for use in a broadcast that a specific user initiates. The keyword /02/LOCAL NOTIFICATIONS relates to a broadcast that a national or regional group of users initiates.

(2) See suggested text in the examples.

(3) A user cannot send a broadcast that relates to a new or changed BIC before SWIFT has published the relevant BIC in the *BIC Directory*.

(4) The keyword /22/DUPLICATION WITHOUT PDE applies to cases in which a user has sent out a batch of possible duplicates without Possible Duplicate Emission trailers.

How to request SWIFT to send a broadcast

To request SWIFT to send a broadcast, send an MT 074 Broadcast Request from within a General Purpose Application or FIN to SWHQBEBBXBCT. SWIFT always sends the MT 094 Broadcast message in FIN. Do not use an MT 999, a fax, or an e-mail to request a broadcast. The maximum length of a broadcast message is 2,000 characters.

Use field 304 in the MT 074 to request that SWIFT sends the broadcast to the following users:

- all FIN users (ALL)
- all FIN users within up to 10 countries (country code plus region X, for example, GBX, USX)

Use field 307 to request SWIFT to send the broadcast to the following users:

- a group of countries (for example, all countries in the same country group)

Refer to FIN System Messages to see which countries are part of which groups.

Use field 128 in the MT 074 to specify the priority that SWIFT must use to process the broadcast request, as follows:

- *N* for normal priority
- *U* for urgent priority

SWIFT applies an additional charge to urgent broadcast requests.

Note You must send broadcast requests in English. However, the text of a broadcast that you request SWIFT to send nationally can be in the national language. If you request a broadcast text in a language other than English, then there may be delays in processing and transmission.

Broadcast requests must be sent in the live operational environment. Requests sent in the test and training environment will not be processed.

Merger and deactivation broadcasts

SWIFT Headquarters handle all broadcasts related to a merger or a deactivation during Belgian working hours (that is, 09:00 - 17:30 CET, from Monday to Friday, excluding Belgian public holidays).

SWIFT uses standard sentences in deactivation broadcasts. SWIFT will modify the received deactivation broadcast to be in line with the sentences mentioned in the following table:

Scenario	Sentence used
Standard sentence	`Please be advised that [BIC] [Institution name] will be deactivated from the SWIFT network as of DD/MM/YYYY at HH:MM GMT.` DD/MM/YYYY and HH:MM GMT are as mentioned in the e-order.
If after the deactivation, the institution keeps a non-connected BIC	Added sentence: `As of that date, [Institution name] will be referenced via a non-connected BIC.`

23.3 Receive a Broadcast

Standard headings

To help receivers to route broadcast messages internally, all broadcasts have standard broadcast headings. These headings are composed of a code number between slashes, followed by a keyword or a phrase to specify the type of broadcast. Where applicable, another word or phrase follows on the same line to provide more details about the purpose of the broadcast.

Broadcast reference number

Every broadcast contains a broadcast reference number for identification. The sequential numbering of broadcasts differentiates SWIFT-initiated broadcasts from user-initiated broadcasts, and from broadcasts for transmission to all users or to a group of users. The following table shows how to use the broadcast reference number.

Broadcast reference number

	User-initiated	**SWIFT-initiated**
all users	Bnnnnn	Snnnnn
selected users	BXXX	SXXX

In the previous table, nnnnn = sequence number and XXX indicates that an un-sequenced reference follows.

Un-sequenced broadcasts are broadcasts that are for transmission to a group of users only. The group is identified by BXXX or SXXX, followed by the issuing Centre and a 4-digit sequence (for example BXXXUS1543).

The sequence number identifies the broadcast in the case of follow-up or query. Users may not receive all broadcasts. Broadcasts may arrive out of sequential order.

23.4 Example of a Change of Name Broadcast

Sample message

Broadcast Text:

```
135:N
136:BNNNNN
130:/01/BANK
/11/ CHANGE OF NAME
134:ANYBCCLL
NAME OF BROADCAST REQUESTOR
CITY NAME
312:PLEASE BE ADVISED THAT EFFECTIVE [DD/MM/YYYY] [OLD FINANCIAL
INSTITUTION NAME] [HAS CHANGED/WILL CHANGE] ITS NAME TO [NEW
FINANCIAL INSTITUTION NAME]. ALL CORRESPONDENCE AND REFERENCE
SHOULD BE MADE TO [NEW FINANCIAL INSTITUTION NAME].
OUR ADDRESS, TELEPHONE, AND FAX NUMBERS REMAIN UNCHANGED.
```

23.5 Example of a Merger Broadcast

Sample message

Broadcast Text:

```
135:N
136:BNNNNN
130:/01/BANK
/04/MERGER
134:ANYBCCLL
NAME OF BROADCAST REQUESTOR
CITY NAME
312:PLEASE BE ADVISED THAT EFFECTIVE [DD/MM/YYYY] [NAME OF
FINANCIAL INSTITUTION] AT [ADDRESS] [WILL MERGE/HAS MERGED]
WITH [2ND FINANCIAL INSTITUTION NAME]. PLEASE ADDRESS YOUR
FUTURE CORRESPONDENCE REGARDING TRANSACTIONS WITH [FORMER
FINANCIAL INSTITUTION NAME] TO [2ND FINANCIAL INSTITUTION
```

```
NAME & BIC].
PLEASE BE ADVISED THAT [BIC] [INSTITUTION NAME] WILL
BE DEACTIVATED FROM THE SWIFT NETWORK AS OF DD/MONTH/YYYY AT HH:MM GMT.
```

23.6 Example of a SWIFT BIC Deactivation Broadcast

Sample message

This example shows the standard text that SWIFT uses for a simple deactivation.

Broadcast Text:

```
135:N
136:BNNNNN
130:/05/SWIFT BIC
/03/DEACTIVATION
134:ANYBCCLL
NAME OF BROADCAST REQUESTOR
CITY NAME
312:PLEASE BE ADVISED THAT [BIC][INSTITUTION NAME] WILL
BE DEACTIVATED FROM THE SWIFT NETWORK AS OF DD/MONTH/YYYY AT HH:MM GMT.
(AS OF THAT DATE, [INSTITUTION NAME] WILL BE REFERENCED VIA A
NON.CONNECTED.BIC.)
BEST REGARDS
```

Note The last sentence of the message is optional.

24 Support

Additional support for FIN

In addition to the support-related information that is available at www.swift.com/support, you can also communicate directly with SWIFT by means of FIN messages. The relevant messages are as follows:

- MT 090 User-to-SWIFT Message. Use this message to send free-format text to SWIFT headquarters or to a SWIFT Customer Support Centre.
- MT 092 SWIFT-to-User Message. SWIFT uses this message to send free-format text to a user's destination (business party identifier) in FIN, or to a specific logical terminal in a General Purpose Application.
- MT 999 Free Format Message. This is the only user-to-user FIN message that SWIFT and a FIN user can exchange.

25 Requests and Reports in FIN

System messages

FIN allows you to use specific system messages to request reports and change certain parameters.

How to request reports and change parameters

The following table describes the system messages that you can use to request reports and change parameters. The table also shows the response that you receive from FIN.

Request	Message	FIN response
To retrieve a message text and history	MT 020 Retrieval Request (Text and History) to a General Purpose Application or FIN	MT 021 Retrieved Message (Text and History)
To retrieve a message history	MT 022 Retrieval Request (History) to a General Purpose Application or FIN	MT 023 Retrieved Message (History)
To query the number of FINCopy messages (MTs 096) that await authorisation (only a FINCopy service administrator can send this message)	MT 028 FINCopy Message Status Request to FIN	MT 029 FINCopy Message Status Report
To query the number of messages that you sent and received for all closed General Purpose Application or FIN sessions, for a specified period of time	MT 031 Session History Request to a General Purpose Application or FIN	MT 051 Session History Report
To query the number of messages that FIN has queued to you in each delivery subset	MT 032 Delivery Subset Status Request to a General Purpose Application or FIN	MT 052 Delivery Subset Status Report
To query the definition of your delivery subsets	MT 035 Delivery Instruction Request to FIN	MT 055 Delivery Instructions Report
To query your General Purpose Application login history, for a specified period of time	MT 036 Logical Terminal History Request to a General Purpose Application	MT 056 Logical Terminal History Report
To query the local time in use in specified SWIFT regions or in all SWIFT regions	MT 037 Time Zone Status Request to a General Purpose Application or FIN	MT 057 Time Zone Status Report
To query the cut-off times in use in specified SWIFT regions or all SWIFT regions	MT 042 Cut-off Times List Request to a General Purpose Application	MT 062 Cut-off Time List Report
To query the non-banking days in all SWIFT regions for the following 2 weeks	MT 043 Non-Banking Days List Request to a General Purpose Application	MT 063 Non-Banking Days List Report
To change the undelivered message report rules	MT 044 Undelivered Report Rules Redefinition to FIN	MT 064 Undelivered Report Rules Change Report
To change the Daily Check Report generation time	MT 045 Daily Check Time Change Request to a General Purpose Application or FIN	MT 065 Time Change Report for Daily Check Report

Request	Message	FIN response
To change the definition of the delivery subsets	MT 047 Delivery Instructions Redefinition Request to a General Purpose Application	MT 067 Delivery Instructions Redefinition Report
To query the undelivered message report rules	MT 048 Undelivered Report Rules Request to FIN	MT 068 Undelivered Report Rules
To query the daily check generation time	MT 049 Daily Check Report Time Query to a General Purpose Application or FIN	MT 069 Daily Check Report Time Status
To request delivery information for an MT 671 Standing Settlement Instruction (SSI) Update Notification message	MT 070 Undelivered SSI Update Notification Report request to FIN	MT 071 Undelivered SSI Update Notification Report
To change your Test and Training mode	MT 072 Test Mode Selection to a General Purpose Application	No response other than ACK or NAK
To request sample Test and Training messages from FIN in local test mode	MT 073 Message Sample Request to FIN	Test messages as requested
To request SWIFT to send a broadcast to all or some FIN users	MT 074 Broadcast Request to a General Purpose Application or FIN	MT 094 Broadcast (if approved)

26 FIN Message Flow and Event Sequence

26.1 FIN Message Flow

User message flow

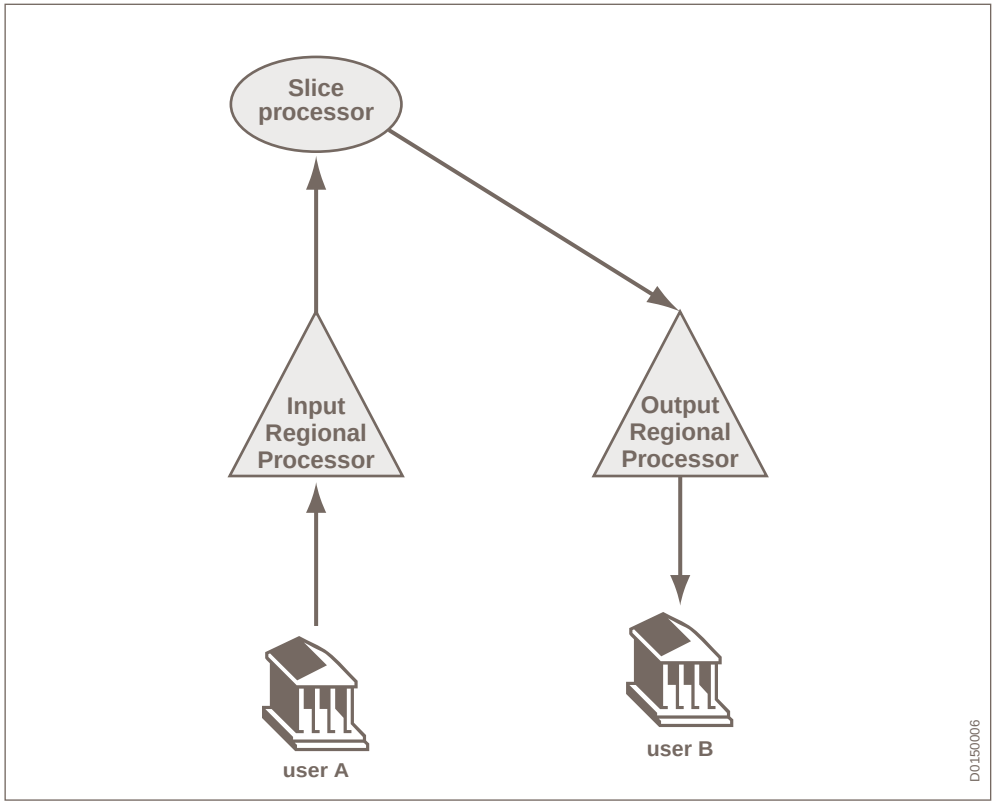
The following diagram illustrates how FIN routes a message from user A to user B through the FIN service.

As far as the FIN service is concerned, the Regional Processor to which user A is logically connected is the Input Regional Processor for the message.

The Input Slice Processor owns user A's destination, and is therefore responsible for processing all input messages from user A. The Input Regional Processor therefore sends user A's input messages to the Input Slice Processor.

User B must be connected to its prime Regional Processor to receive output messages. The following diagram shows the prime Regional Processor as the Output Regional Processor for user B.

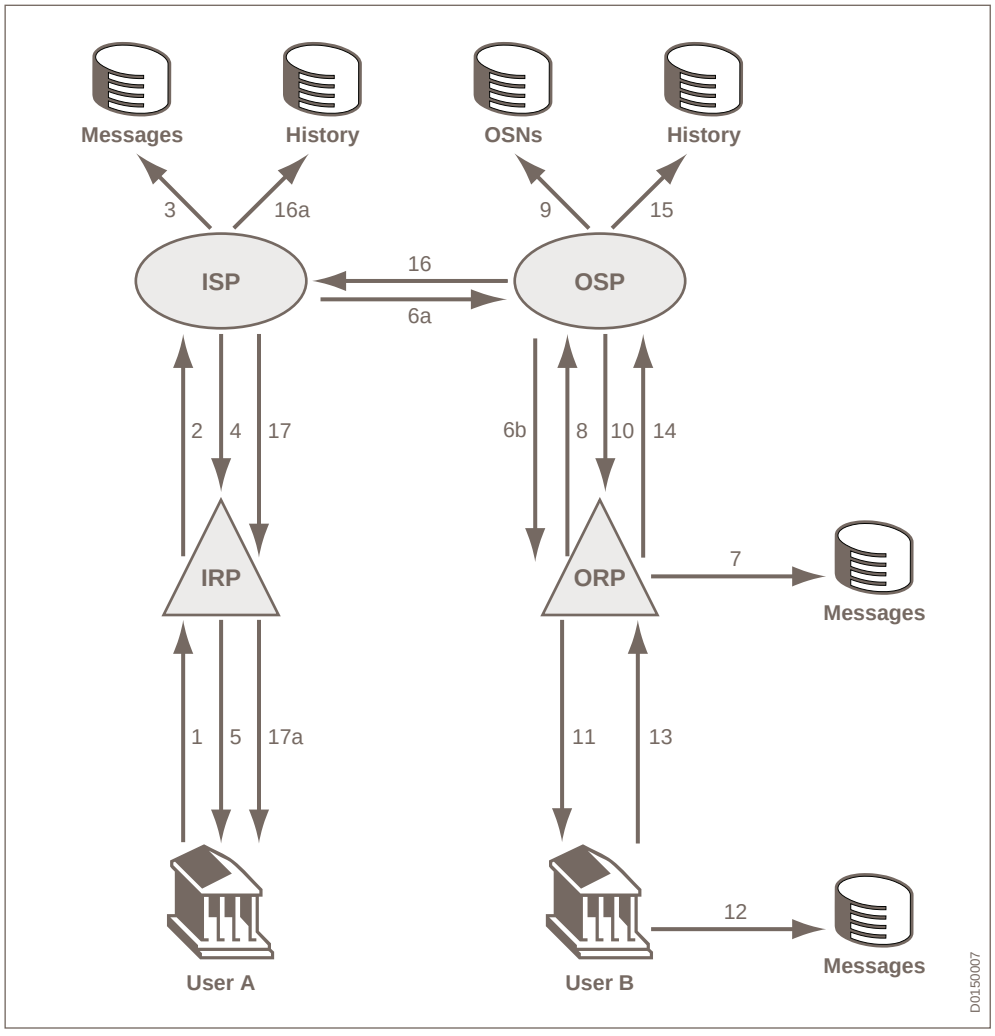
Simplified message flow



On receiving the message from user A, the Input Regional Processor checks the message and sends it to the Input Slice Processor. The Input Regional Processor uses information stored in a database at the Input Slice Processor. The Input Slice Processor routes the message to the Output Regional Processor, which is known as the prime Regional Processor of user B. The Output Regional Processor sends the message to the receiver (user B).

The following diagram shows a more detailed view of the information flow through FIN when user A sends a message to user B.

Logical message flow



26.2 Message Flow - Event Sequence

Event sequence

In the logical message flow diagram on page 96, the numbered sequence of events for the transmission and the delivery of a message is as follows:

1. On access to the FIN service, user A sends a message that it has destined for user B to the Input Regional Processor.
2. The Input Regional Processor performs validation checks on the header, trailer, and text of the message. The Input Regional Processor checks that the input sequence number is correct and sends the message, together with its message input reference and validation result, to the Input Slice Processor.
3. The Input Slice Processor safe-stores the incoming message.
4. The Input Slice Processor sends the Input Regional Processor a confirmation that the message is safely stored.

5. On receipt of this confirmation from the Input Slice Processor, the Input Regional Processor sends an ACK or NAK to user A, thereby giving notification of message acceptance or rejection. The receipt of an ACK assures the user that SWIFT has accepted responsibility for the delivery of that message. If a NAK is sent, then this means that, although FIN has safe-stored the message, it has not accepted the message for delivery.

6. After acceptance of a message, the Input Slice Processor sends a copy of the message across the network to the Output Slice Processor (6a), which then forwards the message to the Output Regional Processor (6b).

7. The Output Regional Processor temporarily stores the message, and places it in one of the output queues for user B to await delivery. The message remains on hold until a logical terminal at user B's destination has logged in for output and has asked to receive output messages from that particular output queue.

8. Before the Output Regional Processor tries to deliver the message, it assigns an output sequence number and creates a unique message output reference for that delivery attempt. The Output Regional Processor sends the message output reference to user B's Output Slice Processor and waits for authorisation from the Output Slice Processor before it tries to deliver the message.

9. The Output Slice Processor checks that the message output reference (and the output sequence number) that it has assigned is valid for that particular logical terminal, and records the message output reference (and Output Slice Processor) in safe-store.

10. The Output Slice Processor sends a confirmation to the Output Regional Processor, which authorises the Output Regional Processor to use that message output reference to try to deliver the message.

11. The Output Regional Processor uses the message output reference that the Output Slice Processor has authorised to output the message to the appropriate logical terminal.

12. User B receives the output message through the appropriate logical terminal and safe-stores the message.

13. If the destination logical terminal considers that it has properly received the message (that is, the checksums agree), then it sends a positive user acknowledgement to the Output Regional Processor. The positive user acknowledgement confirms the safe receipt and storage of the message. If the destination logical terminal rejects the delivered message, then it returns a negative user acknowledgement to the Output Regional Processor and FIN considers the message to be undelivered.

14. The Output Regional Processor creates a delivery history from the positive user acknowledgement or negative user acknowledgement, which it sends to the Output Slice Processor.

15. The Output Slice Processor updates the message history with the result of this delivery attempt and records the result in safe-store.

16. The Output Slice Processor sends a copy of the message history to the Input Slice Processor for reconciliation. The Input Slice Processor safe-stores the message history (16a).

17. If user A has requested delivery notification, then the Input Slice Processor that has received notification from the Output Slice Processor sends a notification to the Input Regional Processor. The Input Regional Processor then forwards the delivery notification to user A (17a).

Note The flow depends on the customer configuration within its messaging zone. The same Slice Processor can act as both the Input Slice Processor and the Output Slice Processor. In this case, the Slice Processor sends the message directly to the Output Regional Processor and the same Slice Processor processes the message history from the Output Regional Processor.

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