



Messaging

FIN

# Operations Guide - ADVANCE INFORMATION

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.

18 February 2011

# 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

## **Related documentation**

- *SWIFT General Terms and Conditions*
- *FIN Service Description*
- *SWIFTNet Naming and Addressing Guide*
- *SWIFTNet Network Access Control Guide*
- *FIN System Messages*
- *FIN Error Codes*
- *BIC Policy*
- *SWIFTNet Link Service Description*
- *Certificate Administration 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](http://www.swift.com) > Support > Documentation.
2. Subscribe to the SWIFT services and products that you require to access FIN (see "Become a FIN User" on page 5).
3. Verify that you have the components necessary to install FIN (see "Pre-Implementation" on page 5).
4. Plan and co-ordinate your installation with the relevant suppliers (see "Pre-Installation and Installation" on page 6).
5. Test the environment before you use FIN to send or receive live messages (see "Testing" on page 6).
6. Confirm your readiness to SWIFT before the planned cut-over date (see "Going Live" on page 6).

---

**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](http://www.swift.com) > Ordering > Join SWIFT.

---

### Related information

Visit [www.swift.com](http://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](http://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](http://www.swift.com) > 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)
- a VPN serial number (for dial-up 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 *SWIFTNet Network Access Configuration Guide*.

## 1.5 Testing

### 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 Going Live

### How to go live

1. Submit a *readiness confirmation e-form* to SWIFT at least three weeks before your planned cut-over date.
2. Ensure that you receive the readiness confirmation acknowledgement from SWIFT.  
If you have sent the readiness confirmation 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 Maintaining FIN-Related Information

### 2.1 FIN-Related Information

#### BICs

Each organisation that becomes a SWIFT user must have and publish at least a BIC8 (financial or non-financial institution) that identifies the organisation.

The BIC8 is allocated to one legal entity in a specific country. A legal entity can have multiple BICs (for example, to identify it in another country).

Customers can find more information about the rules that govern the registration of BICs in the *BIC Policy*.

#### 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 code for Test and Training destinations.

#### FIN Message User Group

A Message User Group is a group of users that register to use one or more specific message types. For more information, see "Registering for a FIN Message User Group" on page 8.

### 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](http://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 Registering 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 *SWIFTStandards MT - General Information*. The latest version of this document is available at [www.swift.com](http://www.swift.com) > Support > Documentation.

### 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](http://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 codes
- 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](http://www.swift.com) > Ordering > Change configuration.

Allow a lead time of one 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 *Directory*. 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 codes
- 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](http://www.swift.com) > Ordering > Change configuration.

Allow a lead time of three 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 Codes

### 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 codes

- To register additional Test and Training BICs or branch codes, follow the instructions at [www.swift.com](http://www.swift.com) > Ordering > Order products and services > Order an additional 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](http://www.swift.com) > Ordering.

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

You can find the *Directory* publication dates at [www.swift.com](http://www.swift.com) > Solutions > Messaging > Reference Data.

---

**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 (BIC8)
- 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 (BIC8) 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	<p>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.</p> <p>The following message types are examples of system messages:</p> <ul style="list-style-type: none"> <li>• user-to-SWIFT messages (delivery subset redefinition requests, retrieval requests)</li> <li>• SWIFT-to-user messages (retrieved messages, non-delivery warnings)</li> </ul>
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
- 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*

#### Related information

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

## 5 Maintain FIN-Related Information

### Maintenance procedures

- For information about how to maintain your FIN-related information, see "FIN-Related Information" on page 7.

## 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 19, and "Value Date of Today" on page 20.

## 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 FIN Copy to Central Institution* 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 code
- 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 at more than one logical terminal. You must specify if 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..

If a logical terminal in non-sharing mode has already selected a delivery subset, then FIN rejects a subsequent select request for that delivery subset. FIN also rejects the request if a logical terminal in non-sharing mode attempts to select a delivery subset that is already in use by another logical terminal. FIN rejects the request, regardless of whether the first logical terminal is in shared mode. Sharing mode ends at session termination.

For more information about how to share delivery subsets, see "Share Delivery Subsets" on page 19.

### 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 messages, 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 generally processes MT 047s 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 SWIFTStandards**

If SWIFT introduces changes to SWIFTStandards, 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 messages**

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 118 of the message.

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

**Note** If you want to allow logical terminals to share delivery subsets permanently, then you can send a request to Support. In this case, the shared delivery subsets are available to all logical terminals of a destination, for all subsequent sessions. Allow a lead time of two weeks for the implementation of permanent delivery subset sharing.

---

#### **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 Unsolicited Undelivered Message Report* at fixed hour
- *MT 083 Unsolicited Undelivered Message Report* at cut-off time
- *MT 066 Solicited Undelivered Message Report Request*

### 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 <i>MT 048 undelivered report rules request</i> to FIN	an <i>MT 068 undelivered report rules</i> with the parameters currently set for the requesting logical terminal
To change the undelivered message report rules	an <i>MT 044 undelivered report rules redefinition</i> to FIN	an <i>MT 064 undelivered report rules change report</i> to confirm the changes
To check the undelivered messages now	an <i>MT 046 solicited undelivered message report request</i>	an <i>MT 066 solicited undelivered message report request</i> 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 MT 082 and MT 083 messages 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 The 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 <i>MT 049 daily check report time query</i> to a General Purpose Application or FIN	An <i>MT 069 daily check report time status</i> . 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 <i>MT 045 daily check time change request</i> to a General Purpose Application or FIN	An <i>MT 065 time change report for daily check report</i> 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.

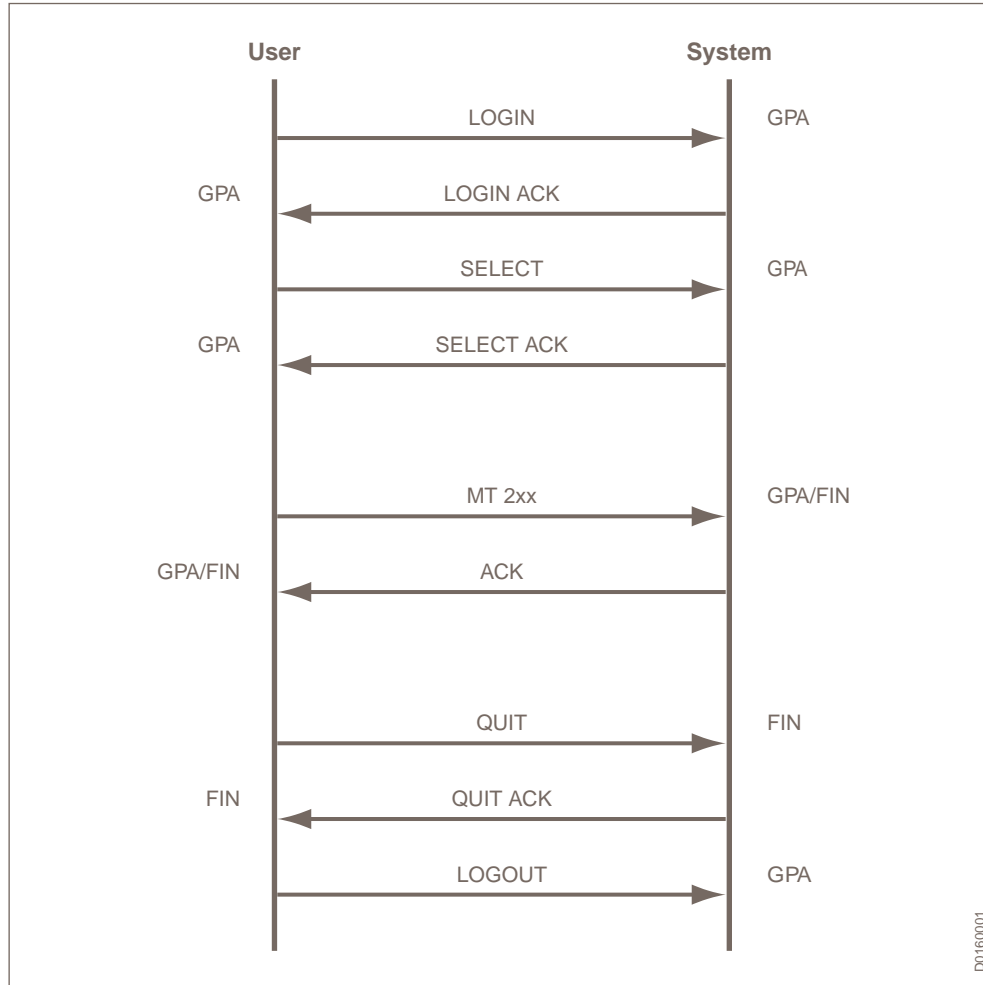
## 8 Overview of Access to FIN

### 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 27.
2. Select FIN. For more information, see "Select FIN" on page 30.
3. Send and receive messages. For more information about how to send messages, see "Prepare a FIN Message" on page 43. For more information about how to receive messages, see "Receive and Process Messages" on page 71.
4. Quit FIN. For more information, see "Quit FIN" on page 33.
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 34.

## 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 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 the following events:

- a connection failure
- a deliberate closure of a dial-up connection (for example, to avoid that the connection remains open all day)

### 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 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.

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

- 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 and the related 22 Acknowledgement of a Login Request 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 and the 22 Login Positive Acknowledgement, see *FIN System Messages*.

## 9.3 Login Result

### Response to 02 Login Request

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**

The login negative acknowledgement provides the following information:

- 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](http://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 resynchronisation flag.
  - The session status (input, output, or both).
  - The delivery subsets from which the logical terminal is to receive output messages from FIN. For more information, see "Configure Delivery Subsets" on page 16.

### 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 the following causes:

- a connection failure
- the deliberate closure of a dial-up connection (for example, to avoid that the connection remains open all day)

### 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](http://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 date 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 Requests 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 *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 message

FIN uses the *MT 009 system request to logout* message 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 the following message:
  - 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 message, 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 messages, see *FIN System Messages*.

## 13.2 Logical Terminal History Report

### Purpose

You use the *MT 036 LT 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 seven 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 LT history request* to a General Purpose Application.  
FIN returns an *MT 056 LT history report*.

### MT 056 LT History Report

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

The *MT 056 LT 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 messages, 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 seven 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:

- the start time
- the stop time
- the first and last input sequence numbers
- the first and last output sequence numbers
- the number of messages sent and received

---

**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 "The Daily Check Report" on page 22.

### **Related information**

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

# 14 Authentication and Authorisation in FIN

## 14.1 Login and Select Authentication

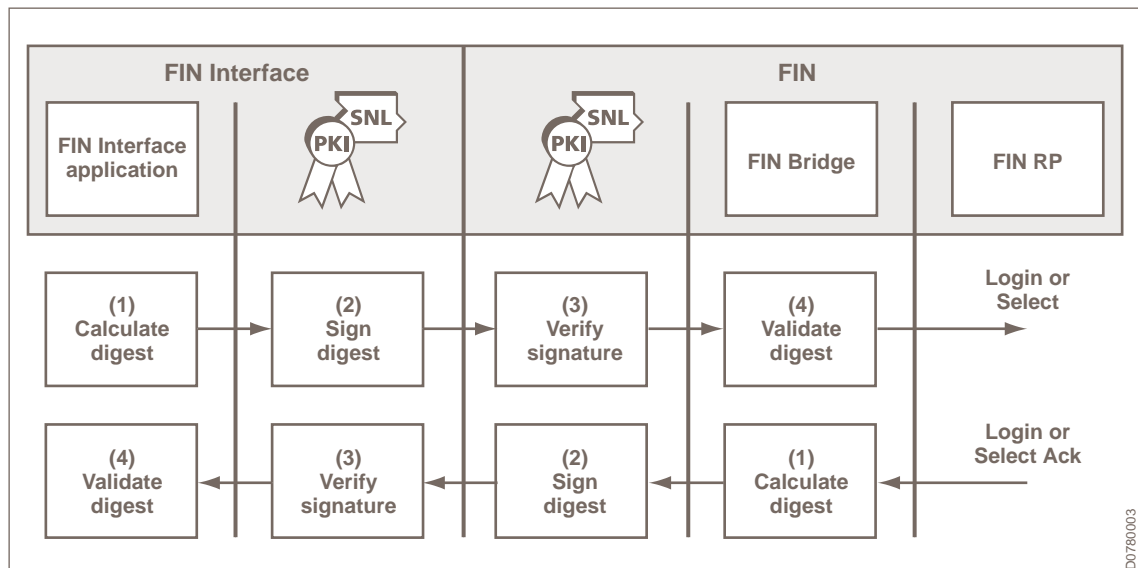
### Purpose of secure login and select

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

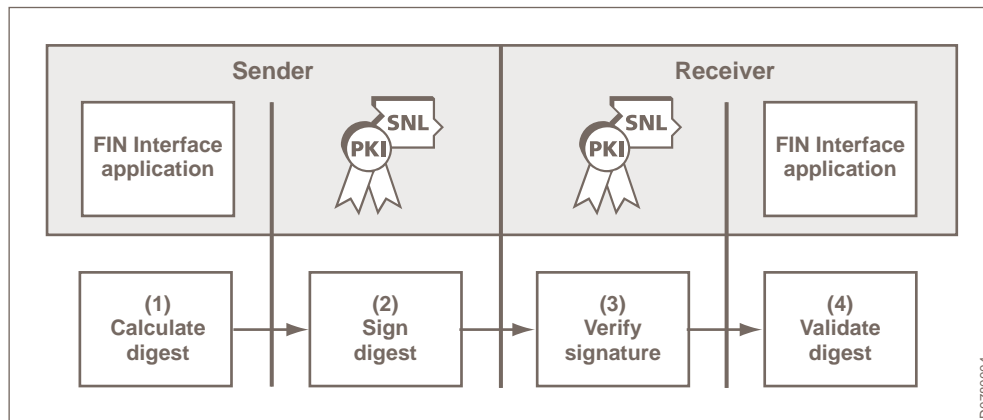
Authenticated user-to-user messages use the same 4-step message authentication process as described for login and select. See "Login and Select Authentication" on page 39.

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).



### Message authentication

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*.

Customers can find the latest version of the *SWIFT General Terms and Conditions* at [www.swift.com](http://www.swift.com) > About SWIFT > Legal > SWIFT contracts.

For more information about message authentication, see the *SWIFTNet RMA Service Description*. Customers can find the latest version of this document at [www.swift.com](http://www.swift.com) > Support > Documentation.

### Related information

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

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

## 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 SWIFTNet message.

---

# 15 Prepare a FIN Message

## 15.1 Message Format

### FIN

FIN messages must comply with the FIN message formats and the SWIFT 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 *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 the *SWIFTNet Service Description*.

#### Use of the BIC in the header of a FIN message

You can use 8-character BIC addresses (BIC8) or 11-character addresses (BIC11, which is the BIC8 plus the branch code), in the header and the text of FIN messages.

You must respect any agreements that you have made with message correspondents about the use of BIC8 addresses.

---

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

---

You cannot use a non-SWIFT BIC in the header of a SWIFT message. A non-SWIFT 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.

---

Because some users cannot identify unpublished BICs, you cannot use unpublished BICs in the text block of a message.

For more information about BICs, see the *Directory*. Customers can also find information about the BIC at [www.swift.com](http://www.swift.com) > Solutions > Messaging > Reference Data.

## 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 and 113 in the User Header block.

#### X character set - SWIFT

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

## 15.3 Enter, Sign, and Send a FIN Message

**Preparation sequence**

- You use the following standard sequence to send a message to FIN:
  1. enter the message
  2. authorise the message
  3. sign the message
  4. 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 39.

## 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 <i>MT 037 time zone status request</i> to the General Purpose Application or FIN	An <i>MT 057 time zone status report</i>
To query the cut-off times in use in specified SWIFT regions or all SWIFT regions	An <i>MT 042 cut-off times list request</i> to the General Purpose Application	An <i>MT 062 cut-off time list report</i>
To query the non-banking days in all SWIFT regions for the following 2 weeks	An <i>MT 043 non-banking days list request</i> to the General Purpose Application	An <i>MT 063 non-banking days list report</i>

### 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 *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 requester'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 *Directory*.

**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 two 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 for use in user-to-user messages.

- **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. The system does not recognise lower-case letters as being equivalent to upper-case letters. This rule does not apply to fields 108:<mur> or 113:<banking priority>, which may contain lower-case characters.

---

## 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 *SWIFTStandards 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	<ul style="list-style-type: none"> <li>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.</li> <li>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.</li> <li>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.</li> <li>For all FIN messages that have Service Identifiers 21 or 25, the sequence number must be equal to that of the acknowledged service message.</li> </ul>
-----------------	--

**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	1
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 <i>MT 074 broadcast request</i> and the <i>MT 090 user-to-SWIFT message</i> , which the user explicitly sends to a Headquarters department or a Customer Support Centre address. <sup>(1)</sup>

(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 requests* and the *MT 090 user-to-SWIFT messages* 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

```
{2:00561427970305ABLRXXXXGXXX00000111909703051527}
```

## 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 SWFTXXXXXXXX, except for the <i>MT 074 broadcast requests</i> and the <i>MT 090 user-to-SWIFT messages</i> (see <i>FIN System Messages</i> ).
Message Priority	This field must have one of the following values: <ul style="list-style-type: none"> <li>• S (System) for user-to-system messages</li> <li>• U (Urgent) or N (Normal) for all user-to-user messages.</li> </ul> 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: <ul style="list-style-type: none"> <li>• priority U must request Delivery Monitoring option 1 (non-delivery warning) or 3 (non-delivery warning and delivery notification)</li> <li>• priority N may optionally request Delivery Monitoring option 2 (delivery notification)</li> </ul>
Obsolescence Period (optional) <sup>(1)</sup>	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:I202BANKDEFXXXXXU3003}
```

## 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	three 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	<p>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</p> <p>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, <i>DYLRXXXXXXXX</i>) that identifies as the sender the particular suite of programmes which generated the message within the system.</p>
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**

```
{2:00511511010606ABLRXXXXGXXX00000130850105141149S}
```

## 16.1.8 User Header in FIN

**Description**

This header appears optionally on user-to-user messages (Service Identifier 01). Only the sender of a message can assign the User Header. If assigned, 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**

**Format**

Block Identifier	3
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.
Message User Reference	Field 108:<Optional 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 system cannot use the transaction reference

	number as retrieval criteria if it contains lower-case letters. The format of field 108 is 16x.
Validation Flag	<p>Field 119:&lt;validation flag&gt;. Indicates whether FIN must perform a special validation.</p> <p>The following are examples of the values that this field may take<sup>(1)</sup>:</p> <ul style="list-style-type: none"> <li>• REMIT identifies the presence of field 77T. To use only in MT 103.</li> <li>• RFDD indicates that the message is a request for direct debit. To use only in MT 104. See Conditional Error Code C94.</li> <li>• STP indicates that FIN validates the message according to straight-through processing principles. To use only in MTs 102 and 103.</li> </ul>
Addressee Information (FINCopy only)	<p>Field 115:&lt;payment-release-information-receiver&gt;.</p> <p>The central institution inputs information in the <i>MT 097 FIN copy message authorisation/refusal notification</i>, in Y-Copy mode. FINCopy copies the information to the receiver of the payment message.</p> <p>For more information, see the <i>FINCopy Service Description</i>.</p>
Receiver Information (Sanctions screening only)	<p>Field 433: &lt;sanctions-screening-receiver-information&gt;.</p> <p>The screening service inputs information in the <i>MT 097 FIN copy message authorisation/refusal notification</i>, in Y-Copy mode. FINCopy copies the information to the receiver of the screened message.</p> <p>The following values can be present in this field:</p> <ul style="list-style-type: none"> <li>• AOK: message automatically released by screening service</li> <li>• FPO: compliance officer has flagged the screening result as false positive</li> <li>• NOK: compliance officer has flagged the screened message as suspect</li> </ul> <p>The code word can optionally be followed by additional information (up to 20 characters from the x character set).</p>

(1) This list is not exhaustive. For more information, see *Message Format Validation Rules* and the standards MT Category volumes at [www.swift.com](http://www.swift.com) > Support > Documentation.

### 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>
:30:020905<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. The format/position are the same as they have always been.

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.	Checksum
2.	System-Originated Message
3.	Training

#### Example

Example of an order of the system trailers:

- checksum
- system-originated message
- training
- possible duplicate message
- delayed message
- message reference

### 16.1.10.3 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 there is a checksum failure, then FIN re-sends the message with a possible duplicate trailer.

---

**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

### 16.1.10.4 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.

### 16.1.10.5 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.

### 16.1.10.6 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.

### 16.1.10.7 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.

---

### 16.1.10.8 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.

### 16.1.10.9 Message Reference Trailer

**Description**

The Message Reference trailer specifies the message reference of the original user message in *MT 096 FIN copy to Central Institution messages*.

**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 FIN copy to Central Institution message*.

---

**Note** The message reference is specific to FINCopy. The system automatically generates the Message Reference trailer in the *MT 096 FIN copy to Central Institution message*. The message reference can only be reused in field 109 of the *MT 096 FIN copy to Central Institution 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 BIC11
- the sending logical terminal
- 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 receiver (that is, its BIC11)
- the logical terminal to which that message was sent
- 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 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** SWIFT 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.

## 18.3 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 46.

### Purpose of the non-delivery warning

- FIN sends an *MT 010 non-delivery warning message* 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.

## 18.4 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
A solicited <i>MT 066 solicited undelivered message report request</i> .	To receive this report, send an <i>MT 046 solicited undelivered message report request</i> .
An unsolicited <i>MT 082 unsolicited undelivered message report at fixed hour</i> . 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: <ul style="list-style-type: none"> <li>• Holiday Suppression = 0</li> <li>• Time of Report Generation - 0800 Local to User</li> <li>• Undelv Options - RT</li> </ul>	You automatically receive the MT 082 report unless you have requested otherwise through an <i>MT 044 undelivered report rules redefinition</i> .

Undelivered message report option	How to receive this report
<p>An unsolicited <i>MT 083 unsolicited undelivered message report at cut-off time</i>.</p> <p>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.</p>	<p>You automatically receive the MT 083 report if you have specified that you want to receive it (rather than the MT 082).</p>

### 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 <i>MT 048 undelivered report rules request</i>	An <i>MT 068 undelivered report rules</i>
To change the undelivered message report rules	An <i>MT 044 undelivered report rules redefinition</i>	An <i>MT 064 undelivered report rules change report</i>

### Related information

For more information about how to change the options for undelivered message reports, see the Configuration section, "Undelivered Message Reports" on page 21.

## 18.5 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 <i>MT 049 daily check report time query</i>	An <i>MT 069 daily check report time status</i>
To change the generation time of the daily check report	An <i>MT 045 daily check time change request</i>	An <i>MT 065 time change report for daily check report</i>

### Related information

For more information about how to configure the *MT 081 daily check report*, see the Configuration section, "The Daily Check Report" on page 22.

## 18.6 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 the 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*.

---

## 18.7 Message Abort

### About message abort

If FIN has not been able to deliver an acknowledged message successfully for any of the following reasons, then it aborts the message:

- 14 days have passed since the date for acknowledgement of live messages (four days after acknowledgement for Test and Training 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 message, or for which the service administrator has rejected the message.
- The message is a FINCopy message for a copy service operating in Y-Copy mode, and the service administrator 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 8 days](#). Abort notifications are not generated for Test and Training traffic when a Test and Training message 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.

# 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 65, then you can attempt to retrieve the message. For more information about message retrieval, see "Message Retrieval" on page 75.

### 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 three 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: <ul style="list-style-type: none"> <li>• system messages, first-in, first-out</li> <li>• urgent priority messages, first in, first out</li> <li>• normal priority messages, first in, first out</li> </ul>

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 39.

## 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 FIN copy service to Central Institution 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 Check Output Queues (Primary Dial Users)

### Background

If your primary connection to FIN is a dial-up connection, then you must check periodically for any messages that may be in queue to you in FIN, awaiting delivery.

### How to check

1. To check for messages, you can perform either of the following actions:
  - Log in to a General Purpose Application and select FIN in the normal manner, to establish new General Purpose Application and FIN sessions.
  - Re-establish the previous General Purpose Application and FIN sessions. FIN and your FIN interface automatically synchronise sent and received input sequence numbers, output sequence numbers, positive acknowledgements (ACKs), and negative acknowledgements (NAKs), so that the sessions can continue.

To re-establish your General Purpose Application and FIN sessions, you must have specified the re-establishment option when you first established the sessions.

You use the same mechanism to establish new sessions and to re-establish previous sessions.
2. To prevent messages from remaining in unselected queues, and therefore being undelivered, log in to a General Purpose Application at least once each day and select all delivery subsets that you have defined for FIN.

### Related information

For more information about how to establish or re-establish a General Purpose Application or FIN session, see "Log in to the General Purpose Application" on page 27 and "Select FIN" on page 30.

## 20.5 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 19.

For more information about how to request a delivery subset definition report, see the Configuration section "Delivery Subset Definition Report" on page 17.

---

# 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 (four 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.

---

**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.

---

### 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 four 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.	<i>MT 021 retrieved message (text and history)</i>
retrieve a message history (no message text)	022 Retrieval Request (History) to SWFTXXXXXXXX.	<i>MT 023 retrieved message (history)</i>

**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 messages, see *FIN System Messages*.

## 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 four 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.

---

#### 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 BIC8 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
<p>Send an <i>MT 073 message sample request</i> to FIN.</p> <p>To request a specific message, indicate the message identifier number that is in the first field 20 or 20C::SEME of the message.</p> <p>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).</p> <p>If you request a sample of message, then specify the following information:</p> <ul style="list-style-type: none"> <li>Specify the number of messages that you want FIN to send. You can request up to 999 messages in one MT 073.</li> <li>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.</li> </ul> <p>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.</p>	<p>Test message as requested.</p>

### 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.

	<b>FIN Live</b>	<b>FIN Test and Training</b>
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.	FIN allows message retrievals for up to 4 days after the message was sent.
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. FIN does not notify the sender that it has aborted the message.
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 <sup>(1)</sup>
	/02/OPERATIONAL <sup>(2)</sup>
	/03/TECHNICAL <sup>(3)</sup>
	/04/DIRECTORY MODIFICATIONS
	/05/BIC DIRECTORY UPDATE <sup>(4)</sup>
	/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 *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 <sup>(1)</sup>	/01/OPERATIONAL
	/02/CLOSURE
	/03/BRANCH CLOSURE
	/04/MERGER <sup>(2)</sup>
	/05/OWNERSHIP CHANGE
	/06/CHANGE OF OFFICERS <sup>(2)</sup>
	/07/CHANGE IN AUTHORISED SIGNATURES <sup>(2)</sup>
	/08/TELEPHONE/FAX NUMBER CHANGE <sup>(2)</sup>
	/09/ADDRESS CHANGE <sup>(2)</sup>
	/10/STANDING ORDERS
	/11/CHANGE OF NAME <sup>(2)</sup>
	/12/HOLIDAY
/02/LOCAL NOTIFICATIONS	/01/DOMESTIC CLEARING SYSTEM CHANGES
	/02/HOLIDAY NOTIFICATION
/03/CORRESPONDENT BANK	/01/LIST
	/02/CHANGE <sup>(2)</sup>
	/03/ACCOUNT NUMBER CHANGE
	/04/CLS SSI INFORMATION
	/05/ACCOUNT NUMBER DELETION
	/06/NEW ACCOUNT NUMBER
/04/TELEX	/01/CHANGE
	/02/GARBLED
	/03/FAILURE
	/04/END OF USE
/05/SWIFT BIC <sup>(3)</sup>	/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 <sup>(4)</sup>	
/23/STRIKE NOTIFICATION	
/24/EXCEPTIONAL SITUATION	
/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 *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 SWHQBEBBXC. 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 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.

---

## 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 REQUESTER
CITY NAME
312:PLEASE BE ADVISED THAT EFFECTIVE [DD/MM/YY] [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 Correspondent Bank Change Broadcast

### Sample message

Broadcast Text:

```
135:N
136: BNNNNN
130:/03/CORRESPONDENT BANK
/02/CHANGE
134:ANYBCCLL
NAME OF BROADCAST REQUESTER
CITY NAME
312:[MARKET: FX, PMT, ETC.] TRANSACTIONS WITH VALUE DATES ON
OR AFTER [DD/MM/YY] REGARDLESS OF THE DEAL DATE WILL BE
SETTLED AS FOLLOWS:
CURRENCY TYPE:
NEW CORRESPONDENT: [WHEN APPLICABLE]
NEW ACCOUNT: [WHEN APPLICABLE]
OLD CORRESPONDENT: [WHEN APPLICABLE]
OLD ACCOUNT: [WHEN APPLICABLE]
```

## 23.6 Example of a Merger Broadcast

### Sample message

Broadcast Text:

```
135:N
136:BNNNNN
130:/01/BANK
/04/MERGER
134:ANYBCCLL
NAME OF BROADCAST REQUESTER
CITY NAME
312:PLEASE BE ADVISED THAT EFFECTIVE [DD/MM/YY] [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].
THE SWIFT ADDRESS OF [NAME OF FINANCIAL INSTITUTION] WILL BE
```

---

---

DEACTIVATED ON [DD/MM/YY] AT [HH:MM] GMT.

## 23.7 Example of a SWIFT BIC Deactivation Broadcast

### Sample message

Broadcast Text:

```
135:N
136:BNNNNN
130:/05/SWIFT BIC
/03/DEACTIVATION
134:ANYBCLL
NAME OF BROADCAST REQUESTER
CITY NAME
312:PLEASE NOTE THAT DUE TO A DECISION FROM OUR HEAD OFFICE, OUR
BRANCH IN [COUNTRY] WILL CEASE ITS OPERATIONS AS OF [DD/MM/YYYY].
OUR SWIFT ADDRESS [SWIFT ADDRESS CONCERNED] WILL BE DEACTIVATED
FROM THE SWIFT NETWORK ON [DD/MM/YYYY] AT [HH:MM] GMT. THANKS
FOR UPDATING YOUR RECORDS ACCORDINGLY.
BEST REGARDS
```

## 24 Support

### Additional support for FIN

In addition to the support-related information that is available at [www.swift.com](http://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 (BIC8) in FIN, or to a specific logical terminal in a General Purpose Application.
- *MT 999 free format message.* This is the only 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	<i>MT 020 retrieval request (text and history)</i> to a General Purpose Application or FIN	<i>MT 021 retrieved message (text and history)</i>
To retrieve a message history	<i>MT 022 retrieval request (history)</i> to a General Purpose Application or FIN	<i>MT 023 retrieved message (history)</i>
To query the number of FINCopy messages (MT 096s) that await authorisation (only a FINCopy service administrator can send this message)	<i>MT 028 FIN copy message status request</i> to FIN	<i>MT 029 FIN copy message status report</i>
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	<i>MT 031 session history request</i> to a General Purpose Application or FIN	<i>MT 051 session history report</i>
To query the number of messages that FIN has queued to you in each delivery subset	<i>MT 032 delivery subset status request</i> to a General Purpose Application or FIN	<i>MT 052 delivery subset status report</i>
To query the definition of your delivery subsets	<i>MT 035 delivery instruction request</i> to FIN	<i>MT 055 delivery instructions report</i>
To query your General Purpose Application login history, for a specified period of time	<i>MT 036 LT history request</i> to a General Purpose Application	<i>MT 056 LT history report</i>
To query the local time in use in specified SWIFT regions or in all SWIFT regions	<i>MT 037 time zone status request</i> to a General Purpose Application or FIN	<i>MT 057 time zone status report</i>
To query the cut-off times in use in specified SWIFT regions or all SWIFT regions	<i>MT 042 cut-off times list request</i> to a General Purpose Application	<i>MT 062 cut-off time list report</i>
To query the non-banking days in all SWIFT regions for the following two weeks	<i>MT 043 non-banking days list request</i> to a General Purpose Application	<i>MT 063 non-banking days list report</i>
To change the undelivered message report rules	<i>MT 044 undelivered report rules redefinition</i> to FIN	<i>MT 064 undelivered report rules change report</i>
To change the Daily Check Report generation time	<i>MT 045 daily check time change request</i> to a General Purpose Application or FIN	<i>MT 065 time change report for daily check report</i>

<b>Request</b>	<b>Message</b>	<b>FIN response</b>
To change the definition of the delivery subsets	<i>MT 047 delivery instructions redefinition request to a General Purpose Application</i>	<i>MT 067 delivery instructions redefinition report</i>
To query the undelivered message report rules	<i>MT 048 undelivered report rules request to FIN</i>	<i>MT 068 undelivered report rules</i>
To query the daily check generation time	<i>MT 049 daily check report time query to a General Purpose Application or FIN</i>	<i>MT 069 daily check report time status</i>
To request delivery information for an MT 671 Standing Settlement Instruction (SSI) Update Notification message	<i>MT 070 undelivered SSI update notification report request to FIN</i>	<i>MT 071 undelivered SSI update notification report</i>
To change your Test and Training mode	<i>MT 072 test mode selection to a General Purpose Application</i>	No response other than ACK or NAK
To request sample Test and Training messages from FIN in local test mode	<i>MT 073 message sample request to FIN</i>	Test messages as requested
To request SWIFT to send a broadcast to all or some FIN users	<i>MT 074 broadcast request to a General Purpose Application or FIN</i>	<i>MT 094 broadcast (if approved)</i>

## 26 FIN Message Flow and Event Sequence

### 26.1 FIN Message Flow

#### User message flow

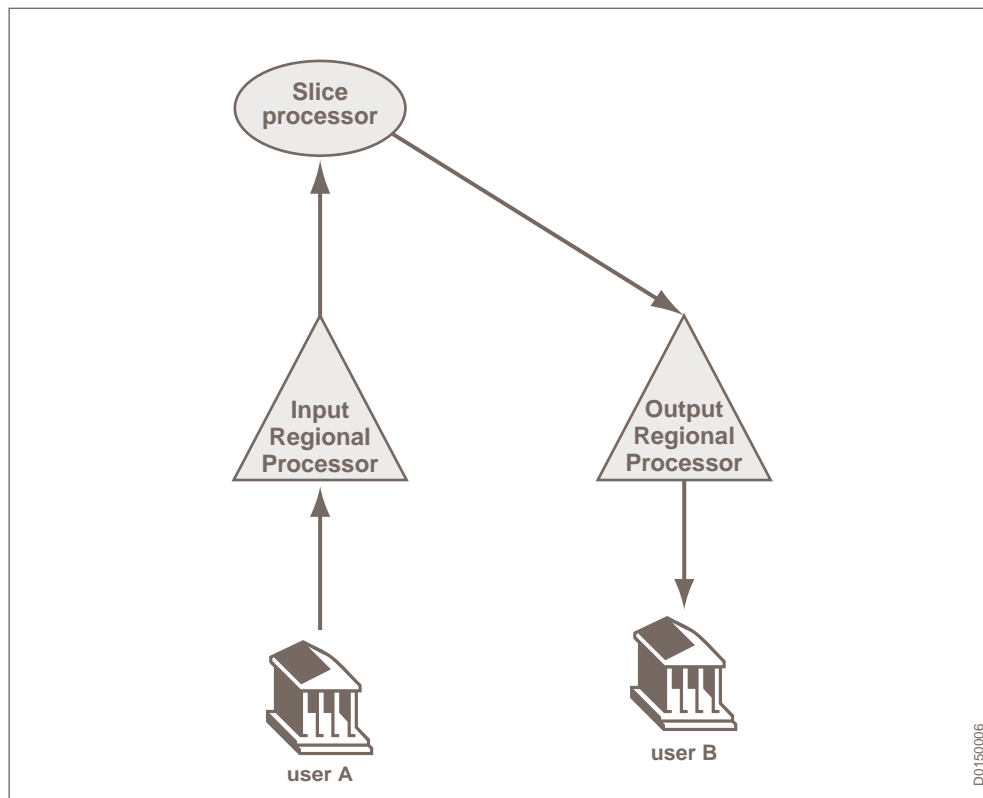
The following diagram illustrates how FIN routes a message from user A to user B through the FIN service.

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.



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.
6. After acceptance of a message, the Input Slice Processor sends a copy of the message across the network to the Output Slice Processor, which then forwards the message to the Output Regional Processor. Alternatively, the Input Slice Processor sends a copy of the message to the Output Regional Processor if the Input and Output Slice Processors are the same.

The flow depends on the customer configuration within its messaging zone.

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.

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 also 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).

# Legal Notices

## Copyright

SWIFT © 2011. All rights reserved.

You may copy this publication within your organisation. Any such copy must include these legal notices.

## Confidentiality

This publication may contain SWIFT or third-party confidential information. Do not disclose this publication outside your organisation without the prior written consent of SWIFT.

## Disclaimer

SWIFT supplies this publication for information purposes only. The information in this publication may change from time to time. You must always refer to the latest available version on [www.swift.com](http://www.swift.com).

## Translations

The English version of SWIFT documentation is the only official version.

## Trademarks

SWIFT is the trade name of S.W.I.F.T. SCRL. The following are registered trademarks of SWIFT: SWIFT, the SWIFT logo, 3SKey, Innotribe, Sibos, SWIFTNet, SWIFTReady, and Accord. Other product, service, or company names in this publication are trade names, trademarks, or registered trademarks of their respective owners.