

Sterling File Gateway

Overview

Version 2.0



Contents

- About Sterling File Gateway.....3
- Prerequisites.....4
- Features.....5
- License Requirements.....6
- Terms and Concepts.....7
- How Sterling Integrator and Sterling File Gateway Work Together.....10
- How Sterling Secure Proxy and Sterling File Gateway Work Together.....11
- Types of Users.....13
- Comparison of AFT and Sterling File Gateway.....14
- About AFT Migration to Sterling File Gateway15
- About the Web Application myFileGateway.....16
- Configuration Checklist for System Administrators.....17
- Mailboxes.....18
- View Sterling File Gateway Help.....20
- Tutorial.....21

About Sterling File Gateway

Sterling File Gateway is an application for transferring files between partners using different protocols, file naming conventions, and file formats.

Sterling File Gateway utilizes the Sterling B2B foundation, which includes Sterling Integrator, Sterling Standards, and the Sterling platform, to deliver capabilities similar to those found in Sterling Advanced File Transfer and Connect:Enterprise for UNIX, while adding new features and functionality.

Use Sterling File Gateway for movement of large and high-volume file transfers, with end-to-end visibility of file movement in a process-oriented and highly-scalable framework that alleviates file transfer challenges, such as protocol and file brokering, automation, and data security.

Sterling File Gateway supports integration with Sterling Integrator Mailbox, Sterling Control Center, Connect:Enterprise for UNIX server products, and Connect:Direct . Sterling File Gateway, which is delivered atop the Sterling Integrator platform with a unique application URL, provides single sign-on access to the Sterling Integrator administrative console through menu selection.

Prerequisites

You must have the following in order to install Sterling File Gateway 2.0:

- A relational database, installed and configured for use
- Appropriate connection credentials for performing the installation
- Administrative access on the machine where the installation will be performed
- Adequate disk space on the machine where the installation will be performed
- Sterling Integrator 5.0, Build 5002 or later, installation with at least a core license
- Sterling File Gateway license

Features

Sterling File Gateway provides many features:

- File/File name Transformations – Mapping of input to output file names; system-wide, group, and partner-specific policies; common file processing tasks such as compression/decompression, PGP encryption/decryption, and signing.
- File Transfer Visibility – Events are recorded for monitoring and reporting; detailed tracking for input-output file structure processing and dynamic route determination; ability to view and filter Sterling File Gateway data flows for all users.
- Replay/Redeliver – One click replay/redeliver capability that allows users to reprocess a transmission from the beginning or to resend just the processed file to a specific delivery destination.
- Notifications – Partners and operators can subscribe to be notified about events by email.
- Predefined business processes – Define common behaviors in file-transfer scenarios, reducing the need for customization.
- Extensibility – Custom event codes, protocols, and consumer identification policies can be added to support unique scenarios.
- Broad Communications Protocol Support – FTP, FTP/S, SSH/SFTP, SSH/SCP, and Connect:Direct are supported upon installation, and additional protocols (such as AS2, AS3, or Odette FTP) may be configured through use of the extensibility feature.
- Partner Interface (*myFileGateway*) – Web browser-based interface that enables partners to upload/download files, subscribe to notifications of events, manage passwords, search and view file transfer activity, and generate reports about file transfer activity.
- Flexible Mailbox Structures – Ability to specify mailbox structures that leverage pattern matching policies and specify attributes that must be true of all partners or a subset of partners
- Dynamic Routing – Consumer derived at run-time, either through mailbox structure, file name, business process-derived consumer name, or map-derived consumer name.
- Partner Onboarding – Easy-to-use graphical user interface to onboard partners and configure the various combinations of communication protocols to enable Sterling File Gateway operations.

License Requirements

Sterling File Gateway 2.0 can only be installed as part of a Sterling Integrator 5.0 or later installation. The Sterling Integrator installation must be completed before the Sterling File Gateway installation can begin. Therefore, a Sterling Integrator license is required.

In addition, a Sterling File Gateway license is required to perform the Sterling File Gateway installation. The Sterling File Gateway license includes components needed for complete functionality:

- Sterling File Gateway Core
- Sterling File Gateway Extensibility
- Mailbox
- PGP
- Connect:Direct Server adapter
- FTP Server adapter
- FTP Client adapter
- HTTP Server adapter
- HTTP Client adapter
- SFTP Server adapter
- SFTP Client adapter

Sterling File Gateway and Sterling Integrator must be installed with the same build at all times. That is, if you update Sterling Integrator, you must update Sterling File Gateway to the same build.

Terms and Concepts

The following terms pertain to Sterling File Gateway:

Term	Definition
Arrived File	A message in a mailbox that Sterling File Gateway monitors that causes Sterling File Gateway to perform some activity on it.
Communication Session	A record of the complete set of steps involved in a protocol level interaction with a remote client or a remote server, typically performed to facilitate a file transfer, from connection to disconnection. Contains the authentication, authorization, file transfer, or non-file transfer records, for all communication activities that adapters participate in, whether or not data actually gets transferred.
Community	Represents a way to organize partners for purposes of onboarding. In Sterling File Gateway, communities are used to limit or widen the selection of protocols available when creating partners. They are also used to enable listening or initiating modes of connection.
Consumer	Partner who receives files either directly delivered to them or delivered to a mailbox for them to retrieve.
Consumer File Structure	Description of consumer expectations for file naming and format structure.
Dataflow	An aggregate of all documents that are related to each other by parent-child relationships, annotated with correlation entries and file transfer events.
Delivery	A record of the activities Sterling File Gateway took to deliver a file to a specific consumer endpoint.
Delivery Channel	Consumer side of the routing channel which specifies a consumer file structure and a mailbox delivery destination. There can be more than one delivery channel for each routing channel.
Event	A distinct routing activity occurrence.
Event Code	Generated for each activity during the progress of a file transfer. Displayed in the activity details to enable Partners and Operators to see the progress and navigate to more details.

Term	Definition
Fact	A named fragment of information gleaned from a file as it is identified and matched against routing channels. Facts can be derived from: <ul style="list-style-type: none"> • Part of a file name • Time the message arrived from the producer • Name of the producer • Name of the consumer
File Layer	Description of format. A file may encapsulate one or many other files. An example of this is a ZIP file that contains a JPEG file. In this example, the ZIP file is a container layer because it contains another file. The JPEG file is a non-container layer.
File Structure	Description of a file's basic content structure and naming conventions. There are two types: <ul style="list-style-type: none"> • Consumer File Structure • Producer File Structure
Group	Usually refers to a Partner Group, but may refer to a Security Group.
Integration Architect	Type of user who creates partner groups, communities, routing channel templates, producer file structures, and consumer file structures .
Mailbox	A repository for messages with a hierarchical structure similar to directories on Windows and UNIX.
Notification	Email sent to a subscriber when an event has occurred.
Mailbox Virtual Root	A position in the mailbox hierarchy associated with a user account that acts as the user's root directory.
<i>myFileGateway</i>	Web application portal where Partners send and retrieve files.
Operator	Type of user who monitors system status and file activity. Troubleshoots problems with Partner activity, using logs, reports, and notifications.
Partner Group	Represents a way to organize partners for purposes of applying templates that govern file transfer policies. Partner groups are separate and distinct from security groups, which are managed in Sterling Integrator.
Partner	An organization such as a trading partner or a business unit. A partner can be a producer or a consumer or both a producer and a consumer.
Partner User	Type of user who uploads and downloads files from <i>myFileGateway</i> portal and works on behalf of the Partner. Views their own activity, specifies events to receive notifications about, and generates reports. Partner users are users that belong to a particular partner.
Payload	Either the arrived files (if non-container type file layer) or files found inside a container type file layer.
Producer	Partner who creates and sends files.

Term	Definition
Producer File Structure	Description of producer requirements for file naming and structure.
Redeliver	The operation that an Operator performs on a delivery, to reattempt that delivery. This can only be performed if a delivery has been attempted.
Regular Expression	An industry standard pattern-matching language. Used in Sterling File Gateway for matching the names of files from Producers.
Replay	The operation that an Operator performs on a file, to cause the system to reprocess that file again, as if it were sent again by the Producer.
Route	A route is a record of all the activities performed on a payload, after it is known who the consumer is. Each payload is associated with a route. A replay of a route results in a new route and new file.
Route Details	The details about a route, including the consumer, producer, list of deliveries that were attempted to the consumer, and the events generated while processing the Route, start and end times, any errors that occurred, and other details. Hyperlinks are provided to dataflows, communication sessions, documents, and business processes related to the route.
Route Provisioner	Type of user who creates and manages partners, group membership, and routing channels.
Routing Channel	Matches incoming producer files to consumers according to the requirements in the routing channel template, then transforms and sends them to the correct consumer in the format and name specified in the consumer file structure.
Routing Channel Template	The routing channel template (RCT) defines the structure through which routing occurs. The RCT specifies producer and consumer mailbox structures and file structures. It mandates which partners can participate in various file transfer scenarios and which file formats they must use. An RCT is required to create a routing channel, which establishes the producer-consumer relationship for file transfers.
Security Group	Groups of users with the same privileges, as specified in Sterling Integrator.
System Administrator	Type of user who installs and maintains system software. Creates initial users. Configures services, adapters, perimeter servers, certificates and the database for sending and receiving files.

How Sterling Integrator and Sterling File Gateway Work Together

Sterling File Gateway utilizes the Sterling B2B foundation, which includes Sterling Integrator, Sterling Standards, and the Sterling platform, to deliver capabilities similar to those found in Sterling Advanced File Transfer and Connect:Enterprise for UNIX, while adding new features and functionality.

Within Sterling File Gateway, Sterling Integrator is known as the B2B Console, and is accessed from the Tools menu. Administrative functions such as creating and managing user accounts, permission groups, and security keys for Sterling File Gateway are handled in Sterling Integrator.

Sterling File Gateway utilizes the communication adapters of Sterling Integrator, which include the following:

- FTP Server adapter
- FTP Client adapter
- SFTP Server adapter
- SFTP Client adapter
- HTTP Server adapter
- HTTP Client adapter
- Connect:Direct Server adapter
- Command Line adapter 2 (for PGP)

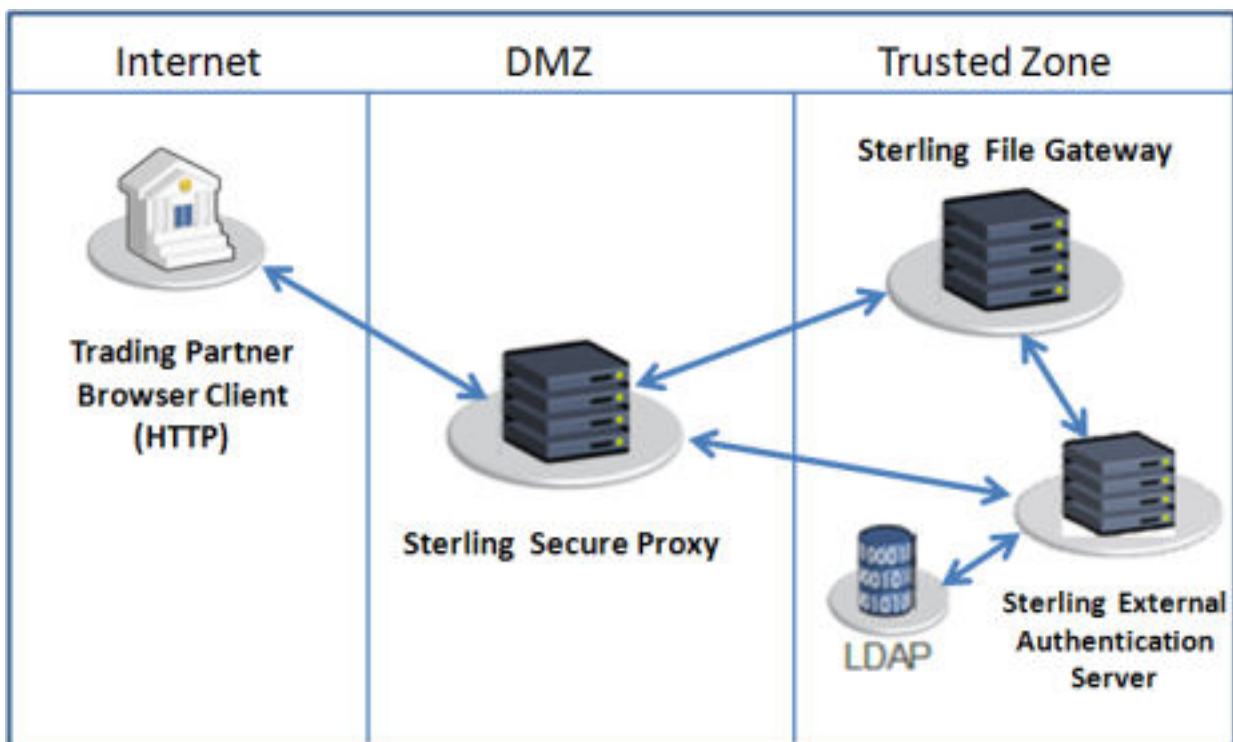
To install Sterling File Gateway, you must first install Sterling Integrator. After you install Sterling File Gateway on an instance of Sterling Integrator, when you install upgrades or new builds of Sterling Integrator, Sterling File Gateway upgrades and builds are automatically installed as part of the installation script.

How Sterling Secure Proxy and Sterling File Gateway Work Together

Sterling Secure Proxy can be used as a proxy with Sterling File Gateway and other HTTP applications and supports a single sign-on connection. Single sign-on (SSO) provides access control that allows a user to log in once to Sterling Secure Proxy, using the HTTP protocol, and then gain access to Sterling File Gateway without logging in again. SSO bypasses normal user authentication in Sterling File Gateway and trusts that Sterling Secure Proxy has authenticated the user.

After you set up the basic single sign-on configuration, trading partners can communicate in a secure environment that provides authentication. The trading partner first connects to Sterling Secure Proxy which then connects to Sterling File Gateway on behalf of the trading partner.

Following is an illustration of the flow of data:



For more information, see the *Sterling Secure Proxy* documentation at <http://www.ibm.com/support/docview.wss?uid=swg27023891>.

Types of Users

There are several types of users, referred to as personas, which can be created using Sterling File Gateway. They are:

- System Administrator - installs and maintains system software. Handles functions that require access to Sterling Integrator. Creates initial administrative users. Configures services and adapters for sending and receiving files. Manages extensibility features. Moves resources and configurations between systems.
- Integration Architect - creates partner groups, communities, routing channel templates, producer file structures, and consumer file structures.
- Route Provisioner - creates and manages partners, group membership, and routing channels.
- Operator - monitors system status and file activity. Troubleshoots problems with Partner activity, generates reports, uses logs, and subscribes for their own notifications. Can create, read (view), update and delete communities and partners.
- Partner User - uploads and downloads files from the *myFileGateway* partner interface, or sends and receives files through one of the communications protocols. Views their activity, subscribes for their notifications about their activities, manages their password, and generates reports about their activities. Are producers and consumers.

Comparison of AFT and Sterling File Gateway

Advanced File Transfer (AFT) represented a first generation solution to enable enterprise-level file transfer. It offered consolidated partner configuration and onboarding and enabled streamlined definition of file exchange relationships.

Sterling File Gateway represents the next generation for enterprise-level file transfer. It includes all the features of AFT, and adds the following new capabilities:

- A Partner still belongs to exactly one community but it can belong to more than one partner group, which is a way to combine partners for business purposes.
- An Integration Architect can configure the Sterling File Gateway mailbox hierarchy to match that which Partners are already familiar with.
- The structure for mailboxes is flexibly defined.
- Sterling File Gateway can perform format unwrapping and wrapping for the ZIP, GZIP and PGP formats.
- Sterling File Gateway can extract facts from file names and use them for routing and delivery, and as input for generating the file name the consumer sees.
- Producer and consumer mailboxes are no longer tightly constrained as they were with AFT. Both producer and consumer mailbox patterns can be built from facts available when a routing channel is provisioned; consumer mailbox patterns can also include facts that are only available when a file is being routed.

About AFT Migration to Sterling File Gateway

AFT customers who want to take advantage of the Sterling File Gateway application will find built-in capabilities to migrate them to the new system with minimal effort. After migration, all functionality from AFT is preserved in Sterling File Gateway.

Important considerations to keep in mind for migrating customers:

- The AFT interface will be substantially modified and the pre-existing interface will be unavailable when Sterling File Gateway is installed.
- The Advanced File Transfer tab in Sterling Integrator will be available, but limited to offer AFT Route Activity and Reporting links so that a legacy AFT user can still view old AFT data for as long as it exists in that system before being purged.
- Migration creates routing channels and standard AFT routing channel templates (prefixed with AFT) in Sterling File Gateway. Migration also creates custom AFT routing channel templates for all migrated partners according to the consumer identification policies selected in AFT.
- The evaluation mode of all AFT routing rules:
 - *MailboxEvaluateAllAutomaticRules*
 - *MailboxEvaluateAllAutomaticRulesSubMin*

are changed to Evaluate Manually at migration, effectively disabling them. They are replaced with a single Sterling File Gateway routing rule with an evaluation mode of Evaluate Automatically.

- A Partner that has been migrated to Sterling File Gateway remains in the Community they were originally created in, but they are also associated with the Sterling File Gateway partner group, *All Partners*, and AFT_PRODUCER_GROUP and/or AFT_CONSUMER_GROUP, based on their role as defined in AFT.
- The PGP configuration used in AFT remains unchanged after migration; the PGP Profile named "AFTPGPPProfile" continues to be used in Sterling File Gateway as well as the command line adapter instance named "PGPCmdlineService".
- After migration, AFT producers are associated with routing channel templates that replicate those producers' prior consumer identification policies. This is also true of custom consumer identification policies in AFT.
- Custom consumer identification is achieved differently in Sterling File Gateway than in AFT. For an AFT producer that has a custom consumer identification policy, create that producer in Sterling File Gateway instead of migrating it from AFT.

About the Web Application *myFileGateway*

Partners send and retrieve files from the Web application *myFileGateway*. To log in to *myFileGateway*, a valid user account is required. This user account is created when a Route Provisioner onboards the Partner.

From within *myFileGateway*, Partners can:

- Upload or download files.
- Search for routes they participated in.
- View recent activity and status for file transfers they participated in.
- Generate reports for activity they participated in.
- Change their password.
- Subscribe to notifications.

Configuration Checklist for System Administrators

Before installing Sterling File Gateway, review this checklist to understand the overall process.

The following table provides the process for implementing Sterling File Gateway:

Stage	Description
1	Create an architectural design plan.
2	Determine system and hardware requirements.
3	Obtain product training.
4	Install Sterling Integrator.
5	Install Sterling File Gateway.
6	Tune Sterling Integrator.
7	Configure permissions and set up user accounts for administrative users (Operators, Route Provisioners, and Integration Architects). Delete default user accounts or change the default passwords for users installed with Sterling Integrator
8	Configure services and adapters, based on the protocols you will use: <ul style="list-style-type: none">• HTTP Server adapter• HTTP Client adapter• FTP Server adapter• FTP Client adapter and services• SFTP Server adapter• SFTP Client adapter and services• Connect:Direct Server adapter and services• Command Line Adapter 2 for PGP
9	Set up any certificates and keys that are required.
10	Verify that a routing schedule is enabled.

Mailboxes

A key function of Sterling File Gateway is the routing of files from one mailbox to another, so mailboxes are fundamental to Sterling File Gateway operations.

Mailboxes used for Sterling File Gateway operations can be created automatically in the following circumstances:

- When a Partner is created in Sterling File Gateway
- When Partners are migrated from AFT
- When Partners are imported into Sterling Integrator
- When a routing channel is created
- On demand, at the time of file transfer

When a Partner is created, a mailbox with the same name is created. For example, if the partner is named "PartnerOne" a mailbox is created where the mailbox absolute path is "/PartnerOne". When the Partner user logs in, the absolute path is not displayed. The Partner only sees the virtual path, which in this example is "/".

When a routing channel is created, a producer mailbox is created in the structure specified in the governing routing channel template. Creation of a routing channel may or may not result in the creation of a consumer mailbox as well, depending on the governing routing channel template.

A consumer mailbox may optionally be created on demand (at run time), if configured to do so in the routing channel template.

Whether created at routing channel creation time or on demand at run time, the consumer mailbox will conform to the structure mandated by the routing channel template.

Sterling File Gateway can also use pre-existing mailboxes (for example, those from a Sterling Integrator instance), if their paths match those expected by a routing channel, which derives its mailbox path from the governing routing channel template. When creating routing channels, the Sterling File Gateway application first checks to see if a mailbox of the required structure exists. If the mailbox does not exist, Sterling File Gateway creates it, along with any needed permissions.

Disable Duplicate Messages

An important consideration for mailboxes is related to system behavior regarding duplicate files. A global system setting allows or disallows duplicates (files of the same name) in mailboxes. For optimum system behavior, disallow duplicates in your `customer_overrides.properties` file. To edit the `customer_overrides.properties` file:

1. In the `install_dir/properties` directory, locate (or create, if necessary) the `customer_overrides.properties` file.
2. Open the `customer_overrides.properties` file in a text editor.

3. Add the following:

```
mailbox.disallowDuplicateMessages=true
```

Note: See [Using Property Files](#).

This ensures that every message in a single mailbox has a unique name. It also ensures that a message and a mailbox do not have the same name. If you write a message to a mailbox and the name matches the name of a message in the mailbox, the service deletes the old message before adding the new message.

Verify that a Routing Schedule is Enabled

To enable the routing of files from one mailbox to another, you must also ensure that an appropriate mailbox routing schedule is enabled. Before attempting to operate the system, verify that one of the following schedules is enabled by default:

- MailboxEvaluateAllAutomaticRules (runs once per minute and can be edited for longer intervals)
- MailboxEvaluateAllAutomaticRulesSubMin (checks for the presence of routable messages once every ten seconds and can be edited for other intervals less than one minute by modifying the MailboxEvaluateAllAutomaticRulesSubMin business process)

To enable either of these schedules, from the Sterling Integrator Administration menu, select **Deployment > Schedules**.

Purge Messages from Mailboxes

Messages in consumer mailboxes are not automatically purged, and over time could affect system performance. To avoid this, configure the Mailbox Scheduled Delete service to delete messages from one, many, or all mailboxes. See [Mailbox Scheduled Delete Service](#).

View Sterling File Gateway Help

Definitions of each field on a page are available when you hover over a field. A complete library of information about Sterling File Gateway is available from the Help menu.

To access Help:

1. Click on the **Help** menu in the upper right corner.
2. Select **Sterling File Gateway Help**.

Tutorial

To learn how Sterling File Gateway works from end to end, perform the following procedure using sample files that you create to use with the tutorial.

Only the high-level tasks are listed here. For specific instructions for each step, see the topics in the appropriate persona library. Use the following log on information for users that are automatically installed with Sterling File Gateway:

Role	User ID	Password
System Administrator	fg_sysadmin	password
Integration Architect	fg_architect	password
Route Provisioner	fg_provisioner	password
Operator	fg_operator	password

1. Log in to Sterling File Gateway as fg_sysadmin.
2. Configure an FTP Server adapter.
See *Prepare Communication Adapters*.
3. Log out.
4. Log in as fg_architect.
5. From the main menu, select **Participants > Communities** to create a community with the following values:

Field	Value
Community Name	FirstComm
Partner Initiates Protocol Connection	X
Partner Listens for Protocol Connections	X
FTP or FTPS	X
Should Receive Notification	Yes

See *Create a Community*.

6. Select **Participants > Groups** to create a group named Group1.
See *Create a Group*.
7. Log out of Sterling File Gateway.

8. Log in as fg_provisioner.
9. Create two partners with the following values:

Field	Value For First Partner	Value For Second Partner
Community	FirstComm	FirstComm
Partner Name	Partner1	Partner2
Phone	333	444
E-mail	y@x.com	x@y.com
User Name	partner1	partner2
Password	password	password
First Name	partner	partner
Last Name	1	2
Partner Role	Is a consumer of data • Initiates a connection	Is a producer of data
Use SSH	No	No
PGP Settings	• No • No	• No • No

See *Create Partner*.

10. Associate the partners with Group1. Select **Participants > Groups**, then click **Add Partner**. Select the partners and the group, and click **Execute**.

See *Add Partners to Groups*.

11. Log out.
12. Log in as fg_architect.
13. Select **Routes > Templates > Create** to create a routing channel template with the following values:

Field	Value
Template Name	FirstStatic
In the Type tab	
Type	Static
In the Special Characters tab	
Special Characters	None
In the Groups tab	
Producer Group	Group1
Consumer Group	Group1
In the Producer tab	
Producer Mailbox Path	/\${ProducerName}/Inbox
Producer File Structure	Click Add
Producer File Type	Text

Field	Value
File name pattern as regular expression	.+
File name pattern group fact names, comma delimited	(leave blank)
In the Consumer tab	
Delivery Channel Description	Click Add
Pattern for Consumer Mailbox Path	/\${ConsumerName}/\${myUserId}/Outbox
If checked, mailboxes matching this pattern may be created on demand	Check the box
Consumer File Structures	Click Add
Consumer File Type	Text
Consumer file name format	\${ProducerFilename}

See *Create a Routing Channel Template*.

14. Log out.
15. Log in as fg_provisioner.
16. Create a routing channel with the following values:

Field	Value
Routing Channel Template	FirstStatic
Producer	Partner2
Consumer	Partner1
User ID	User1

See *Create a Routing Channel*.

17. Log out.
18. Log in to *myFileGateway* as Partner2.
19. Upload a file to the / mailbox.
See *Send a File from myFileGateway*.
20. Log out.
21. Log in to Sterling File Gateway as fg_operator.
22. Search for the file you uploaded.
See *Search for a File*.
23. Click on the arrived file and observe the details about the events, the routing channel, and the routing channel template.
24. Log out.
25. Log in to *myFileGateway* as Partner1.
26. Download a file.
See *Retrieve a File from myFileGateway*.
27. Log out.
28. Log in to Sterling File Gateway as fg_operator.

29. Search for the file you downloaded.
30. Click on the arrived file and observe the details about the events, the routing channel, and the routing channel template.
31. Replay the route.
See *Replay From the Beginning of a Transfer*.

Index

A

Advanced File Transfer (AFT) 3, 14
AFT Migration 15

C

Connect
 Enterprise for UNIX 3

I

Integration Architect 13

M

Mailbox 18
myFileGateway 16

N

Notifications 5

O

Onboarding 5
Operator 13

P

Partner User 13
Protocol Support 5

R

Route Provisioner 13

S

Sterling Control Center 3
System Administrator 13