

# Broadcasting in SFG - Determining the Consumers using a BP Instead of a Fact.

## Step By Step Process

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### Author Details

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# Overview

Messages can be shared with multiple consumers using the feature of broadcasting in SFG.

For Introduction on Broadcasting in SFG, please refer the Tech Document - [Broadcasting using the Fact ConsumerBroadcastGroup](#)

There are two ways to Broadcast messages in SFG:

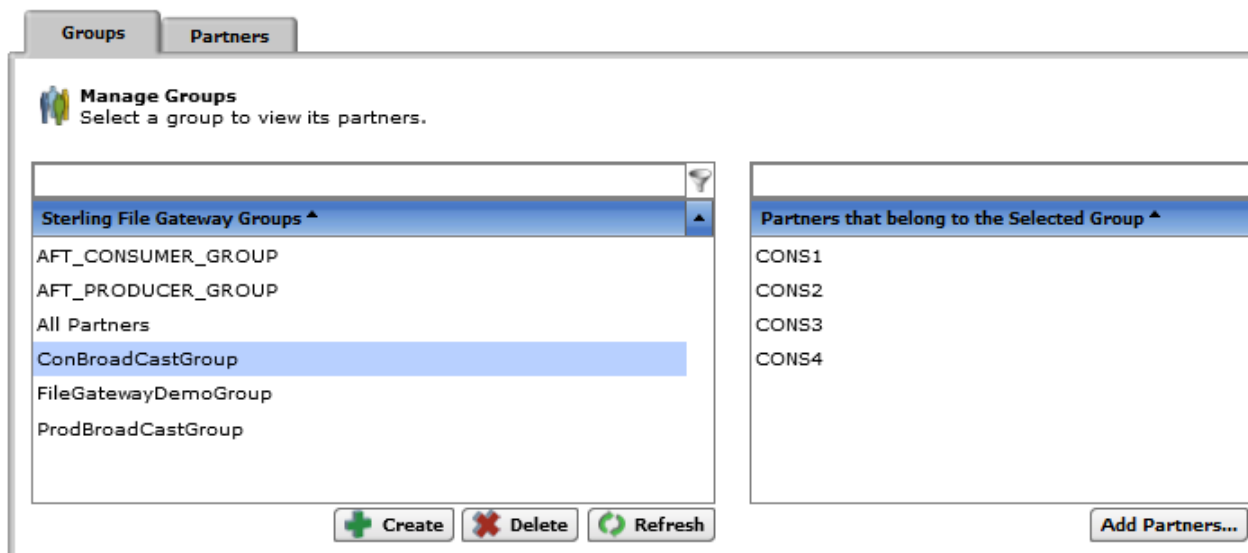
- A message can be broadcast to all members of an SFG Partner Group, and the group can be identified by setting the 'ConsumerBroadcastGroup' fact.
- A message can be broadcast to a set of consumers identified dynamically by a business process.

This document will help in simplifying the steps required to achieve broadcasting to a list of customers using a **Business Process**.

- Implementation Steps
- Usage Details

## Implementation Steps

1. Create a **Partner group** in Sterling File Gateway that will contain all **consumers** who should receive the file when broadcast is done. Note this partner group. In this case it's - ConBroadCastGroup. The related Consumer partners in this group are CONS1, CONS2, CONS3 and CONS4 as shown below:



2. Create a Business Process which will populate the list of Consumers at the ProcessData level. Note this BP name (MyBroadcastList) and also the ProcessData Element Level (ConsumerNameList/Consumer). This is required when creating the Routing Channel Template.

```
<process name = "MyBroadcastList">
```

```

<sequence>
  <assign to="ConsumerNameList/Consumer">CONS1</assign>
  <assign to="ConsumerNameList/Consumer" append ="true">CONS2</assign>
  <assign to="ConsumerNameList/Consumer" append ="true">CONS3</assign>
  <assign to="ConsumerNameList/Consumer" append ="true">CONS4</assign>
</sequence>
</process>

```

3. To check the output, we can execute this BP to get the following results in ProcessData:

```

<ProcessData>
  <ConsumerNameList>
    <Consumer>CONS1</Consumer>
    <Consumer>CONS2</Consumer>
    <Consumer>CONS3</Consumer>
    <Consumer>CONS4</Consumer>
  </ConsumerNameList>
</ProcessData>

```

## 4. Broadcast Routing Channel Template

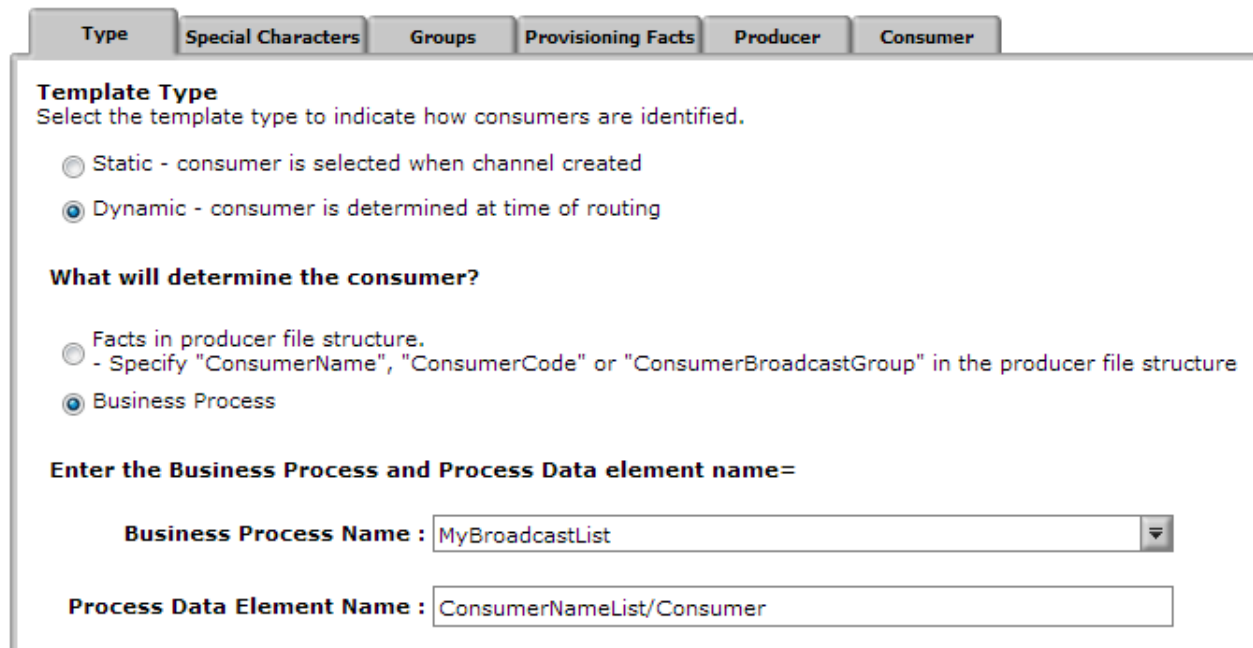
Create a **dynamic routing channel template** with the following configurations:

4a. Go to Routes > Templates. Then click on Create. In this case, we have created a template called - "DynamicBroadcastingFromBP". Since we have to create a dynamic template, select Dynamic in Type tab for "Template Type" as shown in the following screenshot.

Since we are using Business Process to determine the list of consumers, we have selected "Business Process" for "What will determine the consumer?" as follows.

Select the Business Process - "MyBroadcastList" and the Process Data Element Name as "ConsumerNameList/Consumer" as explained in points 2 and 3.

**Template Name:** DynamicBroadcastingFromBP



**Template Type**  
Select the template type to indicate how consumers are identified.

☐ Static - consumer is selected when channel created  
☒ Dynamic - consumer is determined at time of routing

**What will determine the consumer?**

☐ Facts in producer file structure.  
 - Specify "ConsumerName", "ConsumerCode" or "ConsumerBroadcastGroup" in the producer file structure  
☒ Business Process

**Enter the Business Process and Process Data element name=**

**Business Process Name :**

**Process Data Element Name :**

4b. Select your preferences for special character handling. In this case we have selected None.

**Template Name:** DynamicBroadcastingFromBP

The screenshot shows a configuration window with a tabbed interface. The tabs are 'Type', 'Special Characters', 'Groups', 'Provisioning Facts', 'Producer', and 'Consumer'. The 'Special Characters' tab is selected and highlighted with a dotted border. Below the tabs, there is a section titled 'Special Characters' with a red question mark icon. The text reads: 'Select how special characters in the producer filename should be handled'. There are seven radio button options: 'None' (selected), 'Substitute characters individually', 'Replace characters then omit consecutive replacements', 'Remove characters', 'Remove Microsoft(R) Windows invalid characters / \ = \* ? " < > | ; %', 'Remove UNIX(R) invalid characters / ; \ ` ! # \$ & \* | ; ' " ? < >', and 'Remove all characters except alphanumeric dash and period'.

**Special Characters**  
Select how special characters in the producer filename should be handled

- ☒ None
- ☐ Substitute characters individually
- ☐ Replace characters then omit consecutive replacements
- ☐ Remove characters
- ☐ Remove Microsoft(R) Windows invalid characters / \ = \* ? " < > | ; %
- ☐ Remove UNIX(R) invalid characters / ; \ ` ! # \$ & \* | ; ' " ? < >
- ☐ Remove all characters except alphanumeric dash and period

4c. Select the respective Producer and Consumer Group. In this case we are using a Producer Partner Group called - "ProdBroadCastGroup".

The screenshot shows the same configuration window with the 'Groups' tab selected and highlighted with a dotted border. Below the tabs, there is a section titled 'Groups' with a group of three people icon. The text reads: 'Identify groups eligible to use this template'. There are two columns: 'Producer Groups' and 'Consumer Groups'. The 'Producer Groups' column contains the text 'ProdBroadCastGroup'. The 'Consumer Groups' column contains the text 'ConBroadCastGroup'.

**Groups**  
Identify groups eligible to use this template

Producer Groups	Consumer Groups
ProdBroadCastGroup	ConBroadCastGroup

4d. In this case, we have not selected any Provisioning Fact. If you are providing any, please note that you have to provide the same at the time of creating the Routing Channel.

**Template Name:** DynamicBroadcastingFromBP

The screenshot shows the same configuration window with the 'Provisioning Facts' tab selected and highlighted with a dotted border. Below the tabs, there is a section titled 'Provisioning Facts (optional)' with a book icon. The text reads: 'Declare Provisioning facts here. The user will be asked to provide values for these facts at the time of creating a routing channel.' Below this text is a table with three columns: 'Fact Name', 'Display Label', and 'Description'. The table is empty, and the text 'No items to show.' is displayed below it.

**Provisioning Facts (optional)**  
Declare Provisioning facts here. The user will be asked to provide values for these facts at the time of creating a routing channel.

Fact Name	Display Label	Description
-----------	---------------	-------------

No items to show.

4e. In the Producer Tab, select the Pattern for Producer Mailbox Path according to your preference. In this case, we have set "myFileName" in the file name pattern group fact name. We can have the producer file structure as follows so that we populate this fact from the original file name as this will allow the files sent to consumers to have a dynamic name. Please note that we will be setting the delivery channel to use the new 'myFileName' fact to name the file sent to consumers.

**Template Name:** DynamicBroadcastingFromBP

**Producer Mailbox and Files**  
Describe the pattern for producer mailbox and the structure of files placed in the producer mailbox

**Pattern for Producer Mailbox Path :**  
/\${ProducerName}

**Producer File Structure Description**  
Text

**Producer File Structure**

Producer File Type :  
Text


**File name pattern as regular expression :**  
(.+)

File name pattern group fact names, comma delimited :  
myFileName

Save Cancel

4f. In the Consumer tab, you have to add the Delivery Channel Description and set the Pattern for Consumer Mailbox Path according to your preference. Also set the Consumer File Structure with the file name format you prefer. In this case we have set this as - "\${myFileName}" for our testing. We can set the File name to be dynamic as follows to use the 'myFileName' fact collected in the Producer File Structure.

**Template Name:** DynamicBroadcastingFromBP

Type	Special Characters	Groups	Provisioning Facts	Producer	Consumer
 <b>Consumer Delivery Channels</b> Delivery channels describe the pattern for consumer mailbox and the structure of files placed in the consumer mailbox					
<b>Delivery Channel Description</b>					
Text					


**View/Edit Delivery Channel**

**Pattern for Consumer Mailbox Path :**

☐ If checked, mailboxes matching this pattern may be created on demand

☒ If checked, the delivery channel will attempt to deliver over consumer listening protocol if available

**Consumer File Structures**  
Create or edit your file structures here

 **Edit**

**Save** **Cancel**

**Consumer File Structure**

Consumer File Type :  
Text

**File name format :**

**Save** **Cancel**

4g. Complete screen shot of the Routing Channel Template

▼ Routing Channel Template:

Template Name: **DynamicBroadcastingFromBP**

Consumer Identification: **Dynamic**

Business Process Name: **MyBroadcastList**

Process Data Element Name: **ConsumerNameList/Consumer**

Special Character Handling: **No special character handling is specified**

Provisioning Fact List:

▼ Group Permissions:

Producer Group: **ProdBroadCastGroup**

Consumer Group: **ConBroadCastGroup**

Producer Mailbox Path: **/\${ProducerName}**

▼ Producer File Structures:

▼ Producer File Structure: **Text{(.+)}**

▼ Layer: **Text**

File name pattern group fact names, comma delimited: **myFileName**

File name pattern as regular expression: **(.+)**

▼ Delivery Channel Templates:

▼ Delivery Channel Template:

Consumer Mailbox Path: **/\${ConsumerName}/Inbox**

Consumer Mailbox: **Not created at runtime**

Consumer Protocol: **protocol or mailbox**

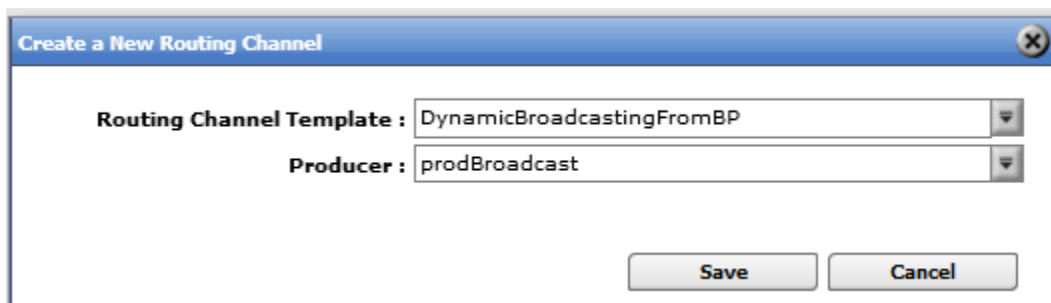
▼ Consumer File Structure: **Text{\${myFileName}}**

▼ Layer: **Text**

File name format: **\${myFileName}**

5. As mentioned in step 4c, the Producer Partner Group we are using is ProdBroadCastGroup. The producer from this group used for this test is prodBroadcast. So, the related mailbox for this producer is /prodBroadcast.

6. Create a Routing Channel with this RCT - DynamicBroadcastingFromBP and having partner prodBroadcast as producer which will send the file.



The screenshot shows a dialog box titled "Create a New Routing Channel". It has two dropdown menus: "Routing Channel Template" which is set to "DynamicBroadcastingFromBP", and "Producer" which is set to "prodBroadcast". At the bottom right, there are two buttons: "Save" and "Cancel".

## Usage Details

1. **myfilegateway** OR a FTP Client can be used to upload the file to the Producer mailbox (prodBroadcast) for broadcasting this file. Please note that the file that has to be routed should match the Producer File Structure we have configured in the Routing Channel Template. So, we have tried uploading the files - "PerfStats.pdf" and "AnnualReport.doc" for this test as follows in the producer mailbox in the myfilegateway UI (In Upload Files Tab):

**File Activity** **Upload Files** Download Files Reports

**Upload a file**  
Specify mailbox file and renaming pattern

Mailbox Path :

File :  PerfStats.pdf

Rename File As :

**File Activity** **Upload Files** Download Files Reports

**Upload a file**  
Specify mailbox file and renaming pattern

Mailbox Path :

File :  AnnualReport.doc

Rename File As :



2. Once the file is routed, have a look at the last step in the event details from filegateway UI as shown in the following screenshots to note the exact time when the file got routed.

Search Criteria

Arrived File


Route

Delivery

The number of search results found: 6

Reviewed	Status	Producer	Original File Name	Discovery Time ▼
<input type="checkbox"/>	Routed	prodBroadcast	AnnualReport.doc	06/10/2014 21:06:11
<input type="checkbox"/>	Routed	prodBroadcast	PerfStats.pdf	06/10/2014 21:06:02

Arrived File Events		
Event Code	Time ▲	Description
FG_0408	06/10/2014 21:06:11	Arrived File has Started.
FG_0425	06/10/2014 21:06:11	User 'prodBroadcast' sent the Arrived File named [ <a href="#">AnnualReport.doc</a> ] to mailbox '/prodBroadcast' (Details include MessageId=259, FileSize=20 bytes, Dataflow= <a href="#">[397]</a> , Workflow= <a href="#">[80454]</a> ).
FG_0404	06/10/2014 21:06:11	Producer partner is 'prodBroadcast'.
FG_0409	06/10/2014 21:06:11	Arrived File is now Determining Routes.
FG_0501	06/10/2014 21:06:12	For 'Producer & Mailbox' there are 1 routing channel(s).
FG_0502	06/10/2014 21:06:12	For 'Producer Payload [ <a href="#">AnnualReport.doc</a> ]' there are 1 candidate route(s), listed below.
FG_0505	06/10/2014 21:06:12	The following 1 route(s) will be run:
FG_0503	06/10/2014 21:06:12	Candidate Route: Send Producer Payload [ <a href="#">AnnualReport.doc</a> ] from ProducerCode 'prodBroadcast' to ConsumerCode '[No Value for ConsumerCode]' using Routing Channel Template [ <a href="#">DynamicBroadcastingFromBP</a> ] which matched Producer File Structure 'Text{(.+)}'
FG_0504	06/10/2014 21:06:12	Route: Send Producer Payload [ <a href="#">AnnualReport.doc</a> ] from ProducerCode 'prodBroadcast' to ConsumerCode '[No Value for ConsumerCode]' using Routing Channel Template [ <a href="#">DynamicBroadcastingFromBP</a> ] which matched Producer File Structure 'Text{(.+)}'
FG_0410	06/10/2014 21:06:12	Arrived File is now Routing.
FG_0602	06/10/2014 21:06:12	Extracting producer file with 1 layer(s): Text{(.+)}.
FG_0401	06/10/2014 21:06:12	Fact discovered: myFileName = "{AnnualReport.doc}".
FG_0605	06/10/2014 21:06:12	Extracted TEXT Layer from file 'AnnualReport.doc'.
FG_0201	06/10/2014 21:06:12	Starting BP 'MyBroadcastList' to identify consumer with (or as a child process of) workflow <a href="#">[80455]</a> and parameters: ProducerDocumentId, PrimaryDocumentName, AFTRouteWorkFlowId, AFTRouteId, PrimaryDocumentId, ProducerName. Click to see parameter values.
FG_0202	06/10/2014 21:06:12	Completed BP 'MyBroadcastList' to identify consumer with workflow <a href="#">[80455]</a> .
FG_0411	06/10/2014 21:06:14	Arrived File is now Routed.

 Arrived File Events		
Event Code	Time ^	Description
FG_0408	06/10/2014 21:06:02	Arrived File has Started.
FG_0404	06/10/2014 21:06:02	Producer partner is 'prodBroadcast'.
FG_0425	06/10/2014 21:06:02	User 'prodBroadcast' sent the Arrived File named [ <a href="#">PerfStats.pdf</a> ] to mailbox '/prodBroadcast' (Details include MessageId=257, FileSize=20 bytes, Dataflow= <a href="#">[396]</a> , Workflow= <a href="#">[80447]</a> ).
FG_0409	06/10/2014 21:06:02	Arrived File is now Determining Routes.
FG_0501	06/10/2014 21:06:02	For 'Producer & Mailbox' there are 1 routing channel(s).
FG_0502	06/10/2014 21:06:02	For 'Producer Payload [ <a href="#">PerfStats.pdf</a> ]' there are 1 candidate route(s), listed below.
FG_0505	06/10/2014 21:06:02	The following 1 route(s) will be run:
FG_0503	06/10/2014 21:06:02	Candidate Route: Send Producer Payload [ <a href="#">PerfStats.pdf</a> ] from ProducerCode 'prodBroadcast' to ConsumerCode '[No Value for ConsumerCode]' using Routing Channel Template [ <a href="#">DynamicBroadcastingFromBP</a> ] which matched Producer File Structure 'Text{(.+)}'
FG_0410	06/10/2014 21:06:02	Arrived File is now Routing.
FG_0504	06/10/2014 21:06:02	Route: Send Producer Payload [ <a href="#">PerfStats.pdf</a> ] from ProducerCode 'prodBroadcast' to ConsumerCode '[No Value for ConsumerCode]' using Routing Channel Template [ <a href="#">DynamicBroadcastingFromBP</a> ] which matched Producer File Structure 'Text{(.+)}'
FG_0602	06/10/2014 21:06:02	Extracting producer file with 1 layer(s): Text{(.+)}.
FG_0401	06/10/2014 21:06:02	Fact discovered: myFileName = "{PerfStats.pdf}".
FG_0605	06/10/2014 21:06:02	Extracted TEXT Layer from file 'PerfStats.pdf'.
FG_0201	06/10/2014 21:06:03	Starting BP 'MyBroadcastList' to identify consumer with (or as a child process of) workflow [ <a href="#">80448</a> ] and parameters: ProducerDocumentId, PrimaryDocumentName, AFTRouteWorkFlowId, AFTRouteId, PrimaryDocumentId, ProducerName. Click to see parameter values.
FG_0202	06/10/2014 21:06:03	Completed BP 'MyBroadcastList' to identify consumer with workflow [ <a href="#">80448</a> ].
FG_0411	06/10/2014 21:06:06	Arrived File is now Routed.

3. From the above File events, please refer the event - **FG\_0202** where the Process ID: 80455 and 80448 are mentioned of the BP - “MyBroadcastList”. This BP provides the list of Consumers to which the messages have to be broadcasted. Here is the ProcessData from one of these instances for your reference:

## Process Data

Process Name: MyBroadcastList Instance ID: 80455

Service Name: AssignService

















```
<?xml version="1.0" encoding="UTF-8"?>
<ProcessData>
  <PrimaryDocument SCIObjectID="868859146866801a9node1"/>
  <PrimaryDocumentId>96864614659f41803node2</PrimaryDocumentId>
  <PrimaryDocumentName>AnnualReport.doc</PrimaryDocumentName>
  <ProducerName>prodBroadcast</ProducerName>
  <AFTRouteId>-1</AFTRouteId>
  <AFTRouteWorkFlowId>-1</AFTRouteWorkFlowId>
  <ProducerDocumentId>96864614659f41803node2</ProducerDocumentId>
  <RouterWFID>80454</RouterWFID>
  <RouteEntityType>ARRIVED_FILE</RouteEntityType>
  <RouteEntityKey>201406102180061138099</RouteEntityKey>
  <RouteDataflowId>397</RouteDataflowId>
  <RouteID>201406102180061138099</RouteID>
  <RouteMetadata>201406102180061138099,None,None,prodBroadcast,None,AnnualReport.doc</RouteMetadata>
  <ConsumerNameList>
    <Consumer>CONS1</Consumer>
    <Consumer>CONS2</Consumer>
    <Consumer>CONS3</Consumer>
    <Consumer>CONS4</Consumer>
  </ConsumerNameList>
</ProcessData>
```

4. Then have a look at the related Process IDs (80449, 80450, 80451, 80452, 80456, 80457, 80458 and 80459 - in this case) of the BP - **FileGatewaySendMessage** (which takes care of sending the file to listening consumers) in Sterling B2B Integrator UI. Since our Consumer Partner group have 4 consumers (CONS1, CONS2, CONS3 and CONS4 respectively), the message will be broadcasted to these 4 consumer mailboxes. Since we are broadcasting 2 messages, there will be 8 instances of this BP which gets triggered to add the files to these mailboxes as follows:

## Monitor

Items 1-10 of 24

Page: < 1 2 3 >

Status	ID	Name	State	Started	Ended	Deadline	Parent/ Child	Expires
	<a href="#">80459</a>	<a href="#">FileGatewaySendMessage</a>	Completed	06/10/2014 9:06:13 PM	06/10/2014 9:06:14 PM	None	▲	 info
	<a href="#">80458</a>	<a href="#">FileGatewaySendMessage</a>	Completed	06/10/2014 9:06:13 PM	06/10/2014 9:06:14 PM	None	▲	 info
	<a href="#">80457</a>	<a href="#">FileGatewaySendMessage</a>	Completed	06/10/2014 9:06:12 PM	06/10/2014 9:06:13 PM	None	▲	 info
	<a href="#">80456</a>	<a href="#">FileGatewaySendMessage</a>	Completed	06/10/2014 9:06:12 PM	06/10/2014 9:06:13 PM	None	▲	 info
	<a href="#">80452</a>	<a href="#">FileGatewaySendMessage</a>	Completed	06/10/2014 9:06:05 PM	06/10/2014 9:06:06 PM	None	▲	 info
	<a href="#">80451</a>	<a href="#">FileGatewaySendMessage</a>	Completed	06/10/2014 9:06:04 PM	06/10/2014 9:06:06 PM	None	▲	 info
	<a href="#">80450</a>	<a href="#">FileGatewaySendMessage</a>	Completed	06/10/2014 9:06:04 PM	06/10/2014 9:06:05 PM	None	▲	 info
	<a href="#">80449</a>	<a href="#">FileGatewaySendMessage</a>	Completed	06/10/2014 9:06:04 PM	06/10/2014 9:06:05 PM	None	▲	 info

5. From the Mailbox Add Service step of these 8 instances of this BP, MessageId can be obtained from ProcessData and Status Report as follows :

<MessageId>258</MessageId>  
<MessageId>260</MessageId>  
<MessageId>261</MessageId>  
<MessageId>262</MessageId>  
<MessageId>263</MessageId>  
<MessageId>264</MessageId>  
<MessageId>265</MessageId>  
<MessageId>266</MessageId>

### **Execute Business Process**

Name: FileGatewaySendMessage Instance ID: 80449 Service Name: Mailbox Add Service

Status Report:

MailboxAddService: added messageid=258 createDateTime=2014-06-10 21:06:04.64

### **Execute Business Process**

Name: FileGatewaySendMessage Instance ID: 80450 Service Name: Mailbox Add Service

Status Report:

MailboxAddService: added messageid=260 createDateTime=2014-06-10 21:06:05.321

### **Execute Business Process**

Name: FileGatewaySendMessage Instance ID: 80451 Service Name: Mailbox Add Service

Status Report:

MailboxAddService: added messageid=261 createDateTime=2014-06-10 21:06:05.757

### **Execute Business Process**

Name: FileGatewaySendMessage Instance ID: 80452 Service Name: Mailbox Add Service

Status Report:

MailboxAddService: added messageid=262 createDateTime=2014-06-10 21:06:05.94

### **Execute Business Process**

Name: FileGatewaySendMessage Instance ID: 80456 Service Name: Mailbox Add Service

Status Report:

MailboxAddService: added messageid=263 createDateTime=2014-06-10 21:06:13.203

## Execute Business Process

Name: FileGatewaySendMessage Instance ID: 80457 Service Name: Mailbox Add Service

### Status Report:

MailboxAddService: added messageid=264 createDateTime=2014-06-10 21:06:13.536

## Execute Business Process

Name: FileGatewaySendMessage Instance ID: 80458 Service Name: Mailbox Add Service

### Status Report:

MailboxAddService: added messageid=265 createDateTime=2014-06-10 21:06:13.876

## Execute Business Process

Name: FileGatewaySendMessage Instance ID: 80459 Service Name: Mailbox Add Service





### Status Report:

MailboxAddService: added messageid=266 createDateTime=2014-06-10 21:06:14.169

6. The time (21:06:06 and 21:06:14 PM for the event - **FG\_0411**) at which the file is routed is almost the same time the file/message got created under the Consumer mailboxes. You can check this in Deployment - Mailboxes - Messages Page. These routed files will be added with the name of **AnnualReport.doc** and **PerfStats.pdf** as configured in the Consumer File Structure in the Routing Channel Template. You can also observe the messages IDs here as explained in point 5.





## Message Management

Messages 1-4 of 4

Select	Name ▲▼	Id ▲▼	Created ▲▼	Size ▲▼	Mailbox ▲▼
 edit	<a href="#">AnnualReport.doc</a>	263	06/10/2014 9:06:13 PM IST	20	/CONS1/Inbox
 edit	<a href="#">AnnualReport.doc</a>	264	06/10/2014 9:06:13 PM IST	20	/CONS2/Inbox
 edit	<a href="#">AnnualReport.doc</a>	265	06/10/2014 9:06:13 PM IST	20	/CONS3/Inbox
 edit	<a href="#">AnnualReport.doc</a>	266	06/10/2014 9:06:14 PM IST	20	/CONS4/Inbox

## Message Management

Messages 1-4 of 4

Select	Name ▲▼	Id ▲▼	Created ▲▼	Size ▲▼	Mailbox ▲▼
 edit	<a href="#">PerfStats.pdf</a>	258	06/10/2014 9:06:04 PM IST	20	/CONS1/Inbox
 edit	<a href="#">PerfStats.pdf</a>	260	06/10/2014 9:06:05 PM IST	20	/CONS2/Inbox
 edit	<a href="#">PerfStats.pdf</a>	261	06/10/2014 9:06:05 PM IST	20	/CONS3/Inbox
 edit	<a href="#">PerfStats.pdf</a>	262	06/10/2014 9:06:05 PM IST	20	/CONS4/Inbox