



Smart Investigate for Payments '23

4 March 2024

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Get started

Explore the following links to access Pega Smart Investigate™ for Payments documentation and other useful information.

Release notes

- [Release notes](#)

Install

- [Pega Smart Investigate for Payments Installation guide](#)

Updates and Patches

- [Pega Smart Investigate for Payments Update Guide](#)
- [Pega Smart Investigate for Payments hotfixes](#)

Implement

- [Pega Smart Investigate for Payments Implementation Guide](#)

Release notes

Pega Smart Investigate™ for Payments release '23 introduces various features and enhancements to the application, which are described in the sections below.

Additionally, it offers productivity and performance benefits to application developers, system administrators, user management, and everyday users.

For more product information and a list of additional documents available for this release, see the [Pega Smart Investigate for Payments product page](#).

For a complete list of new Pega Platform features, see the [Pega Platform release notes](#).

- [Pega Smart Investigate for Payments '23 enhancements](#)
- [Issues addressed in Pega Smart Investigate for Payments '23](#)
- [Known Issues in Pega Smart Investigate for Payments '23](#)
- [Deprecated and withdrawn rules](#)
- [Existing Hotfixes code merge](#)

Pega Smart Investigate for Payments '23 enhancements

Learn about the various enhancements that are included in Smart Investigate for Payments '23.

Sanctions Request for Information Case Type updates

Pega Smart Investigate for Payments 8.8 introduced a new case type for Sanctions Request for Information (RFI), which provides support for Swift standard templates for completing request or response for information.

Pega Smart Investigate for Payments '23 includes the following updates to the Sanctions RFI solution:

- Integration services support to connect to sanctions alert engines

This update allows the Sanctions RFI case type to communicate with sanctions alert engines to retrieve information about sanctions entities.

- Parsing and mapping of Sanctions RFI Type from Inbound messages

This update allows the Sanctions RFI case type to automatically detect the type of Sanctions RFI from an inbound message.

- Addition of Swift and email as correspondence type for Sanctions RFI

This update allows the users to send and receive correspondence about Sanctions RFI cases via Swift or email.

- Updates to address related fields and parsing logic

This update improves the accuracy and completeness of the address information that is captured in Sanctions RFI cases.

ISO and CBPR+ Compliance updates

Support for camt.055 and camt.058 message specifications, which have been released by Swift as part of CBPR+ v2.1 updates.

For more information on supported versions, refer to the [Pega Smart Investigate for Payments ISO 20022 AND CBPR+ Tech note](#).

Swift gpi Compliance updates

Support for the following gpi v5 APIs:

- gSRP
- gCCT
- gCOV

- gpi Transaction Search

Product modernization & technical tuning

Multiple enhancements have been done in Smart Investigate for Payments v8.8 which makes the user experience and application stability reliable:

- Accessibility updates to improve accessible use and navigation within the product
- PCI DSS compliance testing completed to ensure retained compliance
- Bug fixes and platform '23 support
- Enhanced Report Browser in compliance with Pega Platform Reporting features

Issues addressed in Pega Smart Investigate for Payments '23

Resolved issues that will have the most significant impact on the Pega user and developer community are listed.

The following ID references are used:

- Reference numbers beginning with "BUG-" refer to entries logged in the Pega issue-tracking system.
- Reference numbers beginning with "SR-" refer to corresponding Support Requests logged in [My Support Portal](#).

Known Issues in Pega Smart Investigate for Payments '23

Known issues that might occur in this release are listed.

| ID | Label |
|-------------|--|
| BUG-810607 | While creating exception case, unable to change the value of inquiry amount field in work information tab. |
| BUG-662886 | Preview pop-up for ISO20022 message launches despite error messages. |
| ISSUE-98136 | Expand All and Collapse All buttons do not work as expected after some layouts are manually expanded |
| ISSUE-98135 | Invalid entries on UI fields disappear on clicking Preview when application is used in Firefox Browser. |
| ISSUE-94991 | Add button is visible in attachments when application is used in Firefox Browser. |

 **Note:** To submit new issues or find out more about known issues, or request a hotfix, go to the [Pega Product Support Community](#). Look up or subscribe to your Support Requests (SRs) in [My Support Portal](#). Ensure that you refer to the issue ID (SR, BUG, or FDBK) in all communications.

Deprecated and withdrawn rules

Over the releases until 8.6, the unavailable and withdrawn rules in Pega Smart Investigate for Payments 8.x were shipped as an archived ruleset. These rules can be saved into your implementation layer as required.

All the withdrawn rules as part of the release process were shipped with the application bundle. The rules are provided in the directory \ResourceKit\WithdrawnRules.

However, Smart Investigate for Payments '23 onwards, these rules are not packaged separately. The list of rules withdrawn in current release are below:

| Rule Type | Rule name | Class Name |
|----------------|------------------------|---|
| Data Page | D_SwftGPIAssigned | D_SwftGPIAssigned |
| Edit Validate | SICBPRStringCheck | |
| Edit Validate | SICBPRStringCheck_ID | |
| Section | CoreSummary | PegaSI-MsgCase- |
| Section | pzDisplayFieldLabel | Embed-Fields |
| Activity | pzCheckDBIsDefined | Data-Admin-DDS-Table |
| Flow Action | AddtlCxlRsnlnf | PegaCommBank-ISO20022- DebitAuthRqst- DebitAuthorisation2 |
| Data Transform | SimulationGCaseDetails | PegaSI-Data-SWIFT-GPI- gCase |
| Property | MSGTYPE | @baseclass |
| Property | MSGTYPE | PegaSI- |
| Property | MSGTYPE | PegaSI-RM-Message |
| Property | Text | PegaSI-Int-Swift-Gpi-GCase- Response-ErrorStatus |
| Property | transaction_status | PegaSI-Data-SWIFT-GPI- gCase |
| Property | transaction_status | PegaSI-Int-Swift-Gpi-GCase- Response |
| Property | valid | PegaSI-Int-Swift-Gpi-GCase- Response |

For information on the withdrawn rules, see the [Pega Smart Investigate for Payments Withdrawn Rules community page](#).

Existing Hotfixes code merge

Learn about the hotfixes that are merged into the current release to address issues that were reported in the previous version of the product.

HFIX- is Pega's internal item prefix for hotfixes of the Pega Products.

Note: To find out more about hotfixes, or to request a hotfix, go to the [Pega Product Support Community](#). Look up or subscribe to your Support Requests (SRs) in [My Support Portal](#). Ensure that you refer to the issue ID (SR, HFIX, BUG, or FDBK) in all communications.

| ID | Title |
|-----------|---|
| HFIX-A561 | Fix to support message detaching for all Work class structures. |
| HFIX-A436 | Pega SI - F77A formatting issue ticklers |
| HFIX-A503 | Correspondence Type missing for many flows |
| HFIX-A488 | Unable to open duplicate potential work item |
| HFIX-A262 | Fix outbound XML of ISO/ CBPR+ messages. |
| HFIX-A187 | InquirerPartyName missing in AutoInvestigation/Exception case |
| HFIX-A139 | InquirerPartyName is not setting on work case. |
| HFIX-A49 | Party lookup behaviour issue |
| HFIX-A111 | Party lookup issue for email |

| ID | Title |
|------------|---|
| HFIX-A30 | Validate activity in PegaSI-Party-Contact missing step |
| HFIX-85979 | Smart Investigate Product - Open Indemnities Report Issue |
| HFIX-85975 | Attachment Status set Incorrectly |
| HFIX-85890 | Fixes for known issue in SIP 8.8 |
| HFIX-85910 | Fix for ISO and CBPR Inbound Message Parsing |
| HFIX-85780 | HTTP Status 403 – Forbidden Error |
| HFIX-85572 | Attach and Update Action from Search portal is not working |
| HFIX-85375 | Base Amount and FX Rate not displayed for few CaseTypes |
| HFIX-85202 | Base Amount and FX Rate not displayed |
| HFIX-85175 | SWIFT Block3 is mapped to New Line |
| HFIX-85171 | Addressing Authorization and Request Mapping -GPIv5 |
| HFIX-85090 | Search for duplicates local action Issue |
| HFIX-85023 | Pega SI 8.7.3 Rule withdrawn issue (Optional) |
| HFIX-84766 | Smart Investigate product - Exception case related cases action |
| HFIX-84517 | Deprecated controls causing SECU0017's |
| HFIX-84622 | Fix the preview problem with the ISO Correspondence Type |

Pega Smart Investigate for Payments Installation Guide

Installation guide provides the technical guidance for installing the Pega Smart Investigate™ for Payments'23 version.

- [Pega Smart Investigate for Payments Installation guide](#)

Pega Smart Investigate for Payments Installation guide

Smart Investigate for Payments is designed for immediate use out-of-the-box for demonstration and training purposes. It comes with a working set of rules and the supporting infrastructure that can simulate connectivity with your transaction databases.

- [Completing Prerequisites](#)
- [Backing up your system](#)
- [Installing the application](#)

Completing Prerequisites

Before you install the application, ensure that you complete all of the following tasks.

1. Review the database policies and application permissions that are used by your Pega Platform installation. Determine whether the application is permitted to update the database automatically or if you must generate the database scripts that your organization will use to manually make schema changes.
2. Install the latest available release of Pega Platform '23, and ensure that you can log in as an administrator. For more information, see the *Pega Platform Install Guide* for your environment available on the [Install and update Pega Platform](#).

3. Apply any required hotfixes by using the Hotfix Manager. For more information, see [Apply Pega Platform hotfixes](#). To review the Pega Smart Investigate for Payments hotfixes without using the Hotfix Manager, see the [hotfix page](#).

Backing up your system

When you install an application, back up your system after each step to ensure that you can revert to the previous working version of the system if you encounter an issue.

Important: Importing the new version of the application may require the execution of column and declare-index population jobs. These jobs run in the background, populating new columns and declare-indexes imported with the

 application, which requires the update of a great number of records. In PostgreSQL installations, this massive update of records may require additional temporary disk space, so ensure that there is enough disk space available for the database to expand accordingly.

 **Note:** The deployment process modifies both the data schema and the rules schema. Use a backup procedure that preserves both schemas.

1. Verify that all rules are checked in.
2. Shut down the Pega Platform application server.
3. Use your database utilities to complete an offline backup of the Pega database.
4. Back up the configuration and environment files.

If you edited any of the following Pega Platform configuration files in the APP-INF\classes directory of an EAR deployment or the WEB-INF\classes directory of a WAR deployment, include these files in the backup:

- prbootstrap.properties
- prconfig.xml
- logging file: prlogging.xml or prlog4j2.xml
- web.xml

- `pegarules.keyring` or any other `.keyring` files
5. Back up any third-party or custom JAR files that you installed.
Redeploying the Pega Platform applications might delete these files from your application server.

Installing the application

To install Pega Smart Investigate for Payments, import the application file, and then complete additional procedures, if applicable.

Before you begin:

Before proceeding with the installation, make sure to complete all prerequisite tasks and back up your system. For more information, see the sections on [Completing Prerequisites](#) and [Backing up your system](#).



Note: Built on layers for Pega Smart Investigate for Payments such as Pega Advanced E&I Rulebook, Pega Smart Investigate for Securities, and Pega Self-Service for Smart Investigate have not been updated.

Customers with any of these applications or their ruleset in the stack who attempt to upgrade or install may have to reach out to Pega GCS for confirmation on the compatibility of these applications and version to install or upgrade. For further questions, contact Pega Global Customer Support (GCS).

1. Import the modularized application file. See [Importing the modularized application file](#).
2. Import the sample application and sample data. See [Importing the Sample Application and Sample Data](#). This step is optional for non-dev environments only.
3. **Optional:** Enable sample operator accounts. See [Optional: Enabling sample operator accounts](#).

- Importing the modularized application file
- Importing the Sample Application and Sample Data
- Optional: Enabling sample operator accounts

Importing the modularized application file

The system data and rulesets for Pega Smart Investigate for Payments are loaded during this step.

To import the modularized application file, complete the following steps:

1. Log in to Pega Platform (`https://<hostname>:<port>/prweb`) by entering the administrative ID and password that you used during Pega Platform installation, for example, `administrator@pega.com`.
2. In the header of Dev Studio click **Configure > Application > Distribution > Import**.
3. Select the `\Rules\SIPayments.jar` file from your distribution media, and follow the wizard instructions.
4. For schema changes, depending on your site's requirements, select either **Automatic** or **Manual**, and then continue following the wizard instructions.
If you select **Manual**, see [Viewing and applying schema changes](#).
5. When the import is complete, click **Done**.
6. Apply the required hotfixes by using Hotfix Manager. For more information about applying hotfixes, see [Applying hotfixes](#).
7. Verify that the new application rule appears.
 - a. In the navigation panel of Dev Studio, click **Records > Application Definition > Application**.
 - b. Confirm that the following application rules are displayed in the list:
 - `SmartInvestigateForPayments 8`
 - `ISO20022 8`

Importing the Sample Application and Sample Data

Pega Smart Investigate for Payments ships with a sample application which can be installed and used to test and review Pega-provided features with Sample data shipped with the product.

Import of sample application & sample data are not required in higher environments. The rules in the sample application are used while building an implementation layer only. This is optional for non-dev environments.

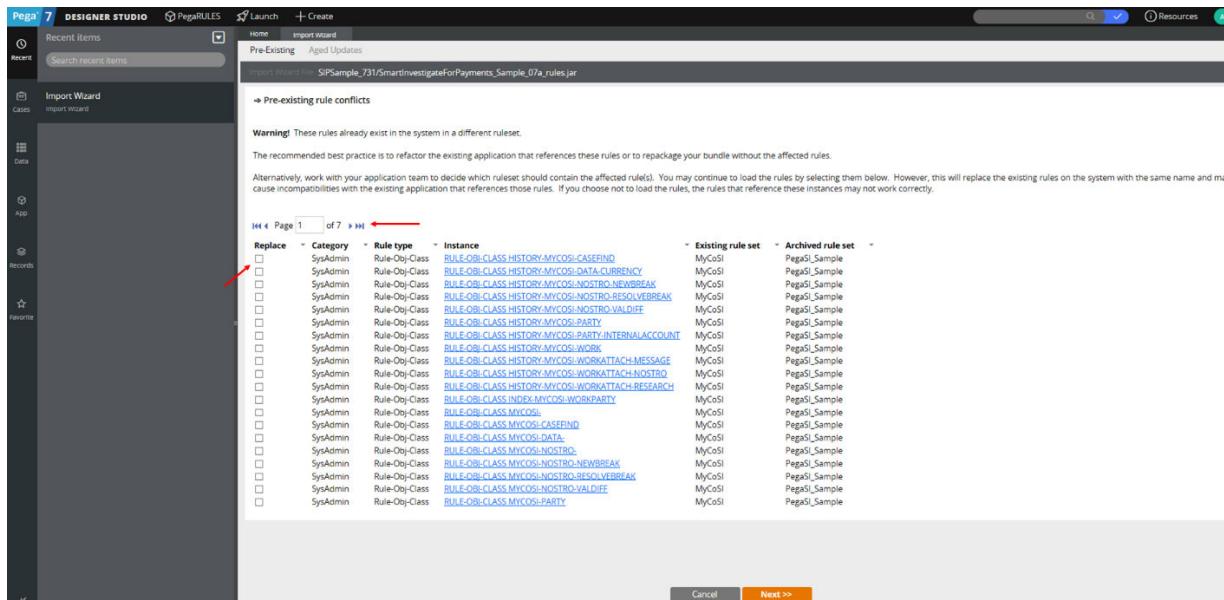
To import the sample application and sample data, complete the following steps:

1. Log in to Pega Platform (`https://<hostname>:<port>/prweb`) by entering the administrative ID and password that you used during Pega Platform installation, for example, `administrator@pega.com`.
2. Click Dev Studio > Application > Distribution > Import to install the `\Rules\SIPaymentsSample.jarfile` and follow the wizard instructions.

Do not select the Enable advanced mode to provide granular control over the import process check box to ensure that you import all components.

The sample rules and data will be part of the `PegaSI_Sample` and `PegaSISimulation` rulesets.

3. If you see Pre-Existing Rule Conflicts then this step is required if the upgrade is only from the Pega Smart Investigate for Payments 7.11, `MyCoSI-` classes have moved from the `MyCoSI` ruleset to the `PegaSI_Sample` ruleset. Since the `PegaSI_Sample` ruleset is now part of the new Sample (Demo) application `SmartInvestigateForPayments_Sample`. the following PreExisting rule conflicts screen is displayed when you import this sample applicaton bundle:



4. Select all the Replace checkboxes for all the displayed rules in all of the seven pages and then click Next.
5. To import the rules from the JAR file, click Next. The replaced sample rules are now included in the *PegaSI_Sample* ruleset. When the progress bar reaches 100%, the upgrade process is complete. Verify that no errors have been displayed.

Important: The list of hotfixes to be imported after completing the application bundle import can be found in [Pega Smart Investigate for Payments hotfixes](#).

6. Verify that the new application rule appears.
 - a. In the Explorer panel, click Records > Application Definition > Application.
 - b. Verify that *SmartInvestigateForPayments_Sample* 8 appears in the list.

Optional: Enabling sample operator accounts

If you imported the sample data, operators are included that allow you to access the sample data. For security purposes, sample operators are disabled by default.

Before you begin:

Ensure that you have already imported the sample data that contains the sample operators.

To enable the sample operators, complete the following steps.

1. In the header of **Dev Studio**, click Configure > Org & Security > Authentication > Operator Access.
2. In the **Disabled operators** section, select the check box next to the operator ID to enable.
3. Click Enable selected.

The **Enable Operator** dialog is displayed.

4. Click OK to close the dialog box.
5. Click Submit to confirm that you want to enable the selected operator ID.

Pega Smart Investigate for Payments Update Guide

Update guide provides the detailed information about the process of upgrading the Pega Smart Investigate™ for Payments'23 and its hotfix patch updates.

- **Completing Prerequisites**
- **Backing up your system**
- **Updating the application**
- **Pega Smart Investigate for Payments hotfixes**

Completing Prerequisites

Before you update the application, ensure that you complete all of the following tasks.

Before you begin:

- Apply HFx-48589, if the Smart Investigate for Payments application is being upgraded from 7.11 to '23 version.
- Apply HFx-48525, if the Smart Investigate for Payments application is being upgraded from 7.31 to '23 version.

Note: If you are upgrading the Smart Investigate for Payments application from 8.6 or below, then the application does not come with an JXL jar. This is due to the following updates done as a part of enhanced Bulk case entry functionality:

- Backend processing to parse the uploaded excel has been updated to use OOTB APIs. Hence, the dependency on third-party JXL API has been eliminated.
- Bulk case entry now supports the latest format of MS Excel files, that is .xlsx.
- Option added on UI to download a sample template for expected excel input.

In addition, run the following scripts for your database platform by using the database tool of your choice.

- **Oracle:**

\Scripts\Upgrade\Oracle\DropAlterRecreateViewSIP_Oracle.sql

- **IBM DB2:**

\Scripts\Upgrade\DB2LUW\DropAlterRecreateViewSIP_DB2.sql

- **MS-SQL:**

\Scripts\Upgrade\MSSQL\DropAlterRecreateViewSIP_MSSQL.sql

- **PostgreSQL:**

\Scripts\Upgrade\PostgreSQL\DropAlterRecreateViewSIP_Postgres



Note: The above mentioned upgrade scripts are required when the upgrade of Pega Smart Investigate for Payments is from 7.x to '23. This step is not applicable for upgrades from applications versions 8.1 to '23.

1. Review the database policies and application permissions that are used by your Pega Platform installation. Determine whether the application is permitted to update the database automatically or if you must generate the database scripts that your organization will use to manually make schema changes.

2. Install the latest available release of Pega Platform '23, and ensure that you can log in as an administrator. For more information, see the *Pega Platform Install Guide* for your environment available on the [Install and update Pega Platform](#).
3. Apply any required hotfixes by using the Hotfix Manager. For more information, see [Apply Pega Platform hotfixes](#). To review the Pega Smart Investigate for Payments hotfixes without using the Hotfix Manager, see the [hotfix page](#).

Backing up your system

When updating an application, back up your system after each step to ensure that you can revert to the last working version of the system if you encounter an issue.

Important: Importing the new version of the application may require the execution of column and declare-index population jobs. These jobs run in the background, populating new columns and declare-indexes imported with the application, which requires the update of a great number of records. In PostgreSQL installations, this massive update of records may require additional temporary disk space, so ensure that there is enough disk space available for the database to expand accordingly.

Note: The deployment process modifies both the data schema and the rules schema. Use a backup procedure that preserves both schemas.

1. Verify that all rules are checked in.
2. Shut down the Pega Platform application server.
3. Use your database utilities to complete an offline backup of the Pega database.
4. Back up the configuration and environment files.

If you edited any of the following Pega Platform configuration files in the APP-INF\classes directory of an EAR deployment or the WEB-INF\classes directory of a WAR deployment, include these files in the backup:

- prbootstrap.properties

- prconfig.xml
 - logging file: prlogging.xml or prlog4j2.xml
 - web.xml
 - pegarules.keyring or any other .keyring files
5. Back up any third-party or custom JAR files that you installed.
Redeploying the Pega Platform applications might delete these files from your application server.

Updating the application

To update Pega Smart Investigate for Payments, import the application file, and then complete additional procedures in this guide, if applicable.

Before you begin:

Ensure that you complete the prerequisites for this application update.

Note: Built on layers for Pega Smart Investigate for Payments such as Pega Advanced E&I Rulebook, Pega Smart Investigate for Securities, and Pega Self-Service for Smart Investigate have not been updated.

 Customers with any of these applications or their ruleset in the stack who attempt to upgrade or install may have to reach out to Pega GCS for confirmation on the compatibility of these applications and version to install or upgrade. For further questions, contact Pega Global Customer Support (GCS).

- [Importing the modularized application file](#)
- [Importing the Sample Application and Sample Data](#)
- [Making required configurations after an upgrade](#)

- **Update the Dynamic Class Referencing**
- **Conversion of Activities to Data Transforms**

Importing the modularized application file

The system data and rulesets for Pega Smart Investigate for Payments are loaded during this step.

1. Log in to Pega Platform (`https://<hostname>:<port>/prweb`) by entering the administrative ID and password that you used during Pega Platform installation, for example, `administrator@pega.com`.
2. In the header of Dev Studio, click **Configure > Application > Distribution > Import**.
3. Select the `\Rules\SIPayments.jar` file from your distribution media, and follow the wizard instructions.
4. For schema changes, depending on your site's requirements, select either **Automatic** or **Manual**, and then continue following the wizard instructions.

If you select **Manual**, see [Viewing and applying schema changes](#).

5. When the import is complete, click **Done**.
6. Apply the required hotfixes by using Hotfix Manager. For more information about applying hotfixes, see [Applying hotfixes](#).
7. Verify that the new application rule appears.
 - a. In the navigation panel of Dev Studio, click **Records > Application Definition > Application**.
 - b. Confirm that the following application rules are displayed in the list:
 - *SmartInvestigateForPayments 8*
 - *ISO20022 8*

Importing the Sample Application and Sample Data

Import of sample application & sample data are not required in higher environments. The rules in the sample application are used while building an implementation layer only. This is optional for non-dev environments.

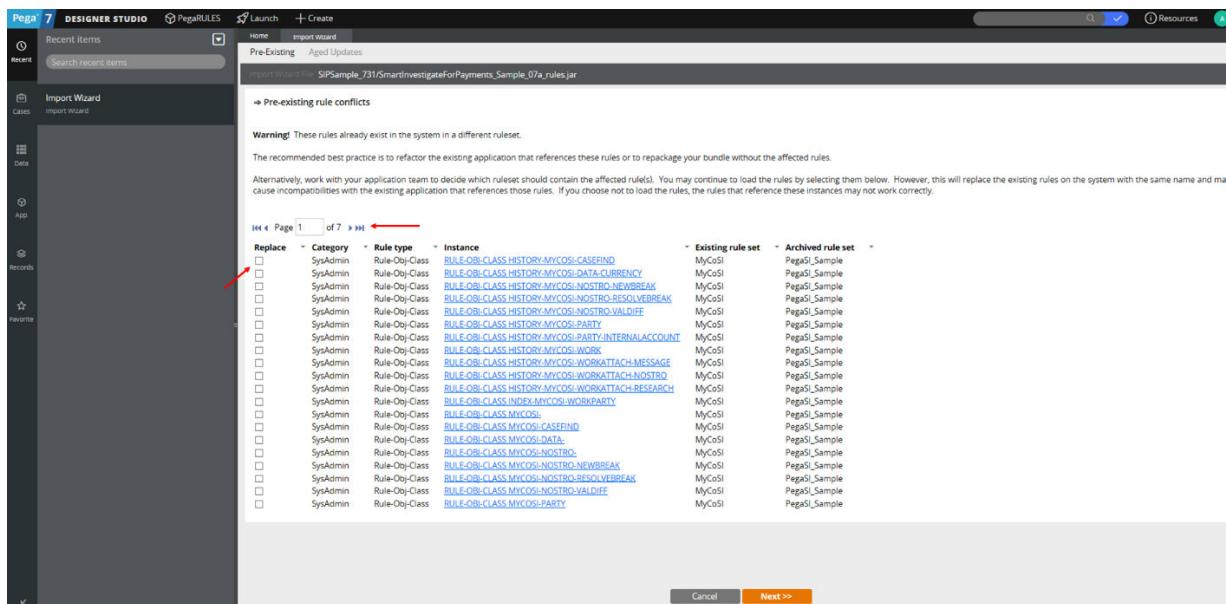
Pega Smart Investigate for Payments ships with a sample application which can be installed and used to test and review Pega-provided features with Sample data shipped with the product.

1. Log in to Pega Platform (`https://<hostname>:<port>/prweb`) by entering the administrative ID and password that you used during Pega Platform installation, for example, `administrator@pega.com`.
2. Click Dev Studio > Application > Distribution > Import to install the `\Rules\SIPaymentsSample.jarfile` and follow the wizard instructions.

Do not select the Enable advanced mode to provide granular control over the import process check box to ensure that you import all components.

The sample rules and data will be part of the *PegaSI_Sample* and *PegaSISimulation* rulesets.

3. If you see Pre-Existing Rule Conflicts then this step is required if the upgrade is only from the Pega Smart Investigate for Payments 7.11, *MyCoSI-* classes have moved from the *MyCoSI* ruleset to the *PegaSI_Sample* ruleset. Since the *PegaSI_Sample* ruleset is now part of the new Sample (Demo) application *SmartInvestigateForPayments_Sample*. the following PreExisting rule conflicts screen is displayed when you import this sample applicaton bundle:



4. Select all the Replace checkboxes for all the displayed rules in all of the seven pages and then click Next.
5. To import the rules from the JAR file, click Next. The replaced sample rules are now included in the *PegaSI_Sample* ruleset. When the progress bar reaches 100%, the upgrade process is complete. Verify that no errors have been displayed.
6. Verify that the new application rule appears.
 - a. In the Explorer panel, click Records > Application Definition > Application.
 - b. Verify that *SmartInvestigateForPayments_Sample 8* appears in the list.

Making required configurations after an upgrade

After upgrading the application, certain configurations may need to be adjusted to ensure that the application runs smoothly and efficiently. This task involves identifying the necessary changes and implementing them in the system.

The following steps are required when you have upgraded to Pega Smart Investigate for Payments 8.5 in order to correctly point to the application rulesets in the Pega Smart Investigate for Payments 8.5 application.

1. Logged on as an administrator operator, click <Applicationname> > Definition to open the Edit Application: < Applicationname > page.
2. In the Built on application section, update the application to SmartInvestigateforPayments and the Version to 8.
3. **Optional:** Repeat the above step 1 and 2 for SmartInvestigateForPayments_Sample 8.
4. **Optional:** If your application uses the PFUFEndUser71 skin, in the Presentation area, update the skin rule from 'PFUFEndUser71' to 'pyEndUser'. This step is not required if you are using a customized skin.
5. Click Save.

Update the Dynamic Class Referencing

Pega Smart Investigate for Payments ships data transform *PegaSI-Data-AppExtension*. *AppExtension* Data Transform needs to be saved into the implementation ruleset and modified accordingly as per the requirement in the implementation layer.

Post Modification of the Data Transform, Data Page *D_AppExtension* can be run to check the results and values will be picked from the latest implementation classes.

| Data Transform: AppExtension [Available, Extension] | | | | | |
|--|----------------------------|-------------------------------------|--|---------------------------------|-------------------------|
| CL: | PegaSI-Data-AppExtension | ID: | AppExtension | RS: | PegaSI:08-02-05 |
| This record has 2 info warnings (including 2 unjustified) View | | | | | |
| Definition | Parameters | Pages & Classes | Test cases | Specifications | History |
| Action | Target | Relation | Source | | |
| • 1 | Comment | equal to | "MyCoSI-RM-CommBank-Results" | Select values + | |
| • 2 | .RMResultsClass | equal to | "MyCoSI-RM-CommBank-PaymentTXN" | Select values + | |
| • 3 | .RMPaymentTXN | equal to | "MyCoSI-RM-CommBank-History" | Select values + | |
| • 4 | .RMHistoryClass | equal to | "MyCoSI-RM-CommBank-Message" | Select values + | |
| • 5 | .RMMessageClass | equal to | "MyCoSI-RM-CommBank-AdditionalPymtnInfo" | Select values + | |
| • 6 | .RMAdditionalInfoClass | equal to | "MyCoSI-RM-CommBank-PaymentCharges" | Select values + | |
| • 7 | .RMPymntChrgesClass | equal to | "MyCoSI-RM-CommBank-ResearchLinks" | Select values + | |
| • 8 | .RMResearchLinkClass | equal to | "MyCoSI-CaseFind" | Select values + | |
| • 9 | .CaseFindVWClass | equal to | "MyCoSI" | Select values + | |
| • 10 | .OrgLevelClass | equal to | "MYCOSI-WORK" | Select values + | |
| • 11 | .SIWorkClass | equal to | "MyCoSI-Work" | Select values + | |
| • 12 | .CamelCaseSIWorkClass | equal to | "MyCoSI-Work-Pytm" | Select values + | |
| • 13 | .PaymentWorkClass | equal to | "MyCoSI-Work-BulkEntry" | Select values + | |
| • 14 | .BulkEntryClass | equal to | "MYCOSI-WORK-MSGCASE-EMAIL" | Select values + | |
| • 15 | .MsgCaseEmailWorkClass | equal to | "MyCoSI-Work-MsgCase-Swift" | Select values + | |
| • 16 | .MsgCaseSwiftWorkClass | equal to | "MyCoSI-Party-Account" | Select values + | |
| • 17 | .PartyAccountClass | equal to | | Select values + | |



Important: For the list of deprecated/withdrawn application rules, see the [Deprecated and withdrawn rules](#).

Conversion of Activities to Data Transforms

If you are upgrading from 7.x to '23, the changes mentioned below have been converted to Data Transforms. The referencing rules of these activities have also been updated with the newly created Data Transforms.

| Applies To | Activity | Data Transform | Ruleset |
|---------------------|-------------|----------------|--------------|
| PegaCommBank-Swift- | AssembleF11 | AssembleF11 | PegaCommBank |

| Applies To | Activity | Data Transform | Ruleset |
|-------------------------|-------------------|-------------------|--------------|
| PegaCommBank-Swift- | AssembleF11R | AssembleF11R | PegaCommBank |
| PegaCommBank-SwiftMTn92 | AssembleF11Field4 | AssembleF11Field4 | PegaCommBank |
| PegaCommBank-SwiftMTn92 | AssembleF11R | AssembleF11R | PegaCommBank |
| PegaCommBank-SwiftMTn92 | AssembleF11S | AssembleF11S | PegaCommBank |
| PegaCommBank-Swift- | AssembleF13C | AssembleF13C | PegaCommBank |
| PegaCommBank-Swift- | AssembleF20 | AssembleF20 | PegaCommBank |
| PegaCommBank-Swift- | AssembleF21 | AssembleF21 | PegaCommBank |
| PegaCommBank-Swift- | AssembleF23B | AssembleF23B | PegaCommBank |
| PegaCommBank-Swift- | AssembleF23E | AssembleF23E | PegaCommBank |
| PegaCommBank-Swift- | AssembleF25 | AssembleF25 | PegaCommBank |
| PegaCommBank-Swift- | AssembleF26T | AssembleF26T | PegaCommBank |
| PegaCommBank-Swift- | AssembleF32 | AssembleF32 | PegaCommBank |
| PegaCommBank-Swift- | AssembleF32A | AssembleF32A | PegaCommBank |

| Applies To | Activity | Data Transform | Ruleset |
|----------------------|----------------|----------------|--------------|
| PegaCommBank-Swift- | AssembleF32B | AssembleF32B | PegaCommBank |
| PegaCommBank-Swift- | AssembleF33B | AssembleF33B | PegaCommBank |
| PegaCommBank-FedSvc- | AssembleF4200 | AssembleF4200 | PegaCommBank |
| PegaCommBank-FedSvc- | AssembleF4400 | AssembleF4400 | PegaCommBank |
| PegaCommBank-Swift- | AssembleF50 | AssembleF50 | PegaCommBank |
| PegaCommBank-Swift- | AssembleF51A | AssembleF51A | PegaCommBank |
| PegaCommBank-Swift- | AssembleF52 | AssembleF52 | PegaCommBank |
| PegaCommBank-Swift- | AssembleF52Cov | AssembleF52Cov | PegaCommBank |
| PegaCommBank-Swift- | AssembleF53 | AssembleF53 | PegaCommBank |
| PegaCommBank-Swift- | AssembleF54 | AssembleF54 | PegaCommBank |
| PegaCommBank-Swift- | AssembleF55 | AssembleF55 | PegaCommBank |
| PegaCommBank-Swift- | AssembleF56 | AssembleF56 | PegaCommBank |
| PegaCommBank-Swift- | AssembleF56Cov | AssembleF56Cov | PegaCommBank |

| Applies To | Activity | Data Transform | Ruleset |
|----------------------|---------------------|---------------------|--------------|
| PegaCommBank-Swift- | AssembleF57 | AssembleF57 | PegaCommBank |
| PegaCommBank-Swift- | AssembleF57Cov | AssembleF57Cov | PegaCommBank |
| PegaCommBank-Swift- | AssembleF58 | AssembleF58 | PegaCommBank |
| PegaCommBank-Swift- | AssembleF70 | AssembleF70 | PegaCommBank |
| PegaCommBank-Swift- | AssembleF71A | AssembleF71A | PegaCommBank |
| PegaCommBank-Swift- | AssembleF71B | AssembleF71B | PegaCommBank |
| PegaCommBank-Swift- | AssembleF71F | AssembleF71F | PegaCommBank |
| PegaCommBank-Swift- | AssembleF71G | AssembleF71G | PegaCommBank |
| PegaCommBank-Swift- | AssembleF75 | AssembleF75 | PegaCommBank |
| PegaCommBank-Swift- | AssembleF77B | AssembleF77B | PegaCommBank |
| PegaCommBank-Struct- | AssembleBody | AssembleBody | PegaCommBank |
| PegaCommBank-Struct- | AssembleFields | AssembleFields | PegaCommBank |
| PegaCommBank-Struct- | AssembleFieldsTick2 | AssembleFieldsTick2 | PegaCommBank |

| Applies To | Activity | Data Transform | Ruleset |
|-------------------------|---------------------|---------------------|--------------|
| PegaCommBank-Struct- | AssembleBodyTick2 | AssembleBodyTick2 | PegaCommBank |
| PegaCommBank-Struct- | AssembleFieldsTick1 | AssembleFieldsTick1 | PegaCommBank |
| PegaCommBank-Struct- | AssembleClosing | AssembleClosing | PegaCommBank |
| PegaCommBank-Struct- | AssembleBodyTick1 | AssembleBodyTick1 | PegaCommBank |
| PegaCommBank-StructFax | AssembleHeader | AssembleHeader | PegaCommBank |
| PegaCommBank-Struct- | AssembleHeader | AssembleHeader | PegaCommBank |
| PegaCommBank-SwiftMTn91 | ClearAssembled | ClearAssembled | PegaCommBank |
| PegaCommBank-SwiftMTn92 | ClearAssembled | ClearAssembled | PegaCommBank |
| PegaCommBank-SwiftMTn95 | ClearAssembled | ClearAssembled | PegaCommBank |
| PegaCommBank-SwiftMTn96 | ClearAssembled | ClearAssembled | PegaCommBank |
| PegaCommBank-SwiftMTn99 | ClearAssembled | ClearAssembled | PegaCommBank |
| PegaCommBank-SwiftMTn91 | ClearAssembled | ClearAssembled | PegaCommBank |

Following are the referencing activities that have been modified to invoke Data Transforms instead of activities:

| Applies To | Activity Rule |
|--------------------------|----------------------|
| PegaCommBank-Swift-MTn96 | AssembleFields |
| PegaCommBank-Swift-MTn96 | AssembleTickler1 |
| PegaCommBank-Swift-MTn96 | AssembleTickler2 |
| PegaCommBank-Swift-MT103 | AssembleFields |
| PegaCommBank-Swift-MT202 | AssembleFields |
| PegaCommBank-Swift-MT205 | AssembleFields |
| PegaCommBank-Swift-MTn91 | AssembleFields |
| PegaCommBank-Swift-MTn91 | AssembleTickler1 |
| PegaCommBank-Swift-MTn91 | AssembleTickler2 |
| PegaCommBank-Swift-MTn99 | AssembleFields |
| PegaCommBank-Swift-MTn99 | AssembleTickler1 |
| PegaCommBank-Swift-MTn99 | AssembleTickler2 |
| PegaCommBank-FedSvc- | AssembleFields |
| PegaCommBank-Swift-MTn92 | AssembleFields |
| PegaCommBank-Swift-MTn95 | AssembleFields |
| PegaCommBank-Swift-MTn90 | AssembleFields |
| PegaCommBank-Swift-MTn90 | AssembleTickler1 |
| PegaCommBank-Swift-MTn90 | AssembleTickler2 |
| PegaCommBank-Swift-MTn92 | AssembleTickler2 |
| PegaCommBank-Swift-MTn92 | AssembleTickler1 |
| PegaCommBank-Swift-MTn95 | AssembleTickler1 |
| PegaCommBank-Swift-MTn95 | AssembleTickler2 |

Pega Smart Investigate for Payments hotfixes

Hotfixes are software updates that Pega creates to fine-tune the behavior of a release.

To request a hotfix, go to your account on [My Support Portal](#). Click New request > For something I need and select Service request > Existing hot fix. Add and verify the hotfix details and click Finish.

Import each type of hotfix in the listed order during the Pega Smart Investigate for Payments installation or upgrade:

- Apply Pega Platform hotfixes immediately after the Pega Platform installation or upgrade.
- Apply Pega Smart Investigate for Payments hotfixes just after you complete the application bundle import.

To see hotfix installation details, see the readme that is included in the hotfixes. Tables that contain hotfix information for each release are provided below:

- [Hotfixes for Pega Smart Investigate for Payments 8.x](#)
- [Hotfixes for Pega Smart Investigate for Payments 7.x](#)

Hotfixes for Pega Smart Investigate for Payments 8.x

This section describes the hotfixes for Pega Smart Investigate for Payments 8.x versions.

- [Release '23 hotfixes](#)
- [Release 8.8 hotfixes](#)
- [Release 8.7 hotfixes](#)
- [Release 8.6 hotfixes](#)

- **Release 8.5 hotfixes**
- **Release 8.4 hotfixes**
- **Release 8.3 hotfixes**
- **Release 8.2 hotfixes**
- **Release 8.1 hotfixes**

Release '23 hotfixes

There are no hotfixes available for Pega Smart Investigate for Payments 23 release.

Release 8.8 hotfixes

The following table lists the hotfixes for Pega Smart Investigate for Payments 8.8.

| Hotfix Number | Observed Behavior |
|---------------|---|
| HFIX-A561 | Incorrect Message class created While detaching the message from an Investigation/exception |
| HFIX-A503 | Correspondence subprocess shapes are missing 'CorrType' parameter due to which the correspondence is not getting sent for few flows |
| HFIX-A488 | Unable to open duplicate cases in new window due to rule availability |
| HFIX-A187 | InquirerPartyName missing in AutoInvestigation/Exception case |
| HFIX-A139 | InquirerPartyName is not setting on work case. |
| HFIX-A111 | Party lookup issue for email |
| HFIX-A49 | Party lookup behaviour issue |
| HFIX-85979 | Smart Investigate Product - Open Indemnities Report Issue |

| Hotfix Number | Observed Behavior |
|----------------------|---|
| HFIX-85975 | Attachment Status set Incorrectly |
| HFIX-85890 | Fixes for known issue in Smart Investigate for Payments 8.8 |
| HFIX-85572 | Attach and Update Action from Search portal is not attaching to case |
| HFIX-85375 | Base Amount and FX Rate not displayed for few CaseTypes |
| HFIX-85312 | Support to Swift ISO/CBPR+ (camt.055, .058) in Smart Investigate for Payments 8.8 |
| HFIX-85202 | Base Amount and FX Rate not displayed |
| HFIX-85171 | Addressing Authorization and Request Mapping for all Swift GPI v5 APIs |
| HFIX-85180 | BAC Pre Registration for activities |
| HFIX-85090 | Search for duplicates local action Issue |
| HFIX-84766 | Smart Investigate product - Exception case related cases action |
| HFIX-84908 | Updates to Swift GPI v5 API on Smart Investigate for Payments 8.8 |
| HFIX-84563 | Functional updates to ISO 20022 based messages in Smart Investigate for Payments 8.8. |

Release 8.7 hotfixes

The following table lists the hotfixes for Pega Smart Investigate for Payments 8.7.

| Hotfix Number | Observed Behavior |
|----------------------|---|
| HFIX-A262 | Outbond XML does not retain exact data mapped or entered while message creation of ISO/ CBPR+ |

| Hotfix Number | Observed Behavior |
|----------------------|--|
| HFIX-A30 | Validate activity in PegaSI-Party-Contact missing step |
| HFIX-85910 | Fix for ISO and CBPR Inbound Message Parsing |
| HFIX-85780 | HTTP Status 403 – Forbidden Error |
| HFIX-85313 | Support to Swift ISO/CBPR+ (camt.055, .058) in Smart Investigate for Payments 8.7 |
| HFIX-85199 | Addressing Authorization and Request Mapping for all Swift GPI v5 APIs |
| HFIX-84907 | BAC Pre Registration for activities |
| HFIX-84703 | Updates to Swift GPI v5 API on Smart Investigate for Payments 8.7 |
| HFIX-84564 | Functional updates to ISO 20022 based messages in Smart Investigate for Payments 8.7. |
| HFIX-84004 | Updates to gCase v5.02 API on Smart Investigate for Payments 8.7.0 |
| HFx-83421 | Fixes to pacs.002 Status Report MX correspondence in Smart Investigate for Payments 8.7. |
| HFIX-83232 | Fixes to Known Issues in Smart Investigate for Payments 8.7 ISO 20022 MX messages |

Release 8.6 hotfixes

The following table lists the hotfixes for Pega Smart Investigate for Payments 8.6.

| Hotfix Number | Observed Behavior |
|----------------------|---|
| HFIX-85314 | Support to Swift ISO/CBPR+ (camt.055, .058) in Smart Investigate for Payments 8.6 |
| HFIX-85198 | Addressing Authorization and Request Mapping for all Swift GPI v5 APIs |

| Hotfix Number | Observed Behavior |
|----------------------|---|
| HFIX-85175 | SWIFT Block3 is mapped to New Line |
| HFIX-84930 | Updates to Swift GPI v5 API on Smart Investigate for Payments 8.6 |
| HFIX-84902 | BAC Pre Registration for activities |
| HFIX-84622 | Inconsistent behavior between CBPR & ISO error messages in preview screen |
| HFIX-84565 | Functional updates to ISO 20022 based messages in Smart Investigate for Payments 8.6. |
| HFIX-84517 | Fix for transaction information file upload in bulk case entry flow. |
| HFIX-84001 | New gCase reason codes as per SWIFT 2021 on Smart Investigate for Payments 8.6. |
| HFix-83530 | Case resolution(gCase) API v5.02 Updates on Smart Investigate for Payments 8.6. |
| HFix-83224 | Fixes to Known Issues in SIP 8.6 ISO 20022 MX messages |
| HFix-82827 | MsgType Property Issue in PegaSI-RM-Message Class post upgrade from 7.x |
| HFix-82723 | Phase 2 of ISO 20022 and CBPR+ Message Infrastructures |
| HFix-82700 | Incorrect Party correspondence preference details |
| HFix-82683 | Fix for access control warning on message preview screen |
| HFix-82667 | Adjustment Details displaying incorrectly for SIP |

Release 8.5 hotfixes

The following table lists the hotfixes for Pega Smart Investigate for Payments 8.5.

| Hotfix Number | Observed Behavior |
|----------------------|---|
| HFIX-A436 | Fixes to SWIFT F77A formatting issue for ticklers |
| HFIX-85350 | Support to Swift ISO/CBPR+ (camt.055, .058) in Smart Investigate for Payments 8.5 |
| HFIX-85197 | Addressing Authorization and Request Mapping for all Swift GPI v5 APIs |
| HFIX-84940 | Updates to Swift GPI v5 API on Smart Investigate for Payments 8.5 |
| HFIX-84931 | BAC Pre Registration for activities |
| HFIX-84566 | Functional updates to ISO 20022 based messages in Smart Investigate for Payments 8.5. |
| HFix-84002 | New gCase reason codes as per SWIFT 2021 on SIP 8.5 |
| HFix-83531 | Case resolution(gCase) API v5.02 Updates on SIP 8.5 |
| HFix-83520 | F75 Tickler Incorrect Length and Corresponding Section Updates |
| HFix-83241 | SWIFT MT 192 Template Issue for Field 79 and Original message |
| HFix-83215 | Fixes to Known Issues in SIP 8.5 ISO 20022 MX messages |
| HFix-82722 | Phase 2 of ISO 20022 and CBPR+ functional enhancements |
| HFix-81064 | SWIFT 2021 MT Message Updates |
| HFix-81020 | ISO 20022 and CBPR+ functional enhancements. |
| HFix-80152 | pyMainMenu overriden in PegaSI ruleset. |
| HFix-80775 | Pega SI: out-of-the-box Property is not backward compatible. |

Release 8.4 hotfixes

The following table lists the hotfixes for Pega Smart Investigate for Payments 8.4.

| Pega Platform Version | Hotfix Number | Observed Behavior |
|-----------------------|---------------|--|
| 8.4.1/8.4.2/8.4.3 | HFIX-85315 | Support to Swift ISO/CBPR+ (camt.055, .058) in Smart Investigate for Payments 8.4 |
| | HFIX-85196 | Addressing Authorization and Request Mapping for all Swift GPI v5 APIs |
| | HFIX-84950 | Updates to Swift GPI v5 API on Smart Investigate for Payments 8.4 |
| | HFIX-84567 | Functional updates to ISO 20022 based messages in SIP v8.4 |
| | HFIX-84397 | The Payment Type rules have been updated to reflect the financial documents that are a part of the financial advice documents. |
| | HFIX-84233 | Resolves the issue with GetNextWork by assignment type in CaseFind landing page. |
| | HFIX-84066 | Correspondence creation failed because of NullParameterException |
| | HFIX-84003 | New gCase reason codes as per SWIFT 2021 on SIP 8.4 |
| | HFIX-83710 | Case resolution (gCase) API v5.02 Updates on SIP 8.4 |
| | HFIX-83532 | Case resolution (gCase) API v5.02 Updates on SIP 8.4 |
| | HFIX-83510 | Fixes to pacs.002 Status Report MX correspondence in SIP 8.4 |
| | HFIX -83380 | Cross site scripting in Smart Investigate Framework |

| Pega Platform Version | Hotfix Number | Observed Behavior |
|-----------------------|---------------|--|
| | HFIX-83223 | Fixes to Known Issues in SIP 8.4 ISO 20022 MX messages |
| | HFIX-82980 | Fixes for cross scripting issues in Smart Investigate for Payments framework |
| | HFIX-82934 | Conditional display of attachment content in Print functionality |
| | HFIX-82721 | Phase 2 of ISO 20022 and CBPR+ functional enhancements |
| | HFIX-82211 | PegaSI: SetDetailResponseCodes-Parsing leads to GoalSeek-Failure |
| | HFIX-81643 | smtpPort not passed through on "Data-Corr-Email.Send" (PegaAppC |
| | HFIX-81574 | TicklerInfo on page .ProcessSwitches of class Rule-PegaApp-Corr |
| | HFIX-81426 | MsgType/MSGTYPE property,doesnt store value on exposed column |
| | HFIX-81344 | F75 tickler in Swift, results in Error in Smart Investigate FW |
| | HFIX-81096 | Boolean param goes -1, instead of true from Data-Corr-Email.Send |
| | HFIX-81063 | SWIFT 2021 MT Message Updates |
| | HFIX-81021 | ISO 20022 and CBPR+ functional enhancements. |
| | HFIX-68570 | GPI 2020 updates for Pega Smart Investigate for Payments 8.4. |
| | HFIX-67479 | This hotfix delivers B20 Security updates for Pega Smart Investigate for Payments 8.4. |

| Pega Platform Version | Hotfix Number | Observed Behavior |
|-----------------------|---------------|--|
| | HFIX-64235 | Message case unlocked while creating exception case. |

Release 8.3 hotfixes

The following table lists the hotfixes for Pega Smart Investigate for Payments 8.3.

| Pega Platform Version | Hotfix Number | Observed Behavior |
|-----------------------|---------------|--|
| 8.3.4 | HFx-81084 | SWIFT 2021 MT Message Updates |
| | HFx-67707 | This HFx delivers B20 Security updates for PSIP 8.3. |
| 8.3/8.3.1 | HFx-68569 | GPI 2020 updates for Smart Investigate for Payments v8.3. |
| | HFx-58871 | <p>This hotfix addresses Pega Smart Investigate for Payments 8.3 post GA issues:</p> <ol style="list-style-type: none"> 1. Change case type issue fix for "Unknown" case type in SIP. 2. When rule change to check inheritance in WorkPageExists instead of hardcoded "-MsgCase-" check. 3. Cancel compensation button not triggering any action in initiate compensation screen. 4. Error message not displayed on resolution screen for Error Party. |

| Pega Platform Version | Hotfix Number | Observed Behavior |
|-----------------------|---------------|---|
| | | 5. Attachments display update in right attachment gadget. |

Release 8.2 hotfixes

The following table lists the hotfixes for Pega Smart Investigate for Payments 8.2.

| Pega Platform Version | Hotfix Number | Observed Behavior |
|-----------------------|---------------|--|
| 8.2.1 | HFix-81068 | SWIFT 2021 MT Message Updates |
| | HFix-68568 | GPI 2020 updates for Smart Investigate for Payments v8.2 |
| | HFix-68027 | This HF fix delivers B20 Security updates for PSIP 8.2 |
| | HFix-60288 | Message case details are not displayed on case creation screen |
| | HFix-59944 | There is a spacing issue for Resolution and reopen tab |
| | HFix-58803 | No value in dropdown |
| | HFix-57741 | New HF fix ruleset versions post gCase Functional release |
| | HFix-57525 | A Blank Handle Has Been Specified in Attachments |

| Pega Platform Version | Hotfix Number | Observed Behavior |
|-----------------------|---------------|---|
| | HFx-56823 | gCase functionality adoption on Smart Investigate for Payments 8.2 |
| | HFx-56737 | Unable to View Correspondence Attach Status |
| | HFx-56569 | Error page displayed On clicking the attach button |
| | HFx-56348 | SAML Logoff is not redirecting to the given URL |
| | HFx-56344 | Parsing updates for few formats in Smart Investigate for Payments 8.2 |
| | HFx-55975 | Correspondence SLA issue with ticklers |
| | HFx-55596 | Party rows showing extra spaces while case creation from search |
| | HFx-54935 | Error Message displays inside the 'Correct Amount' field |
| | HFx-54934 | Comma in amount value in inbound message is parsed as a dot |
| | HFx-54726 | UI Issue fixes in Smart Investigate for Payments 8.2 |

| Pega Platform Version | Hotfix Number | Observed Behavior |
|-----------------------|---------------|--|
| | HFx-54600 | Parsed Data Section is not visible in Inbound email Message |
| | HFx-54474 | Error when submitting 'Divide Message' action for Email |
| | HFx-54277 | Dynamic class reference adoption for Smart Investigate payments |
| | HFx-56823 | gCase functionality adoption on Smart Investigate for Payments 8.2 |
| | HFx-56737 | Unable to View Correspondence Attach Status |
| | HFx-54935 | Error Message displays inside the 'Correct Amount' field |
| | HFx-54934 | Comma in amount value in inbound message is parsed as a dot |
| | HFx-54726 | UI Issue fixes in Smart Investigate for Payments 8.2 |
| | HFx-54600 | Parsed Data Section is not visible in Inbound email Message |

| Pega Platform Version | Hotfix Number | Observed Behavior |
|-----------------------|---------------|---|
| 8.2 | HFHix-54474 | Error when submitting 'Divide Message' action for Email |
| | HFHix-54277 | Dynamic class reference adoption for Smart Investigate payments |
| | HFHix-56823 | gCase functionality adoption on Smart Investigate for Payments 8.2 |
| | HFHix-56737 | Unable to View Correspondence Attach Status |
| | HFHix-56569 | Error page displayed On clicking the attach button |
| | HFHix-56348 | SAML Logoff is not redirecting to the given URL |
| | HFHix-56344 | Parsing updates for few formats in Smart Investigate for Payments 8.2 |
| | HFHix-55975 | Correspondence SLA issue with ticklers |
| | HFHix-55596 | Party rows showing extra spaces while case creation from search |
| | HFHix-55465 | SWIFT 2019 changes for Pega Smart Investigate for Payments |

| Pega Platform Version | Hotfix Number | Observed Behavior |
|-----------------------|---------------|---|
| | HFx-54935 | Error Message displays inside the 'Correct Amount' field |
| | HFx-54934 | Comma in amount value in inbound message is parsed as a dot |
| | HFx-54726 | UI Issue fixes in Smart Investigate for Payments 8.2 |
| | HFx-54600 | Parsed Data Section is not visible in Inbound email Message |
| | HFx-54474 | Error when submitting 'Divide Message' action for Email |
| | HFx-54277 | Dynamic class reference adoption for Smart Investigate payments |
| | HFx-53182 | This hotfix is install prerequisite for Pega Smart Investigate for Securities 8 and/or Pega Self-Service forSmart Investigate 8 versions on Pega Smart Investigate for Payments 8 |

Release 8.1 hotfixes

The following table lists the hotfixes for Pega Smart Investigate for Payments 8.1.

| Pega Platform Version | Hotfix Number | Observed Behavior |
|-----------------------|---------------|---|
| 8.1 | HFix-81083 | SWIFT 2021 MT Message Updates |
| | HFix-68558 | GPI 2020 updates for Smart Investigate for Payments v8.1. |
| | HFix-67929 | This HFix delivers B20 Security updates for PSIP 8.1. |
| | HFix-56886 | MSGTYPE property is creating problem after upgrade. |
| | HFix-56822 | gCase functionality adoption on Smart Investigate for Payments 8.1 |
| | HFix-56738 | Unable to View Correspondence Attach Status. |
| | HFix-55465 | SWIFT 2019 changes for Pega Smart Investigate for Payments. |
| | HFix-52998 | Pre platform upgrade Hotfix for SIP 5.x/6.x applications. PegaSI-MsgCase-cyclical class inheritance change. |

Hotfixes for Pega Smart Investigate for Payments 7.x

This section describes the hotfixes for Pega Smart Investigate for Payments 7.x versions.

- [Release 7.31 hotfixes](#)
- [Release 7.11 hotfixes](#)

Release 7.31 hotfixes

| Pega Platform Version | Hotfix Number | Observed Behavior |
|-----------------------|---------------------|---|
| 7.3.1 | HFH-81086 | SWIFT 2021 MT Message Updates |
| | DL-81563/HFH-41104 | Decision trees are not working as per the design and are always returning otherwise condition |
| | DL-77582/HFH-38963 | Clicking Close icon closes the Case Worker portal |
| 7.3 | DL-73765, HFH-37285 | The pxobjclass column is unexpectedly displayed as a Binary large object (BLOB) |
| | HFH-35153 | Workbasket instances are not loaded in the MyWorkbasket and for Other Workbaskets Note: This hotfix is required only for upgrade from version 7.11 to 7.31 systems using Postgres databases |

| Pega Platform Version | Hotfix Number | Observed Behavior |
|-----------------------|---------------|--|
| 8.1 | HFH-56696 | gCase functionality adoption on Smart Investigate for Payments 07.31 |
| | HFH-55465 | SWIFT 2019 changes for Pega Smart Investigate for Payments |
| | HFH-48525 | PegaSI-MsgCase- class inheritance change |

| Pega Platform Version | Hotfix Number | Observed Behavior |
|-----------------------|---------------|--|
| | HFH-45613 | <p>Changes are required to address the following issues:</p> <ul style="list-style-type: none"> • Issues with button format on correspondence screen • Amount error on Adjustment Template • Case Find Link error screen redirection • Save button on Process Duplicates not working |
| | HFH-45519 | Error when cancelling Create work case from Msg Case |
| | HFH-46453 | Cases are going to broken process if the correspondence template does not require verification |
| | HFH-45070 | SWIFT 2018 changes for Pega Smart Investigate for Payments |
| | HFH-43579 | Changes are required to address the following issues: |

| Pega Platform Version | Hotfix Number | Observed Behavior |
|-----------------------|---------------|--|
| | | <ul style="list-style-type: none"> • Unable to open any attachment for any cases • Search Message Case Attach functionality is not working |
| | HFix-42005 | [Optional] Dates rollover to 2018 in Pega shipped sample data for Pega Smart Investigate for Payments 7.31 |
| | HFix-41898 | Post GA fixes for Pega Smart Investigate for Payments 7.31. Address Localization issues and bugs identified post release |
| 7.4 | HFix-56696 | gCase functionality adoption on Smart Investigate for Payments 07.31 |
| | HFix-55465 | SWIFT 2019 changes for Pega Smart Investigate for Payments |
| | HFix-48525 | PegaSI-MsgCase- class inheritance change |
| | HFix-45613 | Multiple issues identified in Pega Smart Investigate for Payments 7.31 |

| Pega Platform Version | Hotfix Number | Observed Behavior |
|-----------------------|---------------|--|
| | HFx-45519 | Error when cancelling Create work case from Msg Case |
| | HFx-46453 | Cases are going to broken process if the correspondence template does not require verification |
| | HFx-45070 | SWIFT 2018 changes for Pega Smart Investigate for Payments |
| | HFx-43579 | Changes are required to address the following issues: <ul style="list-style-type: none"> • Unable to open any attachment for any cases • Search Message Case Attach functionality is not working |
| | HFx-42005 | [Optional] Changes to Pega shipped sample data for PSIP 7.31 |
| | HFx-41898 | Post GA fixes for PSIP 7.31. Address Localization issues and bugs identified post release |

| Pega Platform Version | Hotfix Number | Observed Behavior |
|-----------------------|---------------|--|
| 7.3.1 | HFx-56696 | gCase functionality adoption on Smart Investigate for Payments 07.31 |
| | HFx-55465 | SWIFT 2019 changes for Pega Smart Investigate for Payments |
| | HFx-48525 | PegaSI-MsgCase- class inheritance change |
| | HFx-45613 | Multiple issues identified in Pega Smart Investigate for Payments 7.31 |
| | HFx-45519 | Error when cancelling Create work case from Msg Case |
| | HFx-46453 | Cases are going to broken process if the correspondence template does not require verification |
| | HFx-45070 | SWIFT 2018 changes for Pega Smart Investigate for Payments |
| | HFx-42005 | [Optional] Changes to Pega shipped sample data for PSIP 7.31 |
| | HFx-41898 | Post GA fixes for PSIP 7.31. Address Localization issues and bugs identified post release |

| Pega Platform Version | Hotfix Number | Observed Behavior |
|-----------------------|---------------|--|
| 7.3 | HFx-56696 | gCase functionality adoption on Smart Investigate for Payments 07.31 |
| | HFx-55465 | SWIFT 2019 changes for Pega Smart Investigate for Payments |
| | HFx-48525 | PegaSI-MsgCase- class inheritance change |
| | HFx-45613 | Multiple issues identified in Pega Smart Investigate for Payments 7.31 |
| | HFx-45519 | Error when cancelling Create work case from Msg Case |
| | HFx-46453 | Cases are going to broken process if the correspondence template does not require verification |
| | HFx-45070 | SWIFT 2018 changes for Pega Smart Investigate for Payments |
| | HFx-42005 | [Optional] Changes to Pega shipped sample data for PSIP 7.31 |
| | HFx-41898 | Post GA fixes for PSIP 7.31. Address Localization issues and bugs identified post release |

Release 7.11 hotfixes

| Pega Platform Version | Hotfix Number | Observed Behavior |
|----------------------------|---------------|---|
| 7.3.1, 7.3, 7.2.2, | HFH-20441 | This hotfix provide the solution for a number of bug fixes after Smart Investigate for Payments 7.11 GA |
| 7.2.1, 7.2, | HFH-22537 | Missing "Update Work Case" link in perform and review harness |
| 7.1.9 (Common hotfixes) | HFH-22662 | List of parties not editable in Smart Investigate 7.11 |
| | HFH-23729 | Users are unable to create work Objects using Select screen "Select work type" |
| | HFH-26514 | An error is thrown while trying to open attachment in attachment screen |
| | HFH-26699 | An error is thrown when you attempt to open attachments |
| | HFH-28356 | Update Case Tool is not working as expected |
| | HFH-28962 | System unable to parse few of the date formats provided in Implementation guide |

| Pega Platform Version | Hotfix Number | Observed Behavior |
|-----------------------|---------------|---|
| | HFH-31565 | Reason field in AppCorrIncludeRejected does not show full text |
| | HFH-31679 | The SIGetStatusWork ignores withdrawn status |
| | HFH-31963 | Sections in pyCaseContent appear editable in Reopen harness |
| | HFH-37391 | The "Cancel Correspondence" action causing transaction error |
| | HFH-37436 | DAPF prerequisite hotfix for SI Payments 7.11 |
| | HFH-37841 | Deliver SWIFT 2017 Changes on all versions of Smart Investigate for Payments |
| | HFH-38989 | Inaccurate calculations for AnyDateFormat Parse Transform rules in Smart Investigate for Payments |
| | HFH-39847 | "This action is not allowed as it is outside the current transaction" issue while Add rate addition for month |
| | HFH-40699 | Screen refresh issue while changing rate drop down in create compensation screen |

| Pega Platform Version | Hotfix Number | Observed Behavior |
|-----------------------|---------------|---|
| | HFH-40838 | Compensation case is in Update mode but is not editable |
| | HFH-41345 | Swift correspondence MTn95/96 missing tickler logic for field 70 |
| | HFH-42448 | On selecting dropdown value blanks out |
| | HFH-42509 | On submit, value not retaining in SISelectErrorPartyNoScript |
| | HFH-42719 | Error in 58A field while creating adjustments |
| | HFH-42969 | Activity status error while calculating compensation |
| | HFH-42971 | Search window closes automatically |
| | HFH-43078 | UI issue in AddRatesForMonth section in SI |
| | HFH-43143 | Review message functionality behavior is incorrect |
| | HFH-44785 | Error message still exist on the screen on click of Cancel button |

| Pega Platform Version | Hotfix Number | Observed Behavior |
|-----------------------|---------------|--|
| 7.3.1 | HFx-45070 | SWIFT 2018 changes for Pega Smart Investigate for Payments |
| | HFx-46465 | SI 'Find Work' alert converts valid chars to HTML code |
| | HFx-48589 | PegaSI-MsgCase- class inheritance change |
| | HFx-48861 | SWIFT and FedSvc Rules not carried forward to SI 7.11 |
| | HFx-49817 | Validation of field 70 in MT103 |
| | HFx-50667 | Assignment key mismatch on launch of multiple local action |
| | HFx-52480 | Error and problem flow while creating correspondence |
| | HFx-55465 | SWIFT 2019 changes for Pega Smart Investigate for Payments |
| | HFx-56766 | gCase functionality adoption on Smart Investigate for Payments 07.11 |
| | HFx-28280 | Users are unable to open RuleForm based class instances |
| | HFx-28393 | The Duplicate Score Rules fails to display results |

| Pega Platform Version | Hotfix Number | Observed Behavior |
|-----------------------|---------------|--|
| | HFx-29114 | Users are unable to add multiple items in payment type and adjustment rules |
| | HFx-35153 | Workbasket instances are not loading in the MyWorkbasket |
| | HFx-35569 | The navigation menu in the Manager portal does not behave as expected when you point to it |
| | HFx-35936 | Decision trees having function aliases have been incorrectly upgraded to Pega 7.2.2 |
| | HFx-36298 | Unable to create Fast Correspondences due to fields assembly issue |
| | HFx-37843 | Required parameter CorrHandle" error is observed on selecting Reject option of correspondence and submitting |
| | HFx-38036 | Validations check older values in Adjustment templates |
| | HFx-38170 | Detaching message attachment results in status fail popup error page |

| Pega Platform Version | Hotfix Number | Observed Behavior |
|-----------------------|---------------|--|
| | HFH-38638 | The process potential link is showing wrong details |
| | HFH-40799 | Need to perform the Detach Message action twice |
| 7.3 | HFH-28280 | Users are unable to open RuleForm based class instances |
| | HFH-28393 | The Duplicate Score Rules fails to display results |
| | HFH-29058 | Changes are required to support SWIFT 2016 enhancements |
| | HFH-29114 | Users are unable to add multiple items in payment type and adjustment rules |
| | HFH-35153 | Workbasket instances are not loading in the MyWorkbasket |
| | HFH-35569 | The navigation menu in the Manager portal does not behave as expected when you point to it |
| | HFH-35936 | Decision trees having function aliases have been incorrectly upgraded to Pega 7.2.2 |

| Pega Platform Version | Hotfix Number | Observed Behavior |
|-----------------------|---------------|--|
| 7.2.2 | HFx-36298 | Unable to create Fast Correspondences due to fields assembly issue |
| | HFx-37843 | Required parameter CorrHandle" error is observed on selecting Reject option of correspondence and submitting |
| | HFx-38036 | Validations check older values in Adjustment templates |
| | HFx-38170 | Detaching message attachment results in status fail popup error page |
| | HFx-40799 | Need to perform the Detach Message action twice |
| 7.2.2 | HFx-28280 | Users are unable to open RuleForm based class instances |
| | HFx-28393 | The Duplicate Score Rules fails to display results |
| | HFx-29058 | Changes are required to support SWIFT 2016 enhancements |
| | HFx-29114 | Users are unable to add multiple items in payment type and adjustment rules |

| Pega Platform Version | Hotfix Number | Observed Behavior |
|-----------------------|---------------|--|
| 7.2.1 | HFx-35153 | Workbasket instances are not loading in the MyWorkbasket |
| | HFx-35936 | Decision trees having function aliases have been incorrectly upgraded to Pega 7.2.2 |
| | HFx-36298 | Unable to create Fast Correspondences due to fields assembly issue |
| | HFx-37843 | Required parameter CorrHandle" error is observed on selecting Reject option of correspondence and submitting |
| | HFx-38036 | Validations check older values in Adjustment templates |
| | HFx-38170 | Detaching message attachment results in status fail popup error page |
| | HFx-40799 | Need to perform the Detach Message action twice |
| | HFx-28280 | Users are unable to open RuleForm based class instances |
| | HFx-28393 | The Duplicate Score Rules fails to display results |

| Pega Platform Version | Hotfix Number | Observed Behavior |
|-----------------------|---------------|--|
| | HFx-29058 | Changes are required to support SWIFT 2016 enhancements |
| | HFx-29114 | Users are unable to add multiple items in payment type and adjustment rules |
| | HFx-35153 | Workbasket instances are not loading in the MyWorkbasket |
| | HFx-35936 | Decision trees having function aliases have been incorrectly upgraded to Pega 7.2.2 |
| | HFx-36298 | Unable to create Fast Correspondences due to fields assembly issue |
| | HFx-37843 | Required parameter CorrHandle" error is observed on selecting Reject option of correspondence and submitting |
| | HFx-38036 | Validations check older values in Adjustment templates |
| | HFx-38170 | Detaching message attachment results in status fail popup error page |
| | HFx-40799 | Need to perform the Detach Message action twice |

| Pega Platform Version | Hotfix Number | Observed Behavior |
|-----------------------|---------------|--|
| 7.2 | HFHix-28280 | Users are unable to open RuleForm based class instances |
| | HFHix-28393 | The Duplicate Score Rules fails to display results |
| | HFHix-29114 | Users are unable to add multiple items in payment type and adjustment rules |
| | HFHix-35153 | Workbasket instances are not loading in the MyWorkbasket |
| | HFHix-35936 | Decision trees having function aliases have been incorrectly upgraded to Pega 7.2.2 |
| | HFHix-36298 | Unable to create Fast Correspondences due to fields assembly issue |
| | HFHix-37843 | Required parameter CorrHandle" error is observed on selecting Reject option of correspondence and submitting |
| | HFHix-38036 | Validations check older values in Adjustment templates |
| | HFHix-38170 | Detaching message attachment results in status fail popup error page |

| Pega Platform Version | Hotfix Number | Observed Behavior |
|-----------------------|---------------|--|
| | HFix-40799 | Need to perform the Detach Message action twice |
| 7.1.9 | HFix-29058 | Changes are required to support SWIFT 2016 enhancements |
| 7.1.8 | HFix-56766 | gCase functionality adoption on Smart Investigate for Payments 07.11 |
| | HFix-55465 | SWIFT 2019 changes for Pega Smart Investigate for Payments |
| | HFix-48589 | PegaSI-MsgCase- class inheritance change |
| | HFix-45070 | SWIFT 2018 changes for Pega Smart Investigate for Payments |
| 7.1.7 | HFix-56766 | gCase functionality adoption on Smart Investigate for Payments 07.11 |
| | HFix-55465 | SWIFT 2019 changes for Pega Smart Investigate for Payments |
| | HFix-45070 | SWIFT 2018 changes for Pega Smart Investigate for Payments |
| 7.1.6 | HFix-56766 | gCase functionality adoption on Smart Investigate for Payments 07.11 |

| Pega Platform Version | Hotfix Number | Observed Behavior |
|-----------------------|---------------|--|
| | HFx-55465 | SWIFT 2019 changes for Pega Smart Investigate for Payments |
| | HFx-45070 | SWIFT 2018 changes for Pega Smart Investigate for Payments |
| | HFx-29058 | Changes are required to support SWIFT 2016 enhancements |

| Pega Platform Version | Hotfix Number | Observed Behavior |
|-----------------------|---------------------|---|
| 7.11 | HFx-85064 | Updates to Swift GPI v5 API on Smart Investigate for Payments 7.11 |
| | HFx-83938 | SwiftFields function -Parsing Issue |
| | HFX-82852 | Unable to open gCase attachments due to property mode change post v5 upgrade |
| 7.2.1 | HFx-81085 | SWIFT 2021 MT Message Updates |
| | DL-58382, HFx-28625 | Form not rendering for Rule-Parse-Infer or Rule-Parse-Transform |
| 7.2 | DL-55082, HFx-27044 | In the dashboard of the Case Manager portal, the Workbasket Names are not visible |

| Pega Platform Version | Hotfix Number | Observed Behavior |
|-----------------------|----------------------|--|
| | DL-57881, HFix-28303 | Form not rendering for Rule-Parse-Infer or Rule-Parse-Transform |
| 7.1.6 | HFix-56078 | Rest connector throwing "SSL peer not authenticated" exception |
| | DL-39324, HFix-10400 | Pega provided pxCurrency ctrl in broken when prop qualifier is added |

| Pega Platform Version | Hotfix Number | Observed Behavior |
|-----------------------|---------------|---|
| 7.3.1, 7.3, | HFIX-82688 | Hotfix post SWIFT gCase v5 updates |
| | HFIX-82451 | SWIFT gCase v5 updates for Smart Investigate for Payments |
| | HFIX-82210 | FedMessage parsing issue |
| | HFIX-81885 | pxUrgencyAssign isn't getting updated in DB with correct value |
| | HFIX-81600 | unable_to_apply_reason for GPI Gcase needed |
| | HFIX-68556 | GPI 2020 updates for Smart Investigate for Payments v7.11 |
| | HFIX-68974 | This HFfix delivers B20 Security updates for PSIP 7.11 |
| | HFix-20441 | This hotfix provide the solution for a number of bug fixes after Smart Investigate for Payments 7.11 GA |

| Pega Platform Version | Hotfix Number | Observed Behavior |
|--|---------------|---|
| 7.2.2, 7.2.1, 7.2, 7.1.9 (Common hotfixes) | HFH-22537 | Missing "Update Work Case" link in perform and review harness |
| | HFH-22662 | List of parties not editable in Smart Investigate 7.11 |
| | HFH-23729 | Users are unable to create work Objects using Select screen "Select work type" |
| | HFH-26514 | An error is thrown while trying to open attachment in attachment screen |
| | HFH-26699 | An error is thrown when you attempt to open attachments |
| | HFH-28356 | Update Case Tool is not working as expected |
| | HFH-28962 | System unable to parse few of the date formats provided in Implementation guide |
| | HFH-31565 | Reason field in AppCorrIncludeRejected does not show full text |
| | HFH-31679 | The SIGetStatusWork ignores withdrawn status |
| | HFH-31963 | Sections in pyCaseContent appear editable in Reopen harness |
| | HFH-37391 | The "Cancel Correspondence" action causing transaction error |
| | HFH-37436 | DAPF prerequisite hotfix for SI Payments 7.11 |

| Pega Platform Version | Hotfix Number | Observed Behavior |
|-----------------------|---------------|---|
| | HFix-37841 | Deliver SWIFT 2017 Changes on all versions of Smart Investigate for Payments |
| | HFix-38989 | Inaccurate calculations for AnyDateFormat Parse Transform rules in Smart Investigate for Payments |
| | HFix-39847 | "This action is not allowed as it is outside the current transaction" issue while Add rate addition for month |
| | HFix-40699 | Screen refresh issue while changing rate drop down in create compensation screen |
| | HFix-40838 | Compensation case is in Update mode but is not editable |
| | HFix-41345 | Swift correspondence MTn95/96 missing tickler logic for field 70 |
| | HFix-42448 | On selecting dropdown value blanks out |
| | HFix-42509 | On submit, value not retaining in SISelectErrorPartyNoScript |
| | HFix-42719 | Error in 58A field while creating adjustments |
| | HFix-42969 | Activity status error while calculating compensation |
| | HFix-42971 | Search window closes automatically |

| Pega Platform Version | Hotfix Number | Observed Behavior |
|-----------------------|---------------|--|
| | HFx-43078 | UI issue in AddRatesForMonth section in SI |
| | HFx-43143 | Review message functionality behavior is incorrect |
| | HFx-44785 | Error message still exist on the screen on click of Cancel button |
| | HFx-45070 | SWIFT 2018 changes for Pega Smart Investigate for Payments |
| | HFx-46465 | SI 'Find Work' alert converts valid chars to HTML code |
| | HFx-48589 | PegaSI-MsgCase- class inheritance change |
| | HFx-48861 | SWIFT and FedSvc Rules not carried forward to SI 7.11 |
| | HFx-49817 | Validation of field 70 in MT103 |
| | HFx-50667 | Assignment key mismatch on launch of multiple local action |
| | HFx-52480 | Error and problem flow while creating correspondence |
| | HFx-55465 | SWIFT 2019 changes for Pega Smart Investigate for Payments |
| | HFx-56766 | gCase functionality adoption on Smart Investigate for Payments 07.11 |
| 7.3.1 | HFx-28280 | Users are unable to open RuleForm based class instances |

| Pega Platform Version | Hotfix Number | Observed Behavior |
|-----------------------|---------------|--|
| | HFH-28393 | The Duplicate Score Rules fails to display results |
| | HFH-29114 | Users are unable to add multiple items in payment type and adjustment rules |
| | HFH-35153 | Workbasket instances are not loading in the MyWorkbasket |
| | HFH-35569 | The navigation menu in the Manager portal does not behave as expected when you point to it |
| | HFH-35936 | Decision trees having function aliases have been incorrectly upgraded to Pega 7.2.2 |
| | HFH-36298 | Unable to create Fast Correspondences due to fields assembly issue |
| | HFH-37843 | Required parameter CorrHandle" error is observed on selecting Reject option of correspondence and submitting |
| | HFH-38036 | Validations check older values in Adjustment templates |
| | HFH-38170 | Detaching message attachment results in status fail popup error page |
| | HFH-38638 | The process potential link is showing wrong details |

| Pega Platform Version | Hotfix Number | Observed Behavior |
|-----------------------|---------------|--|
| 7.3 | HFix-40799 | Need to perform the Detach Message action twice |
| | HFix-28280 | Users are unable to open RuleForm based class instances |
| | HFix-28393 | The Duplicate Score Rules fails to display results |
| | HFix-29058 | Changes are required to support SWIFT 2016 enhancements |
| | HFix-29114 | Users are unable to add multiple items in payment type and adjustment rules |
| | HFix-35153 | Workbasket instances are not loading in the MyWorkbasket |
| | HFix-35569 | The navigation menu in the Manager portal does not behave as expected when you point to it |
| | HFix-35936 | Decision trees having function aliases have been incorrectly upgraded to Pega 7.2.2 |
| | HFix-36298 | Unable to create Fast Correspondences due to fields assembly issue |
| | HFix-37843 | Required parameter CorrHandle" error is observed on selecting Reject option of correspondence and submitting |
| | HFix-38036 | Validations check older values in Adjustment templates |

| Pega Platform Version | Hotfix Number | Observed Behavior |
|-----------------------|---------------|--|
| 7.2.2 | HFHix-38170 | Detaching message attachment results in status fail popup error page |
| | HFHix-40799 | Need to perform the Detach Message action twice |
| | HFHix-28280 | Users are unable to open RuleForm based class instances |
| | HFHix-28393 | The Duplicate Score Rules fails to display results |
| | HFHix-29058 | Changes are required to support SWIFT 2016 enhancements |
| | HFHix-29114 | Users are unable to add multiple items in payment type and adjustment rules |
| | HFHix-35153 | Workbasket instances are not loading in the MyWorkbasket |
| | HFHix-35936 | Decision trees having function aliases have been incorrectly upgraded to Pega 7.2.2 |
| | HFHix-36298 | Unable to create Fast Correspondences due to fields assembly issue |
| | HFHix-37843 | Required parameter CorrHandle" error is observed on selecting Reject option of correspondence and submitting |
| | HFHix-38036 | Validations check older values in Adjustment templates |

| Pega Platform Version | Hotfix Number | Observed Behavior |
|-----------------------|---------------|--|
| 7.2.1 | HFH-38170 | Detaching message attachment results in status fail popup error page |
| | HFH-40799 | Need to perform the Detach Message action twice |
| | HFH-28280 | Users are unable to open RuleForm based class instances |
| | HFH-28393 | The Duplicate Score Rules fails to display results |
| | HFH-29058 | Changes are required to support SWIFT 2016 enhancements |
| | HFH-29114 | Users are unable to add multiple items in payment type and adjustment rules |
| | HFH-35153 | Workbasket instances are not loading in the MyWorkbasket |
| | HFH-35936 | Decision trees having function aliases have been incorrectly upgraded to Pega 7.2.2 |
| | HFH-36298 | Unable to create Fast Correspondences due to fields assembly issue |
| | HFH-37843 | Required parameter CorrHandle" error is observed on selecting Reject option of correspondence and submitting |
| | HFH-38036 | Validations check older values in Adjustment templates |

| Pega Platform Version | Hotfix Number | Observed Behavior |
|-----------------------|---------------|--|
| 7.2 | HFHix-38170 | Detaching message attachment results in status fail popup error page |
| | HFHix-40799 | Need to perform the Detach Message action twice |
| | HFHix-28280 | Users are unable to open RuleForm based class instances |
| | HFHix-28393 | The Duplicate Score Rules fails to display results |
| | HFHix-29114 | Users are unable to add multiple items in payment type and adjustment rules |
| | HFHix-35153 | Workbasket instances are not loading in the MyWorkbasket |
| | HFHix-35936 | Decision trees having function aliases have been incorrectly upgraded to Pega 7.2.2 |
| | HFHix-36298 | Unable to create Fast Correspondences due to fields assembly issue |
| | HFHix-37843 | Required parameter CorrHandle" error is observed on selecting Reject option of correspondence and submitting |
| | HFHix-38036 | Validations check older values in Adjustment templates |

| Pega Platform Version | Hotfix Number | Observed Behavior |
|-----------------------|---------------|--|
| | HFHix-38170 | Detaching message attachment results in status fail popup error page |
| | HFHix-40799 | Need to perform the Detach Message action twice |
| 7.1.9 | HFHix-29058 | Changes are required to support SWIFT 2016 enhancements |
| 7.1.8 | HFHix-56766 | gCase functionality adoption on Smart Investigate for Payments 07.11 |
| | HFHix-55465 | SWIFT 2019 changes for Pega Smart Investigate for Payments |
| | HFHix-48589 | PegaSI-MsgCase- class inheritance change |
| | HFHix-45070 | SWIFT 2018 changes for Pega Smart Investigate for Payments |
| 7.1.7 | HFHix-56766 | gCase functionality adoption on Smart Investigate for Payments 07.11 |
| | HFHix-55465 | SWIFT 2019 changes for Pega Smart Investigate for Payments |
| | HFHix-45070 | SWIFT 2018 changes for Pega Smart Investigate for Payments |
| 7.1.6 | HFHix-56766 | gCase functionality adoption on Smart Investigate for Payments 07.11 |
| | HFHix-55465 | SWIFT 2019 changes for Pega Smart Investigate for Payments |

| Pega Platform Version | Hotfix Number | Observed Behavior |
|-----------------------|---------------|--|
| | HFix-45070 | SWIFT 2018 changes for Pega Smart Investigate for Payments |
| | HFix-29058 | Changes are required to support SWIFT 2016 enhancements |

Pega Smart Investigate for Payments Implementation Guide

Pega Smart Investigate™ for Payments comes with a working set of rules and the supporting infrastructure that can simulate connectivity with your transaction databases. Implementation guide describes the implementation and deployment process for Smart Investigate for Payments.

Smart Investigate for Payments uses a complete set of packaged services to handle the day-to-day complexity and management of your payment processing exceptions. With a minimal change to existing rules and the implementation of connectivity to your external systems and databases, you can put the product into production in a short time frame. As your experience grows, you can extend the product to standardize, streamline, and adapt your evolving business processes, using the patented Pegasystems rule-based architecture.

- **Preparing for implementation**
- **Creating the application**
- **Deployment steps**
- **Creating your top-level class**
- **Integrating Smart Investigate with client SOR**
- **Configuring the application**
- **Update the dynamic class referencing**
- **Integrating Smart Investigate with third party systems**
- **Appendix**

- Glossary

Preparing for implementation

Gather information about your organizational structure and the users who will be using the application. Once you have this information, you can implement Pega Smart Investigate™ for Payments by creating the application and the operator roles that will use it.

Before you begin:

1. Ensure that Pega Smart Investigate for Payments '23 is installed. For more information, refer to the [install guide](#).
2. Ensure that the sample application and sample data is imported. For more information, refer to [Importing the Sample Application and Sample Data](#).

Before creating a new application built on Smart Investigate for Payments, prepare the following information:

1. New application and organization information
 - Application name
 - Organization
 - Division
 - Unit
 - Class naming pattern



Note: The application name must be unique. The organization, division, and unit must have been already created in the application.

2. Operator information
 - Name
 - Email address

- Password

Creating the application

Access the Organization landing page and create a customer organizational structure.

You will assign this structure to the new operator that you create during the following procedure, so that the new application will have the appropriate class structure. For more information, see the **Organization chart** tab on the [Organization landing page](#).

Run the New Application wizard to create your application. For more information, see [Creating an application](#) page.

1. To create a new operator ID for running the New Application wizard, complete the following steps:
 - a. Log in to **Dev Studio** by using the operator ID administrator@pega.com and the password that you specified for that operator.
 - b. Save a copy of the existing administrator@pega.com operator and give it a name that identifies it as an Application Setup operator.
 - c. Add the **SISysAdmin:AppSetup** access group to the new operator record, and then click the radio button to the left of the access group to select it as the default access group. When this access group is selected as the default access group, the New Application wizard opens immediately when this operator logs in.
 - d. On the **Work** tab, update the organizational unit to point to the organizational structure created as part of the prerequisite steps.
 - e. Save the new Application Setup operator.
2. Log in as the Application Setup operator.
3. Follow the New Application wizard instructions for creating the application.
4. Click **Go to app**.
 - The New Application wizard creates a set of access groups for the application. Create your own operators, and then apply the appropriate access groups. The Application Wizard creates one administrator operator

for you so that you can log in to the application after you complete the wizard.

- The New Application wizard creates the application class structure for you. For more information, see Class layers and class hierarchy and inheritance.

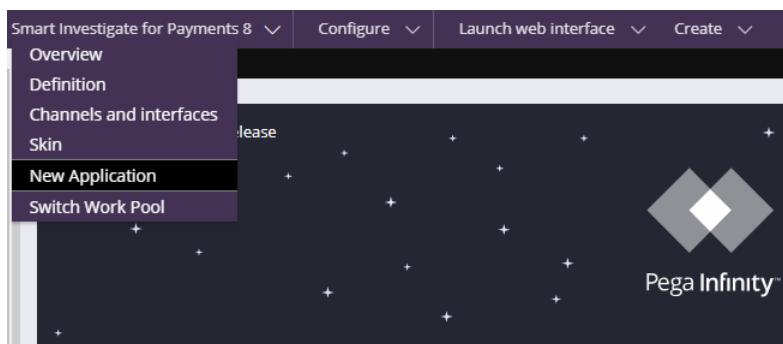
- **Steps to create new application**

Steps to create new application

To complete the below steps, an operator with below configuration should be created as this operator is not available in the Pega Smart Investigate for Payments application.

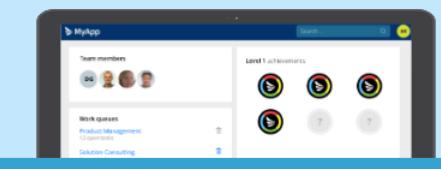
To complete the below steps, an operator with below configuration should be created as this operator is not available in the Pega Smart Investigate for Payments application.

1. Log in to Pega Smart Investigate for Payments with the above configured operator
2. Navigate to Application menu > New Application menu item.

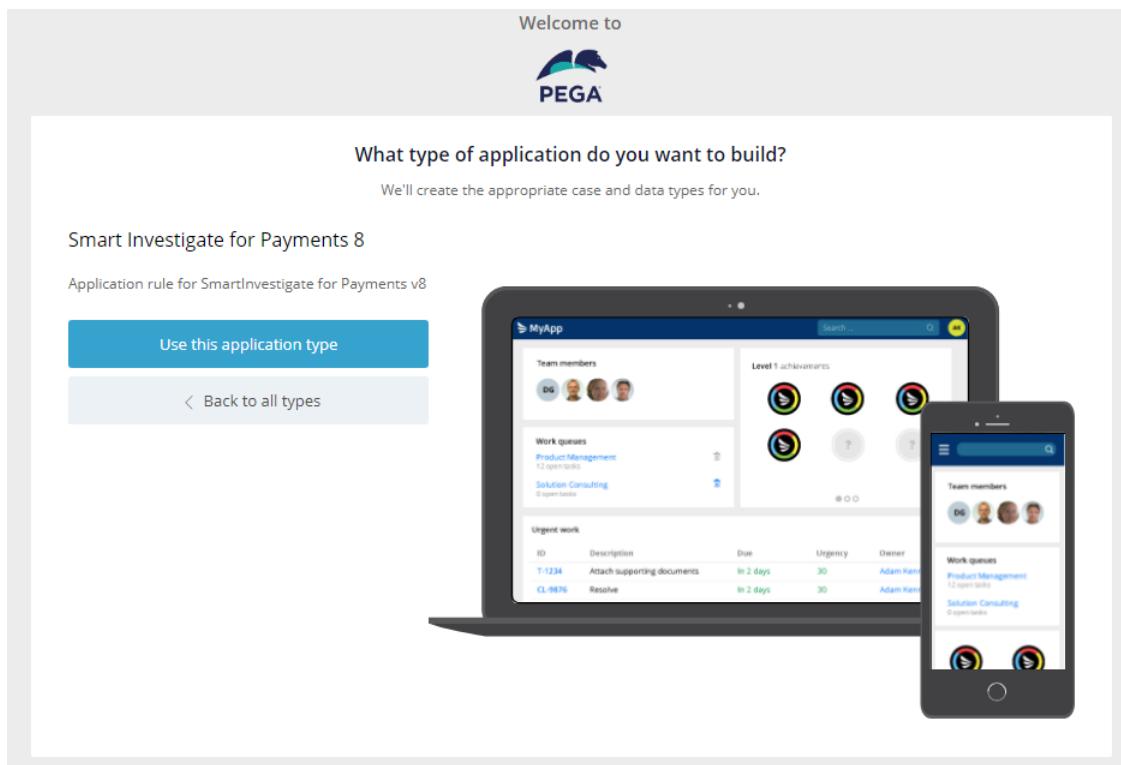


3. Click the Smart Investigate for payments 8 tile.

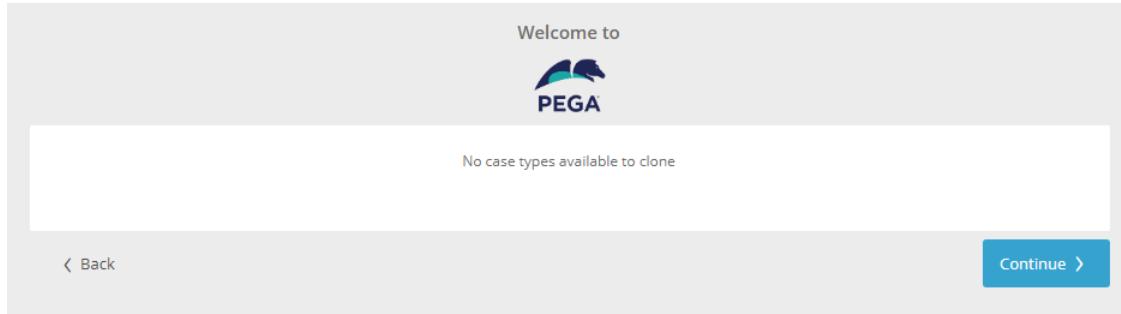
What type of application do you want to build?
We'll create the appropriate case and data types for you.

| | |
|---|--|
| Custom (Create anything you can imagine) | Request approval (Approve travel plans, orders and other requests) |
| Service request (Respond to customer requests for assistance) | Smart Investigate for Payments 8 (Smart Investigate for Payments 8)  Learn more |
| Task tracker (Manage to-do lists and other tasks) Can't find the type? Search all types | |

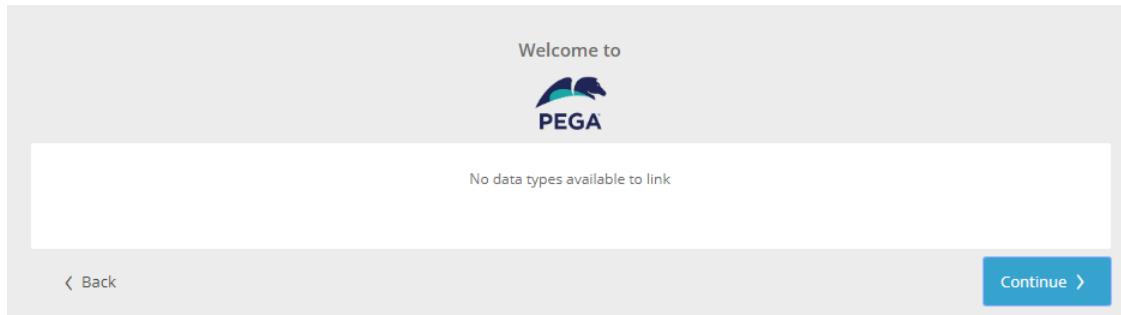
4. Click Use this application type.



5. Navigate through screen flow by clicking Continue.

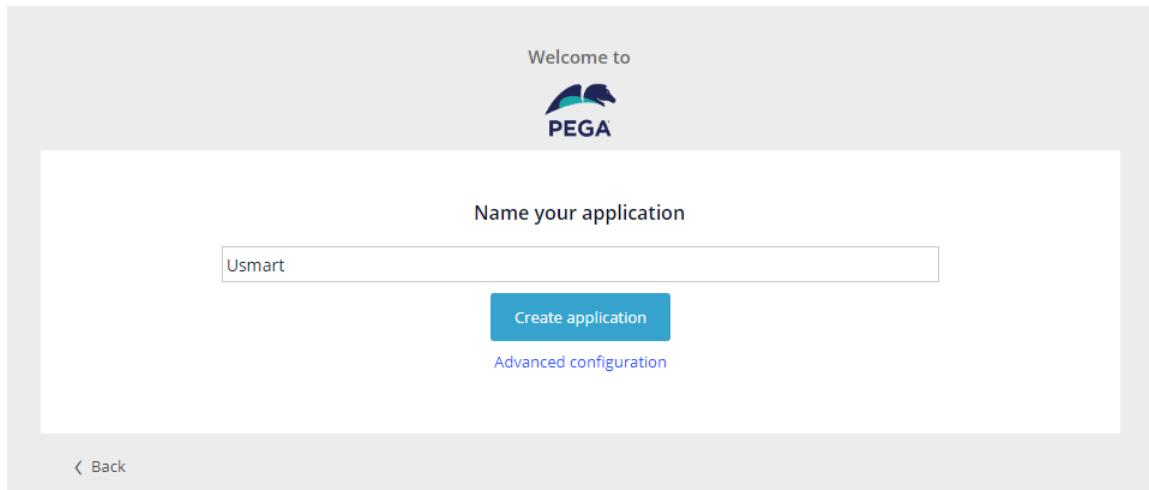


6. Navigate through screen flow by clicking Continue.



7. Click on Advanced configuration link and update the following fields with the implementation team data and click Save.

- Application id
- Organization name
- Division name
- Unit name



Welcome to
PEGA

Advanced configuration

Application settings

Application structure
 Framework
 Implementation

Application id * Usmart Version * 01.01.01

Organization settings

Organization name * SampleCo Division name * Asia Unit name * Inv

Class layers

Generate division layer

Organization * Samp Application * Usmart Class group name * Work

Cancel **Save**

8. Click Create application.

Welcome to
PEGA

Name your application

Usmart

Create application

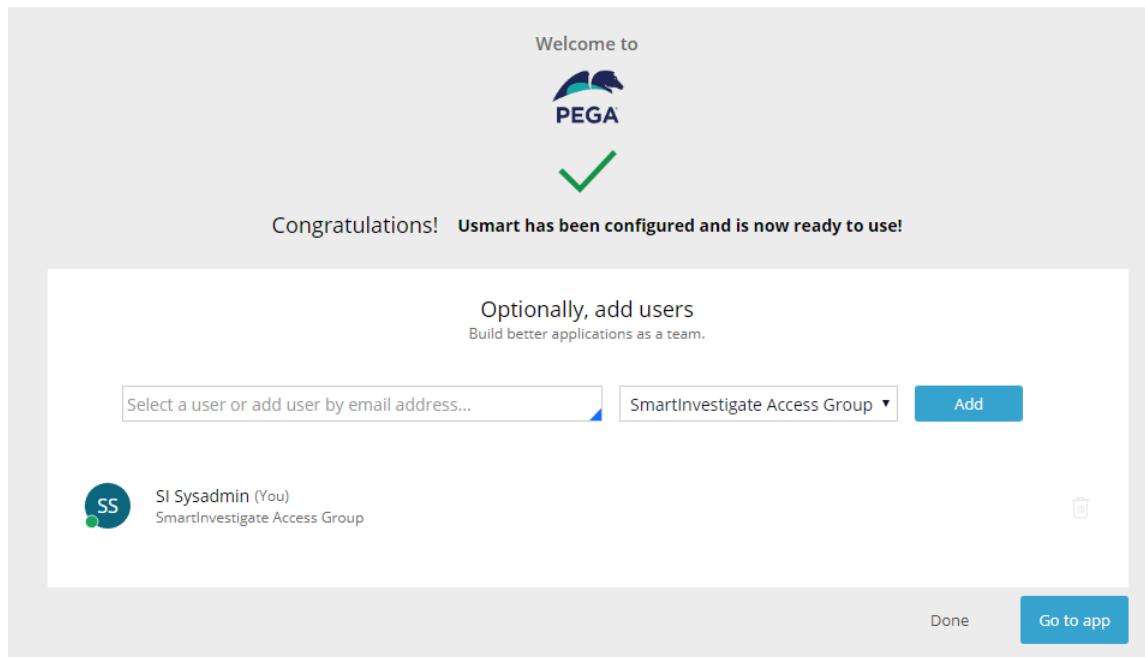
Advanced configuration

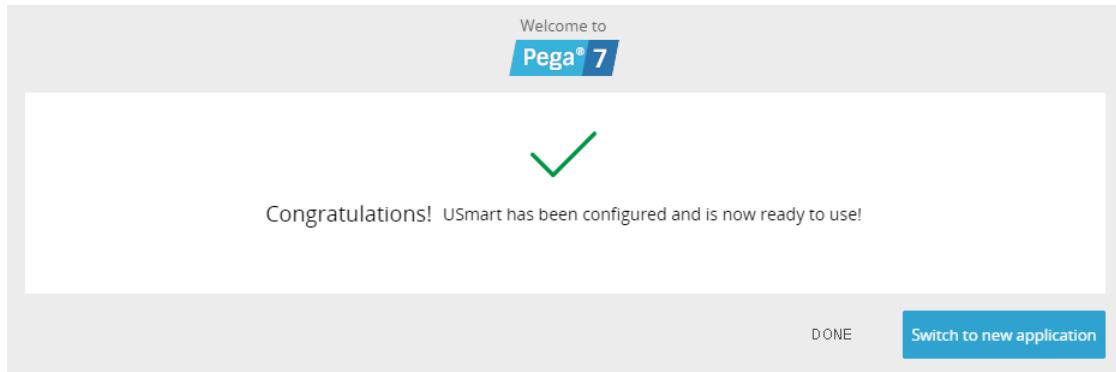
Back



Note: Application name Usmart is just an example.

9. On creation of new application, click Switch to new application.





10. Do a save as of [SISysAdmin@pega.com](#) operator instance and update the Access Group selection pointing to newly created application.
11. Open the application definition of the newly created implementation layer and click Add application.
12. Select SmartInvestigateForPayments_Sample against Name and 8 against Version.
13. From the Advanced collapsible menu, uncheck Place properties on thread page only.
14. Click Save.

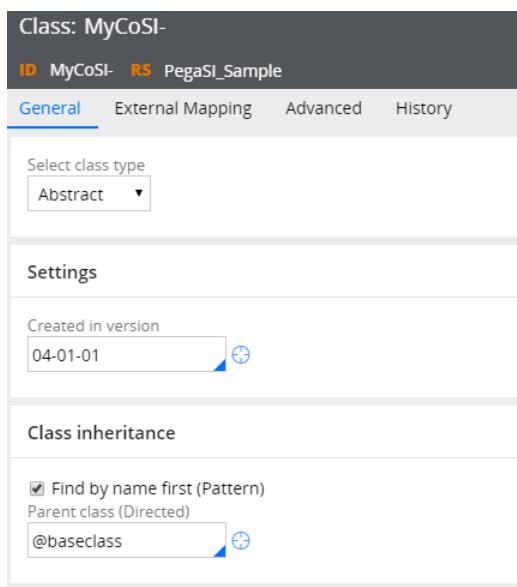
| Built on applications | | |
|-----------------------|--|---------|
| | Name | Version |
| + | Add application | |
| 1 | SmartInvestigateForPayments_Sample | 8 |
| En | PegaAESRemote | |
| En | PegaBC | |
| En | PegaDM | |
| En | PegaRULES | |
| + | PegaUVU | |
| Co | PSIP | |
| No | RequestApproval | |
| No | ServiceRequest | |
| No | SmartInvestigateEISample | |
| M | SmartInvestigateForPayments | |
| M | SmartInvestigateForPayments_Sample | |
| TaskTracker | | |
| UIKit | | |
| Pr | | |

Copying the MyCoSI-Work class group from the application into your ruleset provides the necessary data structure for various types of work in your application. Many rules in your application reference this class data structure.

Class groups are the link between your class structure and the underlying database, and they must be unique across your organization (the application prevents you from creating a duplicate name).

To copy the Work Class group:

1. Click Dev Studio and select Data Model > Classes and Properties menu item.
2. Click Clone a Class Group. The first Direct Inheritance Wizard screen appears. Use the wizard to copy all classes in the class group using your top-level class name as the prefix.



3. Complete the fields as follows:

- In the Select a ruleset Name selection box, select PegaSI_Sample.
- In the Select a Class Group selection box, select MyCoSI-Work.
- In the Map to a new Class Group field, enter ClassName-Work, where ClassName is the name of your top-level class.
- In the Division field, enter a division if you do not want to use the default.
- Optionally, enter a strategic process name.
 - Click Next. The second wizard screen (for class mapping) appears.

Direct Inheritance Wizard (2/3)

(Step 2 of 3)

Instructions:
Select a RuleSet and check the list of the class mappings, then click on the "Next" button to proceed.

Start
↓
Processing
↓
End

Enter a RuleSet Name: PegaAppCore
Target Class Group: Sample-Work

| Source Class | Class Type | Description | Target Class | Inherits From | Included? |
|-----------------------------------|------------|----------------------------|-----------------------------------|------------------------------|-------------------------------------|
| MyCoSI-Work | Concrete | Smart Investigate | Sample-Work | PegaSI-Work | <input checked="" type="checkbox"/> |
| MyCoSI-Work-BulkEntry | Concrete | Bulk Case Entry | Sample-Work-BulkEntry | PegaSI-Work-BulkEntry | <input checked="" type="checkbox"/> |
| MyCoSI-Work-Compensation | Concrete | Compensation | Sample-Work-Compensation | PegaSI-Compensation | <input checked="" type="checkbox"/> |
| MyCoSI-Work-MsgCase | Concrete | Generic Message | Sample-Work-MsgCase | PegaSI-MsgCase | <input checked="" type="checkbox"/> |
| MyCoSI-Work-MsgCase-Email | Concrete | Email Message Received | Sample-Work-MsgCase-Email | PegaSI-MsgCase-Email | <input checked="" type="checkbox"/> |
| MyCoSI-Work-MsgCase-FedSvc | Concrete | Fed Service Message | Sample-Work-MsgCase-FedSvc | PegaSI-MsgCase-FedSvc | <input checked="" type="checkbox"/> |
| MyCoSI-Work-MsgCase-FedSvc-MT1001 | Concrete | Fed Service MT1001 Message | Sample-Work-MsgCase-FedSvc-MT1001 | PegaSI-MsgCase-FedSvc-MT1001 | <input checked="" type="checkbox"/> |
| MyCoSI-Work-MsgCase-FedSvc-MT1002 | Concrete | Fed Service MT1002 Message | Sample-Work-MsgCase-FedSvc-MT1002 | PegaSI-MsgCase-FedSvc-MT1002 | <input checked="" type="checkbox"/> |
| MyCoSI-Work-MsgCase-FedSvc-MT1007 | Concrete | Fed Service MT1007 Message | Sample-Work-MsgCase-FedSvc-MT1007 | PegaSI-MsgCase-FedSvc-MT1007 | <input checked="" type="checkbox"/> |
| MyCoSI-Work-MsgCase-FedSvc-MT1008 | Concrete | Fed Service MT1008 Message | Sample-Work-MsgCase-FedSvc-MT1008 | PegaSI-MsgCase-FedSvc-MT1008 | <input checked="" type="checkbox"/> |
| MyCoSI-Work-MsgCase-FedSvc-MT1031 | Concrete | Fed Service MT1031 Message | Sample-Work-MsgCase-FedSvc-MT1031 | PegaSI-MsgCase-FedSvc-MT1031 | <input checked="" type="checkbox"/> |
| MyCoSI-Work-MsgCase-FedSvc-MT1033 | Concrete | Fed Service MT1033 Message | Sample-Work-MsgCase-FedSvc-MT1033 | PegaSI-MsgCase-FedSvc-MT1033 | <input checked="" type="checkbox"/> |
| MyCoSI-Work-MsgCase-FedSvc-MT1090 | Concrete | Fed Service MT1090 Message | Sample-Work-MsgCase-FedSvc-MT1090 | PegaSI-MsgCase-FedSvc-MT1090 | <input checked="" type="checkbox"/> |
| MyCoSI-Work-MsgCase-FedSvc-MT1501 | Concrete | Fed Service MT1501 Message | Sample-Work-MsgCase-FedSvc-MT1501 | PegaSI-MsgCase-FedSvc-MT1501 | <input checked="" type="checkbox"/> |
| MyCoSI-Work-MsgCase-FedSvc-MT1502 | Concrete | Fed Service MT1502 Message | Sample-Work-MsgCase-FedSvc-MT1502 | PegaSI-MsgCase-FedSvc-MT1502 | <input checked="" type="checkbox"/> |
| MyCoSI-Work-MsgCase-FedSvc-MT1507 | Concrete | Fed Service MT1507 Message | Sample-Work-MsgCase-FedSvc-MT1507 | PegaSI-MsgCase-FedSvc-MT1507 | <input checked="" type="checkbox"/> |
| MyCoSI-Work-MsgCase-FedSvc-MT1508 | Concrete | Fed Service MT1508 Message | Sample-Work-MsgCase-FedSvc-MT1508 | PegaSI-MsgCase-FedSvc-MT1508 | <input checked="" type="checkbox"/> |
| MyCoSI-Work-MsgCase-FedSvc-MT1590 | Concrete | Fed Service MT1590 Message | Sample-Work-MsgCase-FedSvc-MT1590 | PegaSI-MsgCase-FedSvc-MT1590 | <input checked="" type="checkbox"/> |
| MyCoSI-Work-MsgCase-FedSvc-MT1601 | Concrete | Fed Service MT1601 Message | Sample-Work-MsgCase-FedSvc-MT1601 | PegaSI-MsgCase-FedSvc-MT1601 | <input checked="" type="checkbox"/> |
| MyCoSI-Work-MsgCase-FedSvc-MT1602 | Concrete | Fed Service MT1602 Message | Sample-Work-MsgCase-FedSvc-MT1602 | PegaSI-MsgCase-FedSvc-MT1602 | <input checked="" type="checkbox"/> |
| MyCoSI-Work-MsgCase-FedSvc-MT1607 | Concrete | Fed Service MT1607 Message | Sample-Work-MsgCase-FedSvc-MT1607 | PegaSI-MsgCase-FedSvc-MT1607 | <input checked="" type="checkbox"/> |

4. Change the ruleset name from PegaSI_Sample to your company's ruleset name so the rules are created in your ruleset.
5. Click Next to start replication. The final form identifies the classes, Database Table, and class group that were created.

For more information on class groups, see online Help or the Pega Community.

Deployment steps

The deployment process ensures that the application is installed correctly and that all necessary settings are configured. Proper deployment of a Pegasystems application can reduce the risk of errors and increase efficiency and productivity.

The following list provides a high-level outline of the general steps involved when deploying most Pegasystems applications; see [Application specific information](#), for the specific details regarding your application.

1. Create a new ruleset, ruleset version, and top-level class to hold your personalized business and processing rules.

Smart Investigate for Payments requires additional steps to set up the class hierarchy for the new customer ruleset.

2. Create an organizational hierarchy and then add operator IDs, work groups, workbaskets, and user access groups as needed.
3. Save product application rules to your ruleset and then make changes as necessary; you can personalize correspondence, service levels, address types, portal layouts, and so on.
4. Configure security rules as needed for your organization.
5. Establish connections to existing external databases and data sources.
6. If your application requires it, configure supporting applications such as PegaRESEARCH Manager SWIFTNet Exceptions and Investigations, and SWIFTNet Cash Reporting.

Creating your top-level class

Your application uses a hierarchical class structure to define work objects so they can share common attributes and control rule resolution. A top-level class is a starting place for your class structure.

For simplicity and clarity, use the same (or similar) names for the ruleset and its top-level class. In many cases, you may find it useful to define the top-level class as the company name. For example, SampleCo- could be the top-level class name for the company SampleCo. For more information on classes and naming conventions, refer to Application Developer Help or the Community.

Related tasks

- [Copying the MyCoSI-EntryFlow flows to your class hierarchy](#)
- [Copying the remaining MyCoSI classes to your class hierarchy](#)

Integrating Smart Investigate with client SOR

Smart Investigate for Payments integrates with your client SOR information systems and other Pegasystems applications to improve quality, productivity, and efficiency.

Integration is accomplished using application activities and flows, as well as Pega 8 services and connectors that support interactions between Smart Investigate for Payments and external systems, databases, and websites.

For detailed information about integrating your Smart Investigate for Payments system with client SOR systems, see PegaRULES Process Commander - Integrating with External Systems. For additional integration information for Frameworks products, see the appropriate Framework Implementation Guide.

- [Transaction data file interface - pegaRESEARCH manager](#)

Transaction data file interface - pegaRESEARCH manager

PegaRESEARCH Manager is a companion product that supports data retrieval for financial applications. In the course of processing exceptions, service requests, or

claims, it is often necessary to locate historical transaction information to address a current question or issue and to determine appropriate action.

This type of activity is referred to as research. In the financial services industry, typical examples of stored transactions include the following:

- Payment transactions such as those made via EBA, Target, CHIPS, Fedwire, or CHAPS
- Payment instructions such as SWIFT or telex messages
- Securities information

The design of a research-oriented database is influenced by financial transaction flows that are characterized by low query rates compared to volume of data, few updates after initial load, and predictable rather than ad-hoc querying. PegaRESEARCH Manager databases are designed with these criteria in mind and offer further value by including tools that manage the data loading and querying based on Pega 8 strengths.

Configuring the application

Setting up the application involves setting up the accounting functions and organizations to ensure that the application can run properly.

- **Setting up organizations**
- **The ruleset hierarchy**
- **Copying the declare index**
- **ISO 20022 application layer**
- **Setting up accounting functions**
- **CBPR+: Extension points and configurations**
- **ISO 20022: Extension points and configurations**

Setting up organizations

Pega 8 applications use a three-level organizational hierarchy that you can create and modify as necessary. The hierarchy defines the business reporting structure in nested levels of organization, division, and organization unit.

In addition to the three organization levels, Pega 8 uses work groups to define a group of workers with a common work manager. A work group does not have to follow the organizational hierarchy, however; work groups can include people from various departments in the organization. The importance of work groups to your application is that they are used by flows to route and escalate work. A user who has a worklist to which you want to route work must belong to at least one work group.

Most applications come with a sample organizational hierarchy, described in Appendix A, *Application-Specific Information*. The application supports extension and growth of the organizational structure as the need arises. As you think about how to define your organization, you may want to look at the business structure of your company and your company's organization chart.

The organizational hierarchy that comes with Smart Investigate can be extended. Each division in the organization hierarchy also has workbaskets that have been defined. The following shows the organization hierarchy. To leverage this organization hierarchy, copy it to your ruleset.

- **Classes used to create a hierarchy and related instances**
- **Understanding security basics**
- **Creating Security Levels**
- **Defining evaluation logic for Rule-Declare-DecisionTree**
- **Defining the decision table for SetLevel1Instance**
- **Setting the initial data-admin-operator-security instances**

- **Creating access roles**
- **Application privileges**
- **Associating access roles, privileges, and classes**
- **Understanding access role obj rules**

Classes used to create a hierarchy and related instances

During application deployment, you create instances of the following classes:

- Data-Admin-Organization — defines the top level of the hierarchy
- Data-Admin-OrgDivision — defines the middle level of the hierarchy
- Data-Admin-OrgUnit — defines the bottom level of the hierarchy

An organization is the top level of the three-level organizational hierarchy available to all your applications. The middle level instances are known as divisions. (*Data-Admin-OrgDivision* class). The lowest level is the organization unit level (*Data-Admin-OrgUnit* class). One PRPC system can support multiple organizations. By convention, organization names are in LDAP format — such as pega.com — also called the network domain format. The organizational structure affects Management reporting and statistics visible in the Monitor Activity workspace.

Below organizations, divisions are the middle level of the organizational hierarchy and are designed to correspond to cost centers. Most applications create one or more default division names, see Appendix A, *Application-Specific Information*. **Do not** delete these names.

Below divisions, organization units are the next level of the hierarchy, though they are not used in security. The installation process creates one or more organization units. See Appendix A, *Application-Specific Information*. **Do not** delete these units. Create one form for each unit. You can create an organizational hierarchy in which organization

units report to other organization units, which lets the system model large organizations. This hierarchy does not affect execution.

Understanding security basics

This section describes the basic Pega 8 security mechanisms. It explains how you can modify the security rules or add your own if necessary.

This chapter cannot explain the full scope, depth, and flexibility available with Pega 8 security. For more information, see the Administration and Security section on the Community.

- [Authentication and authorization](#)
- [Security configuration components](#)
- [Ruleset overview](#)
- [Organizational hierarchy](#)
- [Work object model](#)
- [Workbasket and worklist assignment models](#)
- [Operators, access groups, and access roles](#)

Authentication and authorization

Pega 8 provides security capabilities that are both flexible and layered. The security model is based on user authentication for system access and on authorization for particular application elements once users are logged in.

Authorization features allow you to define access at different levels:

- Your ruleset and versions
- Classes (types of work)
- Certain individual rules, such as flows

Standard security rules provide access to rulesets, classes, and individual rules, many of which may suit your access requirements with little or no modification.

Security configuration components

When setting up security, you configure the following components:

- Operator IDs — include information that identifies the user. The ID includes the operator ID name, a log-in password, and the access group to which the operator belongs.
- Access groups — identify users with the same security requirements. Each user must belong to at least one access group, which is referenced in the user's operator ID.
- Access roles — define roles as having certain class access rights. A user can have one or more access roles, which are referenced in access groups. All users in the same access group have the same roles.
- Privileges — defined to allow a user with a particular role to access certain functions in the application. Privileges are associated with access roles and classes, not individual users. Users have the privileges associated with their access role.
- Access role obj rules — specify relationships between access roles, the classes a role can access (including at what level and/or under what conditions the access is permitted), and the privileges associated with that class and access role.

The following sections describe how you can modify the standard security components or add your own if necessary.



Tip: You must specify roles when creating access groups. Therefore, you should plan and name the access groups you need before creating roles.

Creating Security Levels

Within an organization, business requirements may dictate that users be restricted from viewing or working on assignments. Smart Investigate for Payments has four security levels that you can use to define what work objects or assignments users can access.

The criteria for deciding the level of access restriction are a user's assigned role, operational unit (for example, branch), and business area (for example, Payments) related to the investigation case. Client requirements may use one or more criteria, with the significance and order of each carrying varying weights.

Smart Investigate for Payments provides a fully customizable set of rules that allow organizations to restrict or prohibit access based on multiple layers of security. Three of the rules must be assigned to an individual user, and a fourth is based on the user's access group.

The security levels assigned to users are defined in their Data-Admin-Operator-Security profiles. This table illustrates typical business segmentation for security levels.

| Level | Definition | Example |
|------------------------|----------------------------------|--|
| 1 | Financial institution | Bank name (one or many for a multi-bank scenario) |
| 2 | Division offinancial institution | Either branch or business area |
| 3 | Further division of level 2 | Either branch or business area |
| 4 | Further division of level 3 | A team within a branch or business area |
| Worklist or Workbasket | Lowest division of work | An individual operator or workbasket within a team |



Note: Level1 is the highest security and is usually a single value given to the bank running the application. However, if Smart Investigate for Payments is being deployed in a multi-bank environment, level 1 may contain more than one value.

An initial task in the deployment of Smart Investigate for Payments is the definition of a business model. The business model defines how the levels will be used and what values each level will contain. These levels are then defined in the system prior to being assigned to a user.

The following steps are required to deploy the Smart Investigate for Payments security solution:

- Configure security levels 1, 2, and 3
- Define evaluation logic for the decision tree rule SetSecurityAccessMode (of type Rule- Declare-DecisionTree)
- Define the decision table rule SetLevel1Instance (of type Rule-Declare-DecisionTable)
- Set initial Security instances (of type Data-Admin-Operator-Security):
- Verify that Data-Admin-Operator-Security instances reference the activity SIOperatorLogon
- Update class-based Rule-Obj-Validate(that is, MyCoSI)
- **Configuring level 1 security**
- **Configuring level 2 security**
- **Configuring level 3 security**

Configuring level 1 security

Set the level 1 security for your organization. Each time an operator changes the work pool class in focus, (representing a switch between entities in a multi-bank scenario),

the list of assigned values for this operator is re-evaluated —see the clipboard properties pxRequestor.OperatorSecurity.AssignBranches and AssignLOB.

Because the Primary Search List remains on a session-permanent page, it can be used by associated applications such as PegaRESEARCH Manager. Smart Investigate for Payments comes with one sample value for Level 1, named MyBank. To set up Level 1 security:

1. Navigate toData-Operator-Security-Level1. The MyBank instance appears.
2. Click **Create**. Enter a key to identify your level 1 instance. Click **Createand Open**. The Operator Security form for level 1 appears.

Edit Data-Operator-Security-Level1: MyBank
ID: MyBank RS: PegaSI_Sample [Edit]

Details History

Level 1 Details

| | |
|-------------|-------------|
| Description | My Bank LTD |
|-------------|-------------|

Property Reference Information

| | |
|------------------------|----------------|
| Level 2 Validation | Branch |
| Level 3 Validation | LineOfBusiness |
| Primary Search List | AssignL2 |
| Lines Of Business List | AssignL3 |

3. Complete the fields as described in the following table.

| Field | Description |
|--------------------|--|
| Description | Short description, displayed in reports. The default is the instance name. |
| Level 2 Validation | The name of a property in a work object that is referenced in the SISecurityCheck2 WHEN block. |

| | |
|-----------------------|---|
| Level 3Validation | The name of a property in a work object that is referenced in the SISecurityCheck3 WHEN block. |
| Primary Search List | A property in the Operator Security profile that contains the list of values referenced when evaluating security by associated applications such as PegaRESEARCH Manager. This property can point to either the assigned Level 2 values (property .AssignedL2) or the assigned Level 3 values (property .AssignedL3). |
| Line of Business List | A property in the Operator Security profile that lists all Lines of Business for this Level 1 instance. |

4. Click **Save**. Repeat the process for each level 1 value you want to add.

Configuring level 2 security

This table shows the sample values provided with level 2 security. Set level 2 security so it is applicable for your organization.

| Key Value | Description |
|-----------|-------------|
| BRU | Brussels |
| COP | Copenhagen |
| FFT | Frankfurt |
| HEL | Helsinki |

| Key Value | Description |
|-----------|---------------|
| HKG | Hong Kong |
| LON | London |
| NYC | New York City |
| OSL | Oslo |
| PAR | Paris |
| SIN | Singapore |
| STK | Stockholm |
| SYD | Sydney |
| TYO | Tokyo |
| ZUR | Zurich |

1. Navigate to Data-Operator-Security-Level2.
2. Click **Create**. Enter a key to identify your level 2 instance. Click **Create and Open**. The Operator Security form for level 2 appears.
3. Enter information in the Description and Associated Level 1 fields as described below. The following shows a form with sample data.
 - Description: Text that appears during work processing in the users' selection boxes.
 - Associated Level 1: A property SmartPrompt, populated with information from Data- Operator-Security-Level1.

| Level 2 Information | |
|---------------------|--------|
| Description | Zurich |
| Associated Level 1 | MyBank |

4. Click Save.

5. Repeat the process for each level 2 value you want to add.

Configuring level 3 security

This table shows the sample values provided with level 3 security. Set the Level 3 security for your organization.

| Key | Description |
|----------|-------------|
| MsgCase | MsgCase |
| Nostro | Nostro |
| Payments | Payments |

To set up Level 3 security:

1. Navigate to Data-Operator-Security-Level3. A list of instances appears.
2. Click **Create**. Enter a key to identify your level 3 instance. Click **Create and Open**. The Operator Security form for level 3 appears.
3. Enter information in the Description and Associated Level 1 fields as described below. The following image shows a form with sample data.
 - Description: Text that appears during work processing in the users' selection boxes.
 - Associated Level 1: A property SmartPrompt, populated with information from Data- Operator-Security-Level1.

The screenshot shows a software interface for managing security levels. At the top, it says "Edit Data-Operator-Security-Level3: Securities-General". Below that, there are tabs for "Details" and "History". Under "Level 3 Information", there are two input fields: "Description" with the value "Securities-General" and "Associated Level 1" with the value "MyBank". To the right of these fields are standard UI controls: "Delete", "Actions", "Save", and a refresh/cancel icon.

4. Click **Save**.
5. Repeat the process for each level 3 value you want to add.

Defining evaluation logic for Rule-Declare-DecisionTree

During the log-in process, the activity OpenOpSecurInstance (Data-Admin-Operator-Security) evaluates the decision tree rule `setSecurityAccessMode` to determine which access mode option (Individual, Group, Unit, Division, or Organization) is applicable for the user.

The decision tree rule returns a value to the property `pxRequestor.OperatorSecurity.AccessMode` which opens a security profile related to the result.

- **Individual — IND**
- **WorkGroup - GRP**

Individual — IND

Each Data-Admin-Operator-Securityinstance is created under the same key as a Data-Admin- Operator-ID instance. You can use the clipboard to see that the instance has opened.

The default setting for `setSecurityAccessMode` is IND (Individual).

The rule can be customized in a local ruleset to meet requirements with additional levels of Unit (UNT), Division (DIV), and Organization (ORG).

WorkGroup - GRP

Each Data-Admin-Operator-Security instance is created under the same key as a Data-Admin- WorkGroup instance. All members of the access group derive assigned values from a single security instance.

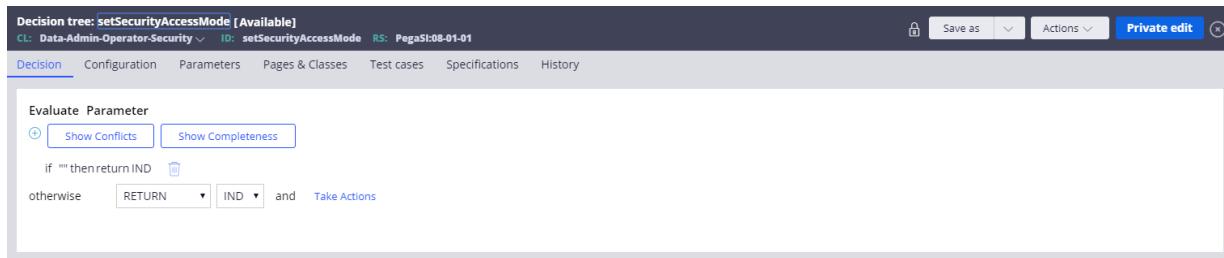
For example, both work groups could be set to return a value of GRP, in which case Smart Investigate for Payments opens a database record keyed on WorkGroup1 for

OperA. This could maintain a different set of assigned values from that of OperB and WorkGroup2.

- OperA WorkGroup1
- OperB WorkGroup2

To change the security access mode:

1. Navigate to Data-Admin-Operator-Security and select the context Decision from the pop-up menu of class types. Make sure Decision Tree is checked in the right column. A list of decision trees appears.
2. Select setSecurityAccessMode to display the decision tree form.



3. Click **Save As**, select your ruleset and version, and click **Save As** again.
4. Make the changes you want and when done click **Save**.

Defining the decision table for SetLevel1Instance

The decision table rule *SetLevel1Instance* is referenced by the security module for determining the name of the current work pool selected and is matched with its level 1 key value.

To define the decision table:

1. Navigate to Data-Operator-Security-Level1 > Decision -> Decision Table.
2. Select SetLevel1Instance to display the decision table form.

The screenshot shows the Pega Decision Table interface. At the top, it displays the title "Decision Table: SetLevel1Instance [Available]", the category "CL: Data-Operator-Security-Level1", the ID "SetLevel1Instance", and the ruleset "RS: PegaSI:08-01-01". Below the title, there are tabs for "Table", "Results", "Parameters", "Pages & Classes", "Test cases", "Specifications", and "History". The "Table" tab is selected. Underneath the tabs is a toolbar with icons for copy, paste, search, and other functions, followed by buttons for "Select values", "Show conflicts", "Show completeness", "Export", and "Import". The main area contains a decision table with the following rows:

| Conditions | Actions |
|-----------------|--------------------------------------|
| Current Work Po | Return |
| if otherwise | = "PegaSI-Work-" MyBank MyBank |

3. Click **Save As**, select your ruleset and version, and click **Save As** again.
4. Update the decision table to reflect the work pool that you created (an instance of Data- Admin-DB-ClassGroup). In a multi-bank scenario this table will contain multiple rows.
5. Click **Save**.

Setting the initial data-admin-operator-security instances

Before you create the initial security instance, you should understand the following:

- Creating new instances of Data-Admin-Operator-ID should be limited to operators with the SISecurityAdmin access group. Add operators using the Add Operator link in the Organization section of the Administer tab.
- Users with the SISupervisor, SIManager, or SISecurityAdmin access groups can maintain operator IDs. This is done using the Manage Operator Schedules and Profiles link in the My Group section of the Process Work tab.
- Each operator/group is required to have access to a supplementary data record that includes assigned level 2 and level 3 access appropriate to that operator or group. This information is used extensively when Smart Investigate for Payments evaluates the appropriate level of access to a work object and processing functionality.

- Access can be maintained at a combination of group and individual level as required.
 - Not having a Security record does not prevent users from logging on. It simply means that access to do any meaningful updates is severely limited. Standard Pega 8 functionality prevents users from logging on until an operator ID is created.
- **Assigning values to an operator**
 - **Verify that all security instances reference SIOperatorlogon activity**
 - **Updating class-based validate rules**

Assigning values to an operator

Each separate security instance is assigned to the operator as appropriate. If a new instance is configured, then no automatic access rights are assigned to or "assumed" by the users. For the new instance to become available to users it must be assigned.

However,a special override facility can be configured to effectively assign all options. Then, if individual instances are created or deleted, no additional maintenance needs to be done. This override profile provides a high degree of access rights, so it should be carefully reviewed before implementation.

A checkbox is available for disabling a user profile. When checked, the user is temporarily suspended from accessing work objects because the Security Check 2 or 3 When rule returns the value false regardless of assigned values. This feature combines a powerful control with an easily accessed on/off switch.

To add a new Data-Admin-Operator-Security Instance:

1. Navigate to Data-Admin-Operator-Security. A list of instances appears.
2. Click **New**. Enter the User Identifier and click **Create** to display the Operator Security form. The user identifier must match an existing instance of Data-Admin-Operator-ID.

This example shows a form with sample data.

The screenshot shows a software interface for managing operators. At the top, there's a header bar with the title 'Edit Data-Admin-Operator-Security: SI User2 ----- (Demo Operator) -----'. Below the header, the ID is listed as 'siuser2@pega.com' and the RS is 'PegaSI_Sample [Edit]'. On the right side of the header are buttons for 'Delete', 'Actions', 'Save', and a refresh icon. The main area has tabs for 'Details', 'Assigned Values', 'Override', and 'History', with 'Details' being the active tab. Under 'Details', there are two fields: 'Operator Name' (containing 'SI User2 (Demo Operato') and 'Operator Phone' (containing '')).

3. Complete the Details tab as appropriate:
 - Operator Name: Required field; enables easy recognition when the operator ID keys are not in a user-friendly format.
 - Phone: Optional field.
4. Click the **Assigned Values** tab and complete the fields as appropriate as shown in the example below.
 - Use the SmartPrompt to select values from the full Levelx sets.
 - Repeat sections enable multiple instances of associated values to be assigned. Activities embedded with the dynamic select controls ensure that only valid combinations as defined in your business model can be selected.

The screenshot shows the 'Edit Data-Admin-Operator-Security: SI User2 ----- (Demo Operator) -----' screen. At the top, it displays the ID: siuser2@pega.com and RS: PegaSI_Sample [Edit]. Below this, there are tabs for Details, Assigned Values (which is selected), Override, and History. The main area is titled 'LEVEL 1' and contains a tree view. A dropdown arrow next to 'MyBank' reveals a list of 'Level 2' instances: BRU, COP, FFT, HEL, HKG, LON, NYC, OSL, and PAR. Each instance has a small circular icon next to it.

5. Click the **Override** tab and complete the fields as appropriate as shown in the example below.

- Deny access to ALL assigned values: This is a quick way of temporarily disabling the operators access. If checked, all values in the Assigned tab will be ignored.
- Use the SmartPrompt to select values from the full Levelx sets.
- By assigning a level 1 instance the administrator is effectively giving access to all instances regardless of the instances assigned on the previous tab.

The screenshot shows the 'Override' tab of a Data-Admin-Operator-Security instance for user 'siuser2@pega.com'. It includes a note that options on this tab will override all assigned values. The interface allows setting access levels at Level 2 and Level 3.

- After all fields have been entered, click **Save**.

Verify that all security instances reference SIOperatorLogon activity

During the Smart Investigate for Payments log-in process, details from the operator's Data- Admin-Operator-Security instances are copied to the clipboard. The security function then references the clipboard to access the data.

The activity to enable this is Data-Portal.SIOperatorLogon and must be referenced in the operator's Data-Admin-Operator-ID instance on the Security tab.

Updating class-based validate rules

During manual case creation, the work object created must contain the appropriate level 2 and level 3 security values for your organization.

To ensure all new cases have the appropriate values, it may be necessary for you to create a decision tree that verifies that the correct level 2 and level 3 values have been

added to the work object. In addition, you might want to add a validate rule to check that the appropriate field is added when users click Submit.

Creating access roles

An access role is defined as having certain class access rights. A user can have one or more access roles, which are listed in access groups. All users in the same access group have the same roles.

Your application includes one or more predefined access groups, see Appendix A, *Application-Specific Information*. These access roles typically exist for users who work with the application: system administrators, architects, managers, supervisors, and basic operators, for example.

Your application includes one or more predefined access roles, see Appendix A, *Application-Specific Information*. Be sure the appropriate access roles are listed in the access groups for your application users.

Note: Access roles must be associated with the classes to which they provide access in rules of type Rule- Access-Role-Obj. This association already exists for the predefined access roles included with your application. If you create a new role, you must associate it with the necessary classes as explained in the section *Associating Access Roles, Privileges, and Classes* in this chapter.

When you create an access role, you must specify the access that role has to classes in your application and any privileges or access settings associated with the relevant class and role name combinations.

- **Specifying new access roles in access groups**

Specifying new access roles in access groups

A particular role cannot access a class unless that access is explicitly granted in an access role obj rule.

Therefore, you must be sure that any new role you create has the appropriate access to all necessary classes or that it is combined with other roles in an access group that together provide the class access needed by the group.

A role can inherit access to a class from a parent class, so you do not necessarily have to create an access role obj rule for every class in your application. For more information on class inheritance, see online Help or the Community.

Application privileges

A privilege allows a user with a role to execute certain application functions. Privileges are associated with access roles, not directly to users.

If a user has the access role with which the privilege is associated, the user has the privilege. Privileges also play a role in routing work, as users can only receive work items for which they have privileges.

Your application includes a set of predefined privileges, see Appendix A, *Application-Specific Information*.

- **Controlling access to individual rules using privileges**

Controlling access to individual rules using privileges

Certain rules, such as activities, flows, flow actions, and correspondence, let you specify privileges (usually on the Security tab) that a user must have to access those rules. See the online Help for details on how to add privileges to these rules.

Associating access roles, privileges, and classes

Access role obj rules (rules of type Rule-Access-Role-Obj) associate access roles with the classes to which they provide access and with any relevant privileges or access settings.

When you create a new access role, you must associate it with the appropriate classes using the procedure in this section or using the Role Editor.

When you associate an access role or privilege with a class, you not only associate the names of the rules but you also specify the level of access a role or privilege has to a class or the conditions under which the role or privilege can access the class. This process allows for an extremely flexible and powerful way of defining class-based security.

Understanding access role obj rules

You must create or modify an access role obj rule when:

- You have created new classes in your application and need to specify role access for them. Generally, if you are copying a class from the application ruleset to your ruleset rather than creating a new class, the access provided with the application classes will be inherited by your copied classes.
- You have created a new role and need to specify class access for it.
- You have created a new privilege and need to associate it with a particular class and role combination.
- You have created an access setting rule (of type Rule-Access-Setting) and want to add it to a given class and role combination.

Before creating an access role obj rule, you should understand how production levels relate to access control and privileges. These are described in the following sections. For complete information on access role obj rules, see the Pega 8 — Administration and Security section of the Community and the online Help.

The following shows an example of an access role obj rule for the class @PegaSI-Work- and the role PegaSI:User2. Each access role obj rule represents a class/role combination. The class and role make up the rule's name. For example, PegaSI:User2@PegaSI-Work- is the rule name.

- Understanding system production levels
- Tabs on the access role obj form

Understanding system production levels

System production levels are defined by numbers from 1 (least secure) to 5 (most secure). A system production level number is assigned when your system is installed. To see your system production level, check Data-Admin-System.

When you enter one of these numbers beside an access control or privilege, you are specifying the highest production level on which the role can perform the operation. For example, if users can perform an operation on a production system (level 5), then they can also perform that operation on all systems having lower security (levels 1 through 4) such as development or test systems.

This approach allows you to implement one class access model that provides more restrictive access for a given user in a production environment and less restrictive access in a less secure environment.



Tip: If you have only one system or don't want to use this feature, define your access role obj rules with level 5 access to allow access at all production levels.

Tabs on the access role obj form

The Security tab shows a list of access controls, for example, Open Instances and Modify Instances, some of which have numbers beside them.

This list represents the types of access.

that the role might have to objects in this class. The number represents the system production level at or below which the role has this access.

If you enter a zero or leave a field blank, this role on this class cannot access the control.

The Privileges tab shows a list of privileges (actions that can be performed) that this role has for this class. This list also has a column where you can enter the production level number at or below which the role can carry out these privileges.

The Privileges tab shows a list of privileges (actions that can be performed) that this role has for this class. This list also has a column where you can enter the production level number at or below which the role can carry out these privileges.

Access of Role to Object: Access to investigation objects
ID: PegaSI:SIManager • PegaSI-Work- **RS:** PegaSI

Security Privileges Settings Specifications History

| Privilege | Level |
|--------------------|-------|
| 1 AccessAuditTrail | 5 |
| 2 ActionCorrReject | 5 |
| 3 ActionCorrVerify | 5 |
| 4 VerifyLevel1 | 5 |
| 5 VerifyLevel2 | 5 |
| 6 Adjustment | 5 |
| 7 AllFlowActions | 5 |
| 8 Perform | 5 |
| 9 AddFlow | 5 |
| 10 AllFlows | 5 |

You can also specify a condition on either the Security or Privileges tab under which a role has access to the control by entering the name of a When rule instead of a number in the access control field. For example, a when rule called AssignedToMe might check to see if the current work object is assigned to the user. If that condition is true, a user with that role can perform the operation identified by the access control.

Some applications make use of the Settings tab, which allows you to enter the names of access setting rules with a value for each that applies to the class/role combination. See Administration and Security on the PDN for details on access setting rules.

Access of Role to Object: Access to investigation objects
ID: PegaSI:SIManager • PegaSI-Work- **RS:** PegaSI

Security Privileges **Settings** Specifications History

Access Settings

| Setting | Value |
|---------|-------|
| 1 | |

The ruleset hierarchy

The rulesets provided with your application are locked against change, so you must first create a ruleset to hold the customization and configuration for your organization.

You then add the personalized ruleset to each access group that has users that need the ruleset; adding your ruleset to the top of each access group's ruleset list ensures that the rule resolution process finds customized rules first.

Copying the declare index

You must also copy the declare index rule SICaseFind in the PegaSI-Work- class to the same name for the class group in your ruleset.

To copy the declare index:

1. Open the Records Explorer, expand SysAdmin and select **Declare Index**. A list of instances appears.
2. Select the SICaseFind instance in the PegaSI-Work- class. The Declare Index form appears.

Declare Index: **Party info for SI Case Find** [Available]

CL: PegaSI-Work- ID: SICaseFind RS: PegaSI:08-01-01

[Indexes](#) [Pages & Indexes](#) [Specifications](#) [History](#)

Source page context
.pyWorkParty()

Source page context class
PegaSI-Party-

Index class to write
Index-PegaSI-WorkParty

Properties for indexing and mapping

| Source class property | Mapping | Index class property | | |
|-----------------------|--------------------------------|----------------------|-----------------------|--------------------------|
| 1 .pxPartyRole | <input type="radio"/> Equals ▾ | .PartyRole | <input type="radio"/> | <input type="checkbox"/> |
| 2 .pyWorkPartyUri | <input type="radio"/> Equals ▾ | .WorkPartyUri | <input type="radio"/> | <input type="checkbox"/> |
| 3 .AccountNumber | <input type="radio"/> Equals ▾ | .AccountNumber | <input type="radio"/> | <input type="checkbox"/> |
| 4 .PartyId | <input type="radio"/> Equals ▾ | .PartyId | <input type="radio"/> | <input type="checkbox"/> |
| 5 .SwiftBIC | <input type="radio"/> Equals ▾ | .BICAddress | <input type="radio"/> | <input type="checkbox"/> |
| 6 .ABANumber | <input type="radio"/> Equals ▾ | .ABA | <input type="radio"/> | <input type="checkbox"/> |
| 7 .CHIPSId | <input type="radio"/> Equals ▾ | .CHIPS | <input type="radio"/> | <input type="checkbox"/> |
| 8 .SSNorTIN | <input type="radio"/> Equals ▾ | .SSN | <input type="radio"/> | <input type="checkbox"/> |
| 9 .Email | <input type="radio"/> Equals ▾ | .Email | <input type="radio"/> | <input type="checkbox"/> |
| 10 .Phone | <input type="radio"/> Equals ▾ | .Phone | <input type="radio"/> | <input type="checkbox"/> |
| 11 .TelexAddress | <input type="radio"/> Equals ▾ | .Telex | <input type="radio"/> | <input type="checkbox"/> |
| 12 .SortCode | <input type="radio"/> Equals ▾ | .SortCode | <input type="radio"/> | <input type="checkbox"/> |
| 13 .FaxNumber | <input type="radio"/> Equals ▾ | .Fax | <input type="radio"/> | <input type="checkbox"/> |
| 14 .LastCorrRef | <input type="radio"/> Equals ▾ | .InquiryRef | <input type="radio"/> | <input type="checkbox"/> |
| 15 .AccountType | <input type="radio"/> Equals ▾ | .AccountType | <input type="radio"/> | <input type="checkbox"/> |

3. Click **SaveAs**.
4. Change the Applies To value to ClassName-Work-, where ClassName is your class name. Select your ruleset from the Ruleset Name selection box.
5. Click **Save As** to save the instance to your class.

- **Copying Database Table instances to your class hierarchy**

Copying Database Table instances to your class hierarchy

You must copy the Data-Admin-DB-Table instances for MyCoSI- classes to your class hierarchy to specify the correct database tables for your new classes.

This includes all the classes that begin with MyCoSI except the instance for MyCoSI-Work (which you created using the Direct Inheritance wizard), as well as the instances for History-MyCoSI-Work and Index-MyCoSI-WorkParty.

To copy DB Table instances:

1. Open the Records Explorer, expand SysAdmin and select **Database Table**. A list of instances appears.
2. Scroll down the list until you see MyCoSI- and open the instance. The Database Table form appears.

The screenshot shows the 'Edit Database Table' form. At the top, it displays the title 'Edit Database Table: Entry created by System' and the ID 'MyCoSI- RS: PegaSI_Sample [Edit]'. On the right side, there are buttons for 'Delete', 'Actions', 'Save', and a refresh icon. Below the title, there are tabs for 'Database' and 'History', with 'Database' being the active tab. The main area contains several input fields:

- 'Database': PegaDATA
- 'Reports database': (empty)
- 'Catalog name': (empty)
- 'Schema name': (empty)
- 'Table name': pr_data

A blue button labeled 'Test connectivity' is located at the bottom left of the form area.

3. Click **SaveAs**.

4. Change the Class Name field, replacing MyCoSI with ClassName. (You only need to replace the MyCoSI portion of the name with your class name.) Click **Save As** to save the instance in your class.
5. Change the Short Description field to replace MyCoSI with ClassName when appropriate.
6. Click **Save**.
7. Repeat steps 3 to 6 for each instance in the MyCoSI- class.
8. Repeat steps 3 to 6 for each instance in the History-MyCoSI-Work class.
9. Repeat steps 3 to 6 for each instance in the Index-MyCoSI-WorkParty class.

Note: For the instances of ClassName-RM- classes created, it is expected the Database property will also need to be updated when PegaRESEARCH Manager integration occurs.

10. Open the Access Group instance from the operator instance and navigate to Advanced tab. Update the work pool to <Application name>-Work.
11. Open the application definition of the newly created implementation layer and delete **SmartInvestigateForPayments_Sample** entry. Click the **Save** button.

ISO 20022 application layer

ISO 20022 is a multi-part International Standard proposed by an ISO Technical Committee. This framework allows communities of users and message development organizations to define message sets according to an internationally agreed approach using business semantics and migrate to the use of a common XML or ASN.1-based syntax.

The SWIFT community of financial institutions aims to move cross-border and correspondent banking from SWIFT MTs to ISO 20022 by November 2025, using usage guidelines provided by the CBPR+ group of experts. See <https://docs-previous.pega.com/pega-smart-investigate-payments-iso-20022-and-cbpr-tech-note-1> for further details.

ISO 20022 and SWIFT CBPR+ in Smart Investigate

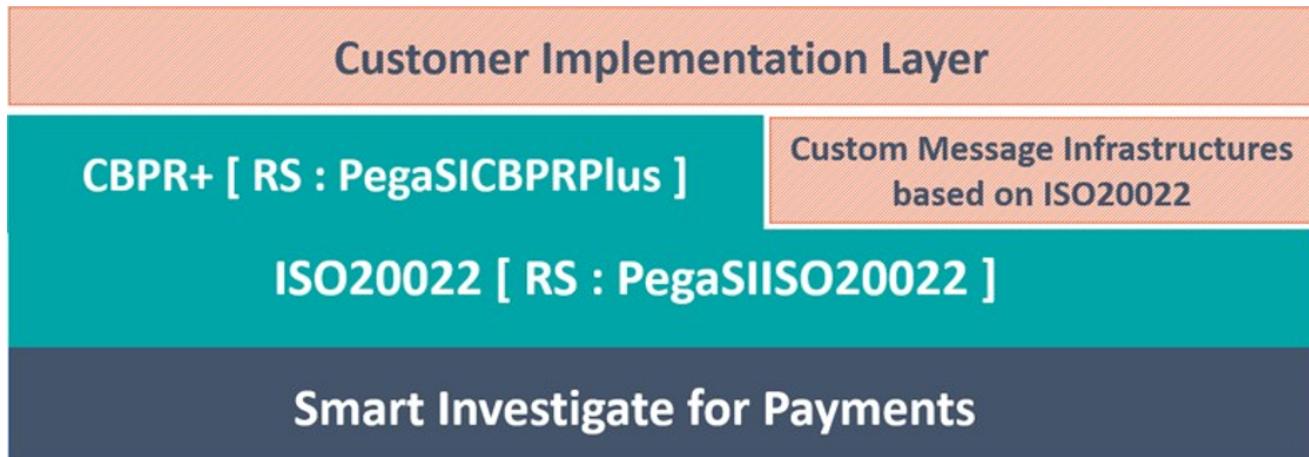
You can create a new layer for ISO 20022 standards in the application. This ISO 20022 application contains message infrastructures to support ISO 20022 based MX messages and the corresponding SWIFT CBPR+ messages. The application contains two specialized rulesets: PegaSICBPRPlus and PegaSIISO 20022.

The screenshot shows the Pega DEV STUDIO interface for the 'Smart Investigate ISO 20022' application. The top navigation bar includes 'DEV STUDIO', 'Application: Smart Investigate ISO 20022', 'Configure', 'Launch portal', 'Create', 'Search', and various action buttons like 'Delete', 'Actions', and 'Save'. The main content area is divided into several sections:

- Built on applications:** Shows one application named 'SmartInvestigateForPayments_Sample' with version 8.
- Enabled components:** Shows no items.
- Presentation:** Shows a skin named 'pyEndUser' and a checked checkbox for 'Render in HTML5'.
- Application URL alias:** Shows the URL 'https://10.225.94.50:8443/prweb/app/ISO20022/' and a 'Change URL alias' button.
- Development branches:** Shows no items.
- Application rulesets:** Shows two rulesets: 'PegaSICBPRPlus:08-07' and 'PegaSIISO20022:08-07'.

At the bottom, there are links for 'Agile Workbench', 'Current work', 'Scenario Testing', and various monitoring and performance tools like 'Issues', 'Tracer', 'Clipboard', 'Live UI', 'Live Data', 'Accessibility', 'Performance', and 'PEGA'.

The rules in the rulesets facilitate the processing of outbound and inbound messages based on standards published by ISO and SWIFT. The below layer cake explains the position of the new ISO 20022 application and expected configuration for customer implementations.



Adding the ISO 20022 layer

To leverage ISO 20022 messaging standards, follow the below steps:

1. Update your application to be built on ISO 20022 as shown below.

Built on applications

+ Add application

| Name | Version |
|---------------------------------|---------|
| ISO2002 | 8 |
| Appssmoke | |
| CosmosReact | |
| DMSample | |
| ISO20022 | |
| MyCoSmartInvestigateEI | |
| MyCoSmartInvestigateEIRTP | |
| MyCoSmartInvestigateSecurities | |
| MyCoSmartInvestigateSelfService | |
| MyCoSmartInvestigateSS | |
| PegaAESRemote | |
| PegaDM | |
| PegaRULES | |
| PegaUVU | |
| PSIEIStaging | |
| PSIP | |
| PSIPStaging | |
| PSISecStaging | |
| PSISSStaging | |
| RequestApproval | |
| ServiceRequest | |
| SmartInvestigate | |

Smart Investigate ISO 20022

Render in HTML5

2. Create the data model and update the extension points.

Setting up accounting functions

This chapter describes the accounting elements installed with Smart Investigate for Payments that you are most likely to change and personalize during the initial product deployment.

The topics covered in this chapter include:

- Setting up account types
- Setting up internal accounts
- Setting up the chart of accounts
- Setting up payment type rules
- Setting up accounting step rules
- Setting up accounting verification levels
- Setting up accounting cut-off
- Setting up accounting documents and advices
- Setting up account number validations
- **Setting up account types**
- **Setting up internal accounts**
- **Associating internal accounts with work pool classes**

Setting up account types

Account types are labels that differentiate and validate the type of account that is associated with the account number. The account type differentiates the accounts for display, accounting entries, and reconciliation purposes.

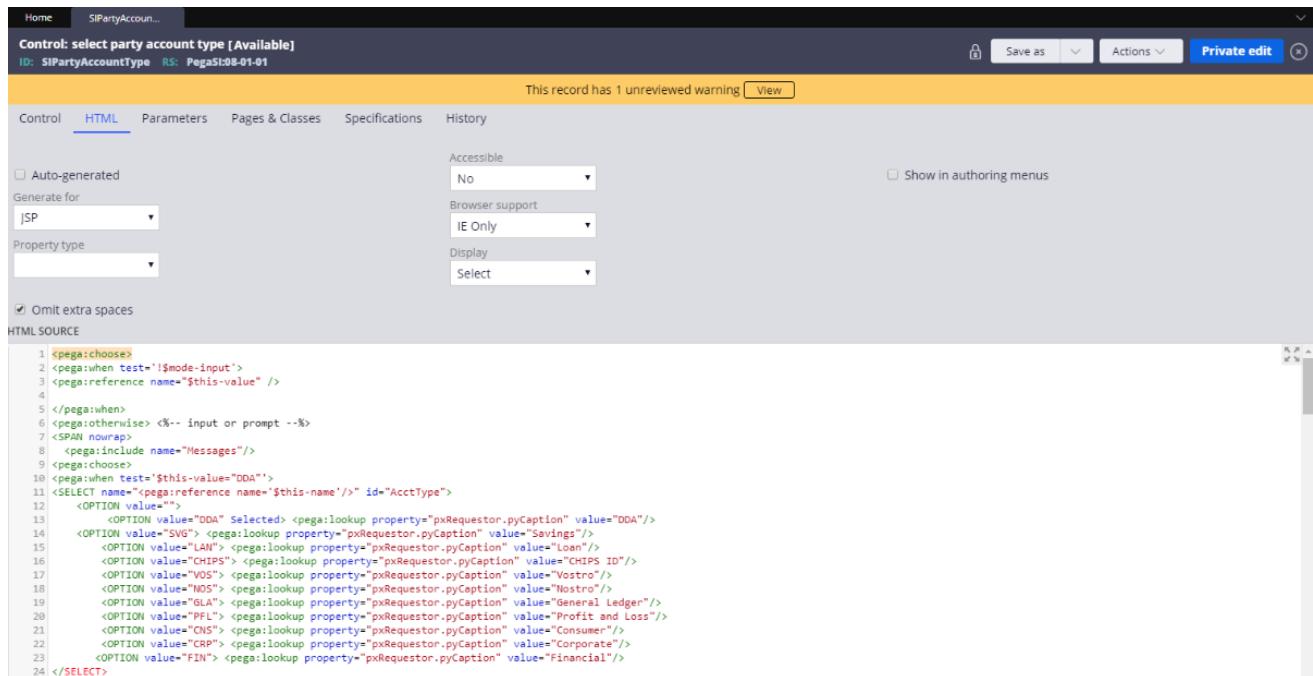
Smart Investigate for Payments processing combines the account type with an account number and bank number to form a unique key for each account and supports the

processing of multiple account types. In addition, types serve as data points for the sorting and posting of different types of accounts in the system's accounting feed file.

Ruleset record affected:

- Rule-HTML-Property named SIPartyAccountType

This image shows the rule for modifying account types.



The screenshot shows the 'Control: select party account type [Available]' ruleset record. The 'HTML' tab is selected. The configuration includes:

- Accessible:** No
- Generate for:** JSP
- Property type:** Select
- Display:** Select
- Omit extra spaces:** Checked

The **HTML SOURCE** section contains the following Pega markup:

```

1 <pega:choose>
2 <pega:when test="!$mode-input">
3 <pega:reference name="$this-value" />
4
5 </pega:when>
6 <pega:otherwise> <%-- input or prompt --%>
7 <SPAN nowrap>
8 <pega:include name="Messages"/>
9 <pega:choose>
10 <pega:when test="$this-value='00A'">
11 <SELECT name="pegar:reference name='$this-name'" id="AcctType">
12   <OPTION value="00A" Selected> <pega:lookup property="pxRequestor.pyCaption" value="00A"/>
13   <OPTION value="SVC"> <pega:lookup property="pxRequestor.pyCaption" value="Savings"/>
14   <OPTION value="LHS"> <pega:lookup property="pxRequestor.pyCaption" value="Con"/>
15   <OPTION value="CHIPS"> <pega:lookup property="pxRequestor.pyCaption" value="HIPS ID"/>
16   <OPTION value="VOS"> <pega:lookup property="pxRequestor.pyCaption" value="Vostro"/>
17   <OPTION value="M05"> <pega:lookup property="pxRequestor.pyCaption" value="M0stro"/>
18   <OPTION value="GLA"> <pega:lookup property="pxRequestor.pyCaption" value="General Ledger"/>
19   <OPTION value="PFL"> <pega:lookup property="pxRequestor.pyCaption" value="Profit and Loss"/>
20   <OPTION value="CNS"> <pega:lookup property="pxRequestor.pyCaption" value="Consumer"/>
21   <OPTION value="CRP"> <pega:lookup property="pxRequestor.pyCaption" value="Corporate"/>
22   <OPTION value="FIN"> <pega:lookup property="pxRequestor.pyCaption" value="Financial"/>
23 </SELECT>
24 </pega:otherwise>

```

Setting up internal accounts

Smart Investigate for Payments uses internal accounts in accounting transactions that are typically not a party in the case. Internal accounts are most often used to define reconciliation, wash, suspense, and profit and loss accounts.

Once defined, internal accounts form the basis for a lookup table called the Chart of Accounts that defaults commonly used account numbers and account names into the Smart Investigate for Payments accounting transactions.

Smart Investigate for Payments ships with a standard set of internal accounts. For deployment, you create instances of these records in your ruleset and update them with the appropriate account information. See Appendix A, *Application-Specific Information*, for a list of the internal accounts shipped with Smart Investigate for Payments.

Once you create the internal account you must associate it with a work pool class described in the next section of this chapter.

Ruleset record affected:

- PegaSI-Party-InternalAccount instances

This image shows the internal account setup for the Nostro Accounts Payable account.

| Account Details | NOS |
|-----------------|------------------|
| Account number | ACP12345678 |
| Bank number | NONE |
| Account name | Accounts Payable |

Associating internal accounts with work pool classes

Internal accounts are associated with work pool classes using a map value rule. The map value rule associates the name used by Smart Investigate for Payments with class names.

To specify the data class you created for the internal account, you must create a map value rule for your top-level class and ruleset.

Ruleset record affected:

- PegaSI-Work FinWorkPoolClasses instances

This image shows the map value rule to associate the internal account with a class name.

| Class Type | Default |
|-------------------|------------------|
| = InternalAccount | PegaSI-Party-Int |
| Default | PegaSI-Party-Int |

- Adding fields to the internal account
- Setting up payment type rules
- Setting up accounting step rules
- Setting up accounting verification levels
- Setting up accounting cutoff
- Setting up accounting documents
- Setting up accounting advices
- Setting up account number validations

Adding fields to the internal account

If you find it necessary to add fields to the Internal Account Setup form, please contact your Pegasystems Consulting representative for assistance, and follow the steps below:

1. Create an `InternalAccounts` class that extends from `PegaSI-Party-InternalAccount`. This enables you to add additional properties related to the Internal Accounts and set these values for each instance of the class. This class can be external or local.

Note: When the `PegaSI-Party-InternalAccount` class is the parent, your new class inherits the properties that are needed for accounting.

2. Create a Transaction class that extends from the `PegaApp-Txn-` class specific for `InternalAccount` transaction and create the additional transaction level properties to hold the additional data from the `InternalAccounts` class.
3. Modify the transaction class in the Adjustment Step Rules for transactions which default account information from the Chart of Accounts to reference the new transaction class you created.
4. Set the Transaction information:
 - If the step rule references an internal account from which to default the values, confirm the standard chart of accounts map values are set for your class, and modify the `FinChartofAcctsLookup` activity to copy the additional properties from the internal account class to the transaction class.
 - If the step rule does not reference an internal account from which to default the values, modify the following rules to set the values from the new internal accounts class:
 - Modify the *Section Rule* called `FinTxnDetailCreate` (to add the new properties)

- Modify *Rule-HTML-Property* called `SITxnDefaultValue` and the *HTML-Fragment* called `FinTxnDtlCreate_Script` (to modify the dynamic select and setting of the properties)
- Modify Posting Procedures (Entry File or SWIFT) to include the additional properties.
- Modify the Accounting Display (on the work harness) to see the additional properties

Setting up payment type rules

Payment type rules define two decision variables related to the processing of debit and credit entries in the Smart Investigate for Payments accounting steps:

- Whether accounting advices, notifications, or documents are generated with the debit or credit entry, and in what format (e-mail, mail, and so forth).
- The accounting cutoff time for the transaction, if documents are used for posting.

Smart Investigate for Payments comes with a set of predefined payment types. See Appendix D, *Application-Specific Information*, for a list of the Smart Investigate for Payments payment type rules and the documents associated with those rules. Changes or additions to payment types also require updates to the accounting step rules described on page 4-8.

Referenced by:

- Individual debit and credit transactions in accounting steps.

Format:

- The Payment Type name can be mixed-case alphabetic characters with no spaces or special characters.

Ruleset records affected:

- Rule-PegaApp-Financial-PaymentType

- **Naming conventions**

Naming conventions

The name or key to the rules is a concatenated string that describes the debit and credit accounting roles and the types of accounting messages and documents associated with those roles.

- For example, the name is DCUS3CWASH202ADV, which indicates debit customer 3 role, credit wash account, and send a 202 message with SWIFT advice.
- The name is DWASHCCUS3103ADVFED, which indicates debit wash account, credit customer 3 role, and send an MT103 and Fed advices.

The following images show the tabs to complete to set up the payment type rule.

The screenshot shows a software interface for setting up a payment type rule. At the top, there is a header bar with the title "Payment type: Dr Cust3-Cr Wash via 202 with SWIFT Adv [Available]" and status indicators for CL: PegaApp-Txn-, ID: DCUS3CWASH202ADV, and RS: PegaSI:08-01-01. Below the header, there are tabs for Details (which is selected), Options, PegaComBankCorr, and History. The main content area is titled "CUTOFF" and contains a dropdown menu for "Name of Cutoff to use" with "Default" selected. Below this is a section titled "FINANCIAL DOCUMENTS-PRPC RULE-OBJ-CORR TEMPLATES" with a table. The table has columns for "Corr Name", "Corr type", and "Document Required?". There is one row shown, with the Corr Name field containing "1", the Corr type field empty, and the Document Required? checkbox unchecked.

| Corr Name | Corr type | Document Required? |
|-----------|-----------|--------------------------|
| 1 | | <input type="checkbox"/> |

Payment type: Dr Cust3-Cr Wash via 202 with SWIFT Adv [Available]
CL: PegaApp-Txn- **ID:** DCUS3CWASH202ADV **RS:** PegaSI:08-01-01

Details Options PegaComBankCorr History

Use Documents For Posting?

ALTERNATE PAYMENT TYPES

[Empty table area]

Payment type: Dr Cust3-Cr Wash via 202 with SWIFT Adv [Available]
CL: PegaApp-Txn- **ID:** DCUS3CWASH202ADV **RS:** PegaSI:08-01-01

Details Options PegaComBankCorr History

FINANCIAL DOCUMENTS-PEGACOMMBANK CORR ONLY

| Stream Name | Correspondence Language | Correspondence type | Document Required? |
|-------------------|-------------------------|---------------------|-------------------------------------|
| 1 DCUS3CWASH202 | English | Swift_MT202 | <input checked="" type="checkbox"/> |
| + | | | |

FINANCIAL ADVICES-PEGACOMMBANK CORR ONLY

| Stream Name | Correspondence Language | Correspondence type | Document Required? |
|-------------------|-------------------------|---------------------|-------------------------------------|
| 1 ADVICEOFDR | English | Swift_MT299 | <input checked="" type="checkbox"/> |
| + | | | |

| Field | Description |
|-----------------------|---|
| Short Description | Required. Short description of the payment type. The default is the instance name. |
| DetailsTab | |
| Name of Cutoff to use | Specifies the name of the cutoff rule to use for this payment type. The cutoff rule identifies the end of the business day. |
| Stream Name | Specifies the name of the stream to be used. |

| Field | Description |
|--------------------|--|
| Corr Type | Specifies the type of correspondence (document) generated with this payment type, such as e-mail or a SWIFT message. |
| Document Required? | Identifies if the document being generated is required. |

Options Tab

| | |
|--------------------------------|--|
| Use Documents for Posting? | Identifies if the document generated will be used for posting accounting entries. If checked, entries will be made to the accounting posting file. |
| Alternate Payment Types | Identifies if an alternate payment type is acceptable. |

| Field | Description |
|--|---|
| PegaComBankCorr Tab | |
| Financial Documents — PegaComBank Corr Only | |
| Stream Name | Specifies the stream to be used to generate the financial document. |
| Correspondence Language | Specifies the language to be used when generating the document. |
| Correspondence Type | Specifies the type of correspondence being generated for this financial document. |
| Document Required? | Identifies if this document being generated is required. |
| Financial Advices — PegaComBank Corr Only | |
| Stream Name | Specifies the name of the stream for the financial advice. |

| Field | Description |
|-------------------------|---|
| Correspondence Language | Specifies the language to be used when generating the advice. |
| Correspondence Type | Specifies the type of correspondence to generate for this financial advice. |
| Document Required? | Identifies if this document being generated is required. |
| History Tab | Required. Full description of the instance and information on its usage. |

Setting up accounting step rules

Smart Investigate for Payments uses accounting rules to define the debit and credit entries for adjustment transactions supported by the workflows.

Called accounting steps, these adjustment rules define a one-time accounting transaction that creates a balanced set of debit and credit account entries. Accounting rules share the same class structure, including the key. The key consists of the class of the case for which the accounting is being processed, the accounting action, and a step descriptor or type.

When deploying Smart Investigate for Payments, you need to consider and update a number of data elements in the accounting step rules. See Appendix D, *Application-Specific Information*, for a list of the accounting step rules and associated payment types. To modify a step rule, first save it in your ruleset, and then update it. The updates typically include one or all of the following tasks:

- Add verification to a step
- Update the payment type
- Change account defaulting information to use different party roles
- Reference different internal accounts listed in your Chart of Accounts

Ruleset records affected:

- Rule-PegaApp-Financial-Adjustment Naming Conventions.

The name or key to the step rules is a concatenated string that describes of the type of adjustment it generates. For example:

- The name InternalAdjustment1DR2CR generates one debit and two credits.
- The name ReversalDR reverses a debit entry.
- The following shows the Step tab of the Adjustment Rule window for the instance PegaSI-Work-Adjust-InternalAdjustment1DR2CR

Financial Adjustment Rule: Internal Adjustment- 1DR/2CR [Available]
CL: PegaSI-Work **ID: Adjust - InternalAdjustment1DR2CR** **RS: PegaSI:08-01-01**

Step# Transactions PegaCommBankCorr Security History

Class of the Step: PegaApp-Step-Adjustme

Activity for Verification Flow: FinVerifyByAmount

Model to create Step:

Validate Activity:

Likelihood: 90

Value Dates Balance Value Dates Different Value Dates In Past

The image below shows the **Transactions** tab for the same instance; the screen is wide and you must scroll from left to right to see all the fields. These fields, and their use in creating new step rules, are described in detail below.

Financial Adjustment Rule: Internal Adjustment- 1DR/2CR [Available]
CL: PegaSI-Work **ID: Adjust - InternalAdjustment1DR2CR** **RS: PegaSI:08-01-01**

Step# **Transactions** PegaCommBankCorr Security History

| Group | Label | DR / CR | Role | Txn Class | Pymt Type | Protect PymtType? | Default Account From | Account From Value | Protect |
|-------|---------------|---------|-------|---------------------|---------------|-------------------------------------|----------------------|--------------------------|--------------------------|
| A | TXN1_Party | Debit | DCUS | PegaApp-Txn-General | DCUSCWASH202 | <input type="checkbox"/> | Work party | <input type="checkbox"/> | <input type="checkbox"/> |
| A | TXN1_Internal | Debit | DCUS | PegaApp-Txn-General | NoDocs | <input checked="" type="checkbox"/> | Chart of Accounts | <input type="checkbox"/> | <input type="checkbox"/> |
| B | TXN2_Party | Credit | CCUS1 | PegaApp-Txn-General | DWASHCCUS1202 | <input type="checkbox"/> | Work party | <input type="checkbox"/> | <input type="checkbox"/> |
| B | TXN2_Internal | Credit | CCUS1 | PegaApp-Txn-General | NoDocs | <input checked="" type="checkbox"/> | Chart of Accounts | <input type="checkbox"/> | <input type="checkbox"/> |
| C | TXN3_Party | Credit | CCUS2 | PegaApp-Txn-General | DWASHCCUS2202 | <input type="checkbox"/> | Work party | <input type="checkbox"/> | <input type="checkbox"/> |
| C | TXN3_Internal | Credit | CCUS2 | PegaApp-Txn-General | NoDocs | <input checked="" type="checkbox"/> | Chart of Accounts | <input type="checkbox"/> | <input type="checkbox"/> |

The following shows the PegaCommBankCorr tab for the same instance. These fields and their uses are described below.

| Financial Adjustment Rule: Internal Adjustment- 1DR/2CR [Available] | | | | | |
|---|--------------|-------------------------|-----------------------------------|--------------------------|-----------------|
| CL: | PegaSI-Work- | ID: | Adjust • InternalAdjustment1DR2CR | RS: | PegaSI:08-01-01 |
| Step# | Transactions | PegaCommBankCorr | Security | History | |
| Party role | Stream Name | Correspondence Language | Correspondence type | Document Required? | |
| | | | | <input type="checkbox"/> | |
| + | | | | | |

| Field | Description |
|--------------------------------|--|
| Short Description | Required. Short description of the step rule. The default is the instance name. |
| StepTab | |
| Class of the Step | The class of the page that holds the Step data. Specify a Rule-Obj-classname that is a concrete child class of PegaApp-Step-. |
| Activity for Verification Flow | An activity at the class of the step that calls a verification flow. If blank, the system automatically bypasses verification. One activity delivered with the product specifies a verification flow based on amount values. The system also has four verification flows (no verification required, one level, two levels, or three levels of verification required), which can be used based on the amount of the step. |

| Field | Description |
|-------------------------|---|
| Model to create Step | A rule of type Rule-Obj-Model at the class of the step. If specified, the system creates the step page based on the model. The step rules in the product do not use a model. |
| Validate Activity | Reserved for future use. |
| Likelihood | An integer between 0 and 100 used to preselect the most likely step rule (the one with the highest number) during the manual flow actions that create accounting steps. The flow actions find all step rules that apply to the flow action. |
| Value Dates Balance | |
| Value Dates Different | If checked, you can use different value dates. |
| Value Dates In Past | If checked, you can use value dates in the past to calculate the accounting transaction. |
| Transactions Tab | |

| Field | Description |
|-------|---|
| Group | Specifies if this transaction is part of a group of transactions such that only one transaction in the group will be used when the accounting is created. In manual processing, the user selects which transaction from the group to choose (the Label property is displayed in a selection box so only one transaction can be chosen). In automatic processing, the first transaction in the group is selected, so the order is significant. |

| Field | Description |
|----------------------|---|
| Label | This value appears in the window during manual accounting creation flow actions to indicate to the user what the transaction is. |
| DR /CR | Indicates if the transaction is a Debit or a Credit. The rule requires that debits are listed before credits for consistency, as the order of the transactions in the rule is the order in which they are displayed during manual accounting creation flow actions. |
| Role | A unique string identifier for each transaction in this step. Its value is placed into a property named Role in the transaction of the step, and can be used to find or report on the transaction. |
| TxnClass | The class of the page that holds the transaction data; specify a Rule-Obj-Class name that is a concrete child class of PegaApp-Txn-. |
| Pymt Type | Name of Rule-PegaApp-Financial-PaymentType rule to use for this transaction. The payment type rule associates correspondence with the transaction. |
| Protect PymtType? | If selected, the user interface during manual accounting creation does not allow input in the Pymt Type field. If not selected, users can modify this value during manual accounting creation. |
| Default Account From | <p>Where to acquire the account name and number for this transaction:</p> <ul style="list-style-type: none"> • WorkParty—Take from the Party role in the work object. (The role is specified in the DefaultAccountValue property.) |

| Field | Description |
|---------------------|---|
| | <ul style="list-style-type: none"> • Chartof Accounts —Take from a specified internal account. The value of the DefaultAccountValue property is used in a lookup to a map value rule named ChartOfAccts at the class of the work object; this returns a key to a Data Party record. A second map value rule is used at the class of the work object to determine the actual party class that this key should be looked up in. It finds the party class by looking up the value InternalAccount in the map value rule WorkPoolClasses. |
| Account From Value | Specifies a party role if the Default Account From value is Party. Specifies an internal account name (as defined in the map value ChartOfAccts) if the Default Account From value is Chart of Accounts. |
| Protect Account? | If this field is selected, the user interface does not allow input in the Account Name or Number fields during manual accounting creation. If this field is not selected, users can modify these values during manual accounting creation. |
| Default Amount From | <p>This specifies where to acquire the default amount value for this transaction:</p> <ul style="list-style-type: none"> • Property—Defaults to the amount from the property specified in the Amount From Value field. • Literal—Defaults to the literal amount entered in the Amount From Value field. |

| Field | Description |
|----------------------------|---|
| Amount FromValue | <p>Specifies a property reference if DefaultAmountFrom is Property. A reference can be any fully qualified property reference from any page, but if the property reference is not dot qualified, then it assumes the property will be found on the top level of the work object page.</p> <p>Specifies an actual amount number value if Default Amount From is Literal. Do not use quotes, \$, or commas (that is, specify 1000.00 and not \$1,000.00 or \$1000.00 or "1000.00").</p> |
| Default Currency | The default currency for the transaction. |
| Protect Amount? | If this field is selected, the user interface does not allow input in the Amount field during manual accounting creation. If this field is not selected, users can modify this value during manual accounting creation. |
| Default Value Date From | Specifies the value date for the From account. |
| ValueDate FromValue | Specifies the value date for the From value. |
| Protect ValueDate? | If this field is selected, the user interface does not allow input in the Value date field during manual accounting creation. If this field is not selected, users can modify the value date during manual account creation. |
| PegaCommBankCorrTab | |
| Party Role | A unique string identifier for each transaction in this step. Its value is placed into a property named |

| Field | Description |
|-------------------------|--|
| | Role in the transaction step and may be used to find or report on the transaction. |
| Stream Name | Specifies the name of the stream to be used with this transactions. |
| Correspondence Language | Specifies the language to be used for any correspondence (documents) generated for this transaction. |
| Correspondence Type | Specifies the type of correspondence (documents) to be generated for this transaction. |
| Document Required? | Specifies if documents are required to complete this transaction. |

Security Tab

| | |
|------|--|
| Name | Optional. Enter the name(s) of any named privileges where access to the privilege allows this step to be executed. |
|------|--|

| Field | Description |
|--------------------|---|
| Class | Optional. Enter the class of privileges you specify in this window. |
| When Name | Optional. Enter a When rule that must evaluate to true to allow this step to be executed. Most step rules in the Smart Investigate for Payments product use When rules to allow access to the step only if the Party Role referenced in the step exists in the work object. |
| History Tab | Required. Full description of the instance and information on its usage. |

Setting up accounting verification levels

Smart Investigate for Payments supports up to three levels of accounting verification. These levels are based on the base currency value of the step amount (total of debits or credits).

The verification level also represents the number of times a transaction must be verified before it can be posted to the system's accounting feed file, when the association documents are sent. Accounting steps come with verification enabled.

Privileges assigned to an operator determine the dollar levels that operators have the authority to verify. Although an operator can have the security to verify at multiple levels, an operator cannot verify a single transaction more than once.

To include verification in your other business flows, you must set up your verification levels in the map value rule named FinVerificationFlowByAmount and then update the accounting rules. In the accounting rules, you specify an activity called FinVerifyByAmount in the Activity for Verification Flow field on the Step tab of the rule. It is this activity that calls the mapped value during processing to set the verification level of the transaction.

For deployment, review the verification values and update if necessary to meet your institution's requirements.

Referenced by:

- Accounting steps
- Verification flows and workbaskets

Format:

- Threshold amount is a numeric, whole number or two decimals, no commas
- Amount is and up to and including evaluation

Ruleset recordaffected:

- Rule-Obj-MapValue- named FinVerificationFlowByAmount

The following image shows verification levels for FinVerificationFlowByAmount.

Map Value : Amount Thresholds for Verification Levels [Available]
CL: PegaApp-Step- **ID:** FinVerificationFlowByAmount **RS:** PegaSI:08-01-01

Matrix Configuration Parameters Pages & Classes Specifications History

Configure columns Configure rows Show Conflicts Show Completeness Export Import

| Amount Thresholds | Default |
|-------------------|------------------|
| < 100 | FinStepVerifyNot |
| < 50000 | FinStepVerifyOne |
| Default | FinStepVerifyTwo |

Setting up accounting cutoff

Smart Investigate for Payments supports the use of warning and cutoff times for accounting transactions which enables your organization to run end-of-day accounting feeds and reports on reconciliation and balances.

When Smart Investigate for Payments is installed, accounting cutoff is not enabled. It is set up to bypass the evaluation of cutoff times for all accounting entries — enabling round-the-clock processing of your outgoing debits and credits. This is configured by referencing a cutoff rule named Default in all of the payment types shipped with the product. This rule references a special instance of Data-Admin-Calendar called AcctCutoff that has all days of the year set to business days.

If you want to enable accounting cutoff for your organization, follow the setup instructions below.

You can use multiple cutoff rules to differentiate different accounting extraction and feed schedules.

Cutoff can be activated in two modes: Standard and Future.

- Standard —You or Smart Investigate for Payments can continue researching and processing cases but the standard cutoff prevents accounting transactions from posting until a specified release time is reached. In most instances, work on the case can continue until a workflow or transaction point is reached where processing cannot advance until the transaction is posted. Installed, this is the default cutoff mode.
- Future —You or Smart Investigate for Payments can continue researching and processing cases and continue posting transactions after the day's cutoff has been reached. When processing in this cutoff mode, debit and credit transactions in the step are posted to the accounting posting file with the next business day's date and a time of 00:05:00 so it posts normally on the next business day. This means the accounting feed must be extracted by date ignoring the time stamp. The online display shows date and time as entered in the posting file so you know what was done between cutoff and the next business day. This method also works well for weekend processing.

Note:

- ① Transactions held for cutoff are always held as balanced transactions. Debits and credits are not separated prior to posting.

Referenced by:

- Payment Types used in the accounting step rules
- Accounting displays that identify entries held for cutoff
- Online indicators that identify entries that passed warning or cutoff times

Format:

- Time —set in 24-hour notation format of hhmmss
- Naming scheme —should describe the accounting deadline (for example, DDA or General Ledger)

Ruleset records affected:

- Rule-Obj-MapValue named CutoffType —defines the type of cutoff; defaults to Hold for Standard mode, and update to Future for Future mode
- Rule-Obj- MapValue named CutoffCalendar —defines which calendar to reference for work dates
- Rule-PegaApp-Financial-Cutoff — defines the cutoff time, one instance for each cutoff schedule needed

Note:

- ⓘ If you do not use cutoff functions during initial deployment, you do not need to copy the records.

The following figure shows an example of the cutoff type form.

Map Value : Cutoff Type [Available]
CL: PegaApp-Step- ID: FinCutoffType RS: PegaAppFin:08-01-01

Matrix Configuration Parameters Pages & Classes Specifications History

Configure columns Configure rows Show Conflicts Show Completeness Export Import

| Cutoff Type | Column Name |
|-------------|-------------|
| Default | Hold |

The following shows an example of the cutoff calendar form used to select the calendar to use for cutoff.

Map Value : Return Calender Name to use for cutoff [Available]
CL: Rule-PegaApp-Financial-Cutoff ▼ **ID: FinCutoffCalendar** **RS: PegaSt:08-01-01**

Matrix Configuration Parameters Pages & Classes Specifications History

Configure columns Configure rows Show Conflicts Show Completeness Export Import

| Calendar | |
|----------|------------|
| Branch | Default |
| Default | AcctCutoff |

The following shows an example of the cutoff calendar rule used to define the cutoff times.

Financial Cutoff: Default Cutoff Rule [Available]
ID: Default **RS: PegaAppFin:08-01-01**

Cutoff History

Warning Time
235959

Cutoff Time
235959

Save as Actions Private edit

Setting up accounting documents

Accounting documents are entered in an accounting step and when generated become attachments to the case.

Accounting documents can be created automatically as part of adjustment processing or manually when users elect to send an additional document. Users select the document(s) to send from the Additional Documents selection box.

Smart Investigate for Payments uses correspondence templates to generate accounting documents. For information on creating and modifying correspondence templates, see Appendix A, *Application-Specific Information*, for a list of the accounting templates.

Accounting can generate correspondence for transactions that are not defaulted from work parties, if a party role exists. If the following characteristics apply: a non-work party transaction has a payment type that specifies PegaCommBank correspondence; the correspondence type is in a decision tree; and a valid party role exists for the case, then Smart Investigate automatically creates the correspondence and addresses it to the party role. Otherwise, no document is created.

If you customize correspondence, you can override this decision tree rule for Types or correspondence that does not derive addresses from the party role.

Ruleset record affected:

- PegaApp-Doc- decision tree named InternalAccountDocTypes —lists the valid correspondence types accounting creates for internal accounts. As shipped, Swift_MT103 and Swift_MT202 as the only valid types (Figure 5 17).

Referenced by:

- PegaCommBank-Work- activity named CheckInternalAccount —This activity verifies that the type is valid and that the Inquirer role exists before generating the correspondence. If the Inquirer role is not required, you can override this activity to check for and use a different party role, as the correspondence modules require a valid party role.

Decision tree: InternalAccountDocTypes [Available]
 CL: PegaApp-Doc ID: InternalAccountDocTypes RS: PegaCommBank:08-01-01

Decision Configuration Parameters Pages & Classes Test cases Specifications History

Show Conflicts Show Completeness

if Corr Type of Rule-Financial-Doc = Swift_MT103 then return Yes
 if Corr Type of Rule-Financial-Doc = Swift_MT202 then return Yes
 otherwise RETURN No

Setting up accounting advices

In addition to financial documents, you can include a correspondence advice to a work party as part of an accounting step.

This would be useful when reversing a debit and credit while simultaneously notifying the inquirer of your actions. Advices are added using the Add a Document flow action at the end of an accounting step.

For an advice template to appear in the list of available templates at run time, the template must follow a naming convention and begin with the characters ADV.

Setting up account number validations

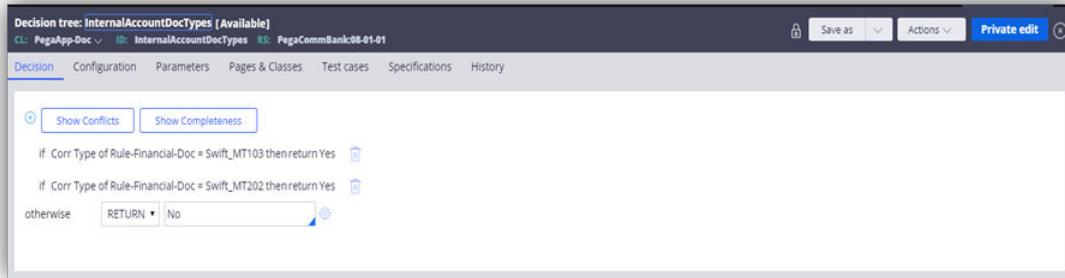
Account numbers can be numeric, alphanumeric, or can include special characters. Account number validation helps to eliminate errors when users enter account numbers in accounting transactions.

For example, you might want account numbers for transactions to only contain valid SWIFT characters. You can use a property (TxnAcct) in the PegaApp-Txn- class to set up account number validation. Copy this record into your ruleset. In the Validate field, either select an instance using SmartPrompt or create a new instance. For example, to validate SWIFT characters, select ValidSWIFTCharSet.

Ruleset record affected:

- PegaApp-Txn- property named TxnAcct

The following shows the rule for setting up field validations.



CBPR+: Extension points and configurations

Smart Investigate provides extension points and configurations, wherever applicable, so that clients can override these in respective layers or change the settings as per their business requirements.

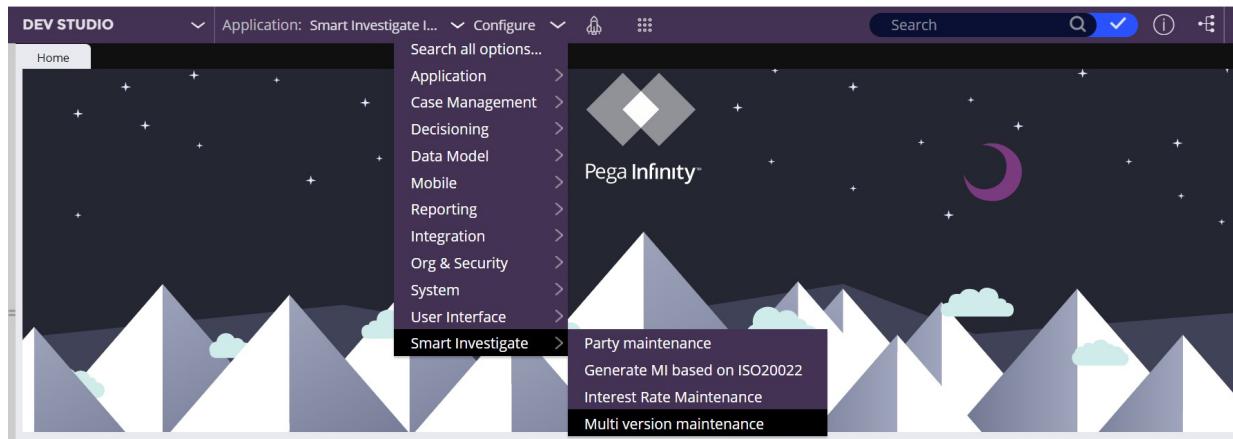
- **Configure message version**
- **Configure active version for outbound messages**
- **Message processing through Create Adjustment flow**

Configure message version

By default, Smart Investigate provides the active message version for messages. You can configure or modify the active version for messages.

You can configure or modify the active version for messages as follows:

1. Navigate to Dev Studio > Configure > Smart Investigate > Multi-version maintenance page.



2. In the Multi-version maintenance page, specify the required values in the Corr type, Message Name, and Active Version dropdown.

The screenshot shows the 'Multi version maintenance' dialog box. It has tabs for 'Home' and 'Multi Version...'. The main area is titled 'Multi version maintenance' and contains a message: 'The system may support multiple version for each message type, but only a single version can be enabled per message for outbound messages. Use this landing page to update the active version available with respect to each message type.' Below this is a form with 'Corr type' set to 'CBPR Plus', 'Message Name' set to 'PaymentReturn', and 'Active Version' set to 'V9'. There are 'Apply' and 'Reset' buttons. A section titled 'Message active version list' shows a table with one row: 'Corr type' 'Swift_CBPRPlus', 'Message Name' 'PaymentReturn', and 'Active Version' 'pacs.004.001.09'. A 'Refresh list' button is also present.

3. Click Apply. The change can be verified in the list of all messages.

Configure active version for outbound messages

The application invokes the Create Correspondence flow to filter and displays the active version of the message. The IsCorrValidForCBPRPlus When rule and the IsCorrValidForCBPRPlus Decision table are pre-configured to verify if the message version is active. You can configure the messages to verify the versions based on your business need.

To configure the messages that must be verified perform the following steps:

1. Navigate to the CorrValidForCBPRPlusExt decision table.
2. Click Save As.
3. Click Create and Open
4. In the Apply to and Add to ruleset, specify the appropriate implementation class and ruleset.
5. Add or delete the message rules per the business requirement.
6. Click Save.
7. Update the IsCorrValidForCBPRPlus when rule with the CorrValidForCBPRPlusExt decision table.

Message processing through Create Adjustment flow

To process messages using the Create Adjustment flow, payment type rules must be created. The application provides payment type rules for CBPR+ messages with the naming convention, CBPR<Message Type>. For example, CBPRPACS008.

Existing payment type rules are updated to refer to the new payment types. You can create and map payment rules in the application layer.

The following rules are included in the application:

| Message Type | Template Name | New payment rule type | Existing payment type updated to refer to new payment type | Existing financial adjustment rule type |
|--------------|---------------|-----------------------|--|---|
| | | | | |

| | | | | |
|-----------------|----------------------------|-------------|--------------|-----------------|
| pacs.004.001.09 | PaymentReturn_V9 | CBPRPACS004 | DCUSSBK202 | ReturnToSend |
| pacs.008.001.08 | CustomerCreditTransfer_V08 | CBPRPACS008 | DCUSBLANK103 | InitiatePayment |
| pacs.009.001.08 | FICreditTransfer_V08 | CBPRPACS009 | DCUSBLANK202 | InitiatePayment |

Update the existing rules to include new CBPR+ specific payment types according to your business requirements as follows:

1. In Dev Studio, search for the SetAdditionalDefaultValues Data Transform associated with the message template you want to modify.
2. Modify the appropriate data mapping based on your requirements.
3. Click Save.

The screenshot shows the Pega Dev Studio interface for a 'Data Transform: Default [Available]' record. The top navigation bar includes 'Home', 'Default', 'Save as', 'Actions', and 'Private edit'. The main area displays the definition of the data transform with four rules listed:

| Action | Target | Relation | Source |
|----------------------|----------------------------|----------|-------------------|
| Set | .MessageType | equal to | "camt.052.001.08" |
| Update Page | .BkToCstmrAcctRpt | | |
| Apply Data Transform | DefaultGroupHeader | | |
| Apply Data Transform | DefaultReport | | |
| Apply Data Transform | SetAdditionalDefaultValues | | |
| When | IsDummyDataRequired | | |

Buttons at the bottom include '+ Collapse All', '+ Expand All', and a checkbox for 'Call superclass data transform'.

ISO 20022: Extension points and configurations

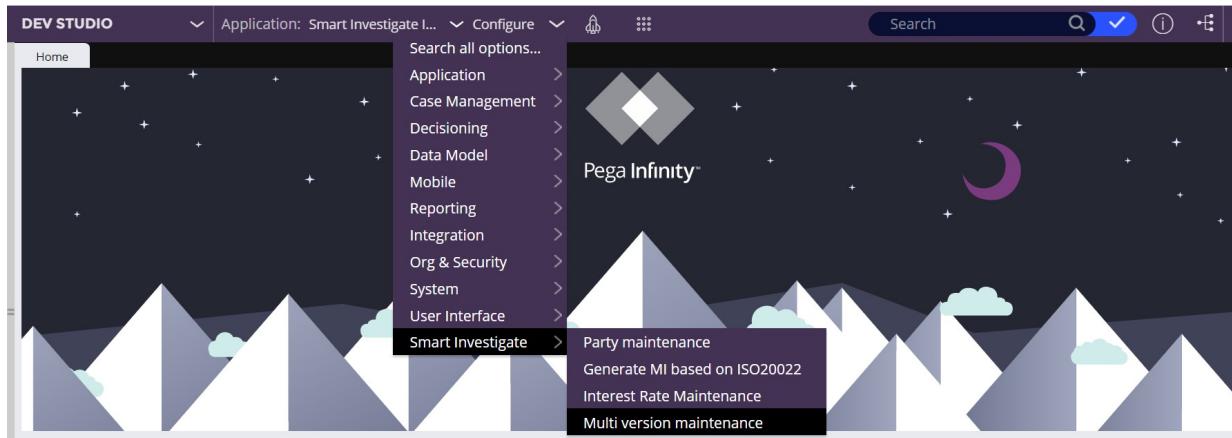
Smart Investigate provides extension points and configurations so that clients can override these in respective layers or change the settings per their business requirements.

- **Configure message version**
- **Configure messages for the active version**
- **Message processing through Create Adjustment flow**

Configure message version

To create or modify the active version for the respective message types, update the configuration points as follows:

1. Navigate to Dev Studio > Configure > Smart Investigate > Multi-version maintenance page.



2. In the Multi-version maintenance page, specify the required values in the Corr type, Message Name, and Active Version dropdown.

The screenshot shows the 'Multi version maintenance' page. The title is 'Multi Version Maintenance for ISO20022 based outbound messages'. A note states: 'The system may support multiple version for each message type, but only a single version can be enabled per message for outbound messages. Use this landing page to update the active version available with respect to each message type.' Below this, there are dropdowns for 'Corr type' (set to 'ISO20022') and 'Message Name' (with a 'Select...' button). Buttons for 'Apply' and 'Reset' are present. A section titled 'Message active version list' contains a table:

| Corr type | Message Name | Active Version | |
|-----------|------------------------------|-----------------|--|
| ISO20022 | AccountReportingRequest | camt.060.001.06 | |
| ISO20022 | AdditionalPaymentInformation | camt.028.001.11 | |

A 'Refresh list' button is located at the top right of the table area.

3. Click Apply. The change can be verified in the list of all messages.

Configure messages for the active version

The application invokes the Create Correspondence flow to filter and displays the active version of the message. The IsCorrValidForISO When rule and the IsCorrValidForISO

Decision table are pre-configured to verify if the message version is active. You can configure the messages for which versions must be verified, based on your business need.

To configure the messages that must be verified perform the following steps:

1. Navigate to the CorrValidForISOExt decision table.
2. Click Save As.
3. Click Create and Open
4. In the Apply to and Add to ruleset, specify the appropriate implementation class and ruleset.
5. Add or delete the message rules as needed.
6. Click Save.
7. Update the sCorrValidForISO when rule with the CorrValidForISOExt decision table.

Decision Table: IsCorrValidForISOExt [Available, Extension]

CL: Rule-PegaCommBank-Corr-ISO20022 **ID:** IsCorrValidForISOExt **RS:** PegaSIISO20022:08-06-01

| Conditions | | | | Actions | |
|------------|---|-------------------|----------------|---------|--|
| | | Template name | Active version | Return | |
| if | BankToCustAccountReport_V8 | "camt.052.001.08" | → | true | |
| else if | BankToCustAccountReport_V10 | "camt.052.001.10" | → | true | |
| else if | BankToCustomerStatement_V08 | "camt.053.001.08" | → | true | |
| else if | BankToCustomerDebitCreditNotification_V08 | "camt.054.001.08" | → | true | |
| else if | PaymentReturn_V10 | "pacs.004.001.10" | → | false | |
| else if | StatusReport_V11 | "pacs.002.001.11" | → | true | |
| else if | CustomerCreditTransfer_V09 | "pacs.008.001.09" | → | false | |
| else if | FICreditTransfer_V09 | "pacs.009.001.09" | → | false | |
| else if | FIToFIPymentCnclReq_V09 | "camt.056.001.09" | → | true | |
| else if | RsltnOfInvstgn_V10 | "camt.029.001.10" | → | true | |
| else if | UnableToApply_V08 | "camt.026.001.08" | → | true | |
| else if | ReqToModfyPmt_V07 | "camt.087.001.07" | → | true | |
| else if | FreeFormatMessage_V03 | "camt.998.001.03" | → | true | |
| otherwise | | | → | false | |

Message processing through Create Adjustment flow

To process messages using the Create Adjustment flow, payment type rule must be created. The application provides payment type rules for ISO messages with the naming convention, ISO<Message Type>. For example, ISOPACS008.

Existing payment type rules are updated to refer to the new payment types. You can create and map payment rules in the application layer.

The following rules are included in the application:

| Message Type | Template Name | New payment type rule | Existing payment type | Existing financial |
|--------------|---------------|-----------------------|-----------------------|--------------------|
| | | | | |

| | | | | |
|-----------------------|--------------------------------|------------|-----------------------------------|-------------------------|
| | | | updated to new payment type | adjustment rule type |
| pacs.0004.000 1.10 | PaymentRetur n_V10 | ISOPACS004 | DCUSSBK202 | ReturnToSend er |
| pacs.008.001.0 9 | CustomerCredi tTransfer_V09 | ISOPACS008 | DCUSBLANK10 3 | Initiate Payment |
| pacs.009.001.0 9 | FICreditTransfe r_V09 | ISOPACS009 | DCUSBLANK20 2 | Initiate Payment |

Update the existing rules to include new CBPR+ specific payment types according to your business requirements as follows:

1. In Dev Studio, search for the SetAdditionalDefaultValues Data Transform associated with the message template you want to modify.
2. Modify the appropriate data mapping, based on your requirements.
3. Click Save.

The screenshot shows the Pega Dev Studio interface for a Data Transform named "Default". The top navigation bar includes "Home", "Default", "Save as", "Actions", and "Private edit". The main area displays the "Definition" tab of the Data Transform. It lists several actions:

- Action 1: Set .MessageType to "camt.052.001.08" using the "equal to" relation.
- Action 2: Update Page .BkToCstmrAcctRpt (with sub-actions 2.1 and 2.2).
- Action 3: Apply Data Transform to "SetAdditionalDefaultValues".
- Action 4: When IsDummyDataRequired.

Buttons at the bottom include "Collapse All", "Expand All", and "Call superclass data transform".

The screenshot shows a Pega Smart Investigate interface for a 'Data Transform: SetAdditionalDefaultValues [Available, Extension]'. The top navigation bar includes 'Home', 'Default', and 'SetAdditional...'. Below the title, it shows 'CL: PegaCommBank-ISO20022-BnkToCustAcctRep-DocumentV8' and 'ID: SetAdditionalDefaultValues RS: PegaSIISO20022:08-06-01'. A yellow banner at the top indicates 'This record has 1 info warning (including 1 unjustified)' with a 'View' button. The main content area has tabs for 'Definition', 'Parameters', 'Pages & Classes', 'Test cases', 'Specifications', and 'History'. The 'Definition' tab is selected, displaying a table with one row. The table columns are 'Action', 'Target', 'Relation', and 'Source'. The single row contains a comment: 'Comment' (dropdown) set to 'Placeholder for customer extension to set message default data'. Buttons for '+ Collapse All' and 'Expand All' are below the table, along with a checkbox for 'Call superclass data transform'.

Update the dynamic class referencing

Smart Investigate for Payments ships data transform PegaSI-Data-AppExtension.

AppExtension which needs to be saved into the implementation ruleset & class values, which are created in the implementation layer, to be set in the data transform as applicable in the implementation layer. Post then Data Page D_AppExtension can be run to check the results & values picked from the latest implementation classes.

| Data Transform: AppExtension [Available, Extension] | | | | | |
|--|----------------------------|-------------------------------------|---|--|-------------------------|
| CL: | PegaSI-Data-AppExtension | ID: | AppExtension | RS: | PegaSI:08-02-05 |
| This record has 2 info warnings (including 2 unjustified) View | | | | | |
| Definition | Parameters | Pages & Classes | Test cases | Specifications | History |
| Action | Target | Relation | Source | | |
| • 1 | Comment | equal to | "MyCoSI-RM-CommBank-Results" | Select values + Edit | |
| • 2 | .RMResultsClass | equal to | "MyCoSI-RM-CommBank-PaymentTXN" | Select values + Edit | |
| • 3 | .RMPaymentTXN | equal to | "MyCoSI-RM-CommBank-History" | Select values + Edit | |
| • 4 | .RMHistoryClass | equal to | "MyCoSI-RM-CommBank-Message" | Select values + Edit | |
| • 5 | .RMMessagesClass | equal to | "MyCoSI-RM-CommBank-AdditionalPymtInfo" | Select values + Edit | |
| • 6 | .RMAdditionalInfoClass | equal to | "MyCoSI-RM-CommBank-PaymentCharges" | Select values + Edit | |
| • 7 | .RMPymntChrgesClass | equal to | "MyCoSI-RM-CommBank-ResearchLinks" | Select values + Edit | |
| • 8 | .RMResearchLinkClass | equal to | "MyCoSI-CaseFind" | Select values + Edit | |
| • 9 | .CaseFindVWClass | equal to | "MyCoSI" | Select values + Edit | |
| • 10 | .OrgLevelClass | equal to | "MYCOSI-WORK" | Select values + Edit | |
| • 11 | .SIWorkClass | equal to | "MyCoSI-Work" | Select values + Edit | |
| • 12 | .CamelCaseSIWorkClass | equal to | "MyCoSI-Work-Pytm" | Select values + Edit | |
| • 13 | .PaymntWorkClass | equal to | "MyCoSI-Work-BulkEntry" | Select values + Edit | |
| • 14 | .BulkEntryClass | equal to | "MYCOSI-WORK-MSGCASE-EMAIL" | Select values + Edit | |
| • 15 | .MsgCaseEmailWorkClass | equal to | "MyCoSI-Work-MsgCase-Swift" | Select values + Edit | |
| • 16 | .MsgCaseSwiftWorkClass | equal to | "MyCoSI-Party-Account" | Select values + Edit | |
| • 17 | .PartyAccountClass | equal to | | Select values + Edit | |

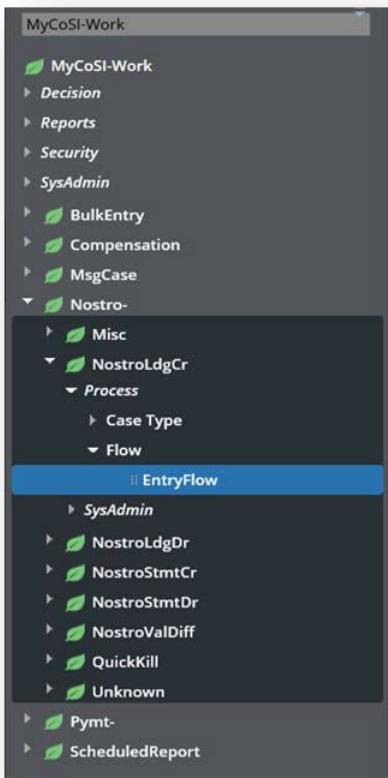
- **Copying the MyCoSI-EntryFlow flows to your class hierarchy**
- **Copying the remaining MyCoSI classes to your class hierarchy**

Copying the MyCoSI-EntryFlow flows to your class hierarchy

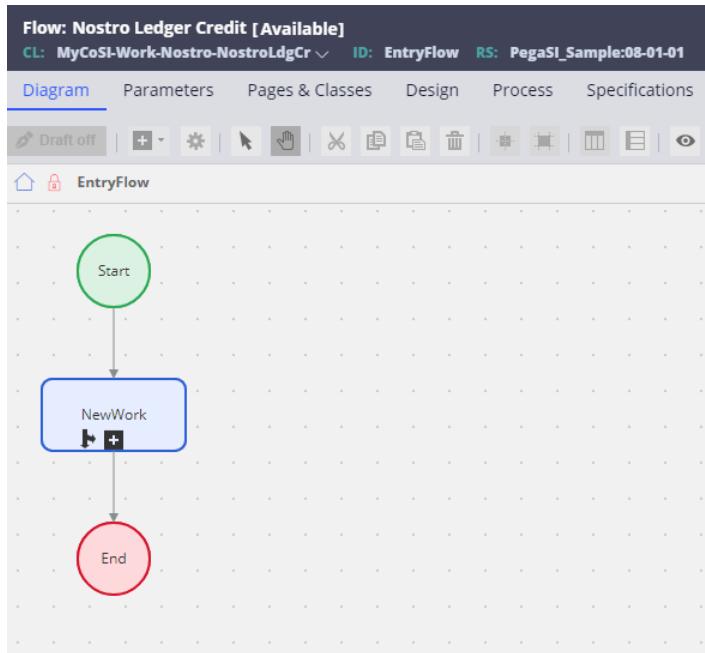
You must copy the flow named EntryFlow from each of the MyCoSI-Work-Nostro and MyCoSI- Work-Pytm classes to your class hierarchy to create the structure required for Smart Investigate for Payments functions to work.

To copy the EntryFlow rules:

1. Open the Manage Rules bar, and on the App Explorer tab select MyCoSI Work Nostro-. A list of classes appears.



2. For each class, under MyCoSI-Work-Nostro- select Process > Flow > EntryFlow. The following image shows the EntryFlow instance in MyCoSI-Work-Nostro-Misc.



3. Click **SaveAs**.
4. Change the Applies to value from MyCoSI-Work-Nostro-Misc to the class group name created for your ruleset.
5. Click **SaveAs** again to save your changes.
6. Repeat steps 1 to 5 for each class under MyCoSI-Work-Nostro and under MyCoSI-Work- Pymt-.

Copying the remaining MyCoSI classes to your class hierarchy

You must copy the remaining MyCoSI- classes to your class hierarchy to create the class structure required for Smart Investigate for Payments functions to work

This includes functions such as Case Find, the PegaRESEARCH Manager interface, and personalized party accounts.

To copy the class rules:

1. Open the Records Explorer, expand SysAdmin, and select **Class**. A list of instances appears.
2. Click the Class Name to sort by class.
3. Scroll down the list until you see the MyCoSI- classes.



Tip: Use the page numbers at the top of the listing to jump to a particular page.

| Instances ▾ of Class | |
|------------------------------------|------------------------|
| Class Name* | RuleSet:Version |
| MyCoSI-Work-MsgCase | PegaSI_Sample:07-01-05 |
| MyCoSI-WorkAttach-Message | PegaSI_Sample:07-31-23 |
| MyCoSI-Work | PegaSI_Sample:04-01-01 |
| MyCoSI-WorkAttach-Research | PegaSI_Sample:04-01-01 |
| MyCoSI-WorkAttach-Nostro | PegaSI_Sample:04-01-01 |
| MyCoSI-WorkAttach- | PegaSI_Sample:04-01-01 |
| MyCoSI-Work-ScheduledReport | PegaSI_Sample:04-03-30 |
| MyCoSI-Work-Pyamt-UTEPay | PegaSI_Sample:07-01-05 |
| MyCoSI-Work-Pyamt-UTADr | PegaSI_Sample:07-01-05 |
| MyCoSI-Work-Pyamt-UTACr | PegaSI_Sample:07-01-05 |
| MyCoSI-Work-Pyamt-Unknown | PegaSI_Sample:04-01-01 |
| MyCoSI-Work-Pyamt-Return | PegaSI_Sample:07-01-05 |
| MyCoSI-Work-Pyamt-QuickKill | PegaSI_Sample:07-01-05 |
| MyCoSI-Work-Pyamt-NostroValDiff | PegaSI_Sample:07-01-05 |
| MyCoSI-Work-Pyamt-NostroStmtDr | PegaSI_Sample:07-01-05 |
| MyCoSI-Work-Pyamt-NostroStmtCr | PegaSI_Sample:07-01-05 |
| MyCoSI-Work-Pyamt-NostroLdgDr | PegaSI_Sample:07-01-05 |
| MyCoSI-Work-Pyamt-NostroLdgCr | PegaSI_Sample:07-01-05 |
| MyCoSI-Work-Pyamt-Misc | PegaSI_Sample:07-01-05 |
| MyCoSI-Work-Pyamt-IncorrectPayment | PegaSI_Sample:07-01-05 |
| MyCoSI-Work-Pyamt-InclInfo | PegaSI_Sample:07-01-05 |
| MyCoSI-Work-Pyamt-IncDrAcct | PegaSI_Sample:07-01-05 |
| MyCoSI-Work-Pyamt-IncDate | PegaSI_Sample:07-01-05 |
| MyCoSI-Work-Pyamt-IncCvr | PegaSI_Sample:07-01-05 |
| MyCoSI-Work-Pyamt-IncCrAcct | PegaSI_Sample:07-01-05 |
| MyCoSI-Work-Pyamt-IncChg | PegaSI_Sample:07-01-05 |
| MyCoSI-Work-Pyamt-IncBank | PegaSI_Sample:07-01-05 |
| MyCoSI-Work-Pyamt-IncAmount | PegaSI_Sample:07-01-05 |
| MyCoSI-Work-Pyamt-FltOfICancel | PegaSI_Sample:07-01-05 |
| MyCoSI-Work-Pyamt-Dup | PegaSI_Sample:07-01-05 |
| MyCoSI-Work-Pyamt-CorrBkChg | PegaSI_Sample:07-01-05 |
| MyCoSI-Work-Pyamt-Cancel | PegaSI_Sample:07-01-05 |
| MyCoSI-Work-Pyamt-BCNR | PegaSI_Sample:07-01-05 |
| MyCoSI-Work-Pyamt-AmendBen | PegaSI_Sample:07-01-05 |

4. Click MyCoSI-CaseFind to open the Class form.

Class: MyCoSI-CaseFind
ID: MyCoSI-CaseFind RS: PegaSI_Sample

General External Mapping Advanced History

Select class type
Concrete ▾

Settings

Created in version
07-01-05

This class
is a class group ▾
Class group
MyCoSI-CaseFind

Encrypt BLOB

5. Click Save.

6. Change the class name to ClassName-CaseFind, where ClassName is your class name. Select your ruleset from the Ruleset Name selection box. Click **Save As** to save the instance in your class. In the Short Description field, replace MyCoSI with ClassName.

7. Click SaveAs.



Note: For the data rule MyCoSI-Data-, ensure that the Parent class to inherit from (Directed) field is PegaSI-Data-.

8. Repeat steps 3 to 7 for the class Index-MyCoSI-WorkParty, copying instances to the class Index-ClassName-WorkParty.

9. Repeat steps 3 to 7 for every Rule-Obj-Class instance that starts with MyCoSI-, recalling that the MyCoSI-Work classes were already copied by the Direct

Inheritance wizard, and that there are MyCoSI-WorkAttach- classes that need to be copied in the list following the MyCoSI-Work classes.

Integrating Smart Investigate with third party systems

Smart Investigate for Payments integrates with your third party information systems and other Pegasystems applications to improve quality, productivity, and efficiency.

Integration is accomplished using application activities and flows, as well as Pega 8 services and connectors that support interactions between Smart Investigate for Payments and external systems, databases, and websites. The topics in this chapter include:

- Free-text parsing
- SWIFT interface for inbound and outbound messages
- Fed Service interface for inbound and outbound messages
- Nostro break feed files
- Inbound and outbound e-mail interfaces
- Accounting feed posting file
- Customer information file interface
- Generating a data dictionary (list of properties)
- Smart Investigate for Payments Data Tables and Views
- Pega 8 Integration Layer

For detailed information about integrating your Smart Investigate for Payments system with third party systems, see PegaRULES Process Commander - Integrating with External Systems. For additional integration information for Frameworks products, see the appropriate Framework Implementation Guide.

- **Free-text parsing**
- **gCase API**

- gpi API

Free-text parsing

Free-text parsing is a facility that can be used to examine and extract information from blocks of text.

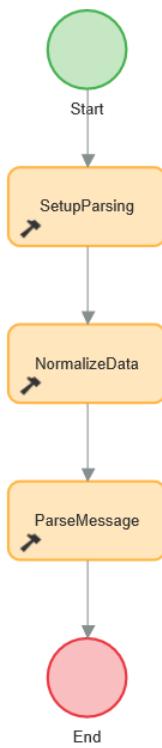
Parsing is invoked from activities that can be run from within other activities or flows. See Appendix C, *Text Parsing Rules*, for detailed information about the rules used for text parsing.

Two mechanisms are available to invoke text parsing:

- Text-Normalize —The Normalize function allows users to substitute one text string for a number of others to standardize formats (such as dates or currency) or text patterns (such as reference numbers).
- Text-Infer —The Infer method processes a collection of transform rules against the subject block of text and stops as soon as a specified pattern is detected. The transform rules detect text patterns using regular expressions, and return the results or a transformed result, based upon the transform rule.

Smart Investigate for Payments uses flows as control records to manage text parsing. Each flow links together the values to be parsed, with each value being located by a separate activity. (The only exception is processes that locate work types, where each work type — Unable to Apply, Beneficiary Claims Non-Receipt, and so forth — should be its own activity.) Whether the next activity is called depends on the success of its predecessor.

The following diagram shows an example of a free-text parsing flow and its component activities.



- Calling free-text parsing
- The parsing process
- Using regular expressions and locating new data elements
- Creating new work cases from messages
- Searching for existing work cases

Calling free-text parsing

Free-textparsing is called only from the NewWork flow of message cases. It is not available from a manual flow action, or anywhere in exception work case processing.

The NewWork flow calls the FreeFormatTextParse flow immediately after the ParseMessage flow. Smart Investigate for Payments parses the inbound message

(stripping away the header, parsing Fed Service or SWIFT fields, and so forth) and then calls free-text parsing.

The message class determines which properties are parsed — only block 4 is parsed for SWIFT messages, otherwise the entire body of the message is sent for parsing.

This table provides examples of field parsing values for Smart Investigate for Payments.

| Data Type/Value | Parsed how |
|----------------------------------|--|
| Sender | Value typically occupies a fixed position in the record header. |
| Receiver | Value typically occupies a fixed position in the record header. |
| Message Date | Value typically occupies a fixed position in the record header. |
| Message Time | Value typically occupies a fixed position in the record header. |
| Message Priority | Value typically occupies a fixed position in the record header. |
| Message Type | Value typically occupies a fixed position in the record header. |
| Sender's Inquiry Reference | Unknown string; often follows a known tag (for example, :20:). |
| Receiver's Inquiry Reference | Smart Investigate for Payments ID with a PEG prefix, such as PEG051228-000001. |
| Sender's Transaction Reference | Unknown string; often in field 21 or following an "Our Ref:" string. |
| Receiver's Transaction Reference | String, often in field 21 matching a known pattern. |

| Data Type/Value | Parsed how |
|----------------------|--|
| Transaction Date | Date pattern in sentence including DD, Dated, and so forth. |
| Value Date | Date pattern in sentence including VAL, Value, and so forth. |
| Transaction Amount | Amount pattern that consists of up to 16 alphanumeric characters with punctuation preceded by three alphabetic characters. |
| Transaction Currency | Pattern of three alphabetic characters adjacent to a group of numeric characters. |
| Work Type | Words orphrases that drive a reason for inquiry. |

The parsing process

There are four main parts to the parsing process:

- Normalizing data
- Parsing data
- Transform Collection
- Transform

- **Normalizing data**

- **Parsing data**

- **Recognizing customized case ID and payment transaction formats**

- **Transform**

- **Transform collection**

Normalizing data

Before parsing data, the activity FreeFormatTextParseNormalize normalizes it to standardize values and terms throughout the text.

Normalized data to be parsed is stored in the property ParsedData.NormalizedText, and the original data is stored in the property ParsedData.OriginalText. Both forms of data can be viewed in the Message Details section.



Note: If you modify the normalization logic, it may be necessary to modify this activity (in your own Ruleset) in addition to the parsing rules.

The following shows a simple normalize rule, which identifies expressions such as payment and amount as transaction amounts.

Parse Normalize: Transaction Amount Reference - normalize [Available]
 CL: PegaSI-Work- ID: TxAmountRef RS: PegaSI:08-01-01

Parse Specifications History

Text replacement

| | Look For | Whole word | Ignore case | Replace with |
|----|----------|-------------------------------------|-------------------------------------|--------------|
| 1 | PAYMENT | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | ~TXAMT~ |
| 2 | PAY | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | ~TXAMT~ |
| 3 | AMOUNT | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | ~TXAMT~ |
| 4 | FOR | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | ~TXAMT~ |
| 5 | your | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | ~TXAMT~ |
| 6 | yr | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | ~TXAMT~ |
| 7 | OF | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | ~TXAMT~ |
| 8 | dated | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | ~TXAMT~ |
| 9 | dtd | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | ~TXAMT~ |
| 10 | comm | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | ~TXAMT~ |
| 11 | PAYMENT | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | ~TXAMT~ |
| 12 | PAY | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | ~TXAMT~ |
| 13 | AMOUNT | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | ~TXAMT~ |
| 14 | FOR | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | ~TXAMT~ |
| 15 | your | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | ~TXAMT~ |
| 16 | yr | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | ~TXAMT~ |
| 17 | OF | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | ~TXAMT~ |
| 18 | dated | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | ~TXAMT~ |
| 19 | dtd | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | ~TXAMT~ |
| 20 | comm | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | ~TXAMT~ |

(+)

Parsing data

Text parsing is done by the FreeFormatTextParse activity, which first calls the normalization logic and then calls the parsing logic for the following properties:

- Transaction Reference Number
- Work ID
- Incoming TRN
- Transaction Date
- Value Date
- Amount and Currency

- Work Type

Each activity attempts to extract some type of data from the text and may return either a value or a blank. The following figure shows the FormatTextParseTranDate activity, which retrieves a transaction date from text.

The screenshot shows the 'Activity: FreeFormatTextParse [Available]' configuration page. The top navigation bar includes 'Save as', 'Actions', and 'Private edit'. Below the title, it shows 'CL: PegaSI-MsgCase~' and 'ID: FreeFormatTextParseTranDate RS: PegaSI:08-01-01'. A message indicates 'This record has 1 justified warning' with a 'View' link. The main content area is divided into tabs: 'Steps' (selected), 'Parameters', 'Pages & Classes', 'Security', 'Test cases', 'Specifications', and 'History'. The 'Steps' tab displays a list of 6 steps:

| Label | Method | Step page | Description | Action |
|----------|--------------------------|-----------|------------------------|---|
| 1. [] | Loop When > Property-Set | [] | get maxdate (MAXDate) | Jump Edit |
| 2. [] | Loop When > Text-Infer | [] | Get YYMMDDFlag | Jump Edit |
| 3. [] | Loop When > Text-Infer | [] | Get TransactionDate | Jump Edit |
| 4. [] | Loop When > Property-Set | [] | Save the Date to Param | Jump Edit |
| 5. A [] | Loop When > Text-Infer | [] | Get YYMMDD Tran date | Jump Edit |
| 6. [] | Loop When > Property-Set | [] | Compare dates | Jump Edit |

Buttons at the bottom include '+Add a step' and 'Collapse all steps'.

The following figure shows an infer rule to get a transaction date.

Parse Infer: Get TxDate From Message [Available]

CL: PegaSI-MsgCase- ID: GetTransactionDate RS: PegaSI:08-01-01

Infer Pages & Classes History

Search

Look for
a pattern from ▾ AnyDateFormat ⓘ

Specify Near Qualifier

Near
a pattern from ▾ ~TXDATE~ ⓘ

Number of characters to include before the specified string
0

Number of characters to include after the specified string
200

Place parse information into a Page named:
JgGetTranDate

This table describes the fields.

| Field | Description |
|-------------------------|---|
| Short Description | Required. Short description of the rule. The default is the instance name. |
| Infer Tab | |
| Look for | Required. A pattern or string followed by the name of a Transform Collection record or a specific string. |
| Specify "Near"Qualifier | Optional. Narrow the search by selecting how and where you want Smart Investigate for Payments to look, such as to find the defined pattern within a number of characters of a particular string. |

| Field | Description |
|--|---|
| Near | Select “the string” or “a pattern from” and a string or pattern. |
| Include the characters before | Enter the number of characters before the string or pattern to begin the search in. |
| Include the characters after | Enter the number of characters after the string or pattern to end the search in. |
| Place parse Information Into a Page Named: | Optional. Identify where you want the search results to be placed. |
| Validate Using When: | Optional. Evaluate the results returned from the locate search step against a When condition. The following “Set Value” step only occurs if the When condition evaluates to True. |
| Place Extracted Value In: | Required. Specify the property into which the output value should be mapped. |
| Also Set the Following | Optional. Set other properties values (for example, a status). |
| Pages & Classes Tab | |
| Page Name | Optional. Identify each page referenced in a step of this activity. For activity parameters of type Page, enter the parameter name here |

| Field | Description |
|--------------------|---|
| | (with no PARAM prefix or period) and the class of the page in the Page Class field. |
| Page Class | Optional. Select the class of that page. |
| Mode | <p>Leave blank unless this page is accessed indirectly.</p> <p>Select Prompt if the name in the Page Name column is an indirect page name (starting with the prompt prefix) and the system is to verify at run time that the associated page indicated in an activity Call or Branch step exists and has a class that matches the Class value in this row.</p> |
| History Tab | Required. Description of the rule and its usage. |

Recognizing customized case ID and payment transaction formats

The transform rule FindReclnqRef also extracts the case ID from free-form text. If you customize case IDs, ensure that this transform record is changed accordingly.

Transaction amounts are extracted by the transform rules ValueWithCCD, ValueWithCCD_SpaceSepAfter, and ValueWithCCDAfterDate. If you customize the payment transaction format, ensure that these transform records are changed accordingly.

Transform

The regular expression defined in a transform rule is executed against the subject text block. It acts as a filter and allows text to pass into the Java function below if it meets the criteria set forth in the expression.

The Java transform function may then either return the selected text, a part of it, or process it further. A return of *null* is considered *not found* and processing within the collection continues.

For example, when searching for an amount of currency, an expression looks for a separate group of three alphabetic characters adjacent to a group of up to 16 numeric characters (with embedded punctuation). The amount is valid only if this pattern is found and if the three alphabetic characters are recognized as a valid currency code. The number is then processed to remove all punctuation except the fraction indicator, which is set to be a period. Only then is a result returned.

Reference IDs will most likely need to be changed, so you will need to change the Recipients Inquiry Reference parsing rule to look for the correct ID. Smart Investigate for Payments uses the ID to identify the case to which the incoming message applies.

To update the ID, save the transform rule named FindReclnqRef in the class PegaSI-Work- to your ruleset. The following shows a sample FindReclnqRef transform rule.

Parse Transform: Find Receivers Inquiry Reference - PEGxxxxx - MYCO [Available]

CL: PegaSI-Work- ID: FindRecInqRef RS: PegaSI:08-01-01

Transform Compile History

Pattern

Regular Expression:
[.]\b(PEG)[-/.]?([0-9Oo]{6})[-/.]([0-9Oo]{1,6})\b

Convert

```
// based on the installation, replace the first group of up to 3 characters with
// something more specific.
// The Smart Investigate case reference follows a known structure and should be
// relatively easy to locate.
//
// XX-YYMMDD-999999
// XXXYYMMDD-999999
// X-YYMMDD-999999
// Where
// • XX-, X- or XXX is a known string (Default in PEGA is "PEG")
// • YYMMDD is a valid SWIFT format date
// • 999999 is a 6 digit sequence number String IDString=aMatchGroups[0];
// a string of 1 to 3 characters in length. String RefDate= aMatchGroups[1];
// date is yymmdd format - may contain the letter O instead of a zero.
String RefNum=aMatchGroups[2]; // number may contain letter O instead of zero. Should be cleaned up and left padded to // a length of 6.
```

Resulting type

Output Type: Identifier ▾

Change the regular expression (shown below) used to filter the reference ID.

[.]\b(**PEG**)[-/.]?([0-9Oo]{6})[-/.]([0-9Oo]{1,6})\b
 and
 [.]\b([A-Za-Z0-9]{1,3})[-/.]?([0-9Oo]{6})[-/.]([0-9Oo]{1,6})\b in Pegas...

The parentheses are important, and changing them will break the current transformation. However, you can change the contents. For the new ID, change PEG(shown in bold text in the expression) to any three alphabetic characters. You can also create new and different rules both in your rulesets as well as in different work classes.

Transform collection

For each infer rule processed, there is a collection containing the names of one or more transform rules to execute.

Transform collection rules are used to determine the type of payment (method sent) based on the various patterns available. Smart Investigate for Payments uses the FindRecTxnRef pattern in the search.

To have Smart Investigate for Payments be able to recognize new payment reference formats, you must create a new Transform record and include it in the collection. When the collection is processed, each format is tried until one is found. The first one found is then executed.

To create new transform rules or modify existing ones, copy one that closely matches the new record you want to create, save it to your ruleset, and make the appropriate changes.

Using regular expressions and locating new data elements

You can use a standard regular expression in text parsing to find a pattern.

The preparsed data and the responses are stored in a page type property called ParsedData (Embed-PegaSI-MsgParseResults) in the class PegaSI-MsgCase-. To search for an element that the Smart Investigate for Payments rules cannot locate, you can either copy and rename an existing rule and modify its logic or create a new parsing rule.

The ParsedData contents and processing logic can be viewed from the Details Parsed Data section of the Message Case Review screen.

Creating new work cases from messages

The NewWork flow calls the CreateWorkCase flow if a message was not attached to an existing work case during the search process; that flow calls an activity of the same name, which determines if a work case should be opened and, if so, opens it.

Smart Investigate for Payments opens a new work case only if a PegaRESEARCH Manager query based on the parsed data returns a single match that is not already linked to an existing work case.

1. The CreateWorkCase activity first calls the PaymentSearch activity, which sets up a temporary page and calls the TransactionSearch activity. If a single unlinked match is not found, CreateWorkCase ends and the NewWork flow continues and routes the message for processing.
 2. If a single match is located, the system attempts to open a work case, the class of which is determined by the message line of business, the parsed work type, and the class of the message case.
 3. The parsed work type is converted into the last part of a work case class name using the map value rule ParsedWorkTypeToClassWorkType. For example, if IAM is returned by the parsing logic, it is converted to IncAmount (for MyCoSI-Work-Pymt-IncAmount). You must update this map value rule to add logic for finding additional work types.
 4. If the work type is not parsed or if the parsed work type causes an error during the add process (for example, a required field is missing), then the system opens an Unknown work type.
 5. Once a case is added, the audit trail records the PegaRESEARCH Manager results and the messages attached; the message work case should be resolved.
- **Unknown work type**

Unknown work type

The Unknown work type is a class that allows messages to open work cases even if the exact error could not be parsed out of the text.

Only the system can enter Unknown work types, not users. The Unknown work type has two available flow actions: Change Case Type and Resolve Investigation. The Change Case Type flow action allows the user to read the message and manually determine what it should be. Once changed, the system executes the standard

NewWork processing for that case type. The Resolve Investigation flow action is used on all exception work cases.

Searching for existing work cases

The logic for searching for a work case is handled in the following activities:

- SearchForWorkCase — Overall search control that tries to find a case first by work references and next by party reference. If one match is located it will open that work case and call the existing “attach message to work case” logic.
- WorkSearchDoSearch — The activity where the details of the search based on the work references are defined.
- WorkSearchPartyRef — The activity where the details of the search based on the party references are defined.

The search by work references uses the following logic. A case is a match if:

```
| RelatedRef (SWIFT...;21:) equals  
|   work case Transaction Reference  
| OR  
|   work case Incoming TRN  
| OR  
|   work case outgoing TRN Payment  
| OR  
|   work case outgoing TRN Cover  
OR  
Parsed TRN equals  
  work case Transaction Reference  
OR  
  work case outgoing TRN Cover  
OR  
  work case outgoing TRN Payment  
OR  
Parsed Incoming TRN equals  
  work case Incoming TRN
```

The system attempts to attach a message to an existing work case only if the search logic returns a single match; otherwise, processing moves on to the next step.

You can modify the search logic by making your own version of the noted activities.

gCase API

With latest gCase functionality provided, the system will allow API connection via Create correspondence and Fast correspondence flows. Communication from system to TRACKER will follow newly created API path. Any communications from TRACKER to system will be via existing MT messages inbound functionality.

To run new gCase API functions, user can follow below steps in OOTB system.

1. Create correspondence flow action
 - a. Login to system via appropriate user.
 - b. Select/create Unable to apply credit/debit or unable to effect payments case.
 - c. Process Transaction search and duplicate search stages.
 - d. At step by step stage, select **Create correspondence**.
 - e. Select To as gCaseTracker, Language as applicable, Correspondence type as SWIFT and "Message type" as **Swift_GPI**.
 - f. Click Submit.
 - g. User is routed to gCase Action complete message screen where API action can be selected.
 - h. Select any of the applicable API actions and populate required data on API submission form.
 - i. Click Submit and system will route the API to verification. Verification is required by an additional user to connect with API and send the message.

Note: Similar actions can be performed via Fast correspondence flow action as well. User will have to select Correspondence type as **Swift_GPI** in order to work with API in fast correspondence path.

2. Case query to Tracker
 - a. Login to system via appropriate user.
 - b. Launch search portal either from New left navigation menu or from case search portal local action.

- c. Select business as Message and Transaction type as Swift GPI.
- d. Select appropriate GPI query type from Type drop-down list.
 - Select Case details to fetch case details for an input UETR.
 - Select Change case details to fetch list of cases for all transactions during "To" and "From" period.
- e. Click Find button to display list of records from TRACKER.

- **SWIFT API's connectivity covered in gCase package**
- **Pega Connect REST to Data page mapping**
- **Extending gCase functionality**

SWIFT API's connectivity covered in gCase package

Learn about the list of APIs that you can identify and implement in OOTB Smart Investigate system.

The list of APIs identified and implemented in OOTB Smart Investigate system are:

| API name | JSON schema | Path SwaggerHub |
|--|------------------------|--|
| <i>CreateUnableToApplyCaseRequestCaseRequest</i> | camt.a09.001.01.schema | POST /cases |
| <i>AssignCaseRequestRequest</i> | camt.a09.003.01.schema | PUT /payments/{uetr}/assign/{case_identification} |
| <i>ConcludeUnableToApplyCaseRequestCaseRequest</i> | camt.a09.002.01.schema | PUT /payments/{uetr}/conclude-unable-to- |

| API name | JSON schema | Path SwaggerHub |
|-----------------------------------|------------------------|---------------------------------------|
| | | apply/ {case_identification} |
| <i>CaseDetailsResponse</i> | camt.a09.004.01.schema | GET /payments/{uetr}/ cases |
| <i>ChangedCaseDetailsResponse</i> | camt.a09.005.01.schema | GET /cases/changed/ details |

Please refer SWIFT documentation for details on individual API definitions.

Pega Connect REST to Data page mapping

Pega Connect REST rules are designed to connect with SWIFT API endpoints with the help of dedicated data pages. Please refer below table for Data pages in use for individual API's.

The data page server as a connection point to invoked API with required Request and Response data transforms from integration layers. These can be overridden.

| Pega Connect REST | Data page applicable |
|---------------------------------------|---------------------------------------|
| <i>PegaSI-Int-Swift-Gpi-Gcase</i> | <i>D_SwiftGPICreateUTACaseRequest</i> |
| <i>CreateUnableToApplyCaseRequest</i> | |
| | |
| <i>PegaSI-Int-Swift-Gpi-Gcase</i> | <i>D_SwiftGPIAssigned</i> |
| <i>AssignCaseRequest</i> | |

| Pega Connect REST | Data page applicable |
|---|--|
| <i>PegaSI-Int-Swift-Gpi-Gcase</i> | <i>D_SwftGPIConcludedUnableToApply</i> |
| <i>ConcludeUnableToApplyCaseRequest</i> | |
| <i>PegaSI-Int-Swift-Gpi-Gcase</i> | <i>D_SwiftGPICaseDetails</i> |
| <i>SwiftGPICaseDetails</i> | |
| <i>PegaSI-Int-Swift-Gpi-Gcase</i> | <i>D_SwiftGPIChangedCaseDetails</i> |
| <i>SwiftGPIChangedCaseDetails</i> | |

Extending gCase functionality

Extending gCase functionality involves updating SWIFT API endpoint URLs and utilizing system extension points to enhance the SWIFT gCase process lifecycle, enabling seamless integration with external systems and customization of the system's behavior.

Updating endpoint URL's for SWIFT API

Before integrating system to SWIFT API, endpoints configuration is required to be done based on organization SWIFT access defined.

- Data page *D_gCase* should be a node level data page provided to load all the DSS setting provided for gCase using Data Transform: *PegaSI-Int-Swift-Gpi-GCase gCaseMessageHeader*.
- *gCaseMessageHeader* Data transform should be modified for updating appropriate API end points. This transform is used for updating additional endpoints which have not been defined via DSS settings.
- Application setting: Individual application settings have been provided for each API to read DSS endpoint configuration from *D_gCase* data page.

- The application setting can be configured to different endpoint values based on "Production level" setting of the system.

| Owning ruleset | Application setting |
|----------------|--------------------------------|
| PegaSIInt | EndPointURL_Create |
| PegaSIInt | EndPointURL_CaseChangedDetails |
| PegaSIInt | EndPointURL_ActionRequired |
| PegaSIInt | EndPointURL_ACC |

Below is the list of Dynamic system setting (DSS) to be updated for SWIFT API communications.

| Owning Ruleset | DSS Setting Purpose | Mapping purpose |
|----------------|------------------------|------------------------|
| PegaSIInt | gCaseAPIKey | API Key |
| PegaSIInt | SwiftGPIUTAPEndPoint | API end point base URL |
| PegaSI | gCaseServiceTypeCode | Business service code |
| PegaSI | gCaseTrackerBIC | Tracker BIC |
| PegaSIInt | gCaseSignatureRequired | SignatureRequired |
| PegaSIInt | gCaseLAUVersion | LAUVersion |
| PegaSIInt | gCaseLAUSignature | LAUSignature |
| PegaSIInt | gCaseLAURequestNonce | LAURequestNonce |
| PegaSIInt | gCaseLAUSigned | LAUSigned |
| PegaSIInt | gCaseLAUApplicationID | LAUApplicationID |

Extension points provided in system

This section will list all the rules that can be extended by customer in gCase process lifecycle.

PegaSI-Work PreCreateSwiftGPIMessageDT

The above data transform helps map default data set to outbound messages on create correspondence/fast correspondence gCase API action.

PegaSI-Int-Swift-Gpi-GCase gCaseMessageHeader

The above data transform is required for updating outbound API message header required for communicating with SWIFT API.

PegaCommBank-Corr-Swift-GPI SetGCaseCorrValidation

The above data transform can be updated to map API error response status with meaning full message to displayed to user screen.

PegaCommBank-Corr-Swift-GPI SendGPICorr

The above data transform can be updated to map additional data from outbound message to Connector REST rules via parameters.

This data transform can also be updated to evoking additional connector-based data pages for API communication.

PegaSI-MsgCase SetgCaseData

The above data transform can be used for updating additional information from Message case to Exception case in case the inbound message is from TRACKER. Ex. Field 20 from inbound data shall be used as case identification in outbound message, this rule will help map SwiftMessage.F20 data to Exception case AssignerCaseRef field.

PegaSI-MsgCase-IsMessageFromGPITracker

The above when rule can be updated to add additional conditions for identifying if the inbound message is from TRACKER.

gpi API

With the latest gpi functionality, the application allows API connection through the Create correspondence and Fast correspondence flows. Communication from the application to the tracker follows the newly created API path. Any communications from the tracker to the application happens through the existing MT messages inbound functionality.

- **SWIFT API's connectivity covered in gpi package**

- Pega Connect REST to Data page mapping
- Create SWIFT gpi connection through Create correspondence flow action
- Create gSRP through guided correspondence
- Create gpi Payment Confirmation to the Tracker after Adjustment
- Create Case query to Tracker
- Extending gpi functionality

SWIFT API's connectivity covered in gpi package

Learn about the list of APIs that you can identify and implement in OOTB Smart Investigate system by versions.

These are the list of APIs implemented out of the box in Smart Investigate application by version:

| Functionality | API name | JSON schema | Path SwaggerHub |
|---------------|---|------------------------|--|
| gSRP | <i>CancelTransactionRequest</i> | camt.a06.001.04.schema | PUT /payments/ cancellation |
| gSRP | <i>TransactionCancellationStatusRequest</i> | camt.a07.001.04.schema | PUT /payments/ cancellation/ status |

| Functionality | API name | JSON schema | Path SwaggerHub |
|---------------|---|------------------------|---|
| gCCT/ gCOV | <i>PaymentStatusRequest</i> | camt.a01.001.04.schema | PUT /payments/status |
| gCCT/ gCOV | <i>PaymentTransactionDetails</i> | camt.a02.002.04.schema | GET /payments/{uetr}/transactions |
| gCCT/ gCOV | <i>ChangedPaymentTransactiondetails</i> | camt.a04.002.04.schema | GET /payments/changed/transactions |

| Functionality | API name | JSON schema | Path SwaggerHub |
|---------------|---|------------------------|--|
| gSRP | <i>CancelTransactionRequest</i> | camt.a06.001.04.schema | PUT /payments/{uetr}/cancellation |
| gSRP | <i>TransactionCancellationStatusRequest</i> | camt.a07.001.04.schema | PUT /payments/{uetr}/ |

| Functionality | API name | JSON schema | Path SwaggerHub |
|---------------|---|------------------------|--|
| | | | cancellation/ status |
| gCCT/ gCOV | <i>PaymentStatusRequest</i> | camt.a01.001.05.schema | PUT <i>/payments/{uetr}/status</i> |
| gCCT/ gCOV | <i>PaymentTransactionDetails</i> | camt.a02.002.05.schema | GET <i>/payments/{uetr}/transactions</i> |
| gCCT/ gCOV | <i>ChangedPaymentTransactiondetails</i> | camt.a04.002.05.schema | GET <i>/payments/changed/transactions</i> |

For information on individual API definitions, read SWIFT documentation.

Pega Connect REST to Data page mapping

Pega Connect REST rules are designed to connect with SWIFT API endpoints with the help of dedicated data pages. See the following table for the list of data pages used for individual APIs.

The data pages serve as a connection point for the invoked API with the required request and response data transforms from the integration layers. These can be overridden.

| Functionality | Pega Connect REST | Applicable data page |
|----------------------|--|---------------------------------|
| gSRP | <i>PegaSI-Int-SWIFT-gpi-GpiTracker</i> <i>CancelTransactionV3</i> | <i>D_PUTCancelTransaction</i> |
| gSRP | <i>PegaSI-Int-SWIFT-gpi-GpiTracker</i> <i>TransactionCancellationStatusV3</i> | <i>D_PUTTranCancelStatus</i> |
| gCCT/ gCOV | <i>PegaSI-Int-SWIFT-gpi-GpiTracker</i> <i>PaymentStatusV3</i> | <i>D_PutPaymentStatus</i> |
| gCCT/ gCOV | <i>PegaSI-Int-SWIFT-gpi-GpiTracker</i> <i>PaymentTransactionDetailsV3</i> | <i>D_GetPaymentTranDetails</i> |
| gCCT/ gCOV | <i>PegaSI-Int-SWIFT-gpi-GpiTracker</i> <i>ChangedPaymentTransactionsV3</i> | <i>D_GetChangedPaymentTrans</i> |

| Functionality | Pega Connect REST | Applicable data page |
|----------------------|--|---------------------------------|
| gSRP | <i>PegaSI-Int-SWIFT-gpi-GpiTracker</i> <i>CancelTransactionV4</i> | <i>D_PUTCancelTransaction</i> |
| gSRP | <i>PegaSI-Int-SWIFT-gpi-GpiTracker</i> <i>TransactionCancellationStatusV4</i> | <i>D_PUTTranCancelStatus</i> |
| gCCT/ gCOV | <i>PegaSI-Int-SWIFT-gpi-GpiTracker</i> <i>PaymentStatusV4</i> | <i>D_PutPaymentStatus</i> |
| gCCT/ gCOV | <i>PegaSI-Int-SWIFT-gpi-GpiTracker</i> <i>PaymentTransactionDetailsV4</i> | <i>D_GetPaymentTranDetails</i> |
| gCCT/ gCOV | <i>PegaSI-Int-SWIFT-gpi-GpiTracker</i> <i>ChangedPaymentTransactionsV4</i> | <i>D_GetChangedPaymentTrans</i> |

Create SWIFT gpi connection through Create correspondence flow action

The Create correspondence flow action establishes a SWIFT gpi connection, enabling the initiation and processing of gpi-related activities such as payment instructions, tracking, and status updates within the system.

To create new connections to SWIFT gpi through create correspondence flow action, users need to perform the below steps in the out of the box system:

1. Log in to the application.
2. Select or create the Cancellation Request case.
3. Process transaction search and duplicate search stages.
4. At the step by step stage, select Create correspondence.
5. Enter the following values for the corresponding fields:
 - a. To: gpiTracker
 - b. Language: any applicable language
 - c. Correspondence type: SWIFT
 - d. Message type: Swift_gpi.
6. Click Submit.
7. Based on the functionality, gpi actions vary. The gSRP Actions or gCCT Actions complete message window opens where you can select the API action.
8. Select any API action and populate the required data on API submission form.
9. Click Submit to route the API for verification. This does not apply to gCCT API because the payment status confirmation is sent directly to tracker. Verification is required by an additional user to connect with API and send the message.

Note: You can perform similar cations in the Fast correspondence flow action. Users can select Correspondence type as **Swift_gpi** to work with the API in fast correspondence path.

Based on the functionality there are different ways of interacting to SWIFT through APIs

Create gSRP through guided correspondence

gpi Stop & Recall (gSRP) does away with current inefficiencies for processing payment cancellations and can immediately stop a payment instruction. With gSRP, a request for cancellation can be sent directly through the tracker to the gpi customer who has last received the payment instruction.

The UETR is added to a network cancellation list to prevent any further forwarding of that payment instruction. If the payment instruction was credited, gSRP provides a market practice for requesting and processing gpi customers to have a clear view on the recall request status. gSRP rules and standards include structured responses to the request and replies providing further efficiency. Therefore, gSRP significantly reduces operational costs, increase customer satisfaction, and enhance risk management.

To create new connections to gSRP through guided correspondence flow action, users need to perform the below steps in the out of the box system:

1. Log in to the application.
2. Select or create the Cancellation Request case.
3. Process transaction search and duplicate search stages.
4. Open the Create Correspondence assignment.
5. Enter the following values for the corresponding fields:
 - a. To: gpiTracker
 - b. Language: any applicable language
 - c. Correspondence type: SWIFT
 - d. Message type: Swift_gpi.
6. Click Submit.
7. The gSRP Actions complete message window opens where the user can select the API action.
8. Select an API action and populate the required data on the API submission form.

9. Click Submit to route the API for verification. Verification is required by an additional user to connect with the API and send the message.

Create gpi Payment Confirmation to the Tracker after Adjustment

A gpi payment confirmation is sent to the Tracker system after making adjustments, providing an update on the payment status.

To create new gpi payment confirmation to the tracker through Adjustment, users need to perform the below steps:

1. Log in to the application.
2. Select or create any case. Payment confirmation to tracker after adjustment is applicable to all case types.
3. Process Transaction search and duplicate search stages.
4. At the step by step stage, select Create Adjustment.
5. Select the appropriate Adjustment type and select Payment type which includes any of the following: MT 102, MT 202, MT 202 COV or MT 205 COV.
6. Complete the message of the selected Payment type and submit.
7. Submit Adjustment.
8. Log in as manager and approve the verification required for Adjustment.
9. If DSS: *gpiPymtConfirmationEnabled* is true, the payment confirmation to tracker is initiated.
10. If DSS: *gCCTPymtConfirmationAPIEnabled* is true, the payment confirmation to tracker is done through API, else through the MT messages.
11. If DSS: *gCCTPymtConfirmationSTPEnabled* is true, no user input is required for payment confirmation. Else the application presents the user with an assignment to update/verify the data and submit payment confirmation.
12. For Payment type MT 103 and MT 202 selected in Adjustment, the gcct payment confirmation is initiated.
13. For Payment type MT 202COV and MT 205COV selected in Adjustment, the gCov payment confirmation is initiated.

Create Case query to Tracker

The Case query to Tracker involves logging in, accessing the search portal, setting search criteria, selecting a query type, and retrieving case details or a list of cases from the Tracker system.

To create new case queries to tracker, users need to perform the below steps:

1. Log in to the application.
2. Launch search portal either from the New left navigation menu or from case search portal local action.
3. Select the following values for the corresponding fields:
 - a. Business: Message
 - b. Transaction type: Swift gpi.
4. From the Type drop-down menu, select the appropriate gpi query type.
5. Select Payment Transaction Details to fetch the case details for an input UETR.
6. Select the Changed Payment Transaction Details to fetch the list of cases for all transactions during the selected period.
7. Click Find to display the list of records from the tracker.

Extending gpi functionality

Extending gpi functionality involves updating SWIFT API endpoint URLs and utilizing system extension points to customize the behavior and enhance capabilities within the SWIFT gpi process lifecycle.

Follow these steps to extend the gpi functionality.

Update endpoint URLs for SWIFT API

Before integrating the application with SWIFT API, you need to configure the endpoints based on the organization SWIFT access defined.

- Updated authentication to AuthBearerToken. Created Authentication *profileSWIFTgpiAuthProfile* as an extension. The SWIFT gpi API Version 4 connectors reference it.
- The D_Gpi data page is a node level data page provided to load all the gpi DSS settings using the *PegaSI-Int-Swift-Gpi gCaseMessageHeader* data transform.
- *gCaseMessageHeader* data transform should be modified for updating the appropriate API end points. This data transform updates additional endpoints that have not been defined via DSS settings.
- Provided individual application settings for each API to read the DSS endpoint configuration from the *D_Gpi* data page.

| Owning ruleset | Application setting | Purpose |
|----------------|---------------------|--|
| <i>PegaSI</i> | gSRPServiceTypeCode | Contains the Service Type code for the gpi gSRP Service. Used to identify messages from the Tracker for gSRP services. The Default code for 111 field is used to identify service type in MT messages when using in inbound channel. |
| <i>PegaSI</i> | gpiVersion | Signifies the version of gpi APIs used in the application. Referenced in gpi Interface mapping rules and UI rules to switch between relevant version context to proceed. Parent context: <i>PegaSI-Int-Swift-Gpi-GpiTracker</i> . |

| Owning ruleset | Application setting | Purpose |
|----------------|----------------------|---|
| PegaSI | GpiSimulationEnabled | Used to determine whether the SWIFT gpi interface Simulation is enabled or not. Accessed via the <i>IsGpiSimulationEnabled</i> when rule to determine the Boolean status of Simulation. |
| PegaSI | GpiActionsEnabled | Used to determine whether the SWIFT gpi APIs are available or not. Users need to set it as true if the API Interfaces are available at their end. Used to dynamically populate Message Types in create correspondence. |
| PegaSI | Maximum Number GCCT | Signifies the maximum number for Changed payment Transaction Details GCCT API (Maximum Number Limit should be 1 to 100 as per SWIFT Documentation). Referenced in Changed payment Transaction Details GCCT API Request. |

| Owning ruleset | Application setting | Purpose |
|----------------|---------------------|--|
| | | Parent context: <i>PegaSI-Int-Swift-Gpi-GpiTracker</i> |

- You can configure the application setting to different endpoint values based on the production level setting of the application.

| Owning ruleset | Application setting |
|------------------|-----------------------|
| <i>PegaSIInt</i> | SwiftgpiEndPointURLV3 |

| Owning ruleset | Application setting |
|------------------|-------------------------|
| <i>PegaSIInt</i> | gpiCancelTranEndPointV4 |

Below is the list of Dynamic system settings (DSS) to update for SWIFT API communications.

| Owning ruleset | DSS Setting Purpose | Mapping purpose |
|------------------|---------------------|-------------------|
| <i>PegaSIInt</i> | gsrpXSwiftsignature | X Swift Signature |

Use the Extension points

This section will list all the rules that customer can be extended by customer in gpi process lifecycle.

PegaSI-Data-SWIFT-gpi-GpiTracker MapResponsePUTPaymentStatus

The data transform helps map the response properties for the Payment Status Request API. The given extension point is called MapResPropPaymentStatus.

PegaSI-Data-SWIFT-gpi-GpiTracker MapResponsePUTCancelTransaction

The data transform helps map the response properties for the Payment Status Request API. The given extension point is called MapResPropCancelTransaction.

PegaSI-Data-SWIFT-gpi-GpiTracker MapResPropCancelTransaction

The above data transform helps map the response properties for the Payment Status Request API. The given extension point is called MapResPropTransactionCancelStatus.

PegaSI-Int-Swift-Gpi GpiMessageHeader

The data transform is required for updating the outbound API message header required for communicating with the SWIFT API.

PegaSI-Data-SWIFT-gpi-GpiTracker GETPaymentTranDetailsResponse

The data transform Helps map the response properties for the Payment Status Request API. The given extension point is called MapResPropPaymentTransactionDetails.

PegaSI-Data-SWIFT-gpi-GpiTracker GetChangedPaymentTransRes

This data transform helps map the response properties for the Payment Status Request API. The given extension point is called MapResPropChangedPaymentTransactions.

PegaCommBank-Corr-Swift-gpi SendgpiCorr

You can update this data transform to map additional data from the outbound message to Connector REST rules through parameters. It can be updated to evoke additional connector-based data pages for API communication.

Code-Pega-List PopulategpiTrackerDropdownList

This data transform is required for updating the dynamic drop-down list for the API.

PegaSI-Work- SetPaymentConfirmationData_APIv3

PegaSI-Data-SWIFT-gpi-GpiTracker AddAdditionalPymntCnfmAPIV3

These data transforms are used to map the data or request parameter for gpi payment confirmation through API version 3.

PegaSI-Work- SetPaymentConfirmationData_APIv4

PegaSI-Data-SWIFT-gpi-GpiTracker AddAdditionalPymntCnfmAPIV4

These data transforms are used to map the data or request parameter for gpi payment confirmation through API version 4.

PegaSI-Work- SetAdditionalPaymentConfirmationData

This data transform is used for additional data manipulation. It's common for API and MT messages.

PegaSI-Data-SWIFT-gpi-GpiTracker SetAdditionalSendGCCTCorr

This data transform is used to map additional data on request page of payment confirmation API.

PegaSI-Work- CreatePaymentCnfmCorr

This data transform is used for correspondence creation after successful payment confirmation API call. It's advised to update step 2.1.3 to change the name of correspondence. Update pyDescription of pyCorrPage.

*PegaSI-Work- SetPaymentConfirmationData_MT**PegaSI-Data-SWIFT-gpi-GpiTracker SetAdditionalPymntCnfmData_MT*

These data transforms are used to map data for payment confirmation to the tracker through MT message.

PegaSI-Work- SetDataForPaymentConfirmationMTMessage

This data transform is used for data mapping on Swift template MT199/ MT299 Payment confirmation. Update the data transform with proper data to prepopulate the data when template is selected in create correspondence option. Currently sample data is mapped in data transform.

PegaCommBank-Swift-MTn99 DefaultgCOV

This data transform is used to define the default properties for MT 299 payment confirmation template.

PegaCommBank-Swift-MTn99 DefaultgCCT

This data transform is used to define the default properties for MT 199 payment confirmation template.

Assign-NewDefaults

This activity is already a BPM extension. Updated to map Index of current Adjustment on which the payment confirmation is initiated to newAssignPage of the created assignment. Update the above Activity to configure our changes.

PegaCommBank-Corr- gSRPActionAllowed

This when condition is Required to allow gSRP action for a work case.

PegaSI-Int-Swift-Gpi-GpiTracker SetCancelTransactionRequest_PUT

This data transform helps map the request properties for the Cancel Transaction Request API.

PegaSI-Work-Cancel UpdateConfirmationNoteAndCaseStatus

This data transform is required for updating the confirmation notes and case status.

PegaSI-Work-VerifyAssignee

This when condition is required to update the verify the assignee.

PegaSI-Int-Swift-Gpi-GpiTracker SetTranCancelStatusRequest_PUT

This data transform helps map the request properties for the Transaction Cancellation status Request API.

*PegaSI-Work-pyWorkActionsPerform**PegaCommBank-Work- IsGpiActionsAllowed*

This when condition is required to update the gpi Actions drop-down list based on conditions.

PegaCommBank-Corr-Swift-gpi MapStatusCodeToText

This decision table is required to update the Map status codes to the corresponding text description.

PegaSI-Work-VerifyAssigner

This when condition is required to update the verify the assigner.

PegaCommBank-Corr-Swift-gpi InitNewCorrPage

This data transform helps update the NewCorrPage Properties.

PegaCommBank- gpiTrackerAllowed

This when condition is required to update the gpiTracker options based on conditions.

Rule-PegaCommBank-Corr-Swift IsCorrValidForGpiTracker

This when condition is required to update the correspondence list for gpi Tracker Swift Message type.

PegaSI-Work- IsPaymentConfirmationRequired

This when condition is used to verify the status of Adjustment. If the Adjustment is successful, the payment confirmation is initiated. Update logic A to compare relevant successful adjustment status.

PegaApp-Doc IsGcctPaymentType

This when rule is used to verify if selected payment type in Adjustment is gcct applicable

PegaApp-Doc IsGcovPaymentType

This when rule is used to verify if the selected Payment type in Adjustment is gcov applicable.

PegaCommBank-Swift-MTn99 UpdatePaymentConfirmationMT199Data

This when condition is used to verify if data need to be prepopulated on MT 199 Payment Confirmation Template in scenario other than Post Adjustment.

PegaCommBank-Swift-MTn299 UpdatePaymentConfirmationMT299Data

This when condition is used to verify if data need to be prepopulated on MT 299 Payment Confirmation Template in scenario other than Post Adjustment.

Appendix

Sources of information that can be used to support or enhance your understanding of a implementation guide.

- Application specific information
- Text parsing rules
- Accounting step rules and payment types
- Compensation step rules and payment types

Application specific information

Learn about the application-specific details that are referenced in implementation guide.

System administrator account

Smart Investigate for Payments uses the following operator ID as the default system administrator account. Enter the password that you specified. Below Operator ID is shipped as part of Pega Smart Investigate for Sample layer.

Operator ID: SIPaymentsDev@pega.com

Rulesets

The following figure shows your Smart Investigate for Payments Ruleset hierarchy, highest to lowest.

Your Company Ruleset

- PSIP-HealthCheck
- PegaSIAppGuides
- PegaSINostro
- PegaSIPymt
- PegaSI
- PegaAppResearch-CommBank
- PegaAppResearch
- PegaCommBank
- PegaSIIInt
- PegaAppCorr
- PegaAppFin
- PegaApp
- Pega-UITheme
- UIKit

Work object naming conventions

Each work object has a unique ID which is computed by combining a system-assigned number and a prefix defined in a map value rule. The following prefixes are defined in Smart Investigate for Payments: M—defined in the PegaSI-Work class and used to identify message cases. PEG—defined in the MyCoSI-Work class and used to identify exception cases. CMP—defined in the MyCoSI-Work class and used to identify compensation cases. CVR—defined in the MyCoSI-Work class and used to identify bulk-entry payments cases.

Note: The PEG, CMP, and CVR identifiers do not include a dash so that

- ⓘ the ID does not exceed the 16-character limit for SWIFT reference numbers.

Default work groups, workbaskets, and worklists

The following table lists the default work groups, workbaskets, and worklists.

| Work Groups | | |
|--------------------------------------|--------------------|--------------------|
| Default | | |
| Worklists | | |
| SIManager | | SISysAdmin |
| SIReview | | SIUser1 |
| SISecAdmin | | SIUser2 |
| SISupervisor | | |
| General Workbaskets in PegaSI | | |
| SICase Workbaskets | NostroWorkbasket s | PaymentWorkbaskets |
| SICaseEntry | InMsgNostro | InMsgPayments |
| SIDuplicates | NOSAcctRepair | PAYAcctRepair |
| SIExceptions | NOSAcctVerify | PAYAcctVerify |

| | | |
|----------------------------|----------------------|-----------------------|
| SIPendingCorrResponse | NOSAcctVerifyL2 | PAYAcctVerifyL2 |
| SIBulkCaseEntry | NOSCorrRepair | PAYCorrRepair |
| AppCorrPendingCorrResponse | NOSCorrVerify | PAYCorrVerify |
| AppCorrPendingVerification | NOSCorrVerifyL2 | PAYCorrVerifyL2 |
| | NOSCompensation | PAYCompensation |
| Securities Case | NOSCompAcctRepair | PAYCompAcctRepair |
| SecCorrRepair | NOSCompAcctVerify | PAYCompAcctVerify |
| SecCorrVerify | NOSCompAcctVerifyL2 | PAYCompAcctVerifyL2 |
| SecCorrVerifyL2 | NOSCompCorrRepair | |
| | NOSCompCorrVerify | PAYCompCorrVerify |
| | NOSTRO-Indemnities | PAYMENTS- Indemnities |
| | NOSTRO-CashReporting | |

Divisional Workbaskets in PegaSI

APAC Division

| | | | |
|--------------|--------------|--------------|----------------|
| APFXMSGCases | APPAMSGCases | APSEMSGCases | APSECAMSGCases |
| APFXREPCases | APPAREPCases | APSEREPCases | APSECAREPCases |
| APFXVFYCorr1 | APPAVFYCorr1 | APSEVFYCorr1 | APSECADVFCorr1 |

| | | | |
|----------------------|---------------------|-----------------|--------------------------|
| APFXWRKCases | APPAWRKCases | APSEWRKCases | APSECWRKCases |
| APSEGNMSGCases | APSEINAMSGCase s | APSENRMMSGCases | APSESDMSGCases |
| APSEGNREPCases | APSEINAREPCases | APSENRRREPCases | APSESDREPCases |
| APSEGNVFYCorr1 | APSEINVFYCorr1 | APSENRVFYCorr1 | APSESDVFYCorr1 |
| APSEGNWRKCases | APSEINWRKCases | APSENWRKCases | APSESDWRKCases |
| APSERMSGCases | APSESTMSGCases | APSETAMSGCases | APTRMSGCases |
| APSERREPCases | APSESTREPCases | APSETAREPCases | APTRREPCases |
| APSERVFYCorr1 | APSESTVFYCorr1 | APSETAVFYCorr1 | APTRVFYCorr1 |
| APSERWRKCases | APSESTWRKCases | APSETAWRKCases | APTRWRKCases |
| | | | ACRPTCases (default)` |
| ASIA Division | | | |
| ASFXMSGCases | ASPAMSGCases | ASSEMSGCases | ASTRMSGCases |
| ASFXREPCases | ASPAREPCases | ASSEREPCases | ASTRREPCases |
| ASFXVFYCorr1 | ASPAVFYCorr1 | ASSEVFYCorr1 | ASTRVFYCorr1 |
| ASFXWRKCases | ASPAWRKCases | ASSEWRKCases | ASTRWRKCases |
| | | | ASRPTCases (default) |
| EMEA Division | | | |
| EMFXMSGCases | EMPAMSGCases | EMSEMSGCases | EMTRMSGCases |
| EMFXREPCases | EMPAREPCases | EMSEREPCases | EMTRREPCases |
| EMFXVFYCorr1 | EMPAVFYCorr1 | EMSEVFYCorr1 | EMTRVFYCorr1 |
| EMFXWRKCases | EMPAWRKCases | EMSEWRKCases | EMTRWRKCases |
| | | | EMRPTCases(defa ult) |

| LACD Division | | | |
|----------------------|--------------|--------------|-------------------------|
| LAFXMSGCases | LAPAMSGCases | LASEMSGCases | LATRMSGCases |
| LAFXREPCases | LAPAREPCases | LASEREPCases | LATRREPCases |
| LAFXVFYCorr1 | LAPAVFYCorr1 | LASEVFYCorr1 | LATRVFYCorr1 |
| LAFXWRKCases | LAPAWRKCases | LASEWRKCases | LATRWRKCases |
| | | | LARPTCases(defau lt) |

Remaining in verification queue

Verification queues can be configured to allow operators to remain in the queue and sequentially verify each item in the queue, rather than ending on the Review Harness after each verification step and having to return to the portal to select the queue for the next item. The system will skip items that an operator is not authorized to verify, if he/she created the item for example. To configure queues to enable this new processing, update the Decision Table, IsLastAssgnProcessedFromVfyWB to include or exclude specific workbaskets:

The screenshot shows the 'Decision Table: IsLastAssgnProcessedFromVfyWB' interface. At the top, there are tabs for Table, Results, Parameters, Pages & Classes, Test cases, Specifications, and History. Below the tabs is a toolbar with various icons for filtering and manipulating data. The main area displays a table with two columns: 'Conditions' and 'Actions'. The 'Conditions' column contains various workbasket IDs, and the 'Actions' column indicates whether the condition is true or false.

| Conditions | Actions |
|-----------------------------------|---------|
| o LastProcessedWorkBasketId | Return |
| o if "AppCorrPendingVerification" | → true |
| o else if "NOSAcctVerify" | → true |
| o else if "NOSAcctVerifyL2" | → true |
| o else if "NOSCompCorrVerify" | → true |
| o else if "NOSCorrVerify" | → true |
| o else if "NOSCorrVerifyL2" | → true |
| o else if "PAYAcctVerify" | → true |
| o else if "PAYAcctVerifyL2" | → true |
| o else if "PAYCorrVerify" | → true |
| o else if "PAYCorrVerifyL2" | → true |
| o else if "PAYCOMPACTVERIFY" | → true |
| o else if "PAYCOMPACTVERIFYL2" | → true |
| o else if "PAYCOMPCCRVERIFY" | → true |
| otherwise | → false |

Default operators and access groups

Smart Investigate for Payments ships with the operators and access groups listed in the following table (with passwords as specified). Below Operators ID are shipped as part of Pega Smart Investigate for Payments Sample layer.

| Operator | AccessGroup |
|------------------------|------------------|
| SIPaymentsDev@pega.com | SISysAdmin |
| SIManager@pega.com | SIManager |
| SIReview@pega.com | SIReview |
| SISecAdmin@pega.com | SISecAdmin |
| SISupervisor@pega.com | SISupervisor |
| SISysAdmin@pega.com | SISysAdminSample |
| SIUser1@pega.com | SIUser1 |
| SIUser2@pega.com | SIUser2 |
| IIISOSysAdmin@pega.com | IIISOSysAdmin |
| IIISOUser@pega.com | IIISOUser |
| IIISOManager@pega.com | IIISOManager |

Predefined access roles and privileges

Your application includes a set of predefined access roles and privileges. If you need to create your own privileges, see Chapter 5 for more information about privileges. The following table shows Smart Investigate for Payments roles and associated privileges.



Note: SIReview and SISecAdmin do not have predefined privileges.

| Privileges | Roles | | | | | | | |
|----------------------------|-----------|---------|---------|--------------|-----------|--------------|------------|------------|
| | SIRReview | SIUser1 | SIUser2 | SISupervisor | SIManager | SIDEclarator | SISysAdmin | SISecAdmin |
| ExceptionCase Flow Actions | | | | | | | | |
| StepByStep Flow | | | | | | | | |
| DetachMessage | | X | X | X | X | X | X | |
| ReviewMessage | | X | X | X | X | X | X | |
| DuplicateSearchSBS | | X | X | X | X | X | X | |
| Send_Messages | | X | X | X | X | X | X | |
| ResolveCase | | X | X | X | X | X | X | |
| StartAdjustment | | X | X | X | X | X | X | |

| Privileges | Roles | | | | | | | |
|----------------------------|-----------|---------|---------|--------------|-----------|-----------|------------|------------|
| | SIRReview | SIUser1 | SIUser2 | SISupervisor | SIManager | SIDeclare | SISysAdmin | SISecAdmin |
| Research Manager | | X | X | X | X | X | X | |
| EmbeddedMessage Case Find | | X | X | X | X | X | X | |
| EmbeddedExceptionCa seFind | | X | X | X | X | X | X | |
| Transfer | | X | X | X | X | X | X | |
| TransferTo Manager | | X | X | X | X | X | X | |
| TransferTo Work | | X | X | X | X | X | X | |

| Privileges | Roles | | | | | | | |
|-----------------------------|-----------|---------|---------|--------------|-----------|-----------|------------|------------|
| | SIRReview | SIUser1 | SIUser2 | SISupervisor | SIManager | SIDeclare | SISysAdmin | SISecAdmin |
| basket | | | | | | | | |
| UpdateServerInfo | | X | X | X | X | X | X | |
| StartAdjustment | | X | X | X | X | X | X | |
| CopyCaseID | | X | X | X | X | X | X | |
| Manual Research Flow | | | | | | | | |
| PerformResearch | | X | X | X | X | X | X | |
| ResearchComplete | | X | X | X | X | X | X | |

| Privileges | Roles | | | | | | | |
|------------------------------------|----------|-----------|-----------|--------------|-----------|------------|------------|------------|
| | SIReview | SIUsurer1 | SIUsurer2 | SISupervisor | SIManager | SIDeclarer | SISysAdmin | SISecAdmin |
| Step By Step | | X | X | X | X | X | X | |
| Process Adjustment Flow | | | | | | | | |
| Reviewing Account Counting Failure | | X | X | X | X | X | X | |
| Initial Processing Flow | | | | | | | | |
| Complete Entry | | X | X | X | X | X | X | |
| Duplicate Search Flow | | | | | | | | |
| Applying Duplicate Results | | X | X | X | X | X | X | |
| SwiftCorr Create Flow | | | | | | | | |
| Cancelling SwiftCreate | | X | X | X | X | X | X | |

| Privileges | Roles | | | | | | | |
|---------------------------------|----------|-----------|-----------|--------------|-----------|------------|---------------|-----------------|
| | SIReview | SIUsurer1 | SIUsurer2 | SISupervisor | SIManager | SIDeclarer | SISystemAdmin | SISecurityAdmin |
| CreateSwiftMessage | | X | X | X | X | X | X | |
| AbandonSwiftMessage | | X | X | X | X | X | X | |
| AppCorrCreate Flow | | | | | | | | |
| CorrProcess | | X | X | X | X | X | X | |
| CorrCancel | | X | X | X | X | X | X | |
| MessageCase Flow Actions | | | | | | | | |
| StepByStep Flow | | | | | | | | |
| CreateWorkcase | | X | X | X | X | X | X | |

| Privileges | Roles | | | | | | | |
|-----------------------------|----------|---------|---------|--------------|-----------|------------|---------------|-----------------|
| | SIReview | SIUser1 | SIUser2 | SISupervisor | SIManager | SIDeclarer | SISystemAdmin | SISecurityAdmin |
| AttachmentMessage | | X | X | X | X | X | X | |
| CancelMessage | | X | X | X | X | X | X | |
| UpdateMessage | | X | X | X | X | X | X | |
| TransferToWorkBasket | | X | X | X | X | X | X | |
| EmbeddedExceptionOnCaseFind | | X | X | X | X | X | X | |

| Privileges | Roles | | | | | | | |
|-------------------------------------|----------|---------|---------|--------------|-----------|-----------|---------------|-----------------|
| | SIReview | SIUser1 | SIUser2 | SISupervisor | SIManager | SIDeclare | SISystemAdmin | SISecurityAdmin |
| EmbeddedMessage | | X | X | X | X | X | X | |
| CaseFind | | | | | | | | |
| ResearchManager | | X | X | X | X | X | X | |
| Accounting Specific Security | | | | | | | | |
| Adjustment | | X | X | X | X | X | X | |
| CutoffCancel | | | | | | X | X | |
| CutoffForce | | | | | | X | X | |
| CutoffRelease | | | | | | X | X | |

| Privileges | Roles | | | | | | | | |
|----------------|----------|---------|---------|--------------|-----------|------------|------------|------------|--|
| | SIReview | SIUser1 | SIUser2 | SISupervisor | SIManager | SIDeclarer | SISysAdmin | SISecAdmin | |
| Verify Level 1 | | | X | X | X | X | X | | |
| Verify Level 2 | | | | X | X | X | X | | |
| Verify Level 3 | | | | | X | X | X | | |

- **Portal layout**
- **Service level rules and escalation activities**
- **Correspondence templates**
- **SWIFT correspondence templates**
- **Fed service correspondence templates**
- **Indemnity correspondence templates**
- **Compensation correspondence templates**
- **Standard correspondence templates**
- **Structured correspondence templates**
- **Sample data**

- MyCoSI-party-InternalAccount

Portal layout

The tabs and tab names that you see on your home page (or portals) when you log in are defined in access groups. Smart Investigate for Payments ships with the following instances of portal rules:

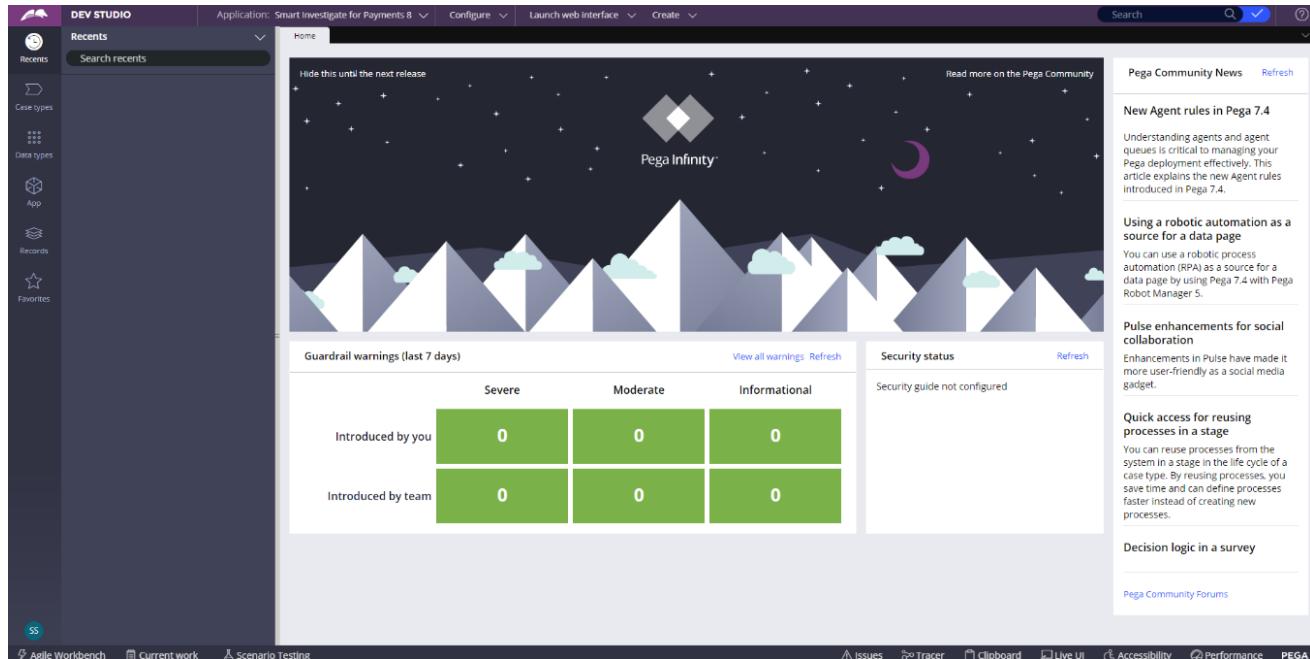
- SIUser1 (SIUser1 and SIUser2 operators and access groups)
- SIManager (SIManager operators and access groups)
- SISecAdmin (SISecAdmin operator and access group)

The following shows the SI User portal layout.

| Due | Name | Case | Description | Category | Owner | Urgency |
|-----|-----------------------|------------------|-----------------------|--------------------------------|-------------|---------|
| — | StepByStep | PEG181026-000001 | StepByStep | Amend Beneficiary | SI Sysadmin | 38 |
| — | StepByStep | PEG181030-000002 | StepByStep | Beneficiary Claims Non-Receipt | SI Sysadmin | 21 |
| — | StepByStep | PEG181024-000010 | StepByStep | Beneficiary Claims Non-Receipt | SI Sysadmin | 21 |
| — | StepByStep | PEG181024-000006 | StepByStep | Beneficiary Claims Non-Receipt | SI Sysadmin | 21 |
| — | StepByStep | PEG181024-000004 | StepByStep | Beneficiary Claims Non-Receipt | SI Sysadmin | 21 |
| — | StepByStep | PEG181023-000005 | StepByStep | Beneficiary Claims Non-Receipt | SI Sysadmin | 21 |
| — | ProcessCompAccounting | CMP181024-000004 | ProcessCompAccounting | Compensation | SI Sysadmin | 19 |
| — | StepByStep | CMP181024-000004 | StepByStep | Compensation | SI Sysadmin | 19 |
| — | ProcessCompAccounting | CMP181024-000003 | ProcessCompAccounting | Compensation | SI Sysadmin | 19 |
| — | StepByStep | CMP181024-000003 | StepByStep | Compensation | SI Sysadmin | 19 |

The following shows the SI User portal layout.

The following shows the SI system administrator portal layout (Developer Portal).



Service level rules and escalation activities

Smart Investigate for Payments includes a set of predefined service level rules and escalation activities.

Service Levels

| Service Levels | Description |
|-----------------|--|
| SIMessageReview | Referenced by the MessageAttached assignment of the MessageReview flow |
| SIMessageSBS | Referenced by the ProcessMessage assignment of theStepByStep flow |

| Service Levels | Description |
|----------------|--|
| SIDuplicates | Referenced by the ProcessPotentialDuplicates assignment of the DuplicateSearch flow |
| SIRepair | Referenced by the Repair assignment of the AcctgRepair flow and at deadline time calls the escalation activity, SendEmailToOwner |
| AppCorrVfy | Reference by the VerifyCorrespondence and SecondVerification assignments of the AppCorrVerify flow and at deadline time calls the escalation activity SendEmailToCreator |

Escalation activities

| Escalation Activity | Description |
|---------------------|---|
| SendEmailToOwner | Sends mail to assignee. Called by service level SIRepair |
| SendEmailToCreator | Sends email to assignee. Called by service level AppCorrVfy |

Correspondence templates

Smart Investigate for Payments comes with a standard set of sample correspondence templates. The following table lists the templates that are specific to the processing of Smart Investigate for Payments workflows (all defined under Rule-PegaCommBank-Corr).

The following table lists other generic samples that ship with the application and can also be used as references for building correspondence.

| Class Name | Stream Name | Type | Description |
|-----------------------|-------------------------------|-------------------------|---|
| PegaSI-Work- | Adviceblankltr | Mail, English | Advice blank letter |
| | Adviceblankemail | E-mail, English | Advice e-mail — free format |
| PegaSI-Work- | Mailfreeformat | Mail, English | Free format mail |
| | Emailfreeformat | E-mail, English | Free format e-mail |
| PegaSI-Work- | Replytoincominginquiry | Mail/E-mail, English | Reply to incoming inquiry |
| | Replytoincominginquiry | | acknowledgement |
| PegaSI-Work- | Replytoincominginquiryack | Mail/E-mail, English | Reply to incoming inquiry and acknowledgement |
| | Replytoincominginquiryack | | |
| PegaSI-Work- | Unabletoapplyinquiry | Mail/E-mail, English | Unable to apply inquiry |
| PegaSIPymt-Work- | Regardingcustpay | Mail/E-mail, English | Receiving bank outbound customer |
| PegaSIPymt-Work- BCNR | Custpaymentben enonreceipt | Mail/E-mail, English | Receiving bank — outbound |

| Class Name | Stream Name | Type | Description |
|---------------------------|--------------------|-------------------------|---|
| | | | payment — beneficiary non receipt |
| PegaSIPymt-Work-Corrbkchg | Requestforcharges | Mail/E-mail, English | Your payment request for charges |
| PegaSIPymt-Work-IncDate | Custpaymentlatepyt | Mail/E-mail, English | Receiving bank — outbound payment — ensure beneficiary receives good value |

| Class Name | Stream Name | Type | Label |
|-------------------|--------------------|-------------|----------------------------|
| PegaSI-Work- | Adviceblank199 | MT199 | Free Format Advice via 199 |
| PegaSI-Work- | Adviceblank299 | MT299 | Free Format Advice via 299 |
| PegaSI-Work- | Adviceblank999 | MT999 | Free Format Advice via 999 |

| Class Name | Stream Name | Type | Label |
|-------------------|--------------------|-----------------|---|
| PegaSI-Work- | Adviceinqbnf999 | MT999 | Advice to Inquirer via 999, Re: Bene |
| PegaSI-Work- | Adviceinqcr999 | MT999 | Advice to Inquirer via 999, Re: Credit Txn |
| PegaSI-Work- | Adviceinqnewbnf999 | MT999 | Advice to Inquirer via 999, Re: New Bene |
| PegaSI-Work- | Adviceinqrem999 | MT999 | Advice to Inquirer via 999, Re: Remitter |
| PegaSI-Work- | Adviceinqsbk999 | MT999 | Advice to Inquirer via 999, Re: SendingBank |
| PegaSI-Work- | Adviceofcr | MT199, 299, 999 | Advice of Credit |
| PegaSI-Work- | Adviceofdr | MT199, 299, 999 | Advice of Debit |
| PegaSI-Work- | Adviceofpay | MT199, 299, 999 | Advice of Payment |
| PegaSI-Work- | Dcus1cwash103 | MT103 | Dr Customer1, Cr Wash, via 103 |
| PegaSI-Work- | Dcus1cwash202 | MT202 | Dr Customer1, Cr Wash, via 202 |
| PegaSI-Work- | Dcus2cwash103 | MT103 | Dr Customer2, Cr Wash, via 103 |
| PegaSI-Work- | Dcus2cwash202 | MT202 | Dr Customer2, Cr Wash, via 202 |
| PegaSI-Work- | Dcus3cwash103 | MT103 | Dr Customer3, Cr Wash, via 103 |

| Class Name | Stream Name | Type | Label |
|-------------------|--------------------|-------------|---------------------------------------|
| PegaSI-Work- | Dcus3cwash202 | MT202 | Dr Customer3, Cr Wash, via 202 |
| PegaSI-Work- | Dcusblank103 | MT103 | Dr Customer, Cr Select, via 103 |
| PegaSI-Work- | Dcusblank202 | MT202 | Dr Customer, Cr Select, via 202 |
| PegaSI-Work- | Dcusbnf103 | MT103 | Dr Customer, Beneficiary, via 103 |
| PegaSI-Work- | Dcusbnf202 | MT202 | Dr Customer, Beneficiary, via 202 |
| PegaSI-Work- | Dcusccus103 | MT103 | Dr Customer, Cr Customer, via 103 |
| PegaSI-Work- | Dcusccus202 | MT202 | Dr Customer, Cr Customer, via 202 |
| PegaSI-Work- | Dcuscwash103 | MT103 | Dr Customer, Cr Wash, via 103 |
| PegaSI-Work- | Dcuscwash202 | MT202 | Dr Customer, Cr Wash, via 202 |
| PegaSI-Work- | Dcusnewbnf103 | MT103 | Dr Customer, New Beneficiary, via 103 |
| PegaSI-Work- | Dcusnewbnf202 | MT202 | Dr Customer, New Beneficiary, via 202 |
| PegaSI-Work- | Dcusrbk202 | MT202 | Dr Customer, Receiving Bank, via 202 |
| PegaSI-Work- | Dcusrem103 | MT103 | Dr Customer, Remitter, via 103 |

| Class Name | Stream Name | Type | Label |
|-------------------|--------------------|-------------|--|
| PegaSI-Work- | Dcusrem202 | MT202 | Dr Customer, Remitter, via 202 |
| PegaSI-Work- | Dcussbk103 | MT103 | Dr Customer, Sending Bank, via 103 |
| PegaSI-Work- | Dcussbk202 | MT202 | Dr Customer, Sending Bank, via 202 |
| PegaSI-Work- | Dwashccus103 | MT103 | Dr Wash, Cr Customer via 103 |
| PegaSI-Work- | Dwashccus1103 | MT103 | Dr Wash, Cr Customer1, via 103 |
| PegaSI-Work- | Dwashccus1202 | MT202 | Dr Wash, Cr Customer1, via 202 |
| PegaSI-Work- | Dwashccus202 | MT202 | Dr Wash, Cr Customer, via 202 |
| PegaSI-Work- | Dwashccus2103 | MT103 | Dr Wash, Cr Customer2, via 103 |
| PegaSI-Work- | Dwashccus2202 | MT202 | Dr Wash, Cr Customer2, via 202 |
| PegaSI-Work- | Dwashccus3101 | MT103 | Dr Wash, Cr Customer3, via 103 |
| PegaSI-Work- | Dwashccus3202 | MT202 | Dr Wash, Cr Customer3, via 202 |

SWIFT correspondence templates

Smart Investigate for Payments ships with the correspondence templates described below, which are used during SWIFT processing.

| Class Name | Template | Message Type | Description |
|---------------------------|--------------------------------|-------------------------|--|
| PegaSI-Work- | AutoAck | MT199 English | Auto acknowledgment to Inquirer work party |
| PegaSIPymt- Work- | CancelCoverPay | MT292 | Request cancellation of our cover payment |
| PegaSIPymt- Work- | CancelPayOrder | MT192, 292 | Request cancellation of our payment |
| PegaSI-Work- | ChargesTaken FreeFormat | MT190, 290 | Advise details of charges taken |
| PegaSIPymt- Work-AmendBen | CoverPayment AmendBene | MT295, 299 | Corr bank — outbound cover payment — amend beneficiary |
| PegaSIPymt- Work-BCNR | CoverPayment BeneNonReceipt | MT295, 299. 995, 999 | Corr bank — outbound cover payment — beneficiary non receipt |

| Class Name | Template | Message Type | Description |
|---------------------------|-------------------------------|---------------------|---|
| PegaSIPyment- Work-Cancel | CoverPayment Cancellation1 | MT295, 299 | Corr bank — outbound cover payment — request for debit authority |
| PegaSIPyment- Work-Cancel | CoverPayment Cancellation2 | MT295, 299 | Corr bank — outbound cover payment — request to be recredited |
| PegaSIPyment- Work-Cancel | CoverPayment Cancellation3 | MT295, 299 | Corr bank — outbound cover payment — return funds via corr bank |
| PegaSIPyment- Work-Dup | CoverPaymentDupPyt1 | MT295, 299 | Corr bank — outbound cover payment — request debit authority re dup |
| PegaSIPyment- Work-Dup | CoverPayment DupPyt2 | MT295, 299 | Corr bank — outbound cover payment — request to be recredited |

| Class Name | Template | Message Type | Description |
|--------------------------|---------------------------|---------------------|--|
| PegaSIPymt- Work-Dup | CoverPayment DupPty3 | MT295, 299 | Corr bank — outbound cover payment — request for refund via corr bank |
| PegaSIPymt- Work-IncDate | CoverPayment EarlyPty1 | MT295, 299 | Corr bank — outbound cover payment — adjust value of debit re early payment |
| PegaSIPymt- Work-IncDate | CoverPayment EarlyPty2 | MT295, 299 | Corr bank — outbound cover payment — request authority to adjust value of credit |
| PegaSIPymt- Work-IncDate | CoverPayment EarlyPty3 | MT295, 299 | Corr bank — outbound cover payment — request authority to adjust cover |

| Class Name | Template | Message Type | Description |
|---------------------------------|--|---------------------|--|
| PegaSIPy whole- IncBank | CoverPaymentIncor rect BkPaid1 | MT295, 299 | Corr bank — outbound cover payment — incorrect bank — request debit authority |
| PegaSIPy whole- IncBank | CoverPaymentIncor rect BkPaid2 | MT295, 299 | Corr bank — outbound cover payment — incorrect bank — request to be recrated |
| PegaSIPy whole- IncBank | CoverPaymentIncor rectBkPaid3 | MT295, 299 | Corr bank — outbound cover payment — return funds via corr bank |
| PegaSIPy whole- Work-IncBank | CoverPaymentIncor rect BkPaid4 | MT295, 299 | Corr bank — outbound cover payment — amend beneficiary bank |

| Class Name | Template | Message Type | Description |
|------------------------------|--|-------------------------|---|
| PegaSIPymt-Work-IncCrAcct | CoverPaymentIncorrect CreditAcc | MT295, 299 | Corr bank — outbound cover payment — amend credit account |
| PegaSIPymt- Work-IncDate | CoverPayment LatePyt | MT295, 299, 995, 999 | Corr bank — outbound cover payment — ensure beneficiary receives good value |
| PegaSIPymt- Work-NostroLdgCr | CoverPaymentNostr o LedgerCredit | MT295, 299, 995, 999 | Corr bank — outbound cover payment — advise details of your debit |
| PegaSIPymt- Work-IncCvr | CoverPaymentWron g CoverOut | MT295, 299 | Corr bank — outbound cover payment — advice to confirm good value arranged |
| PegaSIPymt- Work-AmendBen | CustPayment AmendBene | MT195, 299, 295, 299 | Receiving bank — outbound payment |

| Class Name | Template | Message Type | Description |
|--------------------------------|---|-------------------------------------|--|
| | | | — amend beneficiary |
| PegaSIPy whole- BCNR | CustPaymentBene NonReceipt | MT195,199, 295, 299, 995, 999 | Receiving bank — outbound payment — beneficiary non receipt |
| PegaSIPy whole- Cancel | CustPaymentCancel lation Request1 | MT195, 199, 295, 299 | Receiving bank — outbound payment — request for debit authority in refund |
| PegaSIPy whole- Work-Cancel | CustPaymentCancel lation Request2 | MT195, 199, 295, 299 | Receiving bank — outbound payment — request to be recrated in refund |
| PegaSIPy whole- Work-Cancel | CustPaymentCancel lation Request3 | MT195, 199, 295, 299 | Receiving bank — outbound payment — request for refund via corr bank |
| PegaSIPy whole- Work-Dup | CustPaymentDupPy t1 | MT195, 199, 295, 299 | Receiving bank — outbound payment |

| Class Name | Template | Message Type | Description |
|----------------------------|----------------------|----------------------|--|
| | | | — request for debit authority re dup |
| PegaSIPyment- Work-Dup | CustPaymentDupPyt2 | MT195, 199, 295, 299 | Receiving bank — outbound payment — request to be recrated re dup |
| PegaSIPyment- Work-Dup | CustPaymentDupPyt3 | MT195, 199, 295, 299 | Receiving bank — outbound payment — request refund via corr bank re dup |
| PegaSIPyment- Work-IncDate | CustPaymentEarlyPyt1 | MT195, 199, 295, 299 | Receiving bank — outbound payment — adjust value of debit re early payment |
| PegaSIPyment- Work-IncDate | CustPaymentEarlyPyt2 | MT195, 199, 295, 299 | Receiving bank — outbound payment — request authority to adjust value of credit |

| Class Name | Template | Message Type | Description |
|--------------------------|-------------------------|-------------------------|---|
| PegaSIPymt-Work-IncDate | CustPaymentEarlyPyt3 | MT195, 199, 295, 299 | Receiving bank — outbound payment — request authority to adjust cover |
| PegaSIPymt- Work-IncBank | CustPaymentIncorrectBk1 | MT195, 199, 295, 299 | Receiving bank — outbound payment — incorrect bank — request debit authority |
| PegaSIPymt- Work-IncBank | CustPaymentIncorrectBk2 | MT195, 199, 295, 299 | Receiving bank — outbound payment — incorrect bank — request to be reccredited |
| PegaSIPymt- Work-IncBank | CustPaymentIncorrectBk3 | MT195, 199, 295, 299 | Receiving bank — outbound payment — incorrect bank — request for refund via corr bank |
| PegaSIPymt- Work-IncBank | CustPaymentIncorrectBk4 | MT195, 199, 295, 299 | Receiving bank — outbound payment |

| Class Name | Template | Message Type | Description |
|----------------------------|-----------------------------------|-------------------------|--|
| | | | — incorrect bank — amend our payment |
| PegaSIPymt-Work-IncChg | CustPaymentIncorrect Charges1 | MT195, 199, 295, 299 | Receiving bank — outbound payment — charges should read OUR |
| PegaSIPymt-Work-IncChg | CustPaymentIncorrect Charges2 | MT195, 199, 295, 299 | Receiving bank — outbound payment — charges should read BEN |
| PegaSIPymt- Work-IncCrAcct | CustPaymentIncorrect CreditAcc | MT195, 199, 295, 299 | Receiving bank — outbound payment — please amend credit account |
| PegaSIPymt- Work-IncAmount | CustPaymentIncorrect Currency | MT195, 199, 295, 299 | Receiving bank — outbound payment — incorrect currency — confirm cancellation |

| Class Name | Template | Message Type | Description |
|----------------------------------|-------------------------------|--------------------------------------|---|
| PegaSIPyment- Work-IncDate | CustPaymentLatePyt | MT195, 199, 295, 299, 995, 999 | Receiving bank — outbound payment — ensure beneficiary receives good value |
| PegaSIPyment- Work-NostroLdgCr | CustPaymentNostroLedgerCredit | MT195, 199, 295, 299, 995, 999 | Receiving bank — outbound payment — advise details of your debit |
| PegaSIPyment- Work- NostroValDif | CustPaymentNostroValDiff | MT195, 199, 295, 299, 995, 999 | Receiving bank — outbound payment — request for good value re their debit |
| PegaSIPyment- Work-IncAmount | CustPaymentOverpayment | MT195, 199, 295, 299 | Receiving bank — outbound payment — amend and return overpayment |
| PegaSIPyment- Work- IncAmount | CustPaymentUnderpayment1 | MT195, 199, 295, 299 | Receiving bank — outbound payment |

| Class Name | Template | Message Type | Description |
|------------------------------|------------------------------|-------------------------|--|
| | | | — underpayment — we have credited diff |
| PegaSIPy whole- IncAmount | CustPaymentUnder payment2 | MT195, 199, 295, 299 | Receiving bank — outbound payment — underpayment — authority to debit diff |
| PegaSIPy whole- IncAmount | CustPaymentUnder payment3 | MT195, 199, 295, 299 | Receiving bank — outbound payment — underpayment — diff remitted to corr bank |
| PegaSIPy whole- IncCvr | CustPaymentWrong CoverOut | MT295, 299 | Receiving bank — outbound payment — arranged cover with good value |
| PegaSI-Work- | GenFreeFormat1 | MT195, 295, 995 | General purpose, free format 195 — with code |

| Class Name | Template | Message Type | Description |
|----------------------|------------------------------------|---------------------|---|
| PegaSI-Work- | GenFreeFormat2 | MT195, 295, 995 | General purpose, free format 195 — without code |
| PegaSI-Work- | InquiryResponseFre e Format1 | MT196, 296, 996 | Response to incoming inquiry — with code |
| PegaSI-Work- | InquiryResponseFre e Format2 | MT196, 296, 996 | Response to incoming inquiry — without code |
| PegaSIPymt- Work- | RegardingCover Payment | MT299 | Corr bank - outbound cover payment — free format |
| PegaSIPymt- Work- | RegardingCover Payment1 | MT195, 295, 995 | Corr bank - outbound cover payment — with code |
| PegaSIPymt- | RegardingCover Payment2 | MT195, 295, 995 | Corr bank - outbound cover payment |

| Class Name | Template | Message Type | Description |
|------------------------|--------------------------------|---------------------|--|
| Work- | | | — without code |
| PegaSIPyment- Work- | RegardingCust Payment | MT199, 299, 999 | Receiving bank — outbound payment |
| PegaSIPyment- Work- | RegardingCust Payment1 | MT195, 295, 995 | Rec bank — outbound customer payment — with code |
| PegaSIPyment- Work- | RegardingCust Payment2 | MT195, 295, 995 | Rec bank — outbound customer payment — without code |
| PegaSIPyment- Work- | RegardingRemit BankPay | MT199, 299, 999 | Remitting bank — their payment to us — free format 199 |
| PegaSIPyment- Work- | RegardingRemitBan k Pay1 | MT195, 295, 995 | Remitting bank — their payment to us — with code |
| PegaSIPyment- Work- | RegardingRemitBan k Pay2 | MT195, 295, 995 | Remitting bank — their payment to us — without code |

| Class Name | Template | Message Type | Description |
|---------------------------------|------------------------------------|--------------------------------------|--|
| PegaSIPyment- Work-Dup | RemitBankPay DupPyt | MT195, 295, 995 | Remitting bank — their payment to us — confirm if payment to be cancelled |
| PegaSIPyment- Work-Dup | RemitBankPay DupPyt | MT199, 299, 999 | Remitting bank - their payment to us — confirm if payment to be cancelled |
| PegaSIPyment- Work-IncDate | RemitBankPay LatePyt | MT199, 299, 999 | Remitting bank — your payment to us — request instructions re late payment |
| PegaSIPyment- Work-NostroLdgDr | RemitBankPayNostr o LedgerDebit | MT195, 199, 295, 299, 995, 999 | Remitting bank — their payment to us — request details of their credit |
| PegaSIPyment- Work-NostroValDif | RemitBankPayNostr o ValDiff | MT195, 199, 295, 299, | Remitting bank — their payment to us — request for good value |

| Class Name | Template | Message Type | Description |
|----------------------------|---------------------------------|--------------------------------------|--|
| | | 995, 999 | |
| PegaSIPynt- Work-IncAmount | RemitBankPay Overpayment | MT195, 199, 295, 299, 995, 999 | Remitting bank — their payment to us — request instructions re overpayment |
| PegaSIPynt- Work-Return | RemitBankPayReturn OfFunds1 | MT195, 199, 295, 299, 995, 999 | Remitting bank — their payment to us — funds returned — advise action |
| PegaSIPynt- Work-Return | RemitBankPayReturnOfFunds2 | MT195, 199, 295, 299 | Remitting bank — their payment to us — advise account credited in refund |
| PegaSIPynt- Work-Return | RemitBankPayReturn OfFunds3 | MT195, 199, 295, 299 | Remitting bank — their payment to us — authority to debit in refund |
| PegaSIPynt- Work-UTEPay | RemitBankPayUnable EffectPty | MT195, 199, 295, 299, | Remitting bank — their payment to us |

| Class Name | Template | Message Type | Description |
|----------------------------|-------------------------------|--------------------------------------|--|
| | | 995, 999 | — request for further info |
| PegaSIPymt- Work-IncAmount | RemitBankPay Underpayment | MT195, 199, 295, 299, 995, 999 | Remitting bank — their payment to us — request action re underpayment |
| PegaSIPymt- Work-IncCvr | RemitBankPayWrong CoverIn1 | MT195, 199, 295, 299, 995, 999 | Remitting bank — their payment to us — request to ensure we receive good value |
| PegaSIPymt- Work-IncCvr | RemitBankPayWrong CoverIn2 | MT195, 199, 295, 299, 995, 999 | Remitting bank — their payment to us — request to ensure we receive correct reimbursement |
| PegaSI-Work- | ReplyToIncomingInquiry | MT199, 299, 999 | Reply to incoming inquiry |
| PegaSI-Work- | ReplyToIncomingInquiryAck | MT199, 299, | Reply incoming inquiry - |

| Class Name | Template | Message Type | Description |
|--------------|------------------------------|--------------|----------------------------|
| | | 999 | acknowledgement |
| PegaSI-Work- | RequestCharges FreeFormat | MT191, 291 | Request payment of charges |
| PegaSI-Work- | Requestservicecharge | MT191 | Request service charge |

- ISO 20022 Accounting Templates
- SWIFT CBPR+ correspondence templates

ISO 20022 Accounting Templates

Smart Investigate for Payments ships with the correspondence templates described below, which are used during ISO 20022 based accounting processing

| Class Name | Template | Message Type | Description |
|--------------|--|-----------------|---|
| PegaSI-Work- | PaymentReturn_V10 ISO20022_MX English | pacs.004.001.10 | Payment Return via pacs.004 with ISO 20022 |
| PegaSI-Work- | FICreditTransfer_V09 ISO20022_MX English | pacs.009.001.09 | FI Credit Transfer via pacs.009 with ISO 20022 |
| PegaSI-Work- | CustomerCredit Transfer_V09 ISO20022_MX English | pacs.008.001.09 | Customer Credit Transfer viapacs.008 with ISO 20022 |

SWIFT CBPR+ correspondence templates

Smart Investigate for Payments ships with the correspondence templates described below, which are used during SWIFT CBPR+ based accounting processing.

| Class Name | Template | Message Type | Description |
|-------------------|--|---------------------|--|
| PegaSI-Work- | AccountReportingRequest_V05 Swift_CBPRPlus English | camt.060.001.05 | Account Reporting Request |
| PegaSI-Work- | BankToCustAccountReport_V08 Swift_CBPRPlus English | camt.052.001.08 | Bank To Customer Account Report |
| PegaSI-Work- | BankToCustomerDebitCreditNotification_V08 Swift_CBPRPlus English | camt.054.001.08 | Bank To Customer Debit Credit Notification |
| PegaSI-Work- | BankToCustomerStatement_V08 Swift_CBPRPlus English | camt.053.001.08 | Bank To Customer Statement |
| PegaSI-Work- | CustomerCreditTransfer_V08 Swift_CBPRPlus English | pacs.008.001.08 | Customer Credit Transfer via pacs.008 with CBPR Plus |
| PegaSI-Work- | FICreditTransferCOV_V08 Swift_CBPRPlus English | pacs.009.001.08_COV | FI Credit Transfer via pacs.009 Cov with CBPRPlus |
| PegaSI-Work- | FICreditTransfer_V08 Swift_CBPRPlus English | pacs.009.001.08 | FI Credit Transfer via pacs.009 with CBPRPlus |

| Class Name | Template | Message Type | Description |
|--------------|---|-----------------|--|
| PegaSI-Work- | FIToFIPaymentCancellationRequest_V08 Swift_CBPRPlus English | camt.056.001.08 | FI to FI Payment Cancellation Request |
| PegaSI-Work- | NotificationToReceive_V06 Swift_CBPRPlus English | camt.057.001.06 | Notification To Receive |
| PegaSI-Work- | PaymentReturn_V9 Swift_CBPRPlus English | pacs.004.001.09 | Payment Return via pacs.004 with CBPR Plus |
| PegaSI-Work- | ResolutionOfInvestigation_V09 Swift_CBPRPlus English | camt.029.001.09 | Resolution Of Investigation |
| PegaSI-Work- | StatusReport_V10 Swift_CBPRPlus English | pacs.002.001.10 | Status Report |

Fed service correspondence templates

Smart Investigate for Payments ships with the correspondence templates described in the table below, which are used during Fed Service processing.

| Class Name | Template | Message Type | Description |
|--------------|----------|--|---|
| PegaSI-Work- | AutoAck | MT1090 English, MT1590 English, MT1690 English | Auto acknowledgement to Inquirer work party |

| Class Name | Template | Message Type | Description |
|-------------------|----------------------------|---|---------------------------------------|
| PegaSI-Work- | Generalpurpose | MT1001, MT1007, MT1033, MT1090, MT1501, MT1507, MT1590, MT1601, MT1607, MT1633, MT1690 | General purpose message |
| PegaSI-Work- | Generalpurposewithticklers | MT1001, MT1007, MT1033, MT1090, MT1501, MT1507, MT1590, MT1601, MT1607, MT1633, MT1690 | General purpose message with ticklers |
| PegaSI-Work- | Adviceofcr | MT1090 | Advice of credit via 1090 |
| PegaSI-Work- | Adviceofcrind | MT1090 | Advice of credit via 1090 |
| PegaSI-Work- | Adviceofdr | MT1090 | Advice of debit via 1090 |
| PegaSI-Work- | Adviceofpay | MT1090 | Advice of payment via 1090 |
| PegaSI-Work- | Adviceofcrr | MT1690 | Advice of credit via 1690 |
| PegaSI-Work- | Adviceofcrind | MT1690 | Advice of credit via 1690 |

| Class Name | Template | Message Type | Description |
|--------------|-------------|--------------|----------------------------|
| PegaSI-Work- | Adviceofdr | MT1690 | Advice of debit via 1690 |
| PegaSI-Work- | Adviceofpay | MT1690 | Advice of payment via 1690 |

Indemnity correspondence templates

Smart Investigate for Payments ships with the correspondence templates described in the table below, which are used during indemnity processing.

| Class Name | Template | Message Type | Description | Verification? |
|--------------|--------------------------------|--------------|---|---------------|
| PegaSI-Work- | Confirmindem nity action | MT999 | Confirm indemnity action via 999 | Yes |
| PegaSI-Work- | Confirmindem nity action | SWIFTNet | Confirm indemnity action | Yes |
| PegaSI-Work- | Dcusccus202in d | MT202 | Indemnified— dr customer, cr customer, via 202 | No |
| PegaSI-Work- | Indemnity | MT199 | Indemnity via 199 | Yes |
| PegaSI-Work- | Indemnity | SWIFTNet | Indemnity | Yes |

| Class Name | Template | Message Type | Description | Verification? |
|-------------------|----------------------------------|---------------------|--|----------------------|
| PegaSI-Work- | IndemnityNull AndVoid | MT199 | Indemnity null and void via 199 | Yes |
| PegaSI-Work- | IndemnityNull And Void | SWIFTNet | Indemnity null and void | Yes |
| PegaSI-Work- | IndemnityReca ll OfFunds | MT199 | Recall of funds | Yes |
| PegaSI-Work- | IndemnityReca ll OfFunds | SWIFTNet | Recall of funds | Yes |
| PegaSI-Work- | IndemnityRefu nd Requested | MT199 | Refund requested on your behalf | Yes |
| PegaSI-Work- | IndemnityRefu nd Requested | SWIFTNet | Refund requested | Yes |
| PegaSI-Work- | IndemnityRele ased | MT199 | Indemnity released | Yes |
| PegaSI-Work- | IndemnityRele ased | SWIFTNet | Indemnity released | Yes |

Compensation correspondence templates

Smart Investigate for Payments ships with the correspondence templates described in the table below, which are used during compensation processing.

| Class Name | Template | Message Type | Label | Verification? |
|---------------------|-----------------------|--------------|--|---------------|
| PegaSI-Compensation | BackValueClaimDenied | MT199 | Back Value Compensation Denied | No |
| PegaSI-Compensation | BackValueDeclineToPay | MT199 | Decline to Pay Back Value Compensation | No |
| PegaSI-Compensation | Bvformcdbtawash103 | MT103 | Cr Debit Original Value, Dr Wash, via 103 | No |
| PegaSI-Compensation | Bvformcdtcwash202 | MT202 | B/V form, DR CDT orig value, CR comp rec'd wash a/c, via 202 | No |
| PegaSI-Compensation | Bvformddbtcwash202 | MT202 | F/V form, DR DBT orig | No |

| Class Name | Template | Message Type | Label | Verification? |
|-------------------------|-------------------------------|---------------------|--|----------------------|
| | | | value, CR comp rec'd wash a/c, via 202 | |
| PegaSI- Compensation | Bvformdwash ccdt202 | MT202 | B/V form, DR CR comp rec'd wash a/c new value, CR CDT, via 202 | No |
| PegaSI- Compensation | Bvformdwash cdbt103 | MT103 | Dr Wash, Cr Debit correct value, via 103 | No |
| PegaSI- Compensation | Bvformdwash cdbt202 | MT202 | B/V form, DR Wash, CR DebitParty orig value a/c, via 202 | No |
| PegaSI- Compensation | Bvformdwashc dbt 202newval | MT202 | B/V form, DR CR comp rec'd wash a/c new value, CR CDT, via 202 | No |

| Class Name | Template | Message Type | Label | Verification? |
|---------------------|-------------------|---------------------|--|----------------------|
| PegaSI-Compensation | Claimamendbene | MT199 | Claim Amend beneficiary Compensation | Yes |
| PegaSI-Compensation | Claimamendbene | MT299 | Claim Amend beneficiary Compensation | Yes |
| PegaSI-Compensation | ClaimBackValue | MT199 | Claim Back Value Compensation | Yes |
| PegaSI-Compensation | ClaimBackValue | MT299 | Claim Back Value Compensation | Yes |
| PegaSI-Compensation | ClaimForwardValue | MT199 | Claim Forward Value Compensation | Yes |
| PegaSI-Compensation | ClaimForwardValue | MT299 | Claim Forward Value Compensation | Yes |

| Class Name | Template | Message Type | Label | Verification? |
|---------------------|-----------------|---------------------|--|----------------------|
| PegaSI-Compensation | ClaimUseOfFunds | MT199 | Claim Use of Funds Compensation | Yes |
| PegaSI-Compensation | ClaimUseOfFunds | MT299 | Claim Use of Funds Compensation | Yes |
| PegaSI-Compensation | Dcomprcwash202 | MT202 | Dr Comp Received, Cr Comp Rec'd Wash, via 202 | No |
| PegaSI-Compensation | Ddcuscwash202 | MT202 | Dr Customer, Cr Comp Paid Wash, via 202 | No |
| PegaSI-Compensation | Dfeecwash202 | MT202 | Dr Fee Account, Cr Wash Account, via 202 | No |

| Class Name | Template | Message Type | Label | Verification? |
|---------------------|-----------------|---------------------|---|----------------------|
| PegaSI-Compensation | Drsvcwash202 | MT202 | Dr Reserve Account, Cr Wash Account, via 202 | No |
| PegaSI-Compensation | Dshortwash202 | MT202 | Dr Short, Cr Comp Rec'd Wash, via 202 | No |
| PegaSI-Compensation | Dusecwash202 | MT202 | Dr Use Account, Cr Wash Account, via 202 | No |
| PegaSI-Compensation | Dwashccus202 | MT202 | Dr Comp Rec'd Wash, Cr Cust Account, via 202 | No |
| PegaSI-Compensation | Dwashccmpp103 | MT103 | Dr Wash, Cr Comp Paid, via 103 | No |

| Class Name | Template | Message Type | Label | Verification? |
|---------------------|-----------------|---------------------|--|----------------------|
| PegaSI-Compensation | Dwashccmpp202 | MT202 | Dr Wash, Cr Comp Paid, via 202 | No |
| PegaSI-Compensation | Dwashcfee202 | MT202 | Dr Comp Rec'd Wash, Cr Fee Account, via 202 | No |
| PegaSI-Compensation | Dwashcover202 | MT202 | Dr Comp Rec'd Wash, Cr Over Account, via 202 | No |
| PegaSI-Compensation | Dwashcsv202 | MT202 | Dr Comp Rec'd Wash, Cr Reserve Account, via 202 | No |
| PegaSI-Compensation | Dwashcuse202 | MT202 | Dr Comp Rec'd Wash, Cr Use Account, via 202 | No |

| Class Name | Template | Message Type | Label | Verification? |
|---------------------|-------------------------------|---------------------|--|----------------------|
| PegaSI-Compensation | Fvformcdbtd wash103 | MT103 | Cr Debit orig value, Dr Wash, via 103 | No |
| PegaSI-Compensation | Fvformdwash ccdt103 | MT103 | Dr Wash, Cr Credit correct value, via 103 | No |
| PegaSI-Compensation | Fvformdwash cdbc202 | MT202 | F/V form, DR Wash, CR DebitParty orig value a/c, via 202 | No |
| PegaSI-Compensation | Fvformdwashc dbc202 newval | MT202 | F/V form, DR CR comp rec'd wash a/c new value, CR CDT, via 202 | No |
| PegaSI-Compensation | Requestdaame nd bene | MT199 | Request amend beneficiary D/A | Yes |

| Class Name | Template | Message Type | Label | Verification? |
|---------------------|-----------------------------------|---------------------|--|----------------------|
| PegaSI-Compensation | Requestdaame nd bene | MT299 | Request amend beneficiary D/A | Yes |
| PegaSI-Compensation | Requestdabac kvalue | MT199 | Request back value D/A | Yes |
| PegaSI-Compensation | Requestdabac kvalue | MT299 | Request back value D/A | Yes |
| PegaSI-Compensation | RequestdaFor ward value | MT199 | Request Forward value D/A | Yes |
| PegaSI-Compensation | RequestdaFor ward value | MT299 | Request Forward value D/A | Yes |
| PegaSI-Compensation | RequestdaUse OfFunds | MT199 | Request Use of Funds D/A | Yes |
| PegaSI-Compensation | Requestdause Of Funds | MT299 | Request Use of Funds | Yes |

| Class Name | Template | Message Type | Label | Verification? |
|------------|----------|--------------|-------|---------------|
| | | | D/A | |

Standard correspondence templates

The templates described in the table below are not used in Smart Investigate for Payments workflows but are part of Process Commander and are available for your use.

In addition, Smart Investigate for Payments does not support Fax or PhoneText templates. If you decide to use any of these templates, remember that they are samples, and that you will need to modify them to meet your institution's requirements.

| Template | Type | Description |
|---------------------------|--------------------------------|---|
| AcknowledgeSample | Email, Fax, Mail, PhoneText | Sample template for internal acknowledgement of a work object. |
| Details | Email, Fax, Mail | Details of a work object. |
| ExternalAcknowledgeSample | Email | Sample template for external acknowledgment of a work object. |
| ExternalRequest | Email | Request for information about a work object assigned to an external user. |

| Template | Type | Description |
|----------------------|--------------------------------|---|
| ExternalRequestBrief | Email | Assignment of a work object to an external user. |
| ExternalSample | Email | Sample template for correspondence with external party regarding a work object. |
| Footer | Email, Fax, Mail | Signature for correspondence. |
| NewAssignment | Email | Notification of a new assignment on a worklist. |
| NotifyReopen | Email | Notification of a resolved work object being reopened. |
| PromptSample | Email, Fax, Mail, PhoneText | Sample template with prompt for user input. |
| QuestionAboutItem | Email, Fax, Mail, PhoneText | Request for more information about a work object. |
| ResolutionDetails | Email, Fax, Mail | Resolution details for a work object. |

| Template | Type | Description |
|------------------|--------------------------------|---|
| ResolutionSample | Email, Fax, Mail, PhoneText | Sample template for work object resolution. |

Structured correspondence templates

Smart Investigate for Payments ships with the structured correspondence templates described in the table below:

| Class Name | Template | Description | | Verification? |
|-------------------------------------|-----------------|-------------|--------------------------------|---------------|
| | | Message | Type | |
| Rule-PegaCommBank-Corr-Struct-Email | Advicemailblank | Email | Advice e-mail — free format | Yes |
| Rule-PegaCommBank-Corr-Struct-Email | Adviceofpay | Email | Advice of payment via e-mail | Yes |
| Rule-PegaCommBank-Corr-Struct-Email | Ccemail | Email | CC e-mail | Yes |
| Rule-PegaCommBank-Corr-Struct-Email | Emailfreeformat | Email | Free-format e-mail | Yes |

| Class Name | Template | Message | Description | Verification? |
|-------------------------------------|---------------------------|----------------|---|----------------------|
| | | Type | | |
| Rule-PegaCommBank-Corr-Struct-Email | Replytoincominginquiry | Email | Reply to incoming inquiry | Yes |
| Rule-PegaCommBank-Corr-Struct-Email | Replytoincominginquiryack | Email | Reply to incoming inquiry — acknowledgement | Yes |
| Rule-PegaCommBank-Corr-Struct-Email | Unabletoapplyinquiry | Email | Unable to apply inquiry | Yes |
| Rule-PegaCommBank-Corr-Struct-Email | Regardingcustomerpayment | Email | Receiving bank — outbound customer payment | Yes |
| Rule-PegaCommBank-Corr-Struct-Email | Custpaymentsbeenonreceipt | Email | Receiving bank — outbound payment — beneficiary non receipt | Yes |
| Rule-PegaCommBank-Corr-Struct-Email | Requestforcharges | Email | Your payment — request for charges | Yes |

| Class Name | Template | Message | Description | Verification? |
|--------------------------------------|-----------------------------|----------------|--|----------------------|
| | | Type | | |
| Rule-PegaCommBank-Corr-Struct-Email | Custpaymentlatepy | Email | Receiving bank — outbound payment — ensure beneficiary receives good value | Yes |
| Rule-PegaCommBank-Corr-Struct-Email | Remitbankpayunableeffectpyt | Email | Remitting bank — their payment to us — request for further information | Yes |
| Rule-PegaCommBank-Corr-Struct-Fax | Generalpurpose | Fax | General purpose | No |
| Rule-PegaCommBank-Corr-Struct-Fax | Generalpurposetick | Fax | General purpose with ticklers | No |
| Rule-PegaCommBank-Corr-Struct-Letter | Freeformat | Letter | Free format | No |
| Rule-PegaCommBank | Adviceblankltr | Letter | Advice blank letter | No |

| Class Name | Template | Message | Description | Verification? |
|--------------------------------------|-----------------------------|----------------|---|----------------------|
| | | Type | | |
| nk-Corr-Struct-Letter | | | | |
| Rule-PegaCommBank-Corr-Struct-Letter | Replytoincominginquiry | Letter | Reply to incoming inquiry | No |
| Rule-PegaCommBank-Corr-Struct-Letter | Replytoincominginquiryack | Letter | Reply to incoming inquiry — acknowledgement | No |
| Rule-PegaCommBank-Corr-Struct-Letter | Unabletoapplyinquiry | Letter | Unable to apply inquiry | No |
| Rule-PegaCommBank-Corr-Struct-Letter | Regardingcustpayment | Letter | Receiving bank — outbound customer payment | No |
| Rule-PegaCommBank-Corr-Struct-Letter | Custpaymentsbene nonreceipt | Letter | Receiving bank — outbound payment — beneficiary non receipt | No |

| Class Name | Template | Message | Description | Verification? |
|--------------------------------------|-----------------------------|----------------|--|----------------------|
| | | Type | | |
| Rule-PegaCommBank-Corr-Struct-Letter | Requestforcharges | Letter | Your payment — request for charges | No |
| Rule-PegaCommBank-Corr-Struct-Letter | Custpaymentlatetpyt | Letter | Receiving bank — outbound payment — ensure beneficiary receives good value | No |
| Rule-PegaCommBank-Corr-Struct-Letter | Remitbankpayunableeffectpyt | Letter | Receiving bank — their payment to us — request for further information | No |

Sample data

Smart Investigate for Payments is packaged and installed with test data.

When entered as an account number, ABA, or department code, the data is used to populate case party information so that you can navigate through the business processes immediately after their installation and train users without additional configuration.

- **Party maintenance data**

Party maintenance data

You can search the database to find the detail data using any of the values listed in this table.

| Party ID | Branch | Account Number | ABA Number | SWIFT BIC |
|-----------------|---------------|-----------------------|-------------------|------------------|
| LON100101 | LON | LON14345018 92 | 021998810 | PEGAUS33 |
| LON100102 | LON | LON85543006 29 | — | PEGAGB22 |
| LON100103 | LON | LON13454334 41 | — | PEGAJPJT |
| LON100104 | LON | LON55979874 36 | — | PEGATHTB |
| LON100105 | LON | LON19557781 02 | — | |
| LON100106 | LON | LON10884233 41 | — | PEGAFRPP |
| LON100107 | LON | — | — | PEGAIE2D |
| LON100108 | LON | — | — | THAITHTB |
| LON100109 | LON | — | — | FRCHFRPP |
| LON100110 | LON | — | — | BANKHTTB |
| LON100111 | LON | — | — | |
| LON100112 | LON | — | — | |
| ZUR200101 | ZUR | ZUR216700785 4 | — | PEGACHZZ |
| ZUR200102 | ZUR | ZUR218900329 9 | 021998810 | PEGAUS33 |

| Party ID | Branch | Account Number | ABA Number | SWIFT BIC |
|-----------------|---------------|-----------------------|-------------------|------------------|
| ZUR200103 | ZUR | ZUR443900329 9 | — | PEGAUS33 |
| ZUR200104 | ZUR | ZUR219038999 2 | — | PEGAFRPP |
| ZUR200105 | ZUR | ZUR309038999 2 | — | PEGAFRPP |
| ZUR200106 | ZUR | ZUR907840023 2 | — | PEGAGB22 |
| ZUR200107 | ZUR | ZUR887840023 2 | — | PEGAGB22 |
| ZUR100108 | ZUR | ZUR092300010 0 | — | |
| ZUR100109 | ZUR | ZUR012298903 4 | — | |
| HEL300102 | HEL | HEL376820912 2 | — | PEGAFIHH |
| HEL300103 | HEL | HEL370845632 7 | — | PEGAGB22 |
| HEL300104 | HEL | HEL308456327 9 | — | PEGAGB22 |
| HEL300105 | HEL | HEL518900329 9 | 021998810 | PEGAUS33 |
| HEL300106 | HEL | HEL248900329 9 | — | PEGAUS33 |
| HEL300107 | HEL | HEL376820914 4 | — | |

| Party ID | Branch | Account Number | ABA Number | SWIFT BIC |
|-----------------|---------------|-----------------------|-------------------|------------------|
| HEL300108 | HEL | HEL376820919 5 | — | |
| HEL300109 | HEL | HEL376820910 1 | — | PEGACHZZ |
| STK300107 | STK | STK390932012 6 | — | PEGASESS |
| STK300108 | STK | STK302839855 2 | — | PEGAUS33 |
| STK300109 | STK | STK307835855 4 | 021998810 | PEGAUS33 |
| STK300110 | STK | STK300840023 9 | — | PEGAGB22 |
| STK300111 | STK | STK307850023 2 | — | PEGAGB22 |
| STK300112 | STK | STK307850024 5 | — | PEGAGB22 |
| STK300113 | STK | STK309823364 6 | — | PEGAFRPP |

MyCoSI-party-InternalAccount

The data listed in the following table populates the Internal Account parties and defaults in the debit and credit entries in accounting transactions.

| Account Name | Account Type | Account Number | Bank Number |
|---------------------|---------------------|-----------------------|--------------------|
| AccountsPayable | NOS | ACP12345678 | None |
| AccountsReceivable | NOS | ACR12345678 | None |

| Account Name | Account Type | Account Number | Bank Number |
|---------------------|--------------|----------------|-------------|
| Fees | NOS | FEE12345678 | None |
| InterestEarned | NOS | INE12345678 | None |
| InterestPaid | NOS | INP12345678 | None |
| Reserves | NOS | RSV12345678 | None |
| ServiceFeesAccount | NOS | SFE12345678 | None |
| SundryLosses | NOS | SUL12345678 | None |
| SundryRecoveries | NOS | SUR12345678 | None |
| SuspenseAssets | NOS | SUA12345678 | None |
| SuspenseLiabilities | NOS | SUL12345678 | None |
| WashAccount | NOS | WSH12345678 | None |

Text parsing rules

This appendix lists the preconfigured text parsing and normalization rules.

For information on how to set up free-text parsing, see, [Integrating Smart Investigate](#).

- **Parsing dates**
- **Parsing Amounts**
- **Parsing receiver - inquiry references**
- **Parsing receiver - transaction references**
- **Parsing sender - transaction references**
- **Parsing IMADs**
- **Parsing CHIPS sequence numbers**
- **Parsing work types**

- **Locate work type = Correspondent bank charges**
- **Locate work type = Duplicate payment**
- **Locate work type = Incorrect amount**
- **Locate work type = Incorrect bank paid**
- **Locate work type = Incorrect charges**
- **Locate work type = Incorrect credit account**
- **Locate work type = Incorrect cover**
- **Locate work type = Incorrect date**
- **Locate work type = Incorrect debit account**
- **Locate work type = Return of funds**
- **Locate work type = Unable to apply credit**
- **Locate work type = Unable to apply debit**
- **Locate work type = Unable to effect payment**

Parsing dates

The rules defined in this section apply to Transaction Date and Value Date.

LocateStep

The parser recognizes dates in the following formats:

MMM =JAN, FEB, ..., DEC; MM or M is a numeric value between 1 and 12.

| | | | |
|--------|-----------|----------|----------|
| DM YY | DD.M.YY | D-MMM-YY | M-D-YY |
| DMM YY | DD.M.YYYY | DM YYYY | M-D-YYYY |

| | | | |
|-------------|-------------|------------|------------|
| DMMM YY | DD.MM.YY | D-MMM-YYYY | MM.D |
| DMMM YYYY | DD.MM.YYYY | D-MM-YY | MM.D.YY |
| D.M | DD.MMM.YY | D-MM-YYYY | MM.D.YYYY |
| D.M.YY | DD.MMM.YYYY | D-M-YY | MM.DD.YY |
| D.M.YYYY | DD/M | D-M-YYYY | MM.DD.YYYY |
| D.MM | DD/M/YY | M.D | MM/D |
| D.MM.YY | DD/M/YYYY | M.D.YY | MM/D/YY |
| D.MM.YYYY | DD/MM/YY | M.D.YYYY | MM/D/YYYY |
| D.MMM.YY | DD/MM/YYYY | M.DD | MM/DD/YY |
| D.MMM.YYYY | DD-M | M.DD.YY | MM/DD/YYYY |
| D/M | DDMMYY | M.DD.YYYY | MM-D |
| D/M/YY | DD-MMM-YY | M/D | MM-DD-YY |
| D/M/YYYY | DDMMYYYY | M/D/YY | MM-DD-YYYY |
| D/MM | DD-MMM-YYYY | M/D/YYYY | MM-D-YY |
| D/MM/YY | DD-MM-YY | M/DD | MM-D-YYYY |
| D/MM/YYYY | DD-MM-YYYY | M/DD/YY | MMMDD YY |
| DD M YY | DD-M-YY | M/DD/YYYY | MMMDD YYYY |
| DD MM YY | DD-M-YYYY | M-D | YY.MM.DD |
| DD MMM YY | D-M | M-DD | YYMMDD |
| DD MMM YYYY | D-MM | M-DD-YY | YYYY.MM.DD |
| DD.M | DDMMYY | M-DD-YYYY | YYYYMMDD |

Where one of the following words optionally appears in the preceding n characters (a configurable value), the located date is processed as a transaction date:

| | | | |
|-------|------|-----|-------------|
| DT | SENT | 100 | 205 |
| DATED | ON | 103 | INSTRUCTION |

| | | | |
|--------|-------|-----|---------|
| DATE | OF | 202 | PAYMENT |
| DTD | DATD | 200 | P/O |
| DD | MT | 201 | FOR |
| POSTED | ORDER | 203 | P.O. |

However, if one of the following optional words appears in the preceding n characters, the located date is processed as a value date:

- VALUE
- VAL
- VALUED
- V/D
- V.D.

Manipulate/TranslateStep

If a date is found, it is converted to the standard Java DATE format (not DATETIME).

Test/ValidateStep

The following test conditions are possible as part of a When rule:

| | |
|------------------------------------|-------------------------------------|
| Is{Located Date} < \$TODAY | Is{Located Date} = \$TODAY |
| Is{Located Date} <= \$TODAY | Is{Located Date} > \$TODAY |
| Is{Located Date} >= \$TODAY | Is{Located Date} < {.DateProperty} |
| Is{Located Date} = {.DateProperty} | Is{Located Date} <= {.DateProperty} |
| Is{Located Date} > {.DateProperty} | Is{Located Date} >= {.DateProperty} |

Map/Output Step

If the Test/Validate step returns TRUE, or no test/validate step is used and data has been successfully located, the output is saved as a property.

Parsing Amounts

The rules defined in this section apply to Transaction Amount.

LocateStep

The parser recognizes amounts in the following formats:

- CCC.999999999999999,9999
- CCC999999999999999,
- 9999 999999999999999,9999/CCC
- CCC. 999999999999999,9999
- 999999999999999,9999 CCC

Where:

- CCC is a valid ISO currency code such as USD, GBP, or EUR.
- The decimal point is a decimal comma or a period separating the whole number from the fraction.
- The whole number string is 15 digits maximum, including punctuation if present; if present, the 000 separator can be a period or a comma.
- The decimal fraction is four digits maximum and if zero can be represented as follows:

| | | |
|----------|---------|----------|
| 999,0 | 999,00 | 999,000 |
| 999,0000 | 999, | 999,- |
| 999 | 999. | 999.0 |
| 999.00 | 999.000 | 999.0000 |
| 999.- | | |

- If a 000 separator is present, and a separator for the whole numbers and fractions is also present, they will be different; for example, 1,000.00 or 1.000,00.

Sample Amounts

Each of the following examples is recognized as one million Japanese yen:

- JPY1000000, JPY1.000.000, JPY1.000.000 JPY 1,000,000 JPY1000000,-JPY 1000000.-
1,000,000/JPY

Each of the following examples is recognized as fifteen hundred Australian dollars:

- AUD1,500.00 AUD 1,500 AUD1500 AUD1.500, AUD1.500,00 AUD1.500,- AUD1,500.-
AUD 1500.00 1500.00/AUD

One of the following words may optionally appear in the preceding n characters:

- PAYAMOUNT FOR PAYMENT OF

Manipulate/Translate Step

If an amount is found, it is converted to the Pega 8 standard **Amount With Currency** format.

Test/Validate Step

The following test conditions are possible as part of a When rule:

```
Is{Located Amount} < {.AmountProperty} Is {Located Amount} = {.AmountProperty} Is {Located Amount}
<= {.AmountProperty} Is {Located Amount} > {.AmountProperty} Is {Located Amount} >=
 {.AmountProperty} Is {Located Amount} < "LiteralAmount"
```

```
Is{Located Amount} = "LiteralAmount" Is {Located Amount} <= "LiteralAmount" Is {Located Amount} >
"LiteralAmount" Is {Located Amount} >= "LiteralAmount"
```

Iscurrency of {Located Amount} = "XXX" or "XXX" or "XXX" (where XXX= ISO currency)

Map/Output Step

If the Test/Validate step returns TRUE, or no test/validate step is used and data has been successfully located, the output is saved as a property.

Parsing receiver - inquiry references

The Smart Investigate for Payments case reference follows a known structure.

Locate Step

The parser recognizes inquiry references in the following formats:

XX-YYMMDD-999999 XXXYYMMDD-999999 X-YYMMDD-999999

Where

- XX-, X- or XXX is a known string (the default in PegaSI_Sample is “PEG”)
- YYMMDD is a valid SWIFT format date
- 999999 is a 6-digit sequence number

The locate process allows for the fact that a reference may be misquoted, resulting in the “-” sometimes being a period or “/” or space. Also, the sequence number may contain “O” instead of zeros or may not contain all the lead zeros.

Manipulate/Translate Step

The output of the TRANSLATE step ensures that the value is a correctly formatted case ID.

Validate Step

The located value is tested to see if it is present in the Process Commander pc_work table. This is an indication that the value is a valid case ID.

Map/Output Step

If the Test/Validate step returns TRUE, or no test/validate step is used and data has been successfully located, the output is saved as a property.

Parsing receiver - transaction references

The receiver's transaction reference is usually in a known format. It may contain embedded dates, often in a Julian date format, with a few characters that represent a product code and a sequence number of some kind.

The PegaSI_Sample RuleSet provides a sample Transaction Reference pattern that can be cloned and modified as needed.

LocateStep

The parser recognizes inquiry references in the format BBBYYJJJPP-99999, where:

- BBB is a known branch number, such as LON, PAR, NYK, FFT, COP, HEL, or SYD
- YY is a year from 1995 onwards
- JJJ is a Julian date from 001 to 366
- PP is a known product code, such as AA, BB, CC, DD, EE, FF, GG
- - is a literal dash
- 99999 is a 5-digit sequence number

The parser checks for cases where the sequence number contains "O" rather than zeros, where the sequence number is missing lead zeros, and where the "-" is missing or replaced by a "/" or "." or "_".

Manipulate/Translate Step

The output of the TRANSLATE step ensures that the value is a correctly formatted case ID.

Validate Step

May reference a WHEN block.

Map/Output Step

If the Test/Validate step returns TRUE, or no test/validate step is used and data has been successfully located, the output is saved as a property.

Parsing sender - transaction references

The sender's transaction reference may appear in field 21 of the SWIFT message or may appear in the body of the message preceded by a string such as "OUR REF:".

The reference format is unknown and unpredictable and so cannot be located based upon a pattern. Instead, the preceding string (such as OUR REF:) is located and the next token extracted and passed to the manipulation and validation steps.

Locate

The parser recognizes the following strings or phrases that may precede a Sender's Transaction reference:

| | |
|------------------------|------------------------|
| OUR REF | OUR REF. |
| OUR REF: | OUR TRN |
| OUR TRN. | OUR TRN: |
| OUR REFERENCE | OUR REFERENCE. |
| OUR REFERENCE: | OUR PAYMENT TRN |
| OUR PAYMENT TRN. | OUR PAYMENT TRN: |
| OUR PAYMENT REF | OUR PAYMENT REF. |
| OUR PAYMENT REF: | OUR PAYMENT REFERENCE |
| OUR PAYMENT REFERENCE. | OUR PAYMENT REFERENCE: |
| OUR MT103REF | OUR MT103REF. |
| OUR MT103REF: | OUR MT202REF |
| OUR MT202REF. | OUR MT202REF: |

| | |
|---------------------------|---------------------------|
| OUR MT103TRN | OUR MT103TRN. |
| OUR MT103TRN: | OUR MT202TRN |
| OUR MT202TRN. | OUR MT202TRN: |
| OUR MT103REFERENCE | OUR MT103REFERENCE. |
| OUR MT103REFERENCE: | OUR MT202REFERENCE |
| OUR MT202REFERENCE. | OUR MT202REFERENCE: |
| OUR P/OTRN | OUR P/OTRN. |
| OUR P/OTRN: | OUR P/OREF |
| OUR P/OREF. | OUR P/OREF: |
| OUR P/OREFERENCE | OUR P/OREFERENCE. |
| OUR P/OREFERENCE: | OUR SWIFTP/O TRN |
| OUR SWIFTP/O TRN. | OUR SWIFTP/O TRN: |
| OUR SWIFTP/O REF | OUR SWIFTP/O REF. |
| OUR SWIFTP/O REF: | OUR SWIFTP/O REFERENCE |
| OUR SWIFTP/O REFERENCE. | OUR SWIFTP/O REFERENCE: |
| OUR SWIFTMT103 REF | OUR SWIFTMT103 REF. |
| OUR SWIFTMT103 REF: | OUR SWIFTMT202 REF |
| OUR SWIFTMT202 REF. | OUR SWIFTMT202 REF: |
| OUR SWIFTMT103 TRN | OUR SWIFTMT103 TRN. |
| OUR SWIFTMT103 TRN: | OUR SWIFTMT202 TRN |
| OUR SWIFTMT202 TRN. | OUR SWIFTMT202 TRN: |
| OUR SWIFTMT103 REFERENCE | OUR SWIFTMT103 REFERENCE. |
| OUR SWIFTMT103 REFERENCE: | OUR SWIFTMT202 REFERENCE |
| OUR SWIFTMT202 REFERENCE. | OUR SWIFTMT202 REFERENCE: |

If found, the parser extracts the string of characters that follows, up to the next white space.

Manipulate/TranslateStep

May select from any of the translate options.

Validate Step

May reference a WHEN block.

Map/Output Step

If the Test/Validate step returns TRUE, or no test/validate step is used and data has been successfully located, the output is saved as a property.

Parsing IMADs

Input Message Accountability Data (IMAD) is a unique number assigned to track each Fedwire transaction sent by a financial institution.

The IMAD number is in a known format containing an embedded date, with characters that represent a routing code and then a sequence number. ThePegaSI_Sample RuleSet provides a sample Transaction Reference pattern, FindFedIMAD, that can be cloned and modified as needed.

LocateStep

The parser recognizes inquiry references in the format
ssssssssYYYYMMDDXXXXXXXX999999, where:

- sssssss is one of the strings IMAD, SEQ, SEQUENCE, FEDWIRE, FED WIRE, WIRE, or FED
- YYYYMMDD is a date (which is validated)
- XXXXXXXX is an 8-character alphanumeric string
- 999999 is a 6-digit sequence number

The parser accepts cases where the string ssssssss is followed by a space, period, slash, colon, linefeed, or carriage return.

Manipulate/Translate Step

The output of the TRANSLATE step ensures that the value is a correctly formatted 6-digit IMAD.

Validate Step

May reference a WHEN block.

Map/Output Step

If the Test/Validate step returns TRUE, or no test/validate step is used and data has been successfully located, the output is saved as a property.

Parsing CHIPS sequence numbers

The Clearing House Interbank Payments System (CHIPS) is an electronic payments system that transfers funds and settles transactions in U.S. dollars.

The CHIPS sequence number is in a known format, with characters that represent a routing code and then a sequence number. ThePegaSI_SampleRuleSet provides a sample Transaction Reference pattern, FindCHIPSSequenceNum, that can be cloned and modified as needed.

LocateStep

The parser recognizes inquiry references in the format sssssssssssssssssss9999999, where:

- sssssssssssss is one of the strings SSN, CHIPS SEQ, CHIPS SEQUENCE, or CHIPS SSN
- 9999999 is a 4- to 7-digit sequence number

The parser accepts cases where the string ssssssss is followed by a space, period, slash, colon, linefeed, or carriage return.

Manipulate/Translate Step

The output of the TRANSLATE step ensures that the value is a correctly formatted 4- to 7-digit CHIPS sequence number.

Validate Step

May reference a WHEN block.

Map/Output Step

If the Test/Validate step returns TRUE, or no test/validate step is used and data has been successfully located, the output is saved as a property.

Parsing work types

Smart Investigate for Payments supports the following work types, though parsing is not done for all of them:

- Amend Beneficiary
- Beneficiary Claims Non Receipt
- Cancellation Request
- Correspondent Bank Charges
- Duplicate Payment
- Incorrect Amount
- Incorrect Bank Paid
- Incorrect Charges
- Incorrect Credit Account
- Incorrect Cover
- Incorrect Date
- Incorrect Debit Account
- Miscellaneous

- Nostro Ledger Credit
- Nostro Ledger Debit
- Nostro Statement Credit
- Nostro Statement Debit
- Nostro Value Difference
- Quick Kill
- Return of Funds
- Unable to Apply Credit
- Unable to Apply Debit
- Unable to Effect Payment

Locate work type = Correspondent bank charges

The parser locates the following words or phrases in the order the words appear (left to right):

“{2:O190”

“{2:I190”

“{2:O191”

“{2:I191”

Translate/Manipulate

If found, the parser maps “CBC” to the WorkType property.

Locate work type = Duplicate payment

The parser locates the following words or phrases in the order the words appear (left to right):

“:/7/”

":/22/""DUPLICATE" "DOUBLE" "TWICE"

Translate/Manipulate

If found, the parser maps "DUP" to the WorkType property.

Locate work type = Incorrect amount

The parser locates the following words or phrases in the order the words appear (left to right):

| | |
|-------------------------------|---------------------------|
| "CORRECT AMOUNT" | "AMOUNT SHOULD" |
| "AMOUNT""PAYMENT" "SHOULD" | "INCORRECT AMOUNT" |
| "INCORRECT CURRENCY" | "UNDERPAID" |
| "UNDER PAID" | "OVER PAID" |
| "OVERPAID" | "OVERPAYMENT" |
| "UNDERPAYMENT" | "OVER PAYMENT" |
| "UNDER PAYMENT" | "REMITTED""INSTEAD OF" |
| "REMITTED""SHOULD BE" | "SHOULD" "ONLY" |
| "AMEND""AMOUNT" | "WRONG AMOUNT" |
| "WRONG CURRENCY" | "PAYMENT FOR""INSTEAD OF" |
| "EXCESS" | "AMEND""32" |
| "AMEND""32" | "AMEND""33" |
| "CORRECT" "AMOUNT" | "EXPECTED""ONLY" |
| "ONLY""EXPECTED" | "AMOUNT""NOW READS" |
| "DIFFERENCE" | "CHANGE""AMOUNT" |
| "AMEND""CURRENCY" | "READ" "32" |
| "READ" "33" | "CONSIDER""32" |

| | |
|------------------|------------------|
| "CONSIDER""33" | "RECEIVED""ONLY" |
| "ONLY""RECEIVED" | "32""TO READ" |
| "33""TO READ" | |

Translate/Manipulate

If found, the parser maps "IAM" to the WorkType property.

Locate work type = Incorrect bank paid

The parser locates the following words or phrases, in the order the words appear (left to right):

| | |
|-----------------------------------|---------------------------|
| "NAME OFBANK" | "AMEND""57" |
| "AMEND""FIELD 57" | "AMEND""FIELD57" |
| "AMEND""BNF BANK" | "AMEND""BENEFICIARY BANK" |
| "CORRECT BEN""BANK NAME" | "CORRECT" "FIELD57" |
| "CORRECT" "FIELD57" | "CORRECT" "NAME""BANK" |
| "AMEND""FIELD 56" | "AMEND""FIELD56" |
| "CORRECT" "FIELD56" | "CORRECT" "FIELD56" |
| "BENEFICIARY""BANK" "SHOULD READ" | |

Translate/Manipulate

If found, the parser maps "IBP" to the WorkType property.

Locate work type = Incorrect charges

The parser locates the following words or phrases in the order the words appear (left to right):

Translate/Manipulate

If found, the parser maps “CHG” to the WorkType property.

Locate work type = Incorrect credit account

The parser locates the following words or phrases in the order the words appear (left to right):

| | |
|-----------------------------|---------------------------|
| “:/44/” | “CREDIT”“WRONG A/C” |
| “CREDIT”“WRONG ACCT” | “CREDIT”“WRONG ACCOUNT” |
| “CREDIT”“INCORRECT A/C” | “CREDIT”“INCORRECT ACCT” |
| “CREDIT”“INCORRECT ACCOUNT” | “WRONG A/C”“CREDIT” |
| “WRONG ACCT”“CREDIT” | “WRONG ACCOUNT”“CREDIT” |
| “INCORRECT A/C”“CREDIT” | “INCORRECT ACCT”“CREDIT” |
| “INCORRECT ACCOUNT”“CREDIT” | “ACCOUNT”“WRONG”“CORRECT” |

Translate/Manipulate

If found, the parser maps “ICA” to the WorkType property.

Locate work type = Incorrect cover

The parser locates the following words or phrases, in the order the words appear:

“COVER” “AMEND”“53”

“AMEND”“54”

Translate/Manipulate

If found, the parser maps “CVR” to the WorkType property.

Locate work type = Incorrect date

The parser locates the following words or phrases in the order the words appear (left to right):

| | |
|-----------------------|----------------------|
| “CORRECT VAL” | “CORRECT VALUE” |
| “CORRECT DATE” | “ADJUST” “VAL” |
| “ADJUST” “VALUE” | “ADJUST” “DATE” |
| “APPLY VALUE” | “APPLY VAL” |
| “EXPECTED”“VALUE” | “EXPECTED”“VAL” |
| “B/V” | “BACKVALUE” |
| “BACKVALUE” | “BACKVALUATION” |
| “VALUE”“S/B” | “VALUE”“SHOULD” |
| “ARRANGE” “GOODVALUE” | “AMEND”“VALUE” |
| “READ” “VALUE DATEAS” | “VALUE”“TO READ” |
| “SHOULD BEVALUE” | “SHOULD BEFOR VALUE” |
| “SHOULD BEVAL” | “SHOULD BEFOR VAL” |
| “S/B VALUE” | “S/B FORVALUE” |
| “S/B VAL” | “S/B FORVAL” |
| “COSTS” | “ENSURE VALUE” |
| “APPLY GOODVALUE” | “WRONG VALUE” |
| “VALUEDATE” “WRONG” | “WRONG” “VALUEDATE” |
| “WRONG” “VALUE” | “ONLY VALUE” |
| “ONLY WITHVALUE” | “VALUE”“INSTEAD OF” |

| | |
|----------------|-----------------|
| "VALUE""I/O" | "CHANGE""VALUE" |
| "FORWARDVALUE" | "LATE" |
| "EARLY" | |
| | |
| | |

Translate/Manipulate

If found, the parser maps "IDT" to the WorkType property.

Locate work type = Incorrect debit account

The parser locates the following words or phrases, in the order the words appear (left to right):

| | |
|----------------------------|-------------------------|
| "DEBIT""WRONG A/C" | |
| "DEBIT""WRONG ACCT" | "DEBIT""WRONG ACCOUNT" |
| "DEBIT""INCORRECT A/C" | "DEBIT""INCORRECT ACCT" |
| "DEBIT""INCORRECT ACCOUNT" | "WRONG A/C""DEBIT" |
| "WRONG ACCT""DEBIT" | "WRONG ACCOUNT""DEBIT" |
| "INCORRECT A/C""DEBIT" | "INCORRECT ACCT""DEBIT" |
| "INCORRECT ACCOUNT""DEBIT" | |

Translate/Manipulate

If found, the parser maps "IDA" to the WorkType property.

Locate work type = Return of funds

The parser locates the following words or phrases in the order the words appear (left to right):

| | |
|---------------------------------|----------------------------------|
| "RETURNED FUNDS" | "RTND FUNDS" |
| "RETURNED TOYOUR ACCOUNT" | "FUNDS RTND" |
| "FUNDS RETURNED" | "YOUR""PAYMENT" "NULL AND VOID" |
| "CANCELLED""YOUR PAYMENT" | "CANCELLED""YOUR INSTRUCTIONS" |
| "WE HAVE"" CANCELLED YOUR" | "RETURNED THE FUNDS" |
| "WE ARECREDITING" "IN REVERSAL" | "CONSIDER YR""NULL AND VOID" |
| "CONSIDER YOUR""NULL AND VOID" | "CONSIDER YR""CANCELLED" |
| "CONSIDER YOUR""CANCELLED" | "CONSIDERED YOUR""NULL AND VOID" |
| "CONSIDERED YR""NULL AND VOID" | "DEBIT OUR" "RETURN""FUNDS" |
| "WE CREDIT""REVERSAL" "PAYMENT" | "WE CREDIT""REVERSAL" "FUNDS" |
| "WE RETURN""MT" | "CREDIT YOUR ACCOUNT""REVERSAL" |
| "FUNDS""NOT INTENDED FOR OUR" | |
| "RETURN" | |

Translate/Manipulate

If found, the parser maps "RTN" to the WorkType property.

Locate work type = Unable to apply credit

The parser locates the following words or phrases in the order the words appear (left to right):

| | | |
|--------------------------|----------------------------------|--|
| "UNABLE""APPLY" "FUNDS" | "UNABLE""APPLY" "CREDIT" | |
| "UNABLE""APPLY" "AMOUNT" | "UNABLE""APPLY" "PAYMENT" | |
| "UNABLE""APPLY" "PYT" | "UNABLE""APPLY" "TRANSACTION" | |
| "UNABLE""APPLY" | "FURTHER DETAILS""FUNDS" | |

| | | |
|------------------------------------|-------------------------------|--|
| "FURTHER DETAILS""CREDIT" | "FURTHER DETAILS""AMOUNT" | |
| "FURTHER DETAILS""PAYMENT" | "FURTHER DETAILS""PYT" | |
| "FURTHER DETAILS""TRANSACTION" | "FURTHER DETAILS" | |
| "MOREDETAILS" "FUNDS" | "MOREDETAILS" "CREDIT" | |
| "MOREDETAILS" "AMOUNT" | "MOREDETAILS" "PAYMENT" | |
| "MOREDETAILS" "PYT" | "MOREDETAILS" "TRANSACTION" | |
| "MOREDETAILS" | "BENEFICIARY""APPLY" "CREDIT" | |
| "BENEFICIARY""APPLY" "FUNDS" | "BENEFICIARY""APPLY" "AMOUNT" | |
| "BENEFICIARY""APPLY" "PAYMENT" | "BENEFICIARY""APPLY" "PYT" | |
| "BENEFICIARY""APPLY" "TRANSACTION" | "NAME""APPLY" "FUNDS" | |
| "CANNOT""APPLY" "FUNDS" | "CANNOT""APPLY" "CREDIT" | |
| "CANNOT""APPLY" "AMOUNT" | "CANNOT""APPLY" "PAYMENT" | |
| "CANNOT""APPLY" "PYT" | "CANNOT""APPLY" "TRANSACTION" | |
| "CANNOT""APPLY" | "CANNOT IDENTIFYTHE CREDIT" | |
| "CANNOT IDENTIFYCREDIT" | "CAN NOT IDENTIFYTHE CREDIT" | |
| "CAN NOT IDENTIFYCREDIT" | "NOT""ABLE" "APPLY" "FUNDS" | |
| "NOT""ABLE" "APPLY" "CREDIT" | "NOT""ABLE" "APPLY" "AMOUNT" | |
| "NOT""ABLE" "APPLY" "PAYMENT" | "NOT""ABLE" "APPLY" "PYT" | |

| | |
|--------------------------------------|-------------------------------------|
| "NOT""ABLE" "APPLY" "TRANSACTION" | "NOT""ABLE" "APPLY" |
| "UNABLE""IDENTIFY" "FUNDS" | "UNABLE""IDENTIFY" "CREDIT" |
| "UNABLE""IDENTIFY" "AMOUNT" | "UNABLE""IDENTIFY" "PAYMENT" |
| "UNABLE""IDENTIFY" "PYT" | "UNABLE""IDENTIFY" "TRANSACTION" |
| "UNABLE""IDENTIFY" :/14/ | :/14/ |
| :/19/ | :/17/ |
| :/4/ | "NAME""ORDER" "CUSTOMER" |
| "ORDER""CUSTOMER" "NAME" | "NAME""REMITTER" |
| "REMITTER""NAME" | "ADVISE" "ORDER" "CUSTOMER" |
| "KNOW" "ORDER" "CUSTOMER" | "ADVISE" "REMITTER" |
| "KNOW" "REMITTER" | "ADDITIONAL""INFORMATION" |
| "ADDITIONAL""INFO" | "ADDITIONAL""REFERENCES" |
| "ADDITIONAL""REFS" | "ADDITIONAL""DETAILS" |
| "ADVISE" "BENEFICIARY""DETAILS" | "ADVISE" "BENEFICIARY""INFORMATION" |
| "ADVISE" "BENEFICIARY""INFO" | "ADVISE" "BENEFICIARY""REFERENCES" |
| "ADVISE" "BENEFICIARY""REFS" | "SENDUS" "INFORMATION" |
| "SENDUS" "INFO" | "SENDUS" "DETAILS" |
| "SENDUS" "REFERENCES" | "SENDUS" "REFS" |
| "UNABLE""PAYEE REQUIRES" | |

Translate/Manipulate

If found, the parser maps “UTC” to the WorkType property.

Locate work type = Unable to apply debit

The parser locates the following words or phrases in the order the words appear (left to right):

| | |
|---------------------------------|------------------------------|
| “UNABLE”“APPLY” “DEBIT” | “NOT ABLE” “APPLY”“DEBIT” |
| “CANNOT”“APPLY” “DEBIT” | “FURTHER DETAILS”“DEBIT” |
| “MOREDETAILS” “DEBIT” | “ADDITIONAL DETAILS”“DEBIT” |
| “ADDITIONAL INFORMATION”“DEBIT” | “ADDITIONAL INFO”“DEBIT” |
| “UNABLE”“IDENTIFY” “DEBIT” | “NOT ABLE” “IDENTIFY”“DEBIT” |
| “CANNOT”“IDENTIFY” “DEBIT” | :/47/ |

Translate/Manipulate

If found, the parser maps “UTD” to the WorkType property.

Locate work type = Unable to effect payment

The parser locates the following words or phrases in the order the words appear (left to right):

| | |
|-------------------------------|---------------------------------------|
| “UNABLE TOEXECUTE” | “NOT ABLE TO EXECUTE” |
| “UNABLE TOEFFECT” | “UNABLE TOPROCESS” |
| “NOT ABLE TO EFFECT” | “PAYMENT” “ORDER”“INTENDED FOR US” |
| “NEED” “BENEFICIARY” | “NEED” “BENEFICIARYBANK” |
| “NEED” “CORRESPONDENTBANK” | “NEED” “FIELD57” |

| | |
|--|--|
| "NEED" "FIELD57" | "NEED" "BNF" "BANK" |
| "NEED" "PAYEE""BANK" | "HOLD" "ACCOUNT" |
| "HOLD" "A/C" | "HOLD" "ACCT" |
| "NAME""BANK" "BENEFICIARY" | "CANNOT APPLY""NAME" "NOT CORRECT" |
| "NAME""NOT CORRECT" "CANNOT APPLY" | "CANNOT APPLY""NBR" "NOT CORRECT" |
| "CANNOT APPLY""NBR" "INCORRECT" | "BANK""NAME" "BENEFICIARY" |
| "CLARIFICATION""BANK" "BENEFICIARY" | "BANK""CLARIFICATION" "BENEFICIARY" |
| "NO ACCOUNT""WITH US" | "NO A/C""WITH US" |
| "NO ACCT""WITH US" | "NO BENACC" "FURNISH US" |
| "CLARIFY CREDIT PARTY" | "FIELD 57""INCOMPLETE" |
| "FIELD57" "INCOMPLETE" | "NOT MAINTAIN""ACCOUNT" |
| "NOT MAINTAIN""A/C" | "NOT MAINTAIN""ACCT" |
| "COMPLETEBANK" | "COMPLETEBENEFICIARY" |
| "MISSING "DETAILS""BANK" | "MISSING "INFO""BANK" |
| "MISSING "INFORMATION""BANK" | "ACCOUNT NOT HELD" |
| "ACCT NOT HELD" | "A/C NOT HELD" |
| "NOT HELDWITH US" | "{2:O103" |
| "{2:O202" | "{2:I103" |
| "{2:I202" | "BENEFICIARY UNKNOWN" |
| "ACCT" "CLOSED" | "A/C" "CLOSED" |
| "ACCOUNT" "CLOSED" | "MATCH" |

| | | |
|---|---|--|
| "NAME DO NOT MATCH" | "NUMBER""NAME" "NOT FOUND" | |
| "NUMBER DO NOT MATCH" | "DIFFER" | |
| "BENEFICIARY""UNKNOWN" | "ACCOUNT" "UNKNOWN" | |
| "BENEFICIARY""INCORRECT" | "PROVIDE" "FULL""BENEFICIARY" | |
| "SUPPLY" "FULL""BENEFICIARY" DETAILS" | "PROVIDE" "FULL""BENEFICIARY DETAILS" | |
| "SUPPLY" "FULL""BENEFICIARY DETAILS" | "PROVIDE" "FULL""BENEFICIARY NAME" | |
| "SUPPLY" "FULL""BENEFICIARY NAME" | "PROVIDE" "CORRECT" "BEN" | |
| "NAME IS INCORRECT" | "ACCOUNT" "CORRECT" | |
| "ACCT" "CORRECT" | "A/C" "CORRECT" | |
| "ACCOUNT" "INCORRECT" | "ACCT" "INCORRECT" | |
| "A/C" "INCORRECT" | "ACCOUNT" "NOTVALID" | |
| "ACCT" "NOT VALID" | "A/C" "NOTVALID" | |
| "ACCOUNT" "INVALID" | "ACCT" "INVALID" | |
| "A/C" "INVALID" | "VALID""ACCOUNT" | |
| "VALID""ACCT" | "VALID""A/C" | |
| "NOT AGREE" | "ACCOUNT NUMBER""MISSING" | |
| "ACCT NUMBER""MISSING" | "A/C NUMBER""MISSING" | |
| "NO ACCT NBR PROVIDED" | "ADVISE CORRECT""NAME" | |
| "ADVISE" "BENEF""CORRECT" | "ADVISE" "BENE""CORRECT" | |

| | |
|-------------------------------|---|
| "ADVISE" | "ADVISE" "BEN""CORRECT" |
| "BENEFICIARY""CORRECT" | |
| "UNABLE TOAPPLY" | "UNABLE TOAPPLY" "FURNISH" "DETAILS" |
| "PROVIDE" "DETAILS" | |
| "CANNOT""NAME" | "PROVIDE" "FURTHER DETAILS""TO RE-EFFECT" |
| "INCOMPLETE" | |
| "CANNOT APPLY""INEXACT" | |
| | |
| | |
| "GIVE US" "BENEFICIARY" | "SENDUS" "BENEFICIARY" |
| "BENEFICIARY DETAILS" | "FURTHER DETAILS""TO RE-EFFECT" |
| "ADVISE" | |
| "PAYMENT""INTENDED FOR US" | |

Translate/Manipulate

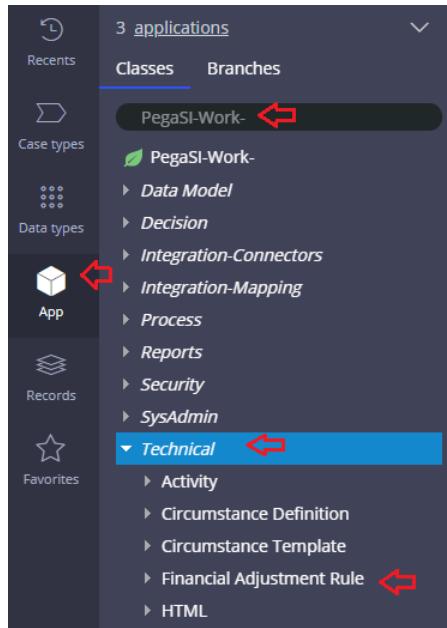
If found, the parser maps "UTE" to the WorkType property.

Accounting step rules and payment types

This appendix lists the accounting step rules, payment types and accounting documents configured in Smart Investigate for Payments.

To find accounting steps in the system:

1. From the **Dev Studio**, select App, enter the class PegaSI-Work-.
2. Click Technical, then Financial Adjustment Rule to see the list of all accounting adjustment steps.



3. Double click any instance to open the rule. For example, the Adjustment Rule Return to Sender:

Financial Adjustment Rule: Return to Sender [Available]
 CL: PegaSI-Work- ID: Adjust + ReturnToSender RS: PegaSI:08-01-01

| Step# | Transactions | PegaCommBankCorr | Security | History |
|----------------------|-----------------------|-----------------------|--------------------------------|---------------------|
| Class of the Step | PegaApp-Step-Adjustme | | Activity for Verification Flow | FinVerifyByAmount |
| Model to create Step | | | Validate Activity | |
| Likelihood | 90 | | | |
| Value Dates Balance | | Value Dates Different | | Value Dates In Past |

The Transactions tab shows the individual debit and credit entries, as well as payment types, default amount and date values, and documents generated.

Financial Adjustment Rule: Return to Sender [Available]

CL: PegaSI-Work ✓ ID: Adjust + ReturnToSender RS: PegaSt:08-01-01

| Step# | Transactions | PegaCommBankCorr | Security | History | | | | | |
|-------|--------------|------------------|----------|---------------------|------------|--------------------------|----------------------|--------------------|--------------------------|
| Group | Label | DR / CR | Role | Txn Class | Pymt Type | Protect PymtType? | Default Account From | Account From Value | Protect |
| | TXN1 | Debit | ✓ DCUS | PegaApp-Txn-General | NoDocsDR | <input type="checkbox"/> | Work party | CreditParty | <input type="checkbox"/> |
| | TXN2 | Credit | ✓ CCUS | PegaApp-Txn-General | DCUSSBK202 | <input type="checkbox"/> | Work party | DebitParty | <input type="checkbox"/> |

The following table shows the Smart Investigate for Payments accounting step rules and the associated payment types and documents.

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|---|------|--------------|-----------------------|-------------|
| Step (AdjustmentType): Reversal DR | | | | |
| TXN1 | DCUS | DR | DCUS- CCUS-202-ADV | DCUSCCUS202 |
| | | | | ADVICEOFDR |
| | | | DCUS- CCUS-202 | DCUSCCUS202 |
| | | | DCUS- CCUS-103 | DCUSCCUS103 |
| | | | | ADVICEOFDR |
| | | | DCUS- CCUS-103 | DCUSCCUS103 |
| | | | NO DOCUMENTS | |
| | | | DR ADVICE ONLY | ADVICEOFDR |
| TXN2 | CCUS | CR | CR ADVICEONLY | ADVICEOFCR |

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|--------------------|------|--------------|--------------|-----------|
| | | | NO DOCUMENTS | |

Step (AdjustmentType): Reversal CR

| | | | | |
|------|------|----|-------------------|-------------|
| TXN1 | DCUS | DR | DCUS-CCUS-202-ADV | DCUSCCUS202 |
| | | | | ADVICEOFDR |
| | | | DCUS-CCUS-202 | DCUSCCUS202 |
| | | | DCUS-CCUS-103-ADV | DCUSCCUS103 |
| | | | | ADVICEOFDR |
| | | | DCUS-CCUS-103 | DCUSCCUS103 |
| | | | NO DOCUMENTS | |
| | | | DR ADVICE ONLY | ADVICEOFDR |
| TXN2 | CCUS | CR | CR ADVICEONLY | ADVICEOFCR |
| | | | NO DOCUMENTS | |

Step (Adjustment Type): Return To Sender

| | | | | |
|------|------|----|---------------|------------|
| TXN1 | DCUS | DR | DR ADVICEONLY | ADVICEOFDR |
|------|------|----|---------------|------------|

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|---------------------------|-------------|---------------------|---------------------|------------------|
| | | | NO DOCUMENTS | |
| TXN2 | CCUS | CR | DCUS-SBK-103 | DCUSSBK103 |
| | | | DCUS-SBK-103-ADV | DCUSSBK103 |
| ADVICEOFPAY | | | | |
| | | | DCUS-SBK-202 | DCUSSBK202 |
| | | | DCUS-SBK-202-ADV | DCUSSBK202 |
| ADVICEOFPAY | | | | |
| | | | DCUS-REM-103 | DCUSREM103 |
| | | | DCUS-REM-103-ADV | DCUSREM103 |
| ADVICEOFPAY | | | | |
| | | | DCUS-REM-202 | DCUSREM202 |
| | | | DCUS-REM-202-ADV | |
| ADVICEOFPAY | | | | |
| | | | DCUS-BLANK-103 | DCUSBLANK103 |
| | | | DCUS-BLANK-103-ADV | 3 |
| ADVICEOFPAY | | | | |
| | | | DCUS-BLANK-202 | DCUSBLANK20 |
| | | | DCUS-BLANK-202-ADV | 2 |
| ADVICEOFPAY | | | | |

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|---|-------------|---------------------|---------------------|------------------|
| | | | DCUS-BLANK-103 | DCUSBLANK10 3 |
| | | | DCUS-BLANK-202 | DCUSBLANK20 2 |
| | | | CR ADVICEONLY | ADVICEOFPAY |
| NO DOCUMENTS | | | | |
| Step (AdjustmentType): Reffect Payment | | | | |
| TXN 1 | DCUS | DR | DR ADVICEONLY | ADVICEOFDR |
| NO DOCUMENTS | | | | |
| TXN 2 | CCUS | CR | DCUS-BNF-103 | DCUSBNF103 |
| | | | DCUS-BNF-103-ADV | DCUSBNF103 |
| ADVICEOFPAY | | | | |
| | | | DCUS-BNF-202 | DCUSBNF202 |
| | | | DCUS-BNF-202-ADV | DCUSBNF202 |
| ADVICEOFPAY | | | | |
| | | | DCUS-BLANK-103-ADV | DCUSBLANK10 3 |

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|--|-------------|---------------------|-----------------------------|-------------------|
| ADVICEOFPAY | | | | |
| | | | DCUS-BLANK-202-ADV | DCUSBLANK20 2 |
| ADVICEOFPAY | | | | |
| | | | DCUS-BLANK-103 | DCUSBLANK10 3 |
| | | | DCUS-BLANK-202-ADV | DCUSBLANK20 2 |
| | | | CR ADVICEONLY | ADVICEOFPAY |
| NO DOCUMENTS | | | | |
| Step(AdjustmentType): Reeffect Payment to New Beneficiary | | | | |
| TXN 1 | DCUS | DR | DR ADVICEONLY | ADVICEOFDR |
| NO DOCUMENTS | | | | |
| TXN 2 | CCUS | CR | DCUS- NEWBNF-103 | DCUSNEWBNF 103 |
| | | | DCUS- NEWBNF-103- ADV | DCUSNEWBNF 103 |
| ADVICEOFPAY | | | | |

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|---|-------------|---------------------|-----------------------------|-------------------|
| | | | DCUS- NEWBNF-202 | DCUSNEWBNF 202 |
| | | | DCUS- NEWBNF-202- ADV | DCUSNEWBNF 202 |
| ADVICEOFPAY | | | | |
| | | | DCUS- BLANK-103- ADV | DCUSBLANK10 3 |
| ADVICEOFPAY | | | | |
| | | | DCUS- BLANK-202- ADV | DCUSBLANK20 2 |
| ADVICEOFPAY | | | | |
| | | | DCUS- BLANK-103 | DCUSBLANK10 3 |
| | | | DCUS- BLANK-202- ADV | DCUSBLANK20 2 |
| | | | CR ADVICEONLY | ADVICEOFPAY |
| NO DOCUMENTS | | | | |
| Step(AdjustmentType): Initiate Payment | | | | |
| TXN 1 | DCUS | DR | DR ADVICEONLY | ADVICEOFDR |

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|---|-------------|---------------------|---------------------|------------------|
| NO DOCUMENTS | | | | |
| TXN 2 | CCUS | CR | DCUS-BLANK-103-ADV | DCUSBLANK10 3 |
| ADVICEOFPAY | | | | |
| | | | DCUS-BLANK-202-ADV | DCUSBLANK20 2 |
| ADVICEOFPAY | | | | |
| | | | DCUS-BLANK-103 | DCUSBLANK10 3 |
| | | | DCUS-BLANK-202-ADV | DCUSBLANK20 2 |
| | | | CR ADVICEONLY | ADVICEOFPAY |
| NO DOCUMENTS | | | | |
| Step(AdjustmentType): Reeffect Cover | | | | |
| TXN 1 | DCUS | DR | DR ADVICEONLY | ADVICEOFDR |
| NO DOCUMENTS | | | | |
| TXN 2 | CCUS | CR | DCUS-RBK-202 | DCUSRBK202 |

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|--|-------------|---------------------|---------------------|------------------|
| | | | DCUS-RBK-202-ADV | DCUSRBK202 |
| ADVICEOFPAY | | | | |
| | | DCUS-BLANK-202-ADV | DCUSBLANK20 2 | |
| ADVICEOFPAY | | | | |
| | | DCUS-BLANK-202-ADV | DCUSBLANK20 2 | |
| | | CR ADVICEONLY | ADVICEOFPAY | |
| NO DOCUMENTS | | | | |
| Step(AdjustmentType): Value Adjustment-Credit | | | | |
| DCUS | DR | DR ADVICEONLY | ADVICEOFDR | |
| | | DCUS-CWASH-202-ADV | DCUSCWASH2 02 | |
| ADVICEOFDR | | | | |
| | | DCUS-CWASH-202 | DCUSCWASH2 02 | |
| | | DCUS-CWASH-103-ADV | DCUSCWASH1 03 | |
| ADVICEOFDR | | | | |

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|---|-------------|---------------------|---------------------|------------------|
| | | DCUS-CWASH-103 | DCUSCWASH103 | |
| NO DOCUMENTS | | | | |
| CCUS | CR | CR ADVICEONLY | ADVICEOFCR | |
| | | DWASH-CCUS-202-ADV | DWASHCCUS202 | |
| ADVICEOFCR | | | | |
| | | DWASH-CCUS-202 | DWASHCCUS202 | |
| | | DWASH-CCUS-103-ADV | DWASHCCUS103 | |
| ADVICEOFCR | | | | |
| | | DWASH-CCUS-103 | DWASHCCUS103 | |
| NO DOCUMENTS | | | | |
| Step(AdjustmentType): Value Adjustment-Debit | | | | |
| TXN 1 | DCUS | DR | DR ADVICEONLY | ADVICEOFR |
| NO DOCUMENTS | | | | |
| TXN 2 | CCUS | CR | DCUS-NEWBNF-103 | DCUSNEWBNF103 |

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|---------------------------|-------------|---------------------|-----------------------------|-------------------|
| | | | DCUS- NEWBNF-103- ADV | DCUSNEWBNF 103 |
| ADVICEOFPAY | | | | |
| | | | DCUS- NEWBNF-202 | DCUSNEWBNF 202 |
| | | | DCUS- NEWBNF-202- ADV | DCUSNEWBNF 202 |
| ADVICEOFPAY | | | | |
| | | | DCUS- BLANK-103- ADV | DCUSBLANK10 3 |
| ADVICEOFPAY | | | | |
| | | | DCUS- BLANK-202- ADV | DCUSBLANK20 2 |
| ADVICEOFPAY | | | | |
| | | | DCUS- BLANK-103 | DCUSBLANK10 3 |
| | | | DCUS- BLANK-202- ADV | DCUSBLANK20 2 |
| | | | CR ADVICEONLY | ADVICEOFPAY |
| NO DOCUMENTS | | | | |

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|---|-------------|---------------------|---------------------|------------------|
| Step(AdjustmentType): Internal Adjustment-Debit | | | | |
| TXN 1 | DCUS | DR | DCUS-CCUS-202-ADV | DCUSCCUS202 |
| ADVICEOFDR | | | | |
| | | | DCUS-CCUS-202 | DCUSCCUS202 |
| | | | DCUS-CCUS-103-ADV | DCUSCCUS103 |
| ADVICEOFDR | | | | |
| | | | DCUS-CCUS-103 | DCUSCCUS103 |
| NO DOCUMENTS | | | | |
| | | | DR ADVICEONLY | ADVICEOFDR |
| TXN 2 | CCUS | CR | CR ADVICEONLY | ADVICEOFCR |
| Step(AdjustmentType): Internal Adjustment-Credit | | | | |
| TXN 1 | DCUS | DR | DCUS-CCUS-202-ADV | DCUSCCUS202 |
| ADVICEOFDR | | | | |
| | | | DCUS-CCUS-202 | DCUSCCUS202 |
| | | | DCUS-CCUS-103-ADV | DCUSCCUS103 |

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|--|-------------|---------------------|----------------------------|------------------|
| ADVICEOFDR | | | | |
| | | | DCUS- CCUS-103 | DCUSCCUS103 |
| NO DOCUMENTS | | | | |
| | | | DR ADVICEONLY | ADVICEOFDR |
| TXN 2 | CCUS | CR | CR ADVICEONLY | ADVICEOFCR |
| NO DOCUMENTS | | | | |
| Step(AdjustmentType): Internal Adjustment-1DR / 2CR | | | | |
| TXN 1 | DCUS | DR | DR ADVICEONLY | ADVICEOFDR |
| | | | DCUS- CWASH-202- ADV | DCUSCWASH2 02 |
| ADVICEOFDR | | | | |
| | | | DCUS- CWASH-202 | DCUSCWASH2 02 |
| | | | DCUS- CWASH-103- ADV | DCUSCWASH1 03 |
| ADVICEOFDR | | | | |

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|---------------------------|-------------|---------------------|-----------------------------|------------------|
| | | | DCUS-CWASH-103 | DCUSCWASH103 |
| NO DOCUMENTS | | | | |
| TXN 2 | CCUS1 | CR | CR ADVICEONLY | ADVICEOFCR |
| | | | DWASH- CCUS1-202- ADV | DWASHCCUS1202 |
| ADVICEOFCR | | | | |
| | | | DWASH- CCUS1-202 | DWASHCCUS1202 |
| | | | DWASH- CCUS1-103- ADV | DWASHCCUS1103 |
| ADVICEOFCR | | | | |
| | | | DWASH- CCUS1-103 | DWASHCCUS1103 |
| NO DOCUMENTS | | | | |
| TXN 3 | CCUS2 | CR | CR ADVICEONLY | ADVICEOFCR |
| | | | DWASH- CCUS2-202- ADV | DWASHCCUS2202 |
| ADVICEOFCR | | | | |

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|--|-------------|---------------------|---------------------|-------------------|
| | | | DWASH-CCUS2-202 | DWASHCCUS2 202 |
| | | | DWASH-CCUS2-103-ADV | DWASHCCUS2 103 |
| ADVICEOFCR | | | | |
| | | | DWASH-CCUS2-103 | DWASHCCUS2 103 |
| NO DOCUMENTS | | | | |
| Step(AdjustmentType): Internal Adjustment-1DR / 3CR | | | | |
| TXN 1 | DCUS | DR | DR ADVICEONLY | ADVICEOFDR |
| | | | DCUS-CWASH-202-ADV | DCUSCWASH2 02 |
| ADVICEOFDR | | | | |
| | | | DCUS-CWASH-202 | DCUSCWASH2 02 |
| | | | DCUS-CWASH-103-ADV | DCUSCWASH1 03 |
| ADVICEOFDR | | | | |
| | | | DCUS-CWASH-103 | DCUSCWASH1 03 |
| NO DOCUMENTS | | | | |

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|---------------------------|-------------|---------------------|-----------------------------|-------------------|
| TXN 2 | CCUS1 | CR | CR ADVICEONLY | ADVICEOFCR |
| | | | DWASH- CCUS1-202- ADV | DWASHCCUS1 202 |
| ADVICEOFCR | | | DWASH- CCUS1-202 | DWASHCCUS1 202 |
| | | | DWASH- CCUS1-103- ADV | DWASHCCUS1 103 |
| ADVICEOFCR | | | DWASH- CCUS1-103 | DWASHCCUS1 103 |
| NO DOCUMENTS | | | | |
| TXN 3 | CCUS2 | CR | CR ADVICEONLY | ADVICEOFCR |
| | | | DWASH- CCUS2-202- ADV | DWASHCCUS2 202 |
| ADVICEOFCR | | | DWASH- CCUS2-202 | DWASHCCUS2 202 |

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|--|-------------|---------------------|---------------------|-------------------|
| | | | DWASH-CCUS2-103-ADV | DWASHCCUS2 103 |
| ADVICEOFCR | | | | |
| | | | DWASH-CCUS2-103 | DWASHCCUS2 103 |
| NO DOCUMENTS | | | | |
| TXN 4 | CCUS3 | CR | CR ADVICEONLY | ADVICEOFCR |
| | | | DWASH-CCUS3-202-ADV | DWASHCCUS3 202 |
| ADVICEOFCR | | | | |
| | | | DWASH-CCUS3-202 | DWASHCCUS3 202 |
| | | | DWASH-CCUS3-103-ADV | DWASHCCUS3 103 |
| ADVICEOFCR | | | | |
| | | | DWASH-CCUS3-103 | DWASHCCUS3 103 |
| NO DOCUMENTS | | | | |
| Step(AdjustmentType): Internal Adjustment-2DR / 1CR | | | | |

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|---------------------------|-------------|---------------------|-----------------------------|-------------------|
| TXN 1 | DCUS1 | DR | DR ADVICEONLY | ADVICEOFDR |
| | | | DCUS1- CWASH-202- ADV | DCUS1CWASH 202 |
| ADVICEOFDR | | | DCUS1- CWASH-202 | DCUS1CWASH 202 |
| | | | DCUS1- CWASH-103- ADV | DCUS1CWASH 103 |
| ADVICEOFDR | | | DCUS1- CWASH-103 | DCUS1CWASH 103 |
| NO DOCUMENTS | | | | |
| TXN 2 | DCUS2 | DR | DR ADVICEONLY | ADVICEOFDR |
| | | | DCUS2- CWASH-202- ADV | DCUS2CWASH 202 |
| ADVICEOFDR | | | DCUS2- CWASH-202 | DCUS2CWASH 202 |

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|--|-------------|---------------------|---------------------|------------------|
| | | | DCUS2-CWASH-103-ADV | DCUS2CWASH 103 |
| ADVICEOFDR | | | | |
| | | | DCUS2-CWASH-103 | DCUS2CWASH 103 |
| NO DOCUMENTS | | | | |
| TXN 3 | CCUS | CR | CR ADVICEONLY | ADVICEOFCR |
| | | | DWASH-CCUS-202-ADV | DWASHCCUS2 02 |
| ADVICEOFCR | | | | |
| | | | DWASH-CCUS-202 | DWASHCCUS2 02 |
| | | | DWASH-CCUS-103-ADV | DWASHCCUS1 03 |
| ADVICEOFCR | | | | |
| | | | DWASH-CCUS-103 | DWASHCCUS1 03 |
| NO DOCUMENTS | | | | |
| Step(AdjustmentType): Internal Adjustment-3DR / 1CR | | | | |
| TXN 1 | DCUS1 | DR | DR ADVICEONLY | ADVICEOFDR |

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|---------------------------|-------------|---------------------|---------------------|------------------|
| | | | DCUS1-CWASH-202-ADV | DCUS1CWASH 202 |
| ADVICEOFDR | | | | |
| | | | DCUS1-CWASH-202 | DCUS1CWASH 202 |
| | | | DCUS1-CWASH-103-ADV | DCUS1CWASH 103 |
| ADVICEOFDR | | | | |
| | | | DCUS1-CWASH-103 | DCUS1CWASH 103 |
| NO DOCUMENTS | | | | |
| TXN 2 | DCUS2 | DR | DR ADVICEONLY | ADVICEOFDR |
| | | | DCUS2-CWASH-202-ADV | DCUS2CWASH 202 |
| ADVICEOFDR | | | | |
| | | | DCUS2-CWASH-202 | DCUS2CWASH 202 |
| | | | DCUS2-CWASH-103-ADV | DCUS2CWASH 103 |
| ADVICEOFDR | | | | |

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|---------------------------|-------------|---------------------|---------------------|-------------------|
| | | | DCUS2-CWASH-103 | DCUS2CWASH 103 |
| NO DOCUMENTS | | | | |
| TXN 3 | DCUS3 | DR | DR ADVICEONLY | ADVICEOFDR |
| | | | DCUS3-CWASH-202-ADV | DCUS3CWASH 202 |
| ADVICEOFDR | | | | |
| | | | DCUS3-CWASH-202 | DCUS3CWASH 202 |
| | | | DCUS3-CWASH-103-ADV | DCUS3CWASH 103 |
| ADVICEOFDR | | | | |
| | | | DCUS3-CWASH-103 | DCUS3CWASH 103 |
| NO DOCUMENTS | | | | |
| TXN 4 | CCUS | CR | CR ADVICEONLY | ADVICEOFCR |
| | | | DWASH-CCUS-202-ADV | DWASHCCUS2 02 |
| ADVICEOFCR | | | | |

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|--|-------------|---------------------|---------------------|-------------------|
| | | | DWASH-CCUS-202 | DWASHCCUS2 02 |
| | | | DWASH-CCUS-103-ADV | DWASHCCUS1 03 |
| ADVICEOFCR | | | | |
| | | | DWASH-CCUS-103 | DWASHCCUS1 03 |
| NO DOCUMENTS | | | | |
| Step(AdjustmentType): Internal Adjustment-2DR / 2CR | | | | |
| TXN 1 | DCUS1 | DR | DR ADVICEONLY | ADVICEOFDR |
| | | | DCUS1-CWASH-202-ADV | DCUS1CWASH 202 |
| ADVICEOFDR | | | | |
| | | | DCUS1-CWASH-202 | DCUS1CWASH 202 |
| | | | DCUS1-CWASH-103-ADV | DCUS1CWASH 103 |
| ADVICEOFDR | | | | |
| | | | DCUS1-CWASH-103 | DCUS1CWASH 103 |
| NO DOCUMENTS | | | | |

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|---------------------------|-------------|---------------------|-----------------------------|-------------------|
| TXN 2 | DCUS2 | DR | DR ADVICEONLY | ADVICEOFDR |
| | | | DCUS2- CWASH-202- ADV | DCUS2CWASH 202 |
| ADVICEOFDR | | | | |
| | | | DCUS2- CWASH-202 | DCUS2CWASH 202 |
| | | | DCUS2- CWASH-103- ADV | DCUS2CWASH 103 |
| ADVICEOFDR | | | | |
| | | | DCUS2- CWASH-103 | DCUS2CWASH 103 |
| NO DOCUMENTS | | | | |
| TXN 3 | CCUS1 | CR | CR ADVICEONLY | ADVICEOFCR |
| | | | DWASH- CCUS1-202- ADV | DWASHCCUS1 202 |
| ADVICEOFCR | | | | |
| | | | DWASH- CCUS1-202 | DWASHCCUS1 202 |

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|--|-------------|---------------------|---------------------|-------------------|
| | | | DWASH-CCUS1-103-ADV | DWASHCCUS1 103 |
| ADVICEOFCR | | | | |
| | | | DWASH-CCUS1-103 | DWASHCCUS1 103 |
| NO DOCUMENTS | | | | |
| TXN 4 | CCUS2 | CR | CR ADVICEONLY | ADVICEOFCR |
| | | | DWASH-CCUS2-202-ADV | DWASHCCUS2 202 |
| ADVICEOFCR | | | | |
| | | | DWASH-CCUS2-202 | DWASHCCUS2 202 |
| | | | DWASH-CCUS2-103-ADV | DWASHCCUS2 103 |
| ADVICEOFCR | | | | |
| | | | DWASH-CCUS2-103 | DWASHCCUS2 103 |
| NO DOCUMENTS | | | | |
| Step(AdjustmentType): Internal Adjustment-3DR / 3CR | | | | |

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|---------------------------|-------------|---------------------|-----------------------------|-------------------|
| TXN 1 | DCUS1 | DR | DR ADVICEONLY | ADVICEOFDR |
| | | | DCUS1- CWASH-202- ADV | DCUS1CWASH 202 |
| ADVICEOFDR | | | | |
| | | | DCUS1- CWASH-202 | DCUS1CWASH 202 |
| | | | DCUS1- CWASH-103- ADV | DCUS1CWASH 103 |
| ADVICEOFDR | | | | |
| | | | DCUS1- CWASH-103 | DCUS1CWASH 103 |
| NO DOCUMENTS | | | | |
| TXN 2 | DCUS2 | DR | DR ADVICEONLY | ADVICEOFDR |
| | | | DCUS2- CWASH-202- ADV | DCUS2CWASH 202 |
| ADVICEOFDR | | | | |
| | | | DCUS2- CWASH-202 | DCUS2CWASH 202 |

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|---------------------------|-------------|---------------------|---------------------|------------------|
| | | | DCUS2-CWASH-103-ADV | DCUS2CWASH 103 |
| ADVICEOFDR | | | | |
| | | | DCUS2-CWASH-103 | DCUS2CWASH 103 |
| NO DOCUMENTS | | | | |
| TXN 3 | DCUS3 | DR | DR ADVICEONLY | ADVICEOFDR |
| | | | DCUS3-CWASH-202-ADV | DCUS3CWASH 202 |
| ADVICEOFDR | | | | |
| | | | DCUS3-CWASH-202 | DCUS3CWASH 202 |
| | | | DCUS3-CWASH-103-ADV | DCUS3CWASH 103 |
| ADVICEOFDR | | | | |
| | | | DCUS3-CWASH-103 | DCUS3CWASH 103 |
| NO DOCUMENTS | | | | |
| TXN | CCUS1 | CR | CR ADVICEONLY | ADVICEOFCR |

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|---------------------------|-------------|---------------------|-----------------------------|-------------------|
| 4 | | | | |
| | | | DWASH- CCUS1-202- ADV | DWASHCCUS1 202 |
| ADVICEOFCR | | | | |
| | | | DWASH- CCUS1-202 | DWASHCCUS1 202 |
| | | | DWASH- CCUS1-103- ADV | DWASHCCUS1 103 |
| ADVICEOFCR | | | | |
| | | | DWASH- CCUS1-103 | DWASHCCUS1 103 |
| NO DOCUMENTS | | | | |
| TXN 5 | CCUS2 | CR | CR ADVICEONLY | ADVICEOFCR |
| | | | DWASH- CCUS2-202- ADV | DWASHCCUS2 202 |
| ADVICEOFCR | | | | |
| | | | DWASH- CCUS2-202 | DWASHCCUS2 202 |

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|--|-------------|---------------------|---------------------|-------------------|
| | | | DWASH-CCUS2-103-ADV | DWASHCCUS2 103 |
| ADVICEOFCR | | | | |
| | | | DWASH-CCUS2-103 | DWASHCCUS2 103 |
| NO DOCUMENTS | | | | |
| TXN 6 | CCUS3 | CR | CR ADVICEONLY | ADVICEOFCR |
| | | | DWASH-CCUS3-202-ADV | DWASHCCUS3 202 |
| ADVICEOFCR | | | | |
| | | | DWASH-CCUS3-202 | DWASHCCUS3 202 |
| | | | DWASH-CCUS3-103-ADV | DWASHCCUS3 103 |
| ADVICEOFCR | | | | |
| | | | DWASH-CCUS3-103 | DWASHCCUS3 103 |
| NO DOCUMENTS | | | | |
| Step(AdjustmentType): Internal Adjustment-3DR / 2CR | | | | |

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|---------------------------|-------------|---------------------|-----------------------------|-------------------|
| TXN 1 | DCUS1 | DR | DR ADVICEONLY | ADVICEOFDR |
| | | | DCUS1- CWASH-202- ADV | DCUS1CWASH 202 |
| ADVICEOFDR | | | | |
| | | | DCUS1- CWASH-202 | DCUS1CWASH 202 |
| | | | DCUS1- CWASH-103- ADV | DCUS1CWASH 103 |
| ADVICEOFDR | | | | |
| | | | DCUS1- CWASH-103 | DCUS1CWASH 103 |
| NO DOCUMENTS | | | | |
| TXN 2 | DCUS2 | DR | DR ADVICEONLY | ADVICEOFDR |
| | | | DCUS2- CWASH-202- ADV | DCUS2CWASH 202 |
| ADVICEOFDR | | | | |
| | | | DCUS2- CWASH-202 | DCUS2CWASH 202 |

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|---------------------------|-------------|---------------------|---------------------|------------------|
| | | | DCUS2-CWASH-103-ADV | DCUS2CWASH 103 |
| ADVICEOFDR | | | | |
| | | | DCUS2-CWASH-103 | DCUS2CWASH 103 |
| NO DOCUMENTS | | | | |
| TXN 3 | DCUS3 | DR | DR ADVICEONLY | ADVICEOFDR |
| | | | DCUS3-CWASH-202-ADV | DCUS3CWASH 202 |
| ADVICEOFDR | | | | |
| | | | DCUS3-CWASH-202 | DCUS3CWASH 202 |
| | | | DCUS3-CWASH-103-ADV | DCUS3CWASH 103 |
| ADVICEOFDR | | | | |
| | | | DCUS3-CWASH-103 | DCUS3CWASH 103 |
| NO DOCUMENTS | | | | |
| TXN 4 | CCUS1 | CR | CR ADVICEONLY | ADVICEOFCR |

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|---------------------------|-------------|---------------------|---------------------|------------------|
| | | | DWASH-CCUS1-202-ADV | DWASHCCUS1202 |
| ADVICEOFCR | | | | |
| | | | DWASH-CCUS1-202 | DWASHCCUS1202 |
| | | | DWASH-CCUS1-103-ADV | DWASHCCUS1103 |
| ADVICEOFCR | | | | |
| | | | DWASH-CCUS1-103 | DWASHCCUS1103 |
| NO DOCUMENTS | | | | |
| TXN 5 | CCUS2 | CR | CR ADVICEONLY | ADVICEOFCR |
| | | | DWASH-CCUS2-202-ADV | DWASHCCUS2202 |
| ADVICEOFCR | | | | |
| | | | DWASH-CCUS2-202 | DWASHCCUS2202 |
| | | | DWASH-CCUS2-103-ADV | DWASHCCUS2103 |
| ADVICEOFCR | | | | |

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|--|-------------|---------------------|---------------------|-------------------|
| | | | DWASH-CCUS2-103 | DWASHCCUS2 103 |
| NO DOCUMENTS | | | | |
| Step(AdjustmentType): Internal Adjustment-2DR / 3CR | | | | |
| TXN 1 | DCUS1 | DR | DR ADVICEONLY | ADVICEOFDR |
| | | | DCUS1-CWASH-202-ADV | DCUS1CWASH 202 |
| ADVICEOFDR | | | | |
| | | | DCUS1-CWASH-202 | DCUS1CWASH 202 |
| | | | DCUS1-CWASH-103-ADV | DCUS1CWASH 103 |
| ADVICEOFDR | | | | |
| | | | DCUS1-CWASH-103 | DCUS1CWASH 103 |
| NO DOCUMENTS | | | | |
| TXN 2 | DCUS2 | DR | DR ADVICEONLY | ADVICEOFDR |
| | | | DCUS2-CWASH-202-ADV | DCUS2CWASH 202 |

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|---------------------------|-------------|---------------------|---------------------|-------------------|
| ADVICEOFDR | | | | |
| | | | DCUS2-CWASH-202 | DCUS2CWASH 202 |
| | | | DCUS2-CWASH-103-ADV | DCUS2CWASH 103 |
| ADVICEOFDR | | | | |
| | | | DCUS2-CWASH-103 | DCUS2CWASH 103 |
| NO DOCUMENTS | | | | |
| TXN 3 | CCUS1 | CR | CR ADVICEONLY | ADVICEOFCR |
| | | | DWASH-CCUS1-202-ADV | DWASHCCUS1 202 |
| ADVICEOFCR | | | | |
| | | | DWASH-CCUS1-202 | DWASHCCUS1 202 |
| | | | DWASH-CCUS1-103-ADV | DWASHCCUS1 103 |
| ADVICEOFCR | | | | |
| | | | DWASH-CCUS1-103 | DWASHCCUS1 103 |

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|---------------------------|-------------|---------------------|-----------------------------|-------------------|
| NO DOCUMENTS | | | | |
| TXN 4 | CCUS2 | CR | CR ADVICEONLY | ADVICEOFCR |
| | | | DWASH- CCUS2-202- ADV | DWASHCCUS2 202 |
| ADVICEOFCR | | | | |
| | | | DWASH- CCUS2-202 | DWASHCCUS2 202 |
| | | | DWASH- CCUS2-103- ADV | DWASHCCUS2 103 |
| ADVICEOFCR | | | | |
| | | | DWASH- CCUS2-103 | DWASHCCUS2 103 |
| NO DOCUMENTS | | | | |
| TXN 5 | CCUS3 | CR | CR ADVICEONLY | ADVICEOFCR |
| | | | DWASH- CCUS3-202- ADV | DWASHCCUS3 202 |
| ADVICEOFCR | | | | |

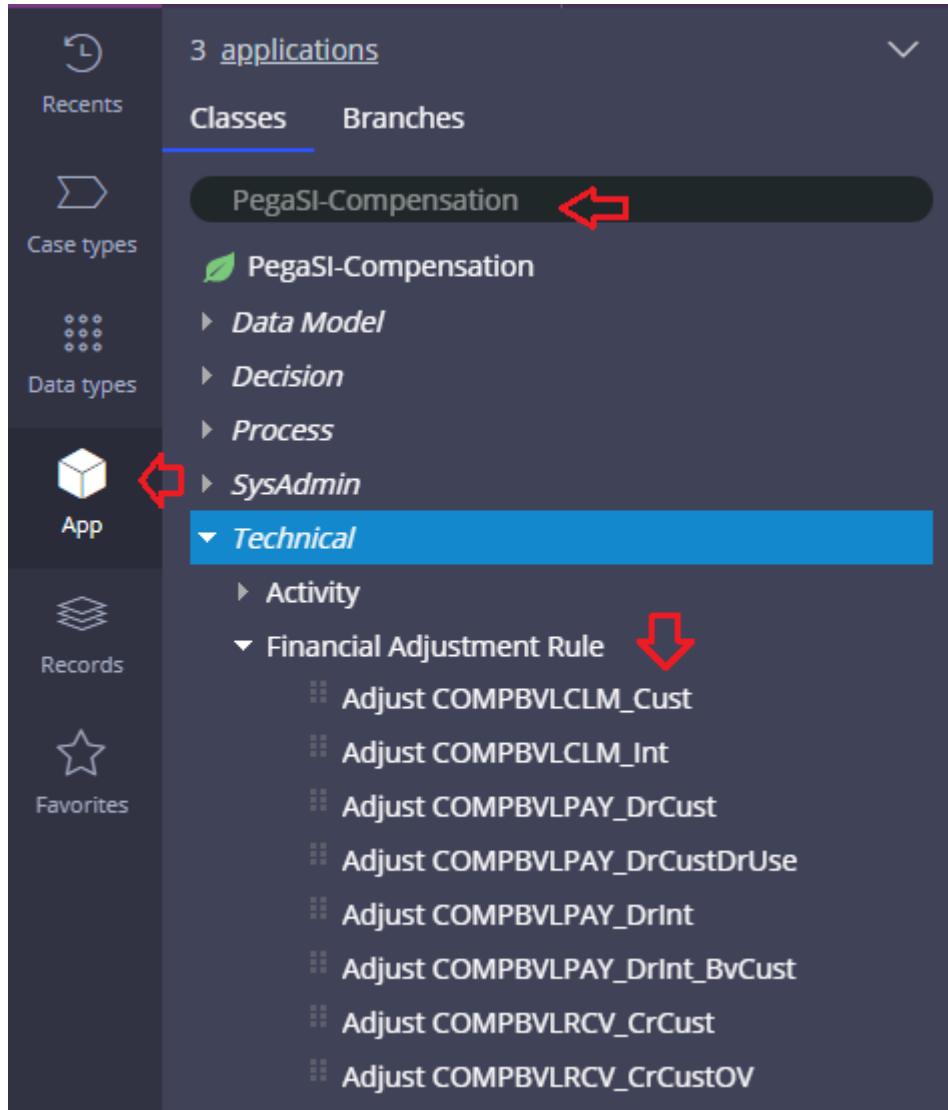
| Transaction number | Name | Debit/Credit | Payment type | Documents |
|--|-------------|---------------------|-----------------------|---------------------------------|
| | | | DWASH-CCUS3-202 | DWASHCCUS3202 |
| | | | DWASH-CCUS3-103-ADV | DWASHCCUS3103 |
| ADVICEOFCR | | | | |
| | | | DWASH-CCUS3-103 | DWASHCCUS3103 |
| NO DOCUMENTS | | | | |
| Step(AdjustmentType): Indemnity | | | | |
| TXN 1 | DCUS | DR | DRAdviceOnlylndemnity | ADVICEOFDRIndem |
| TXN 2 | CCUS | CR | DCUSCCUS202Ind | DCUSCCUS202Ind |
| | | | DCUSCCUS202ADVIndFED | DCUSCCUS202Ind ADVICEOFCRInd |
| NO DOCUMENTS | | | | |
| | | | CRAdviceOnlylnd | ADVICEOFCRInd |
| | | | CRAdviceOnlylndFED | ADVICEOFCRInd |

Compensation step rules and payment types

This appendix lists the compensation step rules, payment types and documents configured in Smart Investigate for Payments.

To find compensation steps in the system:

1. From the **Dev Studio**, select App, enter the class PegaSI-Compensation, click Technical, then Financial Adjustment Rule to see the list of all compensation steps.



2. Double click on any rule to open the step rule form. For example, several tabs on information are available for this back-value rule.

The Transactions tab shows the individual debit and credit entries, as well as payment types, default amount and date values, and documents generated.

| Financial Adjustment Rule: Back Value Pay- Debit Customer & Use [Available] | | | | | | | | | |
|---|--------------|------------------|----------|---------------------|-------------------|-------------------------------------|----------------------|----------------------|-------------------------------------|
| Step# | Transactions | PegaCommBankCorr | Security | History | | | | | |
| Group | Label | DR / CR | Role | Txn Class | Pymt Type | Protect PymtType? | Default Account From | Account From Value | Protect |
| | CompPaid | Credit ▾ | CMPP | PegaApp-Txn-General | COMPDWASHCCMPP202 | <input checked="" type="checkbox"/> | Work party ▾ | CompensationCustomer | <input checked="" type="checkbox"/> |
| | Use | Debit ▾ | USE | PegaApp-Txn-General | COMPDUSECWASH202 | <input checked="" type="checkbox"/> | Work party ▾ | UseAccount | <input checked="" type="checkbox"/> |
| | DCus | Debit ▾ | DCUS | PegaApp-Txn-General | COMPDDCUSCWASHRS | <input checked="" type="checkbox"/> | Work party ▾ | DebitParty | <input checked="" type="checkbox"/> |

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|---|------|--------------|------------------------|---------------------------------|
| Step (Adjustment Type): Inbound Back Value | | | | |
| TXN1 | COMP | CR | COMPDWASHC CMPP202 | DWASHCCMPP 202 |
| | USE | DR | COMPDUSECW ASH202 | DUSECWASH2 02 |
| | RSV | | COMPDRSVCW ASH202 | DRSVCWASH20 2 |
| | FEE | | COMPDFEECW ASH202 | DFEECWASH20 2 |
| TXN2 | COMP | CR | COMPDWASHC CMPP202f | DWASHCCMPP 202 BVFormDWAS |

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|---------------------------|-------------|---------------------|------------------------|---|
| | | | | HCDBT202 BVFormDWAS HCDBT202 newval |
| | USE | DR | COMPDUSECW ASH202 | DUSECWASH2 02 |
| | RSV | | COMPDRSVCW ASH202 | DRSVCWASH20 2 |
| | FEE | | COMPDFEECW ASH202 | DFEECWASH20 2 |
| TXN3 | COMP | CR | COMPDWASHC CMPP202 | DWASHCCMPP 202 |
| | DCUS | DR | COMPDDCUSC WASH202 | DDCUSCWASH 202 |
| TXN4 | COMP | CR | COMPDWASHC CMPP202f | DWASHCCMPP 202 BVFormDWAS HCDBT202 BVFormDWAS HCDBT202 newval |
| | USE | DR | COMPDUSECW ASH202 | DUSECWASH2 02 |
| | DCUS | | COMPDDCUSC WASH202 | DDCUSCWASH 202 |

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|---|-------------|---------------------|------------------------|---|
| Step(AdjustmentType): Inbound Back Value | | | | |
| TXN1 | COMP | DR | COMPDCMPRC WASH202 | DCMPRCWASH 202 |
| | USE | CR | COMPDWASHC CMPP202 | DWASHCCMPP 202 |
| | RSV | | COMPDUSECW ASH202 | DUSECWASH2 02 |
| | FEE | | COMPDRSVCW ASH202 | DRSVCWASH20 2 |
| | SHORT | DR | COMPDFEECW ASH202 | DFEECWASH20 2 |
| TXN2 | COMP | DR | COMPDWASHC CMPP202f | DWASHCCMPP 202 BVFormDWAS HCDBT202 BVFormDWAS HCDBT202 newval |
| | USE | CR | COMPDUSECW ASH202 | DUSECWASH2 02 |
| | RSV | | COMPDRSVCW ASH202 | DRSVCWASH20 2 |
| | FEE | | COMPDFEECW ASH202 | DFEECWASH20 2 |

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|---------------------------|-------------|---------------------|--------------------------|---|
| TXN3 | COMP | DR | COMPDWASHC CMPP202 | DWASHCCMPP 202 |
| | USE | CR | COMPDDCUSC WASH202 | DDCUSCWASH 202 |
| | RSV | | COMPDWASHC CMPP202f | DWASHCCMPP 202 BVFormDWAS HCDBT202 BVFormDWAS HCDBT202new val |
| | FEE | | COMPDUSECW ASH202 | DUSECWASH2 02 |
| | OVER | DR | COMPDDCUSC WASH202 | DDCUSCWASH 202 |
| TXN4 | COMP | DR | COMPDCMPRC WASH202BVF | DCOMPRCWAS H202 BVFormDCDTC WASH202 BVFormDWAS HCCDT202 |
| | USE | CR | COMPDWASHC USE202 | DWASHCUSE2 02 |
| | RSV | | COMPDWASHC RSV202 | DWASHCRSV20 2 |

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|---------------------------|-------------|---------------------|--------------------------|--|
| | FEE | | COMPDWASHC FEE202 | DWASHCFEE20 2 |
| | SHORT | DR | COMPDSHORT CWASH202 | DSHORTCWAS H202 |
| TXN5 | COMP | DR | COMPDCMPRC WASH202BVF | DCOMPRCWAS H202 BVFormDCDTC WASH202 BVFormDWAS HCCDT202 |
| | USE | CR | COMPDWASHC USE202 | DWASHCUSE2 02 |
| | RSV | | COMPDWASHC RSV202 | DWASHCRSV20 2 |
| | FEE | | COMPDWASHC FEE202 | DWASHCFEE20 2 |
| TXN6 | COMP | DR | COMPDCMPRC WASH202BVF | DCOMPRCWAS H202 BVFormDCDTC WASH202 BVFormDWAS HCCDT202 |
| | USE | CR | COMPDWASHC USE202 | DWASHCUSE2 02 |

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|---------------------------|-------------|---------------------|------------------------|--------------------|
| | RSV | | COMPDWASHC RSV202 | DWASHCRSV20 2 |
| | FEE | | COMPDWASHC FEE202 | DWASHCFEE20 2 |
| | OVER | DR | COMPDWASHC OVER202 | DWASHCOVER 202 |
| TXN7 | COMP | DR | COMPDCMPRC WASH202 | DCMPRCWASH 202 |
| | CCUS | CR | COMPDWASHC CCUS202 | DWASHCCCUS 202 |
| | FEE | | COMPDWASHC FEE202 | DWASHCFEE20 2 |
| | SHORT | DR | COMPDSHORT CWASH202 | DSHORTCWAS H202 |
| TXN8 | COMP | DR | COMPDCMPRC WASH202 | DCMPRCWASH 202 |
| | CCUS | CR | COMPDWASHC CCUS202 | DWASHCCCUS 202 |
| | FEE | | COMPDWASHC FEE202 | DWASHCFEE20 2 |
| TXN9 | COMP | DR | COMPDCMPRC WASH202 | DCMPRCWASH 202 |
| | CCUS | CR | COMPDWASHC CCUS202 | DWASHCCCUS 202 |
| | FEE | | COMPDWASHC FEE202 | DWASHCFEE20 2 |

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|---|-------------|---------------------|-------------------------|---|
| | OVER | DR | COMPDWASHC OVER202 | DWASHCOVER 202 |
| Step(AdjustmentType): Outbound Forward Value | | | | |
| TXN1 | COMP | CR | COMPDWASHC CMPP202 | DWASHCCMPP 202 |
| | FEE | | COMPDWASHC FEE202 | DWASHCFEE20 2 |
| | USE | DR | COMPDUSECW ASH202 | DUSECWASH2 02 |
| TXN2 | COMP | CR | COMPDWASHC CMPP202FV | DWASHCCMPP 202 FVFormDWASH CDBT202 FVFormDWASH CDBT202 newval |
| | FEE | | COMPDWASHC FEE202 | DWASHCFEE20 2 |
| | USE | DR | COMPDUSECW ASH202 | DUSECWASH2 02 |
| TXN3 | COMP | CR | COMPDWASHC CMPP202 | DWASHCCMPP 202 |
| | FEE | | COMPDWASHC FEE202 | DWASHCFEE20 2 |

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|--|-------------|---------------------|-------------------------|----------------------|
| | DCUS | DR | COMP DUSECW ASH202 | DUSECWASH2 02 |
| Step(AdjustmentType): Inbound Forward Value | | | | |
| TXN1 | COMP | DR | COMP DCMPRC WASH202 | DCMPRCWASH 202 |
| | USE | CR | COMP DWASHC USE202 | DWASHCUSE2 02 |
| | RSV | | COMP DR SVCW ASH202 | DR SVCWASH20 2 |
| | FEE | | COMP DFEECW ASH202 | DFEECWASH20 2 |
| | SHORT | DR | COMP DSHORT CWASH202 | D SHORT CWAS H202 |
| TXN2 | COMP | DR | COMP DCMPRC WASH202 | DCMPRCWASH 202 |
| | USE | CR | COMP DWASHC USE202 | DWASHCUSE2 02 |
| | RSV | | COMP DR SVCW ASH202 | DR SVCWASH20 2 |
| | FEE | | COMP DFEECW ASH202 | DFEECWASH20 2 |
| TXN3 | COMP | DR | COMP DCMPRC WASH202 | DCMPRCWASH 202 |
| | USE | CR | COMP DWASHC USE202 | DWASHCUSE2 02 |

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|---------------------------|-------------|---------------------|--------------------------|--|
| | RSV | | COMPDRSVCW ASH202 | DRSVCWASH20 2 |
| | FEE | | COMPDFEECW ASH202 | DFEECWASH20 2 |
| | OVER | | COMPDWASHC OVER202 | DWASHCOVER 202 |
| TXN4 | COMP | DR | COMPDCMPRC WASH202BVF | DCOMPRCWAS H202 BVFormDCDTC WASH202 BVFormDWAS HCCDT202 |
| | USE | CR | COMPDWASHC USE202 | DWASHCUSE2 02 |
| | RSV | | COMPDRSVCW ASH202 | DRSVCWASH20 2 |
| | FEE | | COMPDFEECW ASH202 | DFEECWASH20 2 |
| | SHORT | DR | COMPDSHORT CWASH202 | DSHORTCWAS H202 |
| TXN5 | COMP | DR | COMPDCMPRC WASH202BVF | DCOMPRCWAS H202 BVFormDCDTC WASH202 |

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|---------------------------|-------------|---------------------|--------------------------|--|
| | | | | BVFormDWAS HCCDT202 |
| | USE | CR | COMPDWASHC USE202 | DWASHCUSE2 02 |
| | RSV | | COMPDRSVCW ASH202 | DRSVCWASH20 2 |
| | FEE | | COMPDFEECW ASH202 | DFEECWASH20 2 |
| TXN6 | COMP | DR | COMPDCMPRC WASH202BVF | DCOMPRCWAS H202 BVFormDCDTC WASH202 BVFormDWAS HCCDT202 |
| | USE | CR | COMPDWASHC USE202 | DWASHCUSE2 02 |
| | RSV | | COMPDRSVCW ASH202 | DRSVCWASH20 2 |
| | FEE | | COMPDFEECW ASH202 | DFEECWASH20 2 |
| | OVER | | COMPDWASHC OVER202 | DWASHCOVER 202 |
| TXN7 | COMP | DR | COMPDCMPRC WASH202FVF | DCOMPRCWAS H202 BVFormDDBTC WASH202 |

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|---------------------------|-------------|---------------------|--------------------------|--|
| | | | | BVFormDWAS HCDBT202 |
| | USE | CR | COMPDWASHC USE202 | DWASHCUSE2 02 |
| | RSV | | COMPDRSVCW ASH202 | DRSVCWASH20 2 |
| | FEE | | COMPDFEECW ASH202 | DFEECWASH20 2 |
| | SHORT | DR | COMPDSHORT CWASH202 | DSHORTCWAS H202 |
| TXN8 | COMP | DR | COMPDCMPRC WASH202FVF | DCOMPRCWAS H202 BVFormDDBTC WASH202 BVFormDWAS HCDBT202 |
| | USE | CR | COMPDWASHC USE202 | DWASHCUSE2 02 |
| | RSV | | COMPDRSVCW ASH202 | DRSVCWASH20 2 |
| | FEE | | COMPDFEECW ASH202 | DFEECWASH20 2 |
| TXN9 | COMP | DR | COMPDCMPRC WASH202FVF | DCOMPRCWAS H202 |

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|---------------------------|-------------|---------------------|------------------------|--|
| | | | | BVFormDDBTC WASH202 BVFormDWAS HCDBT202 |
| | USE | CR | COMPDWASHC USE202 | DWASHCUSE2 02 |
| | RSV | | COMPDRSVCW ASH202 | DRSVCWASH20 2 |
| | FEE | | COMPDFEECW ASH202 | DFEECWASH20 2 |
| | OVER | | COMPDWASHC OVER202 | DWASHCOVER 202 |
| TXN10 | COMP | DR | COMPDCMPRC WASH202 | DCMPRCWASH 202 |
| | CCUS | CR | COMPDWASHC USE202 | DWASHCUSE2 02 |
| | SHORT | DR | COMPDSHORT CWASH202 | DSHORTCWAS H202 |
| TXN11 | COMP | DR | COMPDCMPRC WASH202 | DCMPRCWASH 202 |
| | CCUS | CR | COMPDWASHC USE202 | DWASHCUSE2 02 |
| TXN12 | COMP | DR | COMPDCMPRC WASH202 | DCMPRCWASH 202 |
| | CCUS | CR | COMPDWASHC USE202 | DWASHCUSE2 02 |

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|--|-------------|---------------------|-------------------------|---|
| | OVER | | COMPDWASHC OVER202 | DWASHCOVER 202 |
| Step(AdjustmentType): Outbound Unjust Enrichment (Use of Funds) | | | | |
| TXN1 | COMP | CR | COMPDWASHC CMPP202 | DWASHCCMPP 202 |
| | FEE | CR | COMPDWASHC FEE202 | DWASHCFEE20 2 |
| | USE | DR | COMPDUSECW ASH202 | DUSECWASH2 02 |
| TXN2 | COMP | CR | COMPDWASHC CMPP202FV | DWASHCCMPP 202 FVFormDWASH CDBT202 FVFormDWASH CDBT202 newval |
| | FEE | CR | COMPDWASHC FEE202 | DWASHCFEE20 2 |
| | USE | DR | COMPDUSECW ASH202 | DUSECWASH2 02 |
| TXN3 | COMP | CR | COMPDWASHC CMPP202 | DWASHCCMPP 202 |
| | FEE | CR | COMPDWASHC FEE202 | DWASHCFEE20 2 |

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|---|-------------|---------------------|------------------------|--------------------|
| | DCUS | DR | COMPDDCUSC WASH202 | DDCUSCWASH 202 |
| Step(AdjustmentType): Inbound Unjust Enrichment (Use of Funds) | | | | |
| TXN1 | COMP | DR | COMPDCMPRC WASH202 | DCMPRCWASH 202 |
| | USE | CR | COMPDWASHC USE202 | DWASHCUSE2 02 |
| | FEE | DR | COMPDFEECW ASH202 | DFEECWASH20 2 |
| TXN2 | COMP | DR | COMPDCMPRC WASH202 | DCMPRCWASH 202 |
| | USE | CR | COMPDWASHC USE202 | DWASHCUSE2 02 |
| | FEE | DR | COMPDFEECW ASH202 | DFEECWASH20 2 |
| | SHORT | DR | COMPDSHORT CWASH202 | DSHORTCWAS H202 |
| TXN3 | COMP | DR | COMPDCMPRC WASH202 | DCMPRCWASH 202 |
| | USE | CR | COMPDWASHC USE202 | DWASHCUSE2 02 |
| | FEE | DR | COMPDFEECW ASH202 | DFEECWASH20 2 |
| | OVER | CR | COMPDWASHC OVER202 | DWASHCOVER 202 |

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|---------------------------|-------------|---------------------|--------------------------|--|
| TXN4 | COMP | DR | COMPDCMPRC WASH202BVF | DCOMPRCWAS H202 BVFormDCDTC WASH202 BVFormDWAS HCCDT202 |
| | USE | CR | COMPDWASHC USE202 | DWASHCUSE2 02 |
| | FEE | DR | COMPDFEECW ASH202 | DFEECWASH20 2 |
| TXN5 | COMP | DR | COMPDCMPRC WASH202BVF | DCOMPRCWAS H202 BVFormDCDTC WASH202 BVFormDWAS HCCDT202 |
| | USE | CR | COMPDWASHC USE202 | DWASHCUSE2 02 |
| | FEE | DR | COMPDFEECW ASH202 | DFEECWASH20 2 |
| | SHORT | DR | COMPDSHORT CWASH202 | DSHORTCWAS H202 |

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|---------------------------|-------------|---------------------|--------------------------|--|
| TXN6 | COMP | DR | COMPDCMPRC WASH202BVF | DCOMPRCWAS H202 BVFormDCDTC WASH202 BVFormDWAS HCCDT202 |
| | USE | CR | COMPDWASHC USE202 | DWASHCUSE2 02 |
| | FEE | DR | COMPDFEECW ASH202 | DFEECWASH20 2 |
| | OVER | CR | COMPDWASHC OVER202 | DWASHCOVER 202 |
| TXN7 | COMP | DR | COMPDCMPRC WASH202FVF | DCOMPRCWAS H202 BVFormDDBTC WASH202 BVFormDWAS HCDBT202 |
| | USE | CR | COMPDWASHC USE202 | DWASHCUSE2 02 |
| | FEE | DR | COMPDFEECW ASH202 | DFEECWASH20 2 |
| | SHORT | DR | COMPDSHORT CWASH202 | DSHORTCWAS H202 |

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|---------------------------|-------------|---------------------|--------------------------|--|
| TXN9 | COMP | DR | COMPDCMPRC WASH202FVF | DCOMPRCWAS H202 BVFormDDBTC WASH202 BVFormDWAS HCDBT202 |
| | USE | CR | COMPDWASHC USE202 | DWASHCUSE2 02 |
| | FEE | DR | COMPDFEECW ASH202 | DFEECWASH20 2 |
| | SHORT | DR | COMPDSHORT CWASH202 | DSHORTCWAS H202 |
| TXN10 | COMP | DR | COMPDCMPRC WASH202 | DCMPRCWASH 202 |
| | CCUS | CR | COMPDWASHC CCUS202 | DWASHCCCUS 202 |
| TXN11 | COMP | DR | COMPDCMPRC WASH202 | DCMPRCWASH 202 |
| | CCUS | CR | COMPDWASHC CCUS202 | DWASHCCCUS 202 |
| | SHORT | DR | COMPDSHORT CWASH202 | DSHORTCWAS H202 |
| TXN12 | COMP | DR | COMPDCMPRC WASH202 | DCMPRCWASH 202 |

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|--------------------|------|--------------|-----------------------|-------------------|
| | CCUS | CR | COMPDWASHC CCUS202 | DWASHCCUS 202 |
| | OVER | CR | COMPDWASHC OVER202 | DWASHCOVER 202 |

Step(AdjustmentType): Outbound Amend Beneficiary

| | | | | |
|------|------|----|-----------------------|-------------------|
| TXN1 | COMP | CR | COMPDWASHC CMPP202 | DWASHCCMPP 202 |
| | RSV | DR | COMPDRSVCW ASH202 | DRSVCWASH20 2 |
| | FEE | | COMPDFEECW ASH202 | DFEECWASH20 2 |
| TXN2 | COMP | CR | COMPDWASHC CMPP202 | DWASHCCMPP 202 |
| | DCUS | DR | COMPDDCUSC WASH202 | DDCUSCWASH 202 |

Step(AdjustmentType): Inbound Amend Beneficiary

| | | | | |
|------|------|----|-----------------------|-------------------|
| TXN1 | COMP | DR | COMPDCMPRC WASH202 | DCMPRCWASH 202 |
| | RSV | CR | COMPDWASHC RSV202 | DWASHCRSV20 2 |
| | FEE | CR | COMPDWASHC FEE202 | DWASHCFEE20 2 |
| TXN2 | COMP | DR | COMPDCMPRC WASH202 | DCMPRCWASH 202 |
| | RSV | CR | COMPDWASHC RSV202 | DWASHCRSV20 2 |

| Transaction number | Name | Debit/Credit | Payment type | Documents |
|---------------------------|-------------|---------------------|------------------------|--------------------|
| | FEE | CR | COMPDWASHC FEE202 | DWASHCFEE20 2 |
| | SHORT | DR | COMPDSHORT CWASH202 | DSHORTCWAS H202 |
| TXN3 | COMP | DR | COMPDCMPRC WASH202 | DCMPRCWASH 202 |
| | RSV | CR | COMPDWASHC RSV202 | DWASHCRSV20 2 |
| | FEE | CR | COMPDWASHC FEE202 | DWASHCFEE20 2 |
| | OVER | CR | COMPDWASHC OVER202 | DWASHCOVER 202 |

Glossary

This glossary is included to assist you in understanding Smart Investigate for Payments terms.

| A | |
|--------------|---|
| access group | Determines the layout of a user's home page and the user <i>roles</i> available. <i>System administrators</i> define access groups and associate them with users. |
| access role | Assigned to individual users to modify their access to |

| | |
|-------------------|---|
| | rules. A rule of type Rule-Access-Role-Name. |
| accounting cutoff | A predetermined time of day when no more transactions are posted for that day. Transactions entered after the cutoff are recorded on the next day. |
| accounting step | The financial transaction that a <i>workflow</i> executes to generate debit and credit entries for parties defined in the case. |
| action | A <i>workflow</i> (business process) action. A rule of type Rule-Obj-FlowAction. |
| Administer bar | Means of access to organization data, databases, security data, RuleSets, integration services, and data reports. |
| age | The length of time a <i>work item</i> has been pending completion. Standard properties and reports track age as an indicator of how well the organization is providing service. |

| | |
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| agent | A background internal thread operating on the server. Agents periodically monitor conditions and perform processing as necessary. |
| assignment | Assignments record a temporary condition of an open work object within an executing flow that requires users or an external system to act on the work object for it to progress to the next step. |
| attachment | A file, image, scanned document, URL, or text note that has been associated with a work object. A paperclip icon identifies attachments. |
| authentication | The process of determining the identity of a new user or requestor of services. Log-in is an authentication process. |
| automatic processing | See <i>background processing</i> . |
| B | |
| background processing | Automatic processing, without operator intervention. |

| | |
|--------------------|--|
| base amount | The local currency equivalent of the inquiry amount. |
| beneficiary | The final recipient of payment proceeds. |
| beneficiary bank | The bank in which the beneficiary's account is domiciled. |
| branch | The location that is processing payment. |
| broadcast | A short text message visible to users. An instance of Data-Broadcast.Users can define distinct messages for each organizational unit. |
| C | |
| case | A collection of tasks or assignments that are completed to resolve an exception. |
| check in/check out | Rule management process for a <i>RuleSet</i> , by which only one user at a time may edit a rule so that multiple users cannot overwrite each other's changes. When a user checks out a rule, other users are barred from editing it (they can access it in a read-only mode). When the rule is checked back in, it is again available to be checked out. |
| CHIPS | The Clearing House Interbank Payment System, used in the United States as the final settlement payment system for business-to-business transactions. |

| | |
|------------------------------------|---|
| class | Rules of type Rule-Obj-Class. Do not confuse with Java classes. |
| class group | A means to store instances from two or more concrete classes (that share a common key format) in a single database table. Class groups are commonly used to store instances of similar or related Work- concrete classes together in a relational database table. |
| compensation | The payment or acceptance of interest for late payments. |
| connector | A programmatic component that defines and implements an interface between SmartInvestigate for Payments, acting as a client, and an external system, acting as a server. Connectors are implemented through an instance of a connector rule. |
| context-sensitive workspace | The right side of the application portal, in which forms, lists, links, and toolbars are displayed as permitted by the user's present action. For example, the toolbar displays the <i>check in</i> / <i>check out</i> icons only when an open rule is under rule management. |
| correct party | An additional party added to the <i>work object</i> to replace any erroneous party within the payment chain. |
| correspondence | An outgoing e-mail message, printed letter, or facsimile transmission produced by Smart Investigate for Payments and its users. |
| correspondence template | Definition of the format, content, and type of correspondence; refers to a correspondence rule. |
| Correspondence Output Server (COS) | See <i>PegaDISTRIBUTIONManager</i> . |
| cover thru | An additional party in the payment chain facilitating the transmission of funds to the paying bank. |

| | |
|------------------------------|--|
| credit party | The party in the paying chain whose account was credited with the proceeds. |
| credit party account officer | The officer managing the relationship/account of the <i>credit party</i> . |
| D | |
| Dashboard bar | Means of access to standard reports, accelerators and wizards, your operator profile, and company news. |
| deadline | The maximum time allowed to resolve a case, configured in a service level agreement (SLA). See also <i>goal</i> . |
| debit party | The party within the paying chain whose account was debited to make the payment. |
| debit party account officer | The officer managing the relationship/account of the debit party. |
| division | The middle level of the standard three-level hierarchy. The organizational structure affects management reports and statistics and the RuleSet visible to users in that organization when they log in. An instance of Data-Admin-OrgDivision. See also <i>organization</i> and <i>unit</i> . |
| E | |
| EJB(Enterprise JavaBeans) | An architecture for setting up Java program components that run on servers. |
| escalation | Processing within Smart Investigate for Payments that causes high-priority cases to become more visible to users and managers. The <i>urgency</i> property determines the order of cases in worklists. In some cases, the escalation process can recalculate the urgency value. |
| F | |
| Fed Service | A means of interbank communication used in North America. |

| | |
|--|---|
| federal funds rate | The interest rate at which depository institutions lend balances at the Federal Reserve to other depository institutions overnight. |
| Federal Funds Transfer System | A high-speed electronic payment system owned and operated by the Federal Reserve Banks, which acts as intermediaries (though not counterparties) in all Fedwire funds transfers for Fedwire participants. |
| Fedwire | A funds transfer system owned and operated by the Federal Reserve System. |
| financial case | A case with suspense accounting activities. |
| flow | See <i>workflow</i> . |
| G | |
| gadget | See <i>section</i> . |
| goal | The expected time to resolve a case, configured in a service level agreement (SLA). See also <i>deadline</i> . |
| H | |
| home view | Sections of task-based links relevant to a workspace. When the workspace is displaying lists, forms, and so forth, clicking on a bar displays its home view. |
| I | |
| IMAD (Input Message Accountability Data) | A unique number assigned to track each Fedwire transaction sent by a financial institution. |
| indemnity | A request from one bank to another to expedite action on an exception without going through the normal exception process, with an assurance that all fees will be paid. |
| instance | An object — a collection of values and methods associated with a class. |
| inquirer | The party requesting investigation or information. |

| | |
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| intent-led flow | A workflow that guides users to do the right thing in a given processing situation by presenting appropriate choices based on data and context. |
| interaction | Communication between a contact and the organization. This communication can include live interactions, such as telephone calls and branch location visits, or non-live interactions such as e-mail or mail. |
| intermediary bank | A third-party bank used in the payment chain to facilitate payment between banking entities who do not have a direct relationship with each other. |
| IOS | See <i>PegaDISTRIBUTIONMANAGER</i> . |
| item ID | An identification number (stored in the property .pyID) automatically assigned to a case. |
| J | |
| J2EE | Java 2 Enterprise Edition. |
| JAR | Java ARchive, a file format based on the ZIP compressed-file format. A JAR file aggregates many files into one. |
| Java servlet | See <i>servlet</i> . |
| L | |
| line of business (LOB) | A type of operation area dealing with process. |
| M | |
| Manage Rules bar | Means of access to rules and classes via the explorers; to business, system, and integration rules by search criteria; to service, connector, property, and process configuration; and to rule reports. |
| MQ messaging | An IBM message protocol. |
| N | |

| | |
|-----------------------------|---|
| navigation panel | The left side of the application portal, which contains a series of bars that group controls by function. |
| nonfinancial case | A case that has no suspense accounting activity. |
| O | |
| ODBC | Open DataBase Connectivity. A common language to gain access to a database on a network. |
| Oracle | Relational database software providing access to the Oracle calls used in Smart Investigate for Payments. |
| organization | The top level of the standard three-level hierarchy. The organizational structure affects management reports and statistics and the RuleSet visible to users in that organization when they log in. An instance of Data-Admin-Organization. See also <i>division</i> and <i>unit</i> . |
| P | |
| page | The standard Smart Investigate for Payments Web interface. The portal rule defines tabs and the arrangement and labeling of tools and features on them. |
| party | A person or entity involved in a case; for example, a customer, a bank, or an internal department. |
| PegaDISTRIBUTION MANAGER | An output correspondence server that sends HTML or Microsoft Word documents from PegaRULES Process Commander to channels available on other systems. Correspondence can be printed, faxed, or saved in RTF format. Formerly called IOS (ImageNet Output Server). |
| PegaRESEARCH Manager | A Pegasystems product that provides a central repository for critical SWIFT messages and transaction data. PegaRESEARCH |

| | |
|------------------------------|---|
| | Manager can retrieve SWIFT transactions and map the results into a case. |
| pegarules.xml file | A small XML file on each Process Commander system and node that defines various installation and startup parameters. |
| portal | See <i>page</i> . |
| privilege | An accesscontrol element associated with a <i>class</i> and an <i>access role</i> . A rule of type Rule-Access-Privilege. Privileges offer finer tuning of access control than accessroles alone. To have access to a privilege, a user must have at least one of the accessroles that grants access to the privilege in an access role list. The association between access roles and privileges is established in rules of type Rule-Access-Role-Obj. |
| process architect | A business user or business analyst who defines and maintains business rules, service levels, and flows or processes. |
| Process Work bar | Provides access to your <i>worklist</i> and <i>workbaskets</i> . Use to search, select, and process work on your worklist, manage workbaskets, and transfer work among operators. |
| PRPC | PegaRULES Process Commander. |
| R | |
| reference number | See <i>item ID</i> . |
| receiving bank | The bank receiving the payment. |
| receiving bank correspondent | The bank representing the receiving bank in the payment chain. |
| remitter | The party on whose behalf the payment is made. |
| remitting bank | The bank initiating the payment, usually holds the account of the remitter. |
| remitting bank correspondent | The bank holding a relationship with the remitting bank. |

| | |
|-------------------|---|
| Reports bar | Means of access to reports and tools for monitoring assignments and processes, analyzing process quality, and analyzing process performance. |
| route | An activity that determines which user <i>worklist</i> or which <i>workbasket</i> is to receive an assignment. |
| RuleSet | A group of related object classes, workflows, and business rules. |
| RuleSet hierarchy | The ordered list of RuleSets in Process Commander applications. The most general RuleSets that provide basic functions are at the bottom, RuleSets specific to your application are in the middle, and RuleSets customized for your organization are at the top. |
| S | |
| section | <p>Also called a gadget, a rectangular area on a page containing a control that a user can interact with. For example, the <i>worklist</i> area of the user's home page is implemented through a gadget.</p> <p>Sections are instances of Data-Gadget. By creating portal rules (of type Rule- Portal), system architects determine the appearance, labeling, and location of sections on the home page (portal), and which parts of the portal are visible to different groups of users.</p> |
| sending bank | The bank sending the payment. |
| service | A programmatic component that defines and implements an interface between an external application, acting as a client, and the SmartInvestigate for Payments system, acting as a server. |

| | |
|--------------------------------------|---|
| | <p>An external system may use any of several technical frameworks to call Smart Investigate for Payments, become a requestor of an appropriate type, send a request, execute an activity (which may call other activities, update data, and start other processing), and receive the results in a response.</p> <p>A service is implemented through an instance of a service rule, plus in some cases appropriate programming code in the initiating application or system.</p> <p>See also <i>connector</i>.</p> |
| service level | Time interval to complete a request. Each service level rule defines one or two-time intervals, known as goals and deadlines that indicate the expected or targeted turnaround time for the assignment, or time to resolve for the case. |
| Simple Object Access Protocol (SOAP) | A protocol used to exchange information in a decentralized, distributed environment. SOAP is an XML-based protocol. |
| SLA | Service level agreement. See <i>service level</i> . |
| SmartPrompt | A textbox used on many forms that dynamically creates a selection list of valid selections for fast user data entry. A blue triangle in the lower-right corner identifies SmartPrompt text boxes. |
| SnapStart | A data import facility used to generate and prepopulate Process Commander work objects from an external application, without a user log-in process. Note that SnapStart itself does not authenticate — it sends a userId and password within the URL. |
| SOAP services | A collection of functions that applications can call using the SOAP protocol. |

| | |
|-----------------------------------|---|
| step | The primary processing unit of an activity or business process. |
| step-by-step | The manual ordering and initiation of a processing step, performed manually by a user outside automated workflow processing. Once a case is placed in a step-by- step assignment, it exits the automated flow and cannot reenter it. |
| straight-through processing (STP) | Automatic processing that occurs without operator intervention. |
| SWIFT | <p>Society for Worldwide Interbank Financial Telecommunication. A secure network supporting the dispatch and receipt of payments, inquiry, and advice messages between banks and financial institutions.</p> <p>Pegasystems is an official SWIFT solution partner. Refer to www.swift.com for further information.</p> |
| SWIFTNet | The implementation of the SWIFT messaging protocol using a secure IP network. |
| system administrator | A systems engineer who is responsible for installation and setup, security, and other operational functions. |
| system architect | An application developer who creates the class structure for your work with supporting automation capabilities and implements interfaces with external systems. |
| T | |
| third reimbursement bank | The party in the cover payment chain included to facilitate transmission of funds to the paying bank. |
| tickler | A reminder message sent when no response has been received from a previous inquiry. Also known as chaser or tracer. |

| | |
|-------------------------------------|---|
| Tools bar | Provides access to system tools such as the Rules Inspector and Clipboard. |
| TRN | Transaction. |
| U | |
| unit | The bottom level of the standard three-level hierarchy. The organizational structure affects management reports and statistics and the RuleSet visible to users in that organization when they log in. An instance of Data-Admin-OrgUnit. See also <i>division</i> and <i>organization</i> . |
| urgency | A numeric value between 0 and 100 that defines the importance of speed in completing and resolving an assignment. Urgency defines the order in which cases appear on a user's <i>worklist</i> . Larger values correspond to higher importance. Urgency can be changed by users, managers, or the system based on service levels, dollar amounts, special treatment for special customers, backlog, or other conditions. |
| URI (Universal Resource Identifier) | Information pertaining to the location of a particular resource on the server. For example, in the URL http://webserve/servlet/admin/?contents.html , the URI is /servlet/admin. |
| V | |
| verification | A task performed by a person who is double-checking prior work to catch possible mistakes or variances with policy before the work becomes final. Verification is common in financial processes involving large sums, sensitive legal commitments, or correspondence. |
| W | |

| | |
|------------------------|---|
| Web application server | See <i>applicationserver</i> . |
| Web service | A <i>service</i> using the SOAP protocol to transmit XML-formatted messages. |
| workbasket | A centralized, shared pool of <i>work objects</i> from which users select work. |
| work object | A unit of work. |
| workflow | A standard set of steps that resolves a case. |
| worklist | A list of items assigned to a specific user, ordered by priority. |
| work type | The reason for an exception. |

Resources

Pega Smart Investigate™ for Payments is a packaged, scalable solution for managing wholesale transaction exceptions and automating the inquiry and exception management activities across numerous departments.

- [Understanding security basics](#)
- [Security of the working environment](#)
- [Sample modeler workflows](#)
- [Duplicate search functionality](#)
- [Reports](#)
- [Data page conversion configuration](#)
- [Pega Smart Investigate for Payments Sanctions RFI Tech note](#)
- [Pega Smart Investigate for Payments gCase Tech note](#)
- [Pega Smart Investigate for Payments SWIFT gpi Tech note](#)
- [Pega Smart Investigate for Payments ISO 20022 AND CBPR+ Tech note](#)

Understanding security basics

This section describes the basic Pega 8 security mechanisms. It explains how you can modify the security rules or add your own if necessary.

This chapter cannot explain the full scope, depth, and flexibility available with Pega 8 security. For more information, see the Administration and Security section on the Community.

- [Authentication and authorization](#)

- Security configuration components
- Ruleset overview
- Organizational hierarchy
- Work object model
- Workbasket and worklist assignment models
- Operators, access groups, and access roles

Ruleset overview

Rulesets store related groups of business rules, serving as containers for various types of application components. Rulesets also provide security, version control, and functions to deploy or migrate an application between environments.

You begin customizing your application environment by duplicating existing Pega 8 application rulesets and using them as a starting point to configure your own rulesets. By modifying copies of the rulesets instead of the base rulesets themselves (which are protected), your changes remain isolated from product changes. This isolation allows you to upgrade the base application and test the changes in your environment before merging the changes into your rulesets.

The rulesets that come with your application can be divided into these categories:

- Rulesets that define class hierarchies for site-specific work objects and other data, access roles and privileges for users, home page display, and tools. You must modify these rulesets during deployment to suit your environment.
- Rulesets that define product rules and include activities, data model classes and properties, and the work object hierarchy. You will likely customize these rules, but doing so is not required for proper product operation.
- Rulesets that are shared across Pega 8 applications, such as PegaApp, which contains workflow components, PegaAppFin (for financial accounting), and PegaAppResearch (PegaRESEARCH Manager).

Rulesets are arranged hierarchically, with more general rules at the bottom and more specific rules at the top. For example, in the following ruleset hierarchy the Pega-ProcessCommander, Pega-RULES, etc., rulesets control the underlying Pega 8 operations, while PegaSINostro, and PegaSI control application functions.

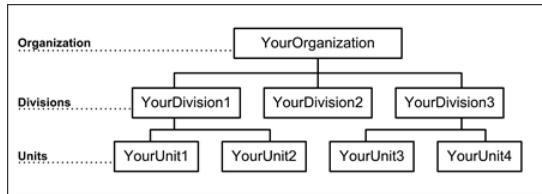
Your effective Application Rulesets

- PSIP - HealthCheck
- PegaSIAgguides
- PegaSINostro
- PegaSIPyamt
- PegaSI
- PegaAppResearch-CommBank
- PegaAppResearch
- PegaCommBank
- PegaAppCorr
- PegaAppFin
- PegaApp
- Pega-UITheme
- UI-Kit-7
- Pega Platform Application rulesets (Pega-ProcessCommander, Pega-RULES, etc.)

The ruleset order is critical to rule resolution. To find the appropriate rule to execute, Pega 8 begins with the top ruleset in the list and, if the rule is not found, moves to the next ruleset. In this manner, custom site-specific rules have precedence over application-specific rules.

Organizational hierarchy

Pega 8 applications group organizational data hierarchically, using nested levels of organizations, divisions, and units. This basic organization hierarchy diagram depicts a sample organizational hierarchy with one organization, three divisions, and four units.



You can use this model as a guide when creating a similar hierarchy to reflect your organization's functional and reporting structure:

- Highest Level: Organization — identifies the company entity.
- Second Level: Division — identifies the major entities of the company. For example, you might use the structure of your company's senior management team as a starting place for division-level entities.
- Lowest Level: Unit — identifies the most specific level at which organization information is recorded (for example, a cost center).

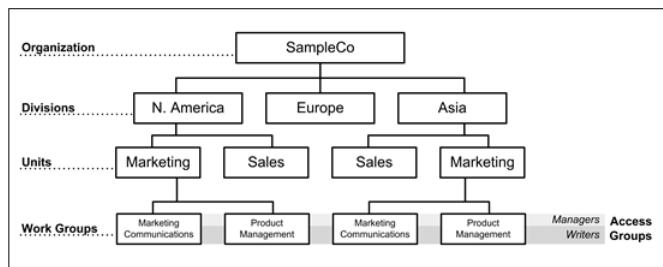
As you are deploying your system, identify the business areas with primary users or interested work parties. You can add to or modify the structure at any time as your organization grows and changes. You can display a graphic showing your organization, by selecting the Administrator bar from the Navigation panel, and then selecting **Organization Chart** from the Organization section.

When users log in with an operator ID, the Pega 8 application they log into and their organizational affiliations grant them appropriate ruleset access. The ID also identifies two additional affiliations: work groups and access groups.

- Work Groups — users and the work they do are tied to work groups, which fall below units in an extended organizational hierarchy. Users working on a common set of items generally belong to a single work group.

- Access groups — users' application permissions, Ruleset access, portal layout, and accessible work are controlled by access groups. Access groups may span multiple work groups, and typically mirror Pega 8 job functions.

The following diagram shows a part of the SampleCo hierarchy. The North America and Asia divisions each have Marketing and Sales units; each Marketing unit, in turn, has Marketing Communications and Product Management work groups. All work group managers are afforded additional privileges by belonging to the Managers access group.



Work object model

There are various types of work objects — messages, exceptions, tasks, and so on — depending on the application and its unit of work.

When your application initiates a work object, a predefined model populates key property values (such as urgency) that directly affect the work object's relative priority and placement in operator worklists. As work objects progress towards resolution, core property values such as priority and status are continually updated to reflect the current stage of processing.

There are three types of work objects: basic work objects, covers, and folders. Applications use basic work objects; some, but not all, may use covers or folders.

- Work objects capture and process information about an individual unit of work.

- Covers tightly coordinate processing of one or more distinct, but closely related, work objects. The system normally resolves a cover work object after all of its component work objects are resolved.
- For example, if a customer request creates three separate work objects, the work objects may follow separate flows, may be handled by separate departments, and may not affect each other. The cover object provides consolidated visibility to the request, which can be resolved once each component object is resolved.
- Folders hold one or more work objects (which can be basic work objects, covers, or other folders). In contrast to covers, the relationship between folders and work objects and their contents may be many-to-many. One work object may be associated with multiple folders, but only one cover.

Each work object has a unique ID that is computed by combining a system-assigned number and a prefix defined by a map value rule. Smart Investigate for Payments uses the following prefixes:

- The M- prefix is used for message cases.
- The PEG prefix is used for exceptions.
- The CMP prefix is used for compensation cases.
- The CVR prefix is used for bulk-entry payments cases.

Workbasket and worklist assignment models

Your application supports two models for distributing work: worklists and workbaskets. Both contain prioritized lists of assignments.

An assignment records the condition of an open work object within a flow, and the action required (by a user or an external system) for the work object to progress. Assignments are created and prioritized by a flow operating on a work object but are not themselves part of the work object. Assignments have a many-to-one relationship to work objects, as a work object may require multiple actions at any point in a flow.

A worklist, automatically created for each operator ID (user), is a prioritized list of assignments for that user. Worklists are associated with instances of Data-Admin-Operator-ID, and assignments to worklists are instances of Assign-Worklist.

A workbasket is a shared pool of assignments from which users can select work. Workbaskets are instances of Data-Admin-Workbasket, and assignments to workbaskets are instances of Assign-Workbasket.

Assignments can be transferred from a workbasket to a worklist in various ways:

- The system can automatically route assignments to a user's worklist.
- Managers can transfer assignments to a user's worklist.
- Qualified users can move assignments from workbaskets to their own worklists.

An application typically has multiple workbaskets to categorize work objects — for example, a service application may have workbaskets for new tasks, assigned tasks, and overdue tasks. See Appendix A, *Application-Specific Information* for a list of workbaskets in your application.

Worklists and workbaskets function in tandem for more efficient processing and workload balancing. Routing flows distribute assignments to worklists and workbaskets based on factors such as individual or group work schedules, workloads, skills, and service level deadlines.

Additional criteria, such as requiring that users select work from personal worklists before selecting work from a workbasket, can also be implemented.

Operators, access groups, and access roles

Pega 8 applications use a combination of operator IDs, applications, access groups, and access roles to control what each user can see and do within the system.

When users log in with an operator ID, their access group determines their application portal layout and the rulesets they can access. Group-specific access roles further constrain the product functions available to users within that access group.

Smart Investigate for Payments includes an additional security layer that is based on specific operator-assigned areas of the hierarchy. See [Deploying the Application](#) for more information.

The following table illustrates some relationships between these factors for a group of sample users:

- Access Group — System administrators can have unrestricted access to the system, but system and process architects have more focused roles and can thus operate with the more restricted access that the SysArch and ProcArch access groups provide. Customer service representatives (CSRs) might be able to add transactions to the system, but only Managers can delete transactions.
- Application Portal — Administrators and architects must have access to system rules and maintenance functions. Managers and CSRs, however, are end users and do not need to see those elements in their portals.
- Access Role — Users within an access group may not need (or may not be allowed to have) the same permissions. Manager A and Manager B, for example, are in the Manager access group and use the ManagerPortal portal, though an access role distinction could prevent them from reassigning each other's work objects.

| User Type | Opera ID | Access Group | Application Portal | Access Role |
|----------------------|------------------------|------------------|--------------------|-------------|
| System Administrator | sisysadmin@pega.com | SISysAdminSample | Developer | SysAdmin |
| System Administrator | SIPaymentsDev@pega.com | SISysAdmin | Developer | SysAdmin |

| User Type | Opera ID | Access Group | Application Portal | Access Role |
|--------------|------------------------|--------------|--------------------|-----------------|
| Manager | SIManager@pega.com | SIManager | SIManager | SIManager |
| Supervisor | SISupervisor@pega.com | SISupervisor | SISupervisor | SIManager |
| Manager | Diya.cleveland@fsi.com | SIManager | SIManager | SIManager |
| Supervisor | Aline.hunter@fsi.com | SISupervisor | SISupervisor | SIManager |
| Supervisor | Samuel.gill@fsi.com | SISupervisor | SISupervisor | SIManager |
| Investigator | Anand.bullock@fsi.com | SIUser | SIUser | SIIInvestigator |
| Investigator | Anna.simmons@fsi.com | SIUser | SIUser | SIIInvestigator |
| Investigator | Emi.stephens@fsi.com | SIUser | SIUser | SIIInvestigator |
| Investigator | Kelly.goodhue@fsi.com | SIUser | SIUser | SIIInvestigator |
| Investigator | Nathan.harrell@fsi.com | SIUser | SIUser | SIIInvestigator |
| Investigator | Thane.howard@fsi.com | SIUser | SIUser | SIIInvestigator |

The above mentioned sample operator records that range from entry-level users to a system administrator and architect are now shipped as part of Pega Smart Investigate For Payments Sample layer which is the demo layer and these operator records are not

available in the base Pega Smart Investigate for Payments application. These records demonstrate how access groups define the user's portal layout and access to rulesets, and provide models for developing your own user profiles. See Appendix A, *Application-Specific Information*, for more information about operators and their access groups.

In addition, standard access roles are available, including the following:

- PegaRULES:SysAdm4 for users with system administrator responsibilities
- PegaRULES:WorkMgr4 for users such as managers or supervisors
- PegaRULES:User4 for users who might have clerical responsibilities

Note: Do not delete or use these operator records unless instructed to by

(i) Pegasystems. Pegasystems uses these operator records when qualifying issues.

Authentication and authorization

Pega 8 provides security capabilities that are both flexible and layered. The security model is based on user authentication for system access and on authorization for particular application elements once users are logged in.

Authorization features allow you to define access at different levels:

- Your ruleset and versions
- Classes (types of work)
- Certain individual rules, such as flows

Standard security rules provide access to rulesets, classes, and individual rules, many of which may suit your access requirements with little or no modification.

Security of the working environment

Your application is preconfigured with usable security models that you can further customize to support your organization. The following sections describe some of the

mechanisms through which your application and the underlying Pega 8 architecture provide a secure working environment.

- **Security components**
- **Security levels**
- **Rule resolution and the user ruleset list**
- **Integrating with external systems**

Security components

The security model includes the following components:

- Operator ID and password — both are required for users to access the system. This is part of the Pega Smart Investigate For Payments Sample layer.
- Authentication and authorization — using the product requires both authentication and authorization. Authentication is the validation of users' identities via operator IDs and passwords when they log on; authorization is the use of access roles and privileges to provide access to specific classes and rules.
- Access roles — these provide users access to specific classes and privileges.
- Access groups — these provide groups of users who require the same security settings access to particular rulesets and portal layouts.
- Workbaskets and routing — workbaskets are shared pools of assignments from which users select work. Routing activities distribute assignments to user worklists based upon factors such as priority and operator skill.
- Work pools — users can access the types of work represented in work pools. The work pools a user can access appear in a selection list on the user's portal layout. Work pools are also referred to as class groups.
- Access to business process actions — managers and supervisors control access to certain business process actions, such as performing manual SLA overrides.
- Access to ActiveX controls — if your security settings allow, ActiveX controls are downloaded when required. Most controls are for developers, though some may be required when users perform certain tasks.

Security levels

Smart Investigate for Payments has four security checks to verify that users can access only the work objects and assignments for which they have privileges. Each of these security checks is briefly described below

- Security Check One — verifies the user has the correct class group for the work they are performing.
- Security Check Two and Security Check Three — verify the user has the required permissions to review the object or assignment.

Security Check Four — verifies the user has the privileges to perform the function on the assignment.

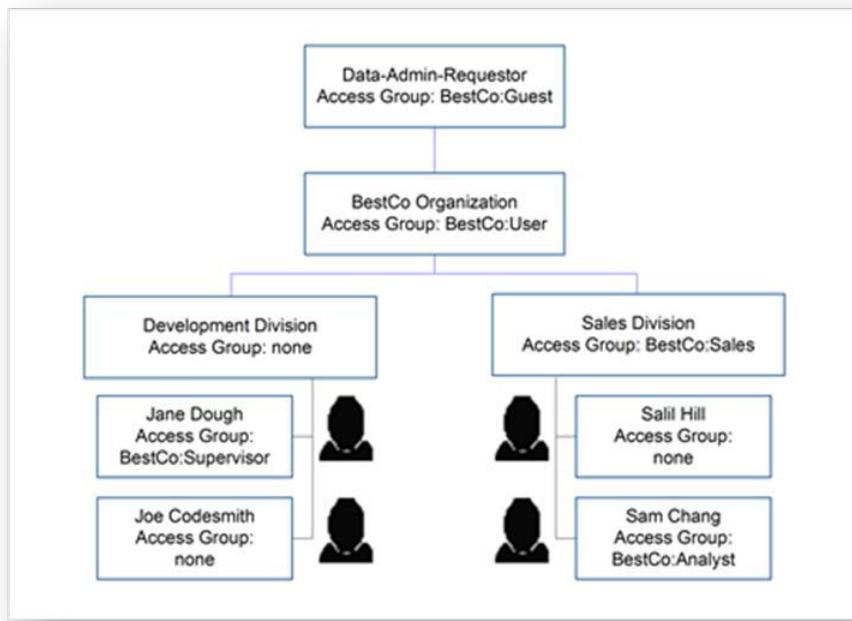
Rule resolution and the user ruleset list

When a user logs in, Pega 8 assembles a unique profile that includes a list of accessible rulesets, as shown below.

| | | | |
|---------------------------------|------------------|--|--|
| | Name SI Sysadmin | Organization pega.com | Client Name 127.0.0.1 |
| Position | SI Sysadmin | Division Administration | Login Time 11/2/2018 6:40 AM |
| ID | siyadm@pega.com | Unit Installation | Last Login 11/1/2018 11:04 AM |
| Phone | | Work Group Default | |
| Skills | | Access | |
| Name | Rating | Application SmartInvestigateForPayments_Sample_8 | |
| | | Access group SIYADMIN | |
| | | Portal Layout Developer | |
| | | Work Pool MyCoSI-Work | |
| Time | | Server | |
| Calendar | Default | Name pega | URI /webwb |
| Time Zone | GMT | Node 10.60.213.207 | /prweb/nyZT5OzGPRbixE6br6yJQ%5B%5B//STANDARD |
| Locale settings | | | |
| Current Locale | | | |
| Roles | | Rulesets | Application RuleSets |
| PegaRULES:SysAdm4 | | siyadm@pega.com: | PSIPReporting |
| PegaRULES:SecurityAdministrator | | PSIPReporting:08-01 | PSIPExpress |
| PegaSI:SIyAdmin | | PSIPExpress:08-01 | PegaSI_Sample |
| PegaAppFin:User | | PegaSI_Sample:08-01 | PSIP-HealthCheck |
| PegaSI:SIInvestigator | | PSIP-HealthCheck:08-01 | PegaSIAppGuides |
| PegaRULES:User1 | | PegaSIAppGuides:08-01 | PegaSINostro |
| PegaRULES:HealthCheck | | PegasINostro:08-01 | PegaSIPIynt |
| PegaRULES:PegaAPI | | PegaSIPIynt:08-01 | PegaSI |
| | | PegaAppResearch-CommBank | PegaAppResearch |
| | | PegaAppResearch-CommBank:08-01 | PegaCommBank |
| | | PegaCommBank | PegaSILint |
| | | PegaCommBank:08-01 | PegaAppCorr |
| | | PegaSILint:08-01 | PegaAppFin |
| | | PegaAppCorr:08-01 | PegaApp |
| | | PegaAppFin:08-01 | Pega-UITheme |
| | | PegaApp:07-11 | UI-Kit-7 |
| | | Pega-UITheme:07-11 | Pega-ProcessCommander |
| | | UI-Kit-7:12-01-01 | Pega-DeploymentDefaults |
| | | Pega-ProcessCommander:08-01 | |

Application instances define access to rulesets and versions. Instances of Requestor, Organization, and Org Division can optionally specify an application. Therefore, in each class you can specify an application that defines rulesets and versions available to users of each class. An application rule in a more specific class overrides an application rule in a more general class.

The diagram below shows how the system determines which access group among those specified in an organizational hierarchy to use to form the list of rulesets and versions available to each user.



The access group BestCo:Guest is specified in the (browser) requestor. That access group is overridden by the access group BestCo:User for all users who can log in. At the moment, four users are logged in, and they get the following access groups:

- Jane Dough gets the access group BestCo:Supervisor because it is defined in her Operator ID instance and overrides BestCo:User.
- Joe Codesmith, who has no access group defined in his Operator ID instance, gets the access group BestCo:User, which is defined for his division.
- Salil Hill, who has no access group defined in his Operator ID instance, gets the access group BestCo:Sales, which is defined for his division.
- Sam Chang gets the access group BestCo:Analyst because it is defined in his Operator ID instance and overrides BestCo:Sales.

When you specify a particular ruleset and version in an access group, the highest ruleset version that you specify, and all other subversions within that same version, are available to the user. For example, if you specify BestCo:02-05-03, then users can use the rules in versions

02-05-02, 02-04-04, and 02-03-04 of the BestCo ruleset, but no rules in major version 03 are available. If you don't specify a particular version, all versions are available to the user.

The best practice is to use only major and minor version numbers. This makes revisions (nn-nn- nn) available automatically without changing user profiles.

Setting Up Your Organization, describes how to create the proper organizational components.

- **The power and flexibility of ruleset design**

The power and flexibility of ruleset design

After your application is installed, it is immediately usable for demonstration or training purposes, and with minor changes it is usable for production.

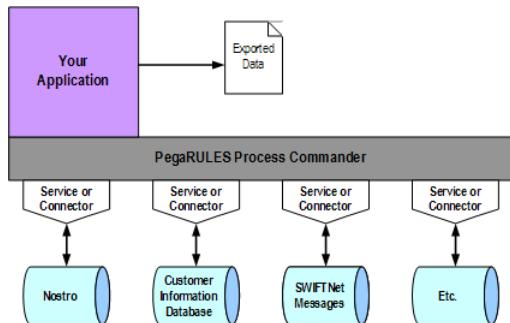
In addition, as this table shows, you can modify the product to suit the needs of your organization.

| | | |
|--------------------|---|---|
| Personalize | Organization name User accounts Service levels | You can add your organization's logo to the user interface, register users, and establish parameters on policies. |
| Configure | Correspondence templates Workbaskets Prioritization Process activities Party records | You can set the product behavior to reflect Data structures for integration Work management Correspondence templates Accounting your organization's business practices. For example, you can tune work object routing so that each user receives a reasonable number of objects or embed your organization's specific criteria for provisional credit or write-off decisioning. |
| Customize | New workflows | A trained workflow architect can create new business processes that extend your solution. (Customization requires the appropriate software license, as well as expertise with PegaRULES that is beyond the scope of this document.) |

Integrating with external systems

Many enterprise applications require data sharing — integrating with existing (or legacy) systems — to realize their full potential and return on investment.

Pega 8 implements real-time interfaces (such as RDB, SOAP, and MQ) to retrieve data and post transactions to legacy databases, without manipulating the existing data as illustrated below.



Smart Investigate for Payments comes with a sample database that contains typical, industry-standard data you can use to demonstrate the system out of the box, even at sites that do not have or have not integrated with pre-existing systems. These sample tables can also serve as a starting point, or test bed, from which you can develop and test business logic, modify rules and schemas, and start integrating workflows with external data sources.

Sample modeler workflows

This appendix shows the Smart Investigate flows for the following categories:

- Message Processing Workflows —Used during message processing to parse, format, and process the messages.

- Accounting Workflows —Used when processing accounting transactions to repair, verify, and create associated correspondence.
- Correspondence Workflows —Used when creating and sending correspondence.
- Case Processing Workflows —Used during case processing to check for duplicate cases and to process transactions.
- Intent-Led Workflows —Used during customer interactions to evaluate what process should be suggested to the CSR.
- Compensation Workflows — Used during claim processing to process the claims.

The tables starting on this page index the flow name, class, and page number in this appendix with a diagram of the flow. You can also view these flows through Smart Investigate for Payments using the class and flow names listed. For more detailed information about Smart Investigate for Payments flows, use the Application Overview section of the Manage Rules workspace and click Document.

See *FlowDesign Shapes* for a brief description of the flow shapes.

Message Processing Flows

| Flow Name | Class |
|-------------------------|-----------------------|
| SWIFTParseMessage | PegaSI-MsgCase-Swift |
| FedService ParseMessage | PegaSI-MsgCase-FedSvc |
| FreeFormatTextParse | PegaSI-MsgCase |
| StepByStep | PegaSI-MsgCase |

Accounting Flows

| Flow Name | Class |
|-------------------------|-------------------|
| AcctgRepair | PegaCommBank-Work |
| AcctgRepairDocument | PegaCommBank-Work |
| CreateAdjustment | PegaCommBank-Work |
| CreateTxnCorrespondence | PegaCommBank-Work |

| Flow Name | Class |
|---------------------------|-------------------|
| CreateAcctgCorrespondence | PegaCommBank-Work |
| FinStepVerifOneLevel | PegaCommBank-Work |
| FinStepVerifTwoLevels | PegaCommBank-Work |
| FinStepVerifThreeLevels | PegaCommBank-Work |

Correspondence Flows

| Flow Name | Class |
|--------------------|--------------------|
| SendCorr | PegaSI-Work- |
| EnterCorrDetailsSF | PegaCommBank-Corr- |
| CorrCreateSBS | PegaSI-Work- |
| SwiftCorrCreate | PegaCommBank-Work- |
| FedSvcCorrCreate | PegaCommBank-Work- |
| AppCorrVerifySend | PegaCommBank-Work- |

Case Processing Flows

| Flow Name | Class |
|------------------------------|------------------------|
| StepByStep | PegaSI-Work |
| DuplicateSearch | PegaSI-Work |
| NewWork | Pega-SI-Work-BulkEntry |
| BCETranFlow | PegaSI-Work-BulkEntry |
| BCECollectTRNFromSpreadsheet | PegaSI-Work-BulkEntry |
| ProcessInboundIndemnity | PegaSI-Work |
| ProcessOutboundIndemnity | PegaSI-Work |

Intent-led Flows

| Flow Name | Class |
|-----------------|-----------------------|
| NewWork | PegaSI-Work-BCNR |
| BCNR | PegaSI-Work-BCNR |
| CoverNonReceipt | PegaSI-Work-BCNR |
| NewWork | Pega-SI-Work-UTACr |
| UltBeneUTA | Pega-SI-Work-UTACr |
| UTACover | Pega-SI-Work-UTACr |
| UTASmtCR | Pega-SI-Work-UTACr |
| UTAPymentOrder | Pega-SI-Work-UTACr |
| NewWork | Pega-SI-Work-Return |
| NewWork | PegaSI-Work-CorrBkChg |

Report Flows

| Flow Name | Class |
|----------------|-----------------------------|
| SLAFlow | PegaSI-Work-ScheduledReport |
| VerifySendCorr | PegaSI-Work-ScheduledReport |

Compensation Flows

| Flow Name | Class | Function |
|------------------|---------------------|--|
| ClaimAmendBene | PegaSI-Compensation | ProcessClaim Amend Beneficiary compensation; calls ClaimAmendBeneSF and ReceiveAmendBene flows |
| ClaimAmendBeneSF | PegaSI- | Screen flow for processing Claim Amend Beneficiary |

| Flow Name | Class | Function |
|-----------------------|-------------------------|---|
| | Compensation | compensation |
| ClaimBackValue | PegaSI- Compensation | Process Claim Back Value compensation; calls ClaimBackValueSFand ReceiveBackValue flows |
| ClaimBackValueSF | PegaSI- Compensation | Screen flow for processing Claim Back Value compensation |
| ClaimForwardValue | PegaSI- Compensation | Process Claim Forward Value compensation; calls ClaimForwardValueSFand ReceiveForwardValue flows |
| ClaimForwardValueSF | PegaSI- Compensation | Screen flow for processing Claim Forward Value compensation |
| ClaimUnjustEnrichment | PegaSI-Compensation | Process Claim Unjust Enrichment (use of funds) compensation; calls ClaimUnjustEnrichmentSF and |

| Flow Name | Class | Function |
|-------------------------|---------------------|---|
| | | ReceiveUnjustEnrichmentflow |
| ClaimUnjustEnrichmentSF | PegaSI-Compensation | Screen flow for processing Claim Unjust Enrichment (use of funds) compensation |
| CompensationAccounting | PegaSI-Compensation | Flow with assignment to enter compensation accounting allocations;calls CreateAdjustment flow |
| NewWork | PegaSI-Compensation | Called by all compensation cases OnAdd |
| InitialProcessing | PegaSI-Compensation | Called by compensation NewWork flow |
| PayAmendBene | PegaSI-Compensation | ProcessPay Amend Beneficiary compensation; calls PayAmendBeneSFflow |

| Flow Name | Class | Function |
|---------------------|---------------------|--|
| PayAmendBeneSF | PegaSI-Compensation | Screen flow for processing Pay Amend Beneficiary compensation |
| PayBackValue | PegaSI-Compensation | Process Pay Back Value compensation |
| PayBackValueSF | PegaSI-Compensation | Screen flow for processing Pay Back Value compensation |
| PayForwardValue | PegaSI-Compensation | ProcessPay Forward Value compensation; calls PayForwardValueSFflow |
| PayForwardValueSF | PegaSI-Compensation | Screen flow for processing Pay Forward Value compensation |
| PayUnjustEnrichment | PegaSI-Compensation | ProcessPay Unjust Enrichment (use of funds) compensation; calls PayUnjustEnrichmentSF flow |

| Flow Name | Class | Function |
|-----------------------|---------------------|---|
| PayUnjustEnrichmentSF | PegaSI-Compensation | Screen flow for processing Pay Unjust Enrichment (use of funds)compensation |
| ReceiveAmendBene | PegaSI-Compensation | Process Receive Amend Beneficiary compensation; calls ReceiveAmendBeneSFflow |
| ReceiveAmendBeneSF | PegaSI-Compensation | Screen flow for processing Receive Amend Beneficiary compensation |

Compensation Flows

| Flow Name | Class | Function |
|---------------------|---------------------|--|
| ReceiveBackValue | PegaSI-Compensation | Process Receive Back Value compensation |
| ReceiveBackValueSF | PegaSI-Compensation | Screen flow for processing Receive Back Value compensation |
| ReceiveForwardValue | PegaSI- | Process Receive Forward Value compensation; calls |

| Flow Name | Class | Function |
|---------------------------|-------------------------|---|
| | Compensation | ReceiveForwardValueSFflow |
| ReceiveForwardValueSF | PegaSI- Compensation | Screen flow for processing Receive Forward Value compensation |
| ReceiveUnjustEnrichment | PegaSI- Compensation | Process Receive Unjust Enrichment (use of funds) compensation; calls ReceiveUnjustEnrichmentSF flow |
| ReceiveUnjustEnrichmentSF | PegaSI- Compensation | Screen flow for processing Receive Unjust Enrichment (useof funds) compensation |
| RequestAmendBene | PegaSI- Compensation | Process Request Amend Beneficiary compensation; calls RequestAmendBeneSFand PayAmendBene flows |
| RequestAmendBeneSF | PegaSI-Compensation | Screen flow for processing Request Amend Beneficiary compensation |

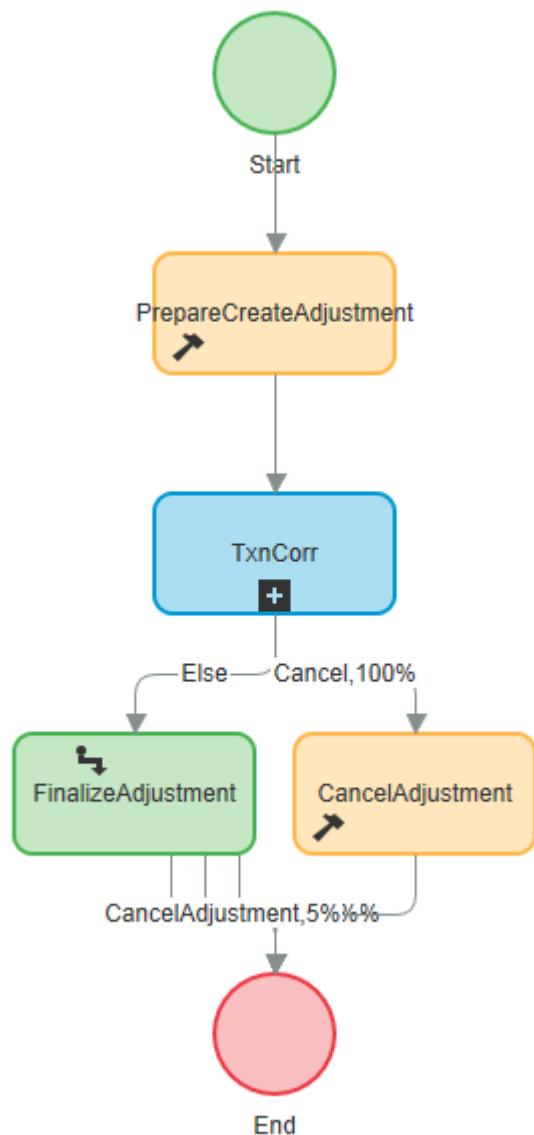
| Flow Name | Class | Function |
|-------------------------|---------------------|---|
| RequestBackValue | PegaSI-Compensation | Process Request Back Value compensation; calls RequestBackValueSF and PayBackValue flows |
| RequestBackValueSF | PegaSI-Compensation | Screen flow for processing Request Back Value compensation |
| RequestForwardValue | PegaSI-Compensation | Process Request Forward Value compensation; calls RequestForwardValueSF and PayForwardValue flows |
| RequestForwardValueSF | PegaSI-Compensation | Screen flow for processing Request Forward Value compensation |
| RequestUnjustEnrichment | PegaSI-Compensation | Process Request Unjust Enrichment (use of funds) compensation; calls RequestUnjustEnrichmentSF and PayUnjustEnrichmentflows |

| Flow Name | Class | Function |
|---------------------------|---------------------|--|
| RequestUnjustEnrichmentSF | PegaSI-Compensation | Screen flow for processing Request Unjust Enrichment (use of funds) compensation |
| StepByStep | PegaSI-Compensation | Step by step processing for compensation cases |

- **CreateAdjustment**
- **SWIFT ParseMessage**
- **Fed Service ParseMessage**
- **FreeFormatTextParse**
- **Message processing stepbystep**
- **AcctgRepair**
- **AcctgRepairDocument**
- **CreateTxnCorrespondence**
- **CreateAcctgCorrespondence**
- **FinStepVerifOneLevel**
- **FinStepVerifTwoLevels**
- **FinStepVerifThreeLevels**
- **SendCorr**
- **EnterCorrDetailsSF**

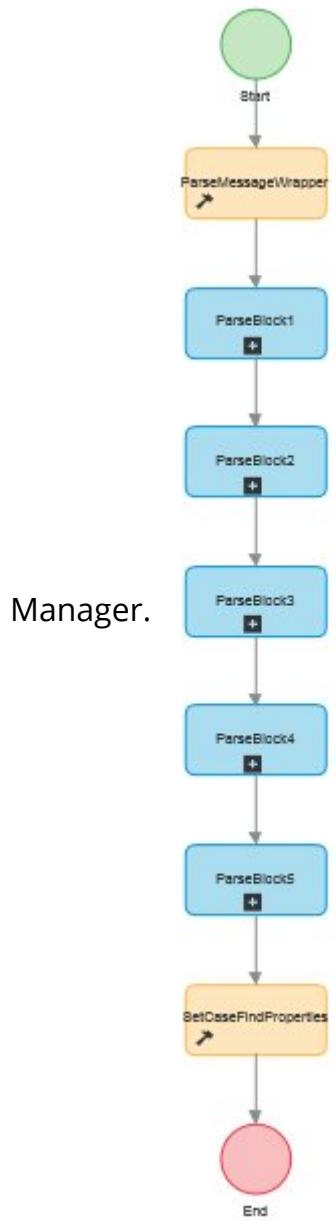
CreateAdjustment

This flow presents the operator with summary information for a final review at the conclusion of the accounting adjustment. It also enables the operator to add additional correspondence or to cancel the step.



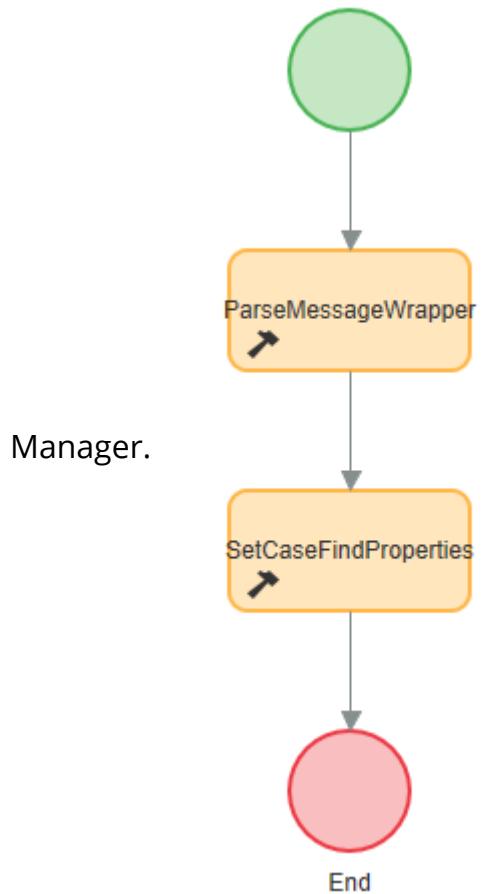
SWIFT ParseMessage

This flow parses incoming SWIFT messages into five blocks before the contents of the message can be used for duplicate searching and automated queries to PegaRESEARCH Manager.



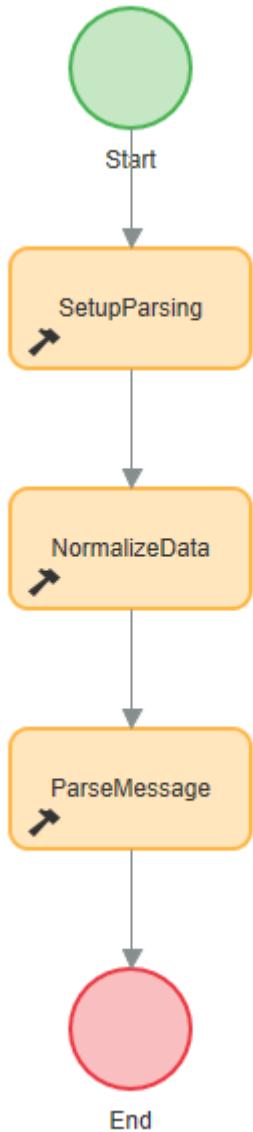
Fed Service ParseMessage

This flow parses incoming Fed Service messages so that the contents of the message can be used for duplicate searching and automated queries to PegaRESEARCH



FreeFormatTextParse

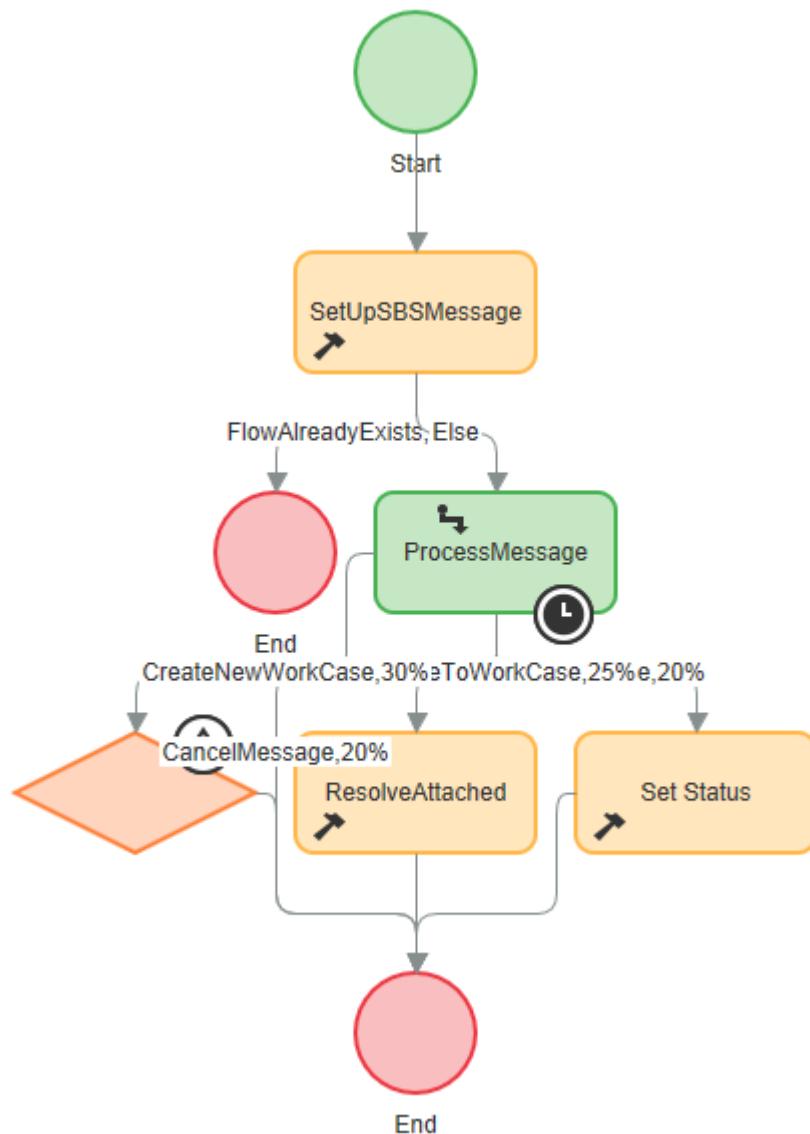
This flow interprets SWIFT MTn99 messages, which are free-format messages similar to e-mails. Once interpreted, the system extracts the key data for processing.



Message processing stepbystep

Messages that cannot be processed automatically are routed to a workbasket for operator repair.

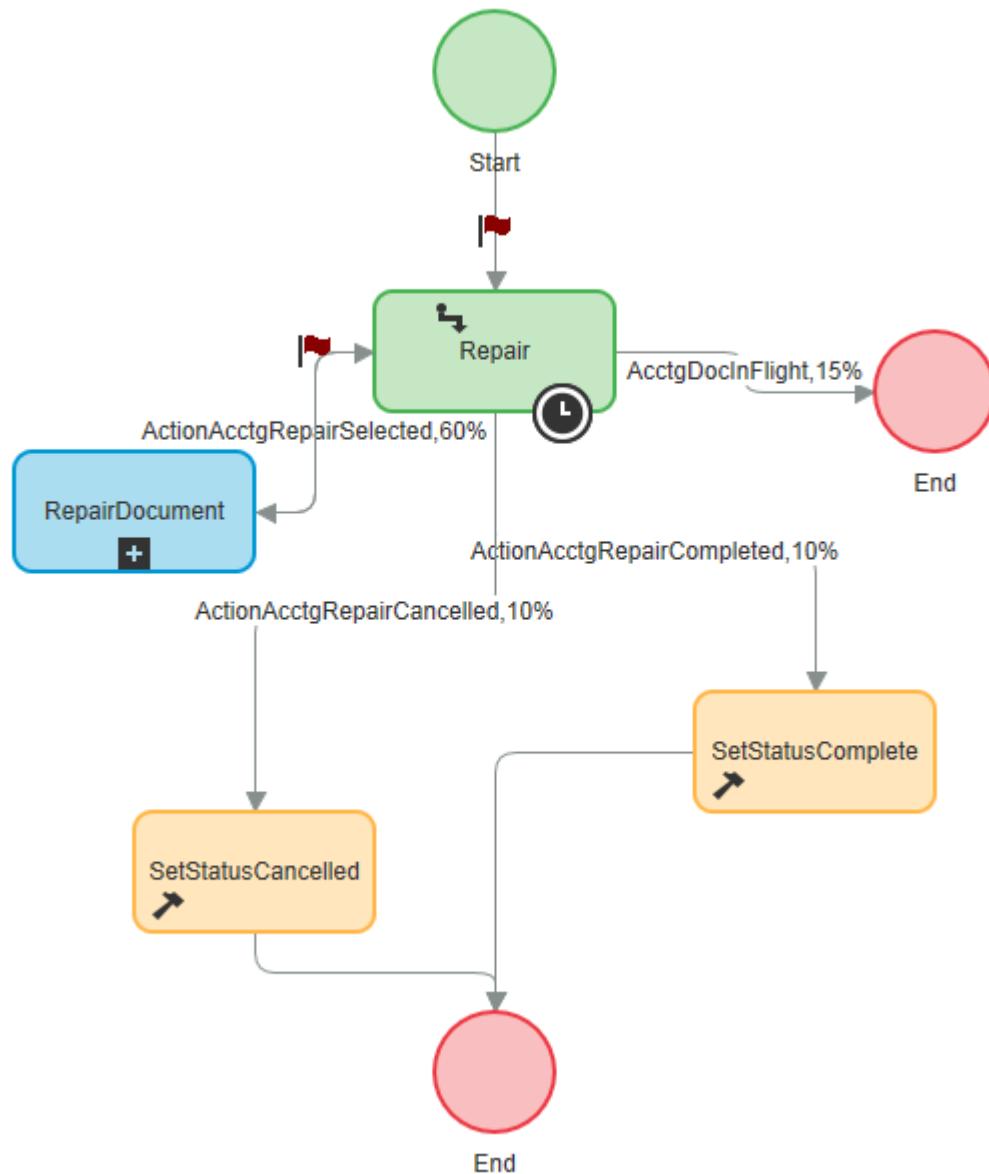
Smart Investigate for Payments assigns this flow to these messages to enable operators to perform tasks such as creating a new exception work object, dividing the message, or attaching the message to an existing exception work object.



AcctgRepair

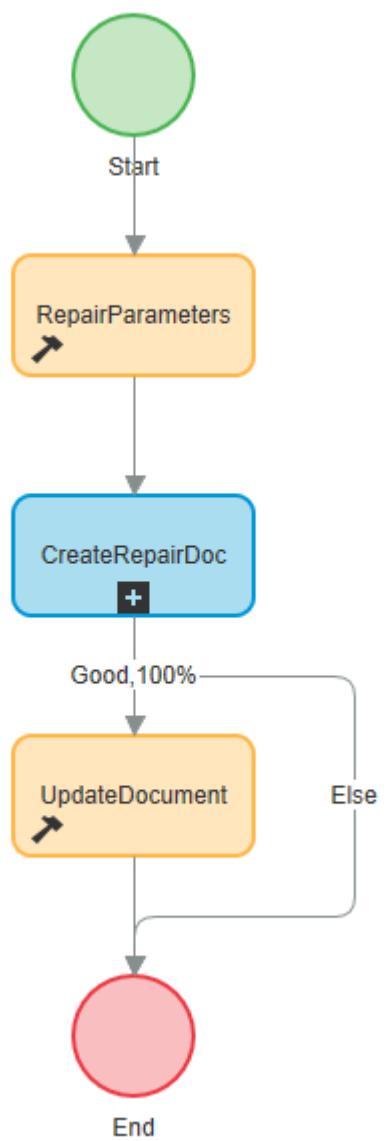
Supervisors who perform verification of accounting adjustments may return an adjustment to the initiating operator to be fixed.

This flow enables the adjustment to be returned to the initiating operator who can then complete the fix, add new documents, or cancel the adjustment.



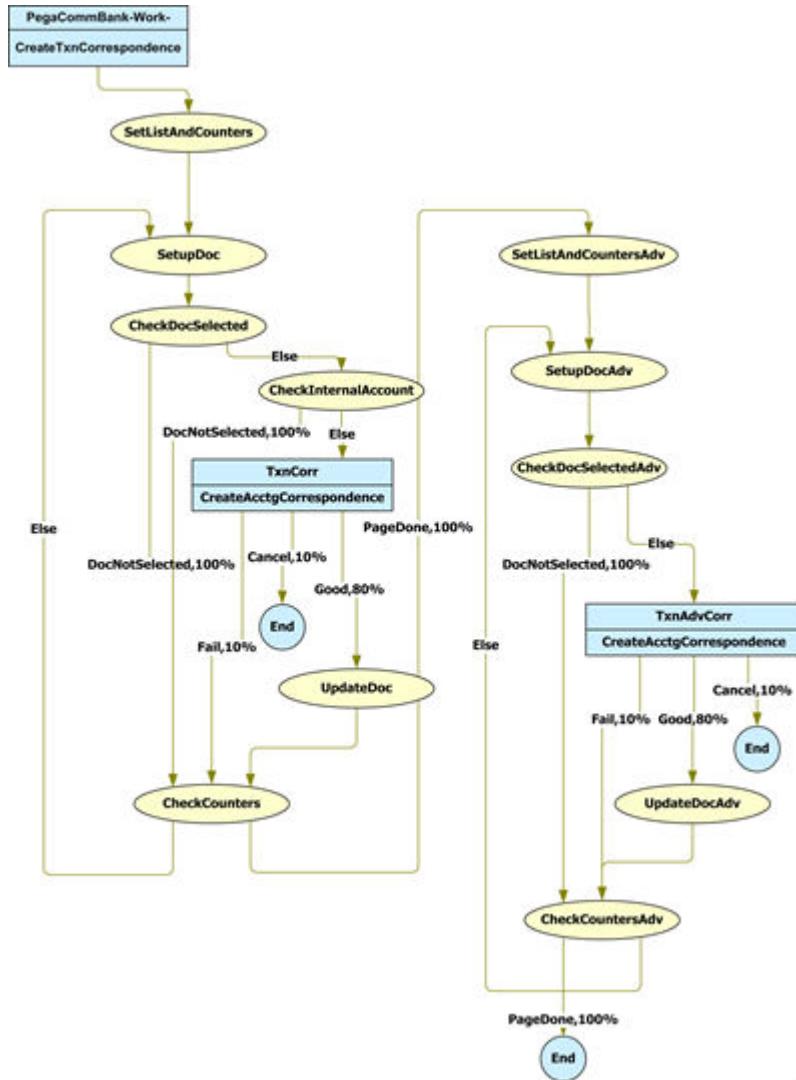
AcctgRepairDocument

This is a subflow in the main accounting adjustment verification flow ([AcctgRepair](#)) and shows the repair of the document.



CreateTxnCorrespondence

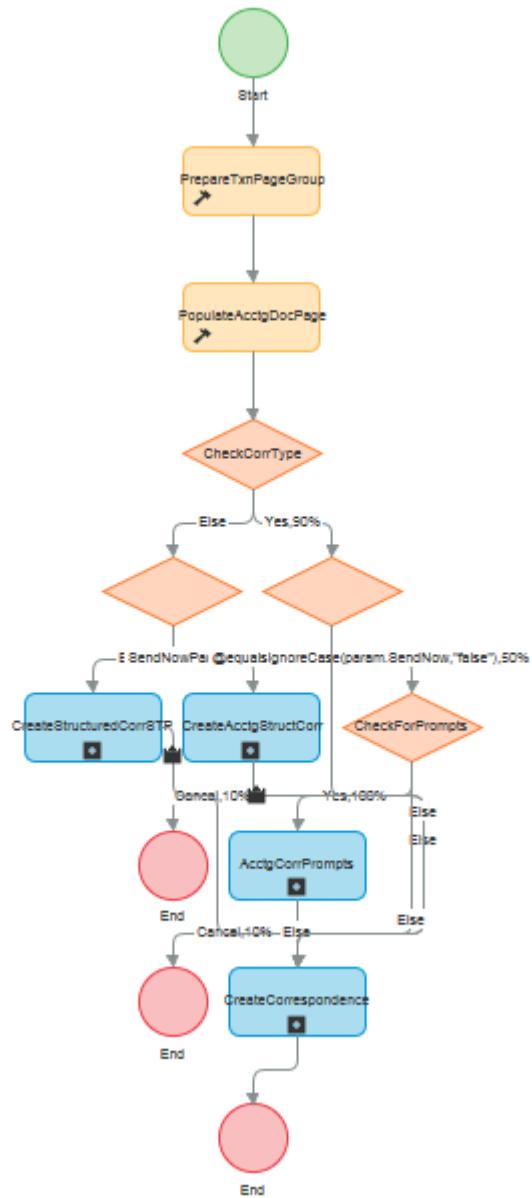
Transaction correspondence is driven by the payment types used in the adjustment. This flow generates the correspondence documents.



CreateAcctgCorrespondence

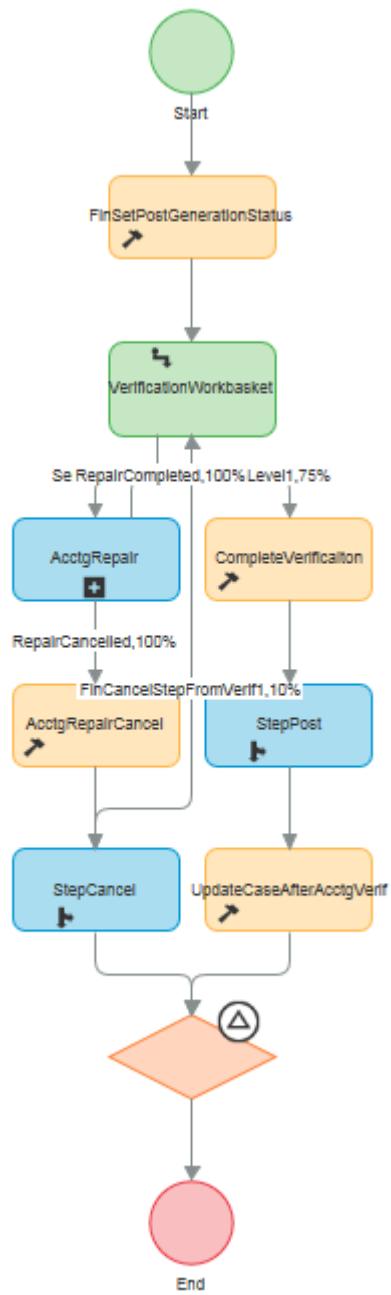
This is a subflow in the main CreateAdjustment flow and shows the process for generating an ad-hoc step-level document, for either Fed Service or SWIFT, from the

accounting summary screen.



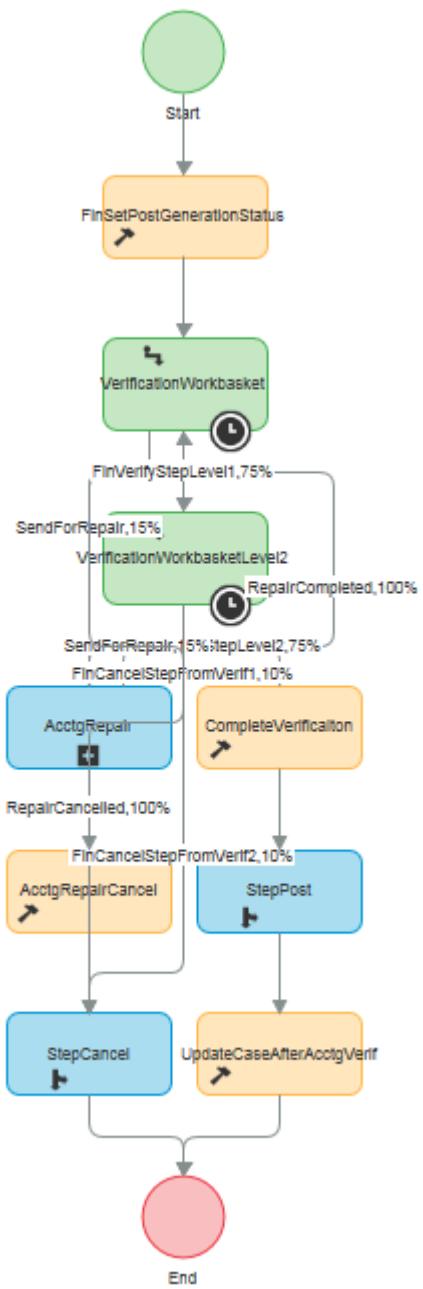
FinStepVerifOneLevel

Accounting adjustments may require up to three levels of verification, depending on the amount of the adjustment. This flow governs the first level verification.



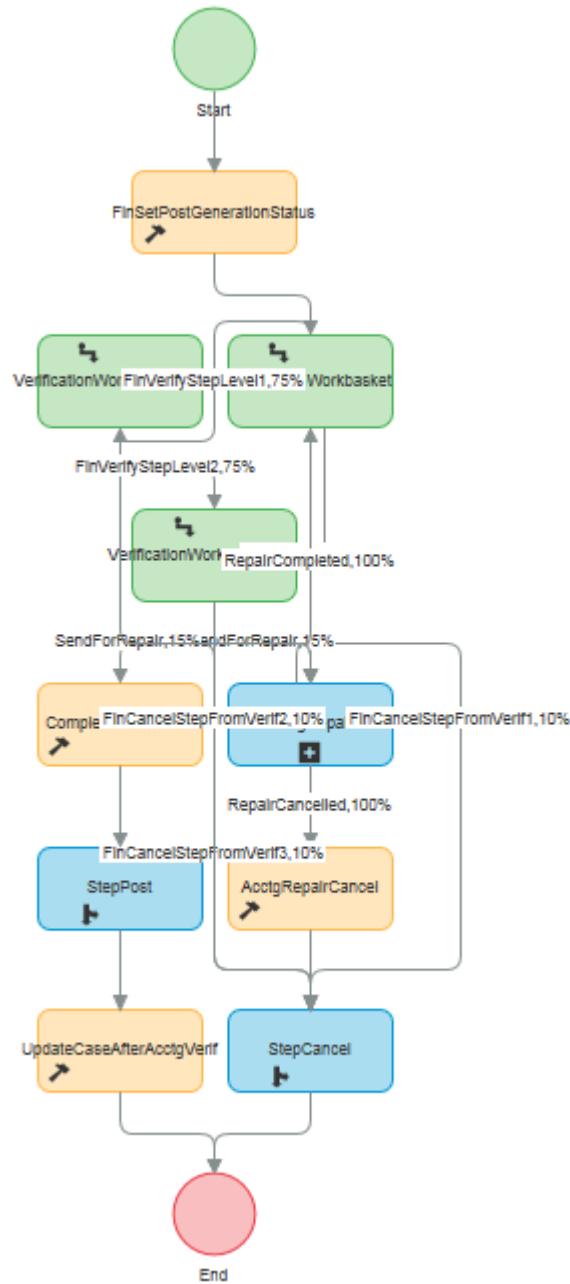
FinStepVerifyTwoLevels

Accounting adjustments may require up to three levels of verification, depending on the amount of the adjustment. This flow governs the second level verification.



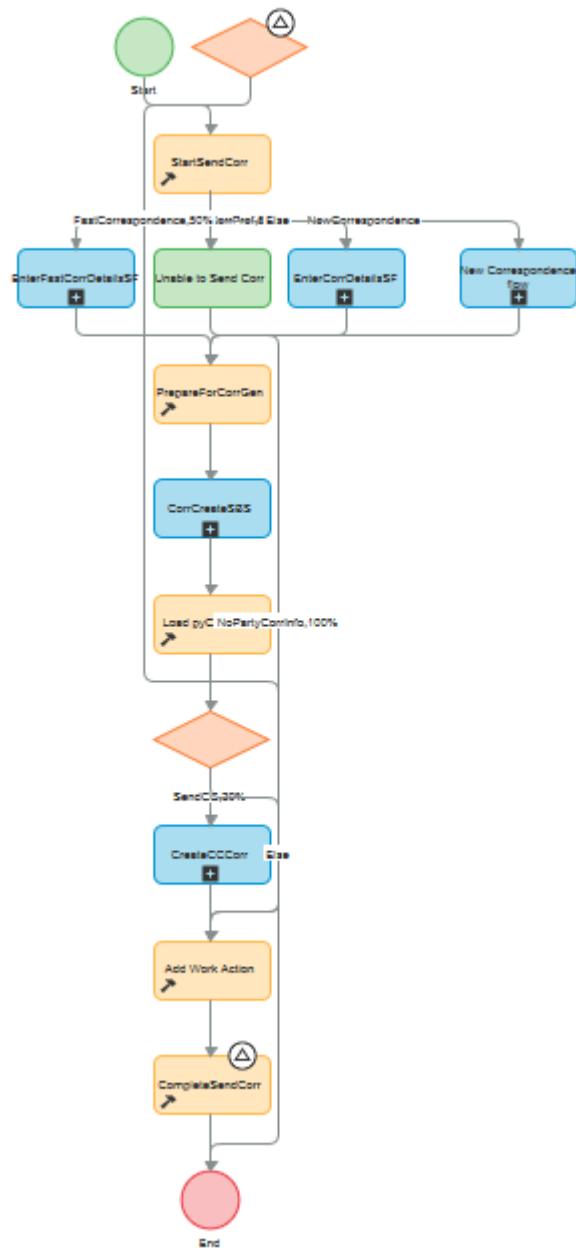
FinStepVerifyThreeLevels

Accounting adjustments may require up to three levels of verification, depending on the amount of the adjustment. This flow governs the third-level verification.



SendCorr

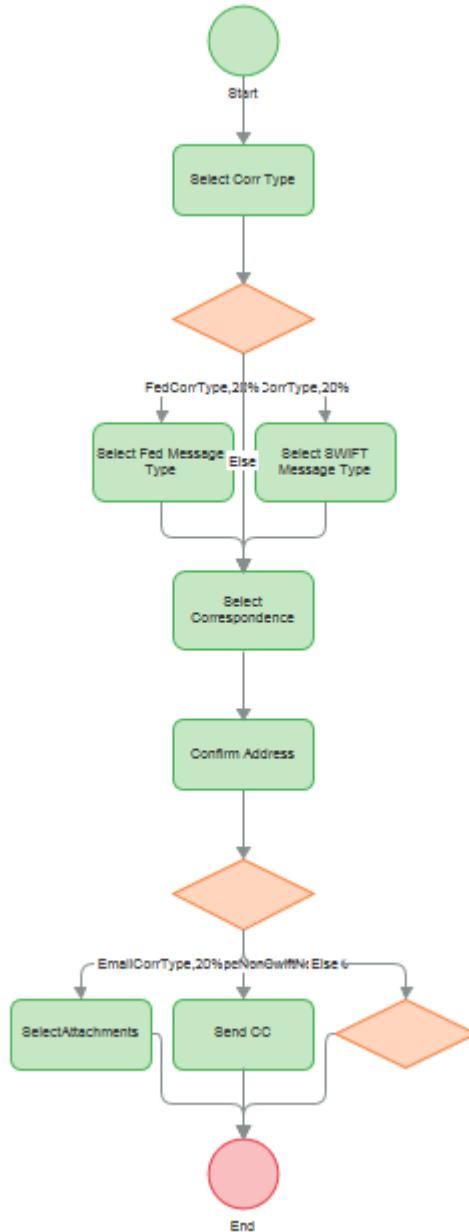
This flow shows the process of sending correspondence to another bank. If the user wants to send copies of the correspondence, the flow CreateCCCorr is called.



EnterCorrDetailsSF

This screen flow is called from the SendCorr flow (4) to gather the information needed

to generate correspondence.



Duplicate search functionality

The duplicate search functionality saves time by identifying potential duplicate cases in your application and ensuring that each case represents a unique request. Potential duplicate cases match a set of required, weighted conditions.

Smart Investigate uses the scoring definition rule *DuplicateScore* to set the criteria for identifying potential duplicates.

Defining the conditions for duplicate search

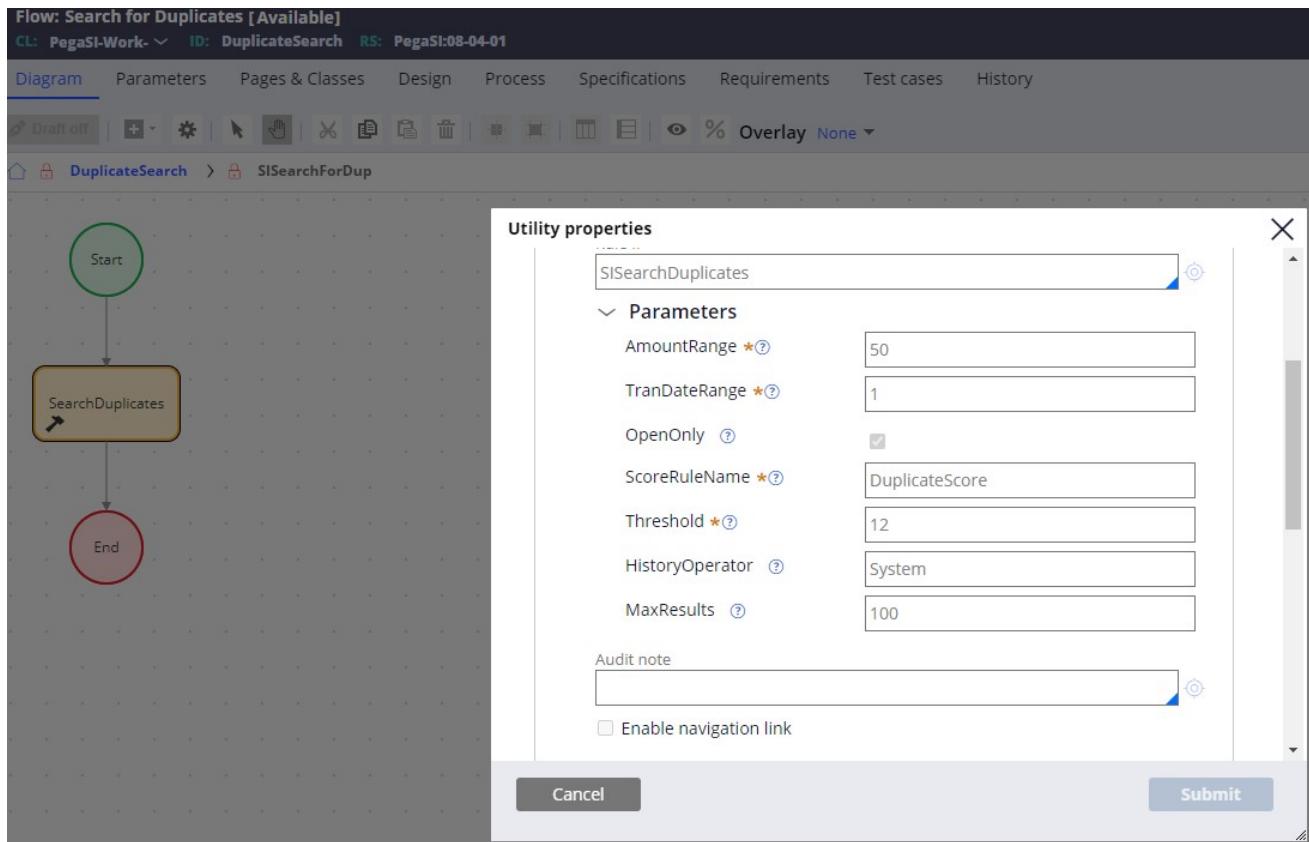
The following example includes 18 conditions for exact matches on case data, including transaction reference, branch, base inquiry amount, and so on. A weight is assigned for each condition.

This scoring definition rule is called from utility *SISearchDuplicates*, which includes Threshold as an input parameter. Cases with a cumulative weight score above the defined threshold are considered potential duplicates.

| Scoring Definition: DuplicateScore [Available] | | | | | |
|--|-----------------------|-------------|-------------|-------------|--------|
| Conditions | | History | | | |
| Label | Property | Operation | Lower Bound | Upper Bound | Weight |
| 1 | .Branch | Exact Match | | | 3 |
| 2 | .InquiryAmountBaseDup | Exact Match | | | 4 |
| 3 | .TransactionDate | Exact Match | | | 2 |
| 4 | .InstructionDate | Exact Match | | | 2 |
| 5 | .DebitValueDate | Exact Match | | | 2 |
| 6 | .CreditValueDate | Exact Match | | | 2 |
| 7 | .PartyInquirerDupl | Exact Match | | | 3 |
| 8 | .TransactionReference | Exact Match | | | 7 |
| 9 | .OutgoingTRN 1 | Exact Match | | | 7 |
| 10 | .OutgoingTRN 2 | Exact Match | | | 7 |
| 11 | .IncomingTRN | Exact Match | | | 7 |
| 12 | .NostroID | Exact Match | | | 7 |

Configuring duplicate search for your implementation

Smart Investigate includes default settings for search parameters, which are used to identify cases as duplicates. Review the out-of-the box search parameters and update *FetchScoreDetails* as business needs require.



Retrieving cases to compare against scoring criteria

Retrieving and comparing cases impacts application performance; therefore, a report definition *FetchScoreDetails* identifies cases that match initial basic criteria. The filter used is similar to the following example, where amount and transaction dates are compared.

Edit filters

Filter conditions to apply:
F3 AND F4 AND F5 AND F2 AND F6 AND F1

| Condition | Caption | Column source | Relationship | Value |
|-----------|---------|--------------------|--------------|-----------------------------------|
| F3 | | JInquiryAmountBase | Less than or | Param.AmountHigh Select values |
| F2 | | JInquiryAmountBase | Greater than | Param.AmountLow Select values |
| F4 | | .TransactionDate | Greater than | Param.StartDate Select values |
| F5 | | .TransactionDate | Less than or | Param.EndDate Select values |
| F6 | | .pxObjClass | Starts with | Param.WorkPool Select values |
| F1 | | .pxID | Is not equal | Param.CaseID Select values |

[Add filter](#)

Processing search results

An application is configured to work in straight-through processing (STP) mode if a single match for the defined search criteria is found. If duplicate search results contain more than one case match, users are prompted to manually review the results and take one of the following actions.

- No Action – Allows you to manually override the system search criteria and treat the case as unique (i.e., not a duplicate).
- Not Related – Indicates the potential match is not a duplicate and not related to the case.
- Link – Adds a hyperlink in the related items section of both cases but does not flag the case as a duplicate.
- Duplicate – Flags the item as a duplicate and adds a hyperlink labelled duplicate in the related items section of both cases and resolves the case as a duplicate.

Process potential duplicates
DUE IN 3 HOURS FROM NOW

Process Potential Duplicates

Search results

Work ID:
PEG201204-000005

| Potential matches | Confidence threshold | Number of matches above confidence threshold |
|-------------------|----------------------|--|
| 5 | 0 | 0 |

| Action | ID | Total Score | Branch | Inquiry Amount Base | Transaction Date | Instruction Date | Inquiry Work Party | Transaction reference | Incoming TRN | UETR | Action Notes |
|----------------|------------------|-------------|--------|---------------------|------------------|------------------|--------------------|-----------------------|----------------|------------------------------------|--------------------------------------|
| No Action | PEG201204-000006 | 32 | NYC | 822.57 | 20190421 | 20190421 | | NYC05274AA-00005 | PEGA0509090001 | 0e49e11-2b6f-4c0b-bc5c-9ec1fe374b0 | 0e49e11-2b6f-4c0b-bc5c-9ec1fe374b0 |
| No Action | PEG201119-000004 | 18 | NYC | 822.57 | 20190421 | 20190421 | | NYC05274AA-00004 | PEGA0509090001 | 433a-b107-9e399a8752b1 | 285c4421-e7dc-433a-b107-9e399a8752b1 |
| Not Related | PEG201119-000005 | 18 | NYC | 822.57 | 20190421 | 20190421 | LON100101 | NYC05274AA-00004 | PEGA0509090001 | 433a-b107-9e399a8752b1 | 285c4421-e7dc-433a-b107-9e399a8752b1 |
| Link Duplicate | PEG201125-000002 | 18 | NYC | 822.57 | 20190421 | 20190421 | LON100101 | NYC05274AA-00004 | PEGA0509090001 | 433a-b107-9e399a8752b1 | 285c4421-e7dc-433a-b107-9e399a8752b1 |
| No Action | PEG201204-000003 | 18 | NYC | 822.57 | 20190421 | 20190421 | LON100101 | NYC05274AA-00004 | PEGA0509090001 | 433a-b107-9e399a8752b1 | 285c4421-e7dc-433a-b107-9e399a8752b1 |

[Cancel](#) [Save](#) [Submit](#)

Reports

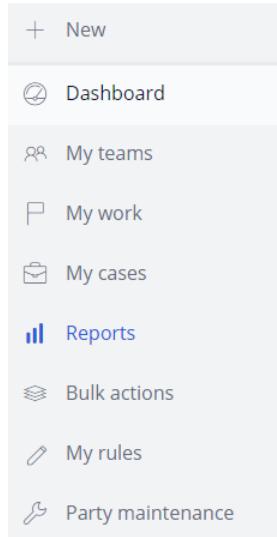
In addition to the standard Pega 8 reports, Smart Investigate for Payments captures information during the processing of messages and cases that has been translated into several types of reports to assist managers and administrators in the monitoring and management of financial transactions, operator productivity and message reconciliation.

These reports fall into the following categories:

- MIS Reports —Summary information related to inventory management, efficiency and productivity
- Financial Reports —Summary information related to accounting adjustments and the payment and receipt of compensation
- Message Reconciliation Reports —Lists of messages that have been sent and received for reconciliation purposes
- Compensation Reports—Lists of the compensation cases that are pending, resolved and open indemnities.

A Schedule Reports option is also available that enables a user to automatically generate and distribute Smart Investigate reports on a pre-defined schedule.

Smart Investigate reports are displayed in the Report Browser of the System Administrator portal and the Reports tab of the Manager's portal.



The list of reports belonging to each report category is displayed as below.

The Report Browser interface displays a list of reports under the heading "Showing all reports".

Recent reports: SISecurityCaseFindTEMP, SIPARTYLIST, SIEMBEDMESSAGECASEFIND

Search reports: Search input field with placeholder "Search reports".

Report Categories:

- Private categories**: No items listed.
- Public categories**:
 - Analyze Performance (0)
 - Analyze Performance (7)
 - Analyze Quality (10)
 - Analyze Quality (0)
 - Case Metrics (2)
 - Compensation Reports (3)
 - Financial Reports (5)
 - Message Reconciliation Reports (1)
 - MIS Reports (4)
 - Monitor Assignments (1)
 - Monitor Assignments (6)
 - Monitor Processes (11)
 - Monitor Processes (3)
 - Open Cases (1)
 - Predictive Model Monitoring (4)
 - Service Level Performance (2)
 - Simulations (9)
 - Step Performance (3)

| Category | Count |
|--------------------------------|-------|
| Analyze Performance | 0 |
| Analyze Performance | 7 |
| Analyze Quality | 10 |
| Analyze Quality | 0 |
| Case Metrics | 2 |
| Compensation Reports | 3 |
| Financial Reports | 5 |
| Message Reconciliation Reports | 1 |
| MIS Reports | 4 |
| Monitor Assignments | 1 |
| Monitor Assignments | 6 |
| Monitor Processes | 11 |
| Monitor Processes | 3 |
| Open Cases | 1 |
| Predictive Model Monitoring | 4 |
| Service Level Performance | 2 |
| Simulations | 9 |
| Step Performance | 3 |

The data in these reports can be exported to Microsoft Excel. Reports created as a Summary View or List View can be customized by using the Report wizard to modify selected report elements. These reports also provide examples you can copy to create new reports that meet your organization's needs.

- **MIS Reports**
- **Using the schedule report function**

MIS Reports

The following is a list and description of the MIS reports located under the MIS Reports tab in the Reports workspace.

ReportName: Reopened Case ReportBy Operator

Class and Rule Name: PegaSI-Data-WorkAction.SIReopenedSummary

Description: Report summary of the number of cases reopened by operator with graphic display and drill down capability by operator to review and display individual reopened cases.

ReportName: Repaired Case Report by Operator QR

Class and Rule Name: PegaSI-Data-WorkAction.SIRepairedSummary

Description: Report Summary of the number of cases repaired by operator with graphic display and drill down capability by operator to review and display individual repaired cases.

ReportName: Cancelled Case Report by Operator

Class and Rule Name: PegaSI-Data-WorkAction.SICancelledSummary

Description: Report summary of the number of cases cancelled by operator with graphic display and drill down capability by operator to review and display individual cancelled cases.

ReportName: Quality Review Report by Operator QR

Class and Rule Name: PegaSI-Data-WorkAction.SIQRSummary

Description: Report Summary of the number cases reviewed for quality by operator with graphic display and drill down capability by operator to review and display individual reopened cases.

- **Financial reports**
- **Message reconciliation reports**
- **Compensation reports**

Financial reports

The following is a list and description of the Financial reports located under the Financial Reports tab of the Reports workspace.

ReportName: Accounting AdjustmentsTotals by Date and Currency

Class and Rule Name: PegaSI-Data-
AdjustmentDetails.AdjustmentsDetailByDateByCurrency

Description: Report summary of the total amount of adjustments grouped by adjustment date and currency within each date; drill down capability to review and display individual cases and accounting activity; user prompted for entry of adjustment date range.

ReportName: Compensation Paid byDate and Currency

Class and Rule Name: PegaSI-Data-
AdjustmentDetails.CompensationPaidByDateByCurrency

Description: Report summary of total amount of compensation paid grouped by adjustment date and currency with each date; drill down capability to review and display individual cases and accounting activity; user prompted for entry of adjustment date range.

ReportName: Compensation Received by Date and Currency

Class and Rule Name: PegaSI-Data-
AdjustmentDetails.CompensationReceivedByDateByCurrency

Description: Report summary of total amount of compensation received grouped by adjustment date and currency within each date; drill down capability to review and display individual cases and accounting activity; user prompted for entry of adjustment date range.

ReportName: PendingCompensation Payments by Currency

Class and Rule Name: PegaSI-Data-
AdjustmentDetails.PendingCompensationClaimsByDateByCurrency

Description: Report summary of total amount of compensation claims pending outgoing payment grouped by adjustment date and currency within each date; graphic display and drill down capability to review and display individual cases and accounting activity.

ReportName: Pending Compensation Receipts by Currency

Class and Rule Name: PegaSI-Data-
AdjustmentDetails.PendingCompensationReceiptByDateByCurrency

Description: Report summary of total amount of compensation claims pending receipt of payment grouped by adjustment date and currency within each date; drill down capability to review and display individual cases and accounting activity.

Message reconciliation reports

The following is a list and description of the reports listed under the Message Reconciliation tab of the Reports workspace.

ReportName: Incoming Message Reconciliation

Class and Rule Name: SIPromptMessageReconIncoming

Description: Incoming messages report by message date that displays the case ID, message date and type, and the receiver's address; drill down capability to review and display individual cases; user prompted for entry of message date range.

Compensation reports

The following is a list and description of the reports listed under the compensation reports.

ReportName: Open Indemnities

Class and Rule Name: OpenIndemnityCases

Description: Report of the open indemnity cases by case ID, TransactionDate, Indemnity. Direction drill down capability to review and display individual cases; user prompted for entry of Transaction Date.

ReportName: Pending Compensation Cases

Class and Rule Name: PendingCompensationCases

Description: Report of the pending compensation cases by Case ID, Status, Total Compensation Amount, Transaction Date; drill down capability to review and display individual cases; user prompted for entry of transaction date range.

ReportName: Resolved Compensation Cases

Class and Rule Name: ResolvedCompensationCasess

Description: Report of the pending compensation cases by Case ID, Status, Total Compensation Amount, Transaction Date; drill down capability to review and display individual cases; user prompted for entry of transaction date range.

Using the schedule report function

Smart Investigate includes a Data-Gadget that you can place on a user portal that allows that user to schedule and distribute reports at defined intervals. This feature of scheduling reports can be done from the Manager's portal.

To schedule a report:

1. Select Reports from left navigation pane.
2. Login to system using SIManager@pega.com & the updated password.

| Category | Report Type | Count |
|--------------------|--------------------------------|-------|
| Public categories | Analyze Performance | 0 |
| | Analyze Performance | 7 |
| | Analyze Quality | 10 |
| | Analyze Quality | 0 |
| | Case Metrics | 2 |
| | Compensation Reports | 3 |
| | Financial Reports | 5 |
| | Message Reconciliation Reports | 1 |
| | MIS Reports | 4 |
| | Monitor Assignments | 1 |
| Private categories | Monitor Assignments | 6 |
| | Monitor Processes | 11 |
| | Monitor Processes | 3 |
| | Open Cases | 1 |
| | Predictive Model Monitoring | 4 |
| | Service Level Performance | 2 |
| | Simulations | 9 |
| | Step Performance | 3 |
| | No items | |

3. Select the report from the report categories which need to be scheduled and click the gear button next to it. Click **Schedule**.

The screenshot shows the 'Showing reports in category: PerformanceAnalysis' screen. On the left, there's a sidebar with various navigation items. The main area displays a list of reports under the 'PerformanceAnalysis' category. A context menu is open over one of the reports, with the 'Schedule' option highlighted. To the right, there are sections for 'Private categories' and 'Public categories', each listing several items with their counts.

| Category | Item | Count |
|--------------------|--------------------------------|-------|
| Private categories | Analyze Performance | 0 |
| | Analyze Performance | 7 |
| | Analyze Quality | 10 |
| | Analyze Quality | 0 |
| | No items | |
| Public categories | Case Metrics | 2 |
| | Compensation Reports | 3 |
| | Financial Reports | 5 |
| | Message Reconciliation Reports | 1 |
| | MIS Reports | 4 |
| | Monitor Assignments | 1 |
| | Monitor Assignments | 6 |
| | Monitor Processes | 11 |
| | Monitor Processes | 3 |
| | Open Cases | 1 |
| | Predictive Model Monitoring | 4 |
| | Service Level Performance | 2 |
| | Simulations | 9 |
| | Step Performance | 3 |

The New Schedule Report form appears in your workspace.

The screenshot shows two stacked configuration panels. The top panel is titled "Task Scheduling" and includes fields for "Time of Day" (set to 03 PM), "One-Time only" (selected), "Recurring task" (unchecked), "On" (set to 11/12/2018), and "On error, retry" (unchecked). The bottom panel is titled "Task Output Processing" and includes fields for "Output File Format" (set to PDF), "Enable authorized users to subscribe to task notifications" (unchecked), "Send Notifications to the following users" (checked, with an input field containing "simanager@pega.com"), and options for "Attach output to notification" and "Embed link to output in notification". A "Configure Notification Message" button is also present.

4. Enter the following information.
 - a. Enter the task schedule details.
 - b. Enter the task Output Processing details
 - c. Configure the Notification Message details
5. Click **Submit**.
6. For the scheduled report, the Email notification status would be updated to **Scheduled and Subscribed**.

The screenshot shows a table titled "Showing reports in category: PerformanceAnalysis". The columns are "Title" and "Email notification". The rows list various reports with their corresponding email notification status. One row, "Average Duration and Timelines by Assignment Type and Action", has the status "Scheduled and subscribed".

| Title | Email notification |
|--|--------------------------|
| Performance step detail in average hours | |
| Average Performance Time By Task | |
| Average duration per flow task | |
| Performance Detail in average hours | |
| Average Duration and Timelines by Assignment Type and Action | Scheduled and subscribed |
| Timeliness by Flow and Task | |
| Average Processing Time in Hours By Task and Flow Action | |

To cancel a scheduled report:

1. Click on the gear icon and select the unsubscribe option.

| Title | | Email notification | Scheduled and subscribed |
|--|-------------------------------------|--------------------------|--------------------------|
| Performance step detail in average hours | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Average Performance Time By Task | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Average duration per flow task | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Performance Detail in average hours | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Average Duration and Timelines by Assignment Type and Action | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Timeliness by Flow and Task | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Average Processing Time in Hours By Task and Flow Action | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Private categories
No items

Public categories

| Category | Count |
|--------------------------------|-------|
| Analyze Performance | 0 |
| Analyze Performance | 7 |
| Analyze Quality | 10 |
| Analyze Quality | 0 |
| Analyze Metrics | 2 |
| Compensation Reports | 3 |
| Financial Reports | 5 |
| Message Reconciliation Reports | 1 |
| Reports | 4 |
| Monitor Assignments | 1 |
| Monitor Assignments | 6 |
| Monitor Processes | 11 |
| Monitor Processes | 3 |
| Open Cases | 1 |

2. The Unsubscribe Report form appears in your workspace.

Task Scheduling

Time of Day * 03 PM

One-Time only Recurring task

On: * 11/12/18

False **On error, retry**

Task Output Processing

Output File Format PDF

Enable authorized users to subscribe to task notifications

Send Notifications to the following users

simanager@pega.com

Attach output to notification Embed link to output in notification

3. Click **Unsubscribe**.

- [Adding reports to the scheduler](#)

Adding reports to the scheduler

You can easily add reports to the selection list of the schedule form by creating a report.

The Report Scheduler is constructed to automatically retrieve reports from the database and display them in the selection list reports that meet the following naming criteria.

- List View reports created in a class with MyCoSI included in the class name and do not have CaseFind in its pyStreamName.
- Summary View reports created in a class with MyCoSI, Assign, or PegaSI-Worklist in the class name and do not have CaseFind in its pyStreamName.

Data page conversion configuration

This article describes the procedure to implement a data page conversion.

Retrieve data from Database

1. Create report definitions on the integration class in the *PegaSI/INT* ruleset.
2. Create data in a Data Class in the FW ruleset.
3. Configure a report definition as the data source in a Data Page
4. Use a data transform to map the Integration Layer properties to Data Layer properties.
 - a. Data transform rule, OpenMap, is the FW OOTB Naming convention to map integration layer properties to data layer properties. This is invoked based on the class name.
 - b. Create the data transform in the data class in FW rule set.

5. Update the SQL/RDB referenced activities with data transforms to invoke the Data Pages

Write data to Database

1. To write back data to database, Obj methods through activity rules are required, as there are no equivalent methods for Save and Delete from Data Pages.
2. Create a temporary page of respective integration class type.
3. Hold/Set the properties and the corresponding values on the temporary page
 - a. Data transform rule, SaveMap, is the the out of the box naming convention to map Data layer properties to Integration layer properties. This is invoked based on the data layer class name.
 - b. Create the data transform rule in Data class in FW rule set
4. Call the wizard generated activity rule, SaveXXXXXXX (eg: SaveINTERESTRATES), to save the data back to database which uses Obj methods instead of RDB methods.

Data Page Reference Implementation for retrieving the data

The following is the reference implementation of the Data Page for the INTERESTRATES table with the old approach to retrieve data from DB to work layer, database specific Connect-SQL rule is required. See the image below:

The screenshot shows the 'Steps' tab of the 'InterestRateMaintenanceSearch' activity. The steps are as follows:

- 1. Loop When > Page-New > Step-page: tempPageList. Description: Create a new Page. This page will hold all the interest rates available in Database table 'INTERESTRATES'. Jump to step 2.
- 2. Loop When > Page-New > Step-page: tempWorkPageElement. Description: Create a new page. The page is used to get the context to execute the Data Transform to invoke Data Page. Jump to step 3.
- 3. Loop When > Property-Set > Step-page: tempWorkPageReference. Description: Set the properties from the selections made from UI to parameters to pass to the Data Page. Required site. Jump to step 4.
- 4. Loop When > Apply-DataTransform > Step-page: tempWorkPageReference. Description: Execute Data Transform rule to invoke Data Page to fetch interest rates from Database. Jump to step 5.
- 5. Loop When > Property-Get > Step-page: tempWorkPageReference. Description: Instantiate Parameter 'SumInterestRate' to 0. The step is needed to calculate the average of available interest rates. Jump to step 6.
- 6. Loop When > Property-Set > Step-page: tempPlusParamResults. Description: Sum the Interest Rates into a Parameter. Jump to step 7.
- 7. Loop When > Property-Set > Step-page: tempAvgListByResults(). Description: Get the Average of the Interest Rates. Jump to step 8.
- 8. Loop When > Property-Set > Step-page: tempAvgListByResults(). Description: Set the Average Interest Rate on the UI property. Jump to step 9.
- 9. Loop When > Obj-Sort > Step-page: tempList. Description: Sort the result set in descending order based on ID property. Jump to step 10.
- 10. Loop When > Page-Remove > Step-page: tempList. Description: Remove unwanted clipboard user pages. Jump to step 11.
- 11. Loop When > Page-Remove > Step-page: tempPageList. Description: Remove the temporary page. Jump to step 1.

With the new approach, a Data Page is invoked through the data transform rule to retrieve data. The Data Page fetches the data from database through report definition.

The report definition would automatically build the select statement and where clauses regardless of database configured. See the example below:

Activity: InterestRateMaintenanceSearch [Available] Save as Actions Private edit

Steps Parameters Pages & Classes Security Test cases Specifications History

| Label | Method | Step page | Description |
|-------|---------------------------------|--------------------------|--|
| 1. | Loop When > Page-New | tempList | Create a New Page. This page will hold all the Interest Rates available in Database table 'INTERESTRATES' |
| 2. | Loop When > Page-New | tempAvgList | Create a new page. The page is a temp page used to get the average of the interest rates |
| 3. | Loop When > Page-New | tempWorkPageReference | Create a new page. The page is used to get the context to execute the Data Transform to invoke Data Page |
| 4. | Loop When > Property-Set | | Set the properties from the selections made from UI to parameters to pass to the Data Page. [Required step] |
| 5. | Loop When > Apply-DataTransform | tempWorkPageReference | Execute Data Transform rule to invoke Data Page to fetch interest rates from Data base |
| 6. | Loop When > Property-Set | | Initiate Parameter 'SumInterestRates' to 0. This step is needed to calculate the average of available interest |
| 7. | Loop When > Property-Set | tempList.getResults | Sum the Interest Rates into a Parameter |
| 8. | Loop When > Property-Set | tempAvgList.getResults() | Get the Average of the Interest Rates |
| 9. | Loop When > Property-Set | | Set the Average Interest Rate on the UI property |
| 10. | Loop When > Obj-Sort | tempList | Sort the result set in descending order based on ID property |
| 11. | Loop When > Page-Remove | | Remove unwanted clipboard user pages |

[Add a step](#) [Collapse all steps](#)

Data Transform: Get Interest Rates [Available] Save as Actions Private edit

Definition Parameters Pages & Classes Test cases Specifications History

| Action | Target | Relation | Source |
|--------|--------|----------|---|
| + 1 | Set | equal to | D_GetInterestRates!CurrencyParam.Currency Select values + |

[Collapse All](#) [Expand All](#)

Cell: superclass data transform

Report Definition: Get Interest Rates [Available] Save as Actions Private edit

Paged Workflows: GetInterestRate PagedWork:08-01-01

Query Chart Report Viewer Data Access Parameters Pages & Classes Specifications History

[Edit columns](#)

| Column source | Column name | Summarize | Sort type | Sort order |
|---------------|--------------|-----------|-----------|------------|
| ID | ID | <blank> | <blank> | <blank> |
| CURRENCY | CURRENCY | <blank> | <blank> | <blank> |
| FEEDDATE | FEEDDATE | <blank> | <blank> | <blank> |
| INTERESTRATE | INTERESTRATE | <blank> | <blank> | <blank> |
| TYPE | TYPE | <blank> | <blank> | <blank> |

[Add column](#)

[Edit filters](#)

Filter conditions to apply:
A AND B AND C AND D

| Condition | Caption | Column source | Relationship | Value |
|-----------|---------|---------------|-----------------|----------------|
| A | | CURRENCY | Is equal | Param.Currency |
| B | | FEEDDATE | Greater than or | Param.FromDate |
| C | | FEEDDATE | Less than or eq | Param.ToDate |
| D | | TYPE | Is equal | Param.Type |

[Add filter](#)

Referencing the implementation to write data

With the old approach, a Connect-SQL rule is required. The rule references an RDB-Save method to write the data from/ to the DB layer.

The following images are an example of the SQL rule:

With the new approach, a data transform is created to map the Data class properties to the NT layer properties.

The following images indicate the new data transform approach:

This screenshot shows the configuration of an activity named 'Update interest rate for a given currency, type and date'. The activity consists of several steps:

- Step 1: Loop (When: Page-New) - Method: Property-Set - Step page: SavInterestRatePage - Description: If the primary page has errors, exit the activity. The primary page will be the pagemain page selected from re.
- Step 2: Loop (When: Page-New) - Method: Page-New - Step page: SavInterestRatePage - Description: Set Interest Rate value to ZERO if Blank.
- Step 3: Loop (When: Page-New) - Method: Page-New - Step page: SavInterestRatePage - Description: Creating a new data layer page.
- Step 4: Loop (When: Page-New) - Method: Page-New - Step page: tempNFCClassContext - Description: Create a new page to get integration layer context so as to execute 'SaveINTERESTATES'.
- Step 5: Loop (When: Page-New) - Method: Page-Copy - Step page: tempNFCClassContext - Description: Copy the current context from 'tempList.pagemain' which will be PRIMARY to the new data layer page created.
- Step 6: Loop (When: Apply-DataTransform) - Method: DataTransform - Value: SaveMap - Step page: - Description: Map the properties from Data Layer to Integration layer through SaveMAP data transform rule.

The 'Method Parameters' section is highlighted with a red box. It contains a single entry: Name = DataTransform, Value = SaveMap.

This screenshot shows the configuration of a 'Save Map' data transform. It maps fields from the source 'SavInterestRatePage' to the target 'SavInterestRatePage'.

| Action | Target | Relation | Source |
|----------------|---------------------|------------------|---------------------|
| 1. Update Page | SavInterestRatePage | with values from | SavInterestRatePage |
| 1.1. Set | CURRENCY | equal to | Currency |
| 1.2. Set | FEEDDATE | equal to | FeedDate |
| 1.3. Set | INTERESTRATE | equal to | InterestRate |
| 1.4. Set | TYPE | equal to | Type |
| 1.5. Set | ID | equal to | ID |

This screenshot shows the configuration of an activity named 'SaveINTERESTATES'. The activity consists of several steps:

- Step 1: Loop (When: Page-New) - Method: Page-New - Step page: tempNFCClassContext - Description: Create a new page to get Work class context to execute 'CommitDBInHandling'.
- Step 2: Loop (When: Obj-Save) - Method: MagicFromPage - Step page: - Description: Save the specified record.
- Step 3: Loop (When: Obj-Save) - Method: CommitDBInHandling - Step page: tempNFCClassContext - Description: Commit the changes to DB to the specified record.
- Step 4: Loop (When: Page-Remove) - Method: Page-Remove - Step page: - Description: Remove unwanted pages on clipboard.

Pega Smart Investigate for Payments Sanctions RFI Tech note

Common Payment Investigations, a norm in the SWIFT cross-border exception/investigation landscape, have long been oriented around amendments, cancellations and unable to apply. Little has been changed in the core expected exception scenarios. Over the many years cross-border payments have been in operation via SWIFT.

However recently a large spike in the volume of sanctions gained attention in this domain and attracted the SWIFT working group to consider a more structured and common process that could be adopted by the industry to drive transparency and consistency.

- **Sanctions Request for Information**
- **Sanctions RFI in payments exception landscape**
- **RFI Types**
- **New case type in Pega SIP**
- **Class structure**
- **Message Templates**
- **Data initialization**
- **Validations**
- **Parsing of inbound Sanctions specific messages**
- **Additional Configurations**
- **Use Cases**

Sanctions Request for Information

There has been a lot of progress in screening of payment to suppress the electronic movement of money by those who should not be permitted access to our global financial systems, either through anti-money laundering schemes or in relation to pure sanctions screening blocks (compliance sanctions).

Typically the sanctions and screening areas of a financial institution and their payment (and investigation) operations have been handled in very different areas. The

consideration of a Sanctions Request for Information case type in the traditional SWIFT exceptions and investigations space had not been recognized until recently.

As volumes of screening hits (positive and false positives) have increased in recent years due to the geopolitical environment, the increased sophistication and scope of screening techniques and solutions, and a financial institutions' desire to streamline operations and improve customer outcomes, SWIFT and the global financial community have agreed that Sanctions Request for Information will ultimately become a common place exception type within the exceptions and investigations space.

Sanctions RFI in payments exception landscape

Though it is very early adopt this investigation case type within the recognized scope of common exceptions and investigations, Pega is pleased to offer a new case type for Sanctions Request for Information (RFI), out-of-the-box in version 8.8, that is entirely in-step with the SWIFT guidelines.

Pega remains committed to support SWIFT in driving ubiquity of standards in this space, since it is our firm belief that transparency, structure and standardization offer our common financial institution clients and their customers the most frictionless experience in achieving resolution of payment problems in the moments that matter, and are the key ingredients necessary to achieve high levels of automation.

RFI Types

Sanctions are preventive measures that allow the financial institutions to respond swiftly to political challenges and developments that go against its objectives and values. The screening systems may report an involved party or some transactional information as sanctioned, or suspected to be sanctioned.

In such cases, financial service providers need to request information from agents in the transaction chain to make a decision. The set of information varies based on the nature and purpose of transaction and the sanction suspected data. These categories are called RFI Types. There are six RFI types defined by SWIFT currently:

- Individual
- Entity
- Specific Sanctioned Countries
- Vessel/Plane Sectoral
- Sanctions Identifications
- Other

New case type in Pega SIP

Sanctions Request for Information is the first Pega Infinity stage-based case type introduced in Smart Investigate for Payments.

Unlike the current work types in the solution, which are flow-based, Sanctions Request for Information leverages a Pega Infinity out-of-the-box case type for better functioning and visual representation of the process, as well as permitting access to low-code development of steps via the App Studio. The new case type helps business users easily understand the ultimate goal of the process, the path that the case must follow to a resolution, the personas who are involved in processing the case, and the data that the case requires.

The stages in a case type indicate transition of work from one milestone to another. The sanctions request for information case type stages have been designed to be in-line with existing case types.

Stages and steps

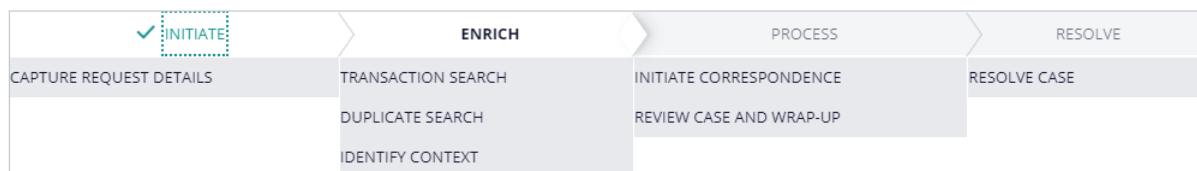
There are four primary stages:

1. **Initiate:** This stage acts as the primary point at which we capture transaction and sanction alert details along with party information.
2. **Enrich:** This stage updates the case with transaction information using research based on the information provided in Initiate stage. There are three steps in this stage:
 - Transaction Search

- Duplicate Search
- Identify context

All of these steps are anticipated to run as a straight-through-process, unless the provided information fails to result in conclusive research and needs manual intervention. The 'identify context' step is a placeholder step for future growth, where we expect to offer intelligence within the case process to help identify what 'kind' of request has been received, and whether we have to request or respond to an RFI, and from whom details are required.

3. Process: This stage includes Initiate Correspondence and Review Case and Wrap-up steps. They are used to create correspondences and their review before resolution. The steps also have other actions like Create Adjustment, Update status, and Perform Research as local actions.
4. Resolve: As the name suggests, this stage takes resolution sentiments as input before resolving the case. Once a case is resolved, all the open assignments, if any, shall also be closed automatically.



- **Case Statuses**
- **Service Level Agreements**
- **Supported message formats**
- **Local Actions**

Case Statuses

Following are the various case statuses a Sanctions Request for Information case will have throughout its life cycle:

1. When the case is at Capture Request details step, case status is set to New.
2. When the case is performing Transaction Search, the case status is set as Pending-Research.
3. When the case is performing is Duplicate Search, case status is set as Pending-Research.
4. When the case is on Initiate Correspondence step, case status is set as Open.
5. The status of Verification' assignment is set as Pending-Verification.
6. When user is on Review case and wrap up step and waiting for a response, case status is set as Pending-External.
7. When user is on Review case and wrap up after sending a response, case status is set as Pending-Resolution.
8. Case status on Resolve stage is set as Pending-Resolution.

Service Level Agreements

Following service level agreements (SLA) are present in case type to ensure early resolution. These can be updated by customers as per their business rules:

1. Upon case creation, the overall case SLA (Service Level Agreement) is set to match the date/time of the Due date of reply field entered on manual case creation or set via inbound service request.
2. For cases created on inbound message receipt, the parsing of Due date of reply value is used to define the case SLA.
3. If the due date of reply value is not available, the case SLA is set to 3 business days from case creation. This is configurable via settings mentioned later in document.
4. Upon expiry of the case SLA, urgency is increased to 100
5. SLA rule `ReplyDueAction` is created as extension. Customers can update this SLA to take the necessary action approved by their business on breach of SLA.

Supported message formats

SWIFT and the working group have only suggested MT199 content to support the RFI process.

For our out-of-the-box solution, we have delivered a template in line with these guidelines, but also included an MT299 version (in case of the unlikely scenario where a 2-series payment item might be the source of an investigation). We have also included email templates that can be used to correspond internally with account relationship teams.

As this case type evolves with SWIFT and the working group, we expect to add support for ISO format messages as these are specified in future, and we also expect that SWIFT will ultimately add support for Sanctions RFI in to the SWIFT Case Resolution and gpi services.

When these advances are realized, we will add support for these additional structures, templates, formats and services into the out-of-the-box solution as well.

- SWIFT MT 199
- SWIFT MT 299
- Struct-Email

Local Actions

The following local actions are present in the Process stage steps to permit parallel actions.

1. Create Adjustment
2. Update Service Information
3. Search Portal
4. Transfer Assignment
5. Search for Message Case
6. Search for Work Case

7. Copy Exception Case
8. Related Cases
9. Update Status
 - a. Change case type option is not available for Sanctions RFI.
 - b. Reopen option is available post case resolution.
 - c. Create correspondence is limited only to Sanctions RFI templates in this release.

Class structure

The class structure for the new case type is in-line with the existing work flows in Smart Investigate for payments.

In addition to this, to accommodate new case types for sanctions in future, other than Request for Information, a second level has been created in pattern class structure. All reusable sanctions specific rules are present in the `Sanctions` class, whereas the case type flow and some other rules specific to Request for Information is created in `Sanctions-RFI` classes.

- **New classes**
- **Inheritance structure**

New classes

Following are the new classes created:

1. PegaSI-Work-Sanctions
2. PegaSIPymt-Work-Sanctions
3. PegaSIPymt-Work-Sanctions-RFI
4. PegaSI-Work-Sanctions-RFI
5. Sample Layer Class: MyCoSI-Work-Pymt-Sanctions-RFI

Inheritance structure

The inheritance structure for Sanctions RFI can be seen in image below:

| Name | Label | Inheritance type |
|----------------------------------|--|------------------|
| 1 MyCoSI-Work-Pymt-Sanctions-RFI | Payments - Sanctions request for information Pattern | |
| 2 MyCoSI-Work-Pymt-Sanctions | Payments - Sanctions request for information Pattern | |
| 3 MyCoSI-Work-Pymt- | MyCoSI-Work-Pymt- | Pattern |
| 4 MyCoSI-Work | Smart Investigate | Pattern |
| 5 MyCoSI- | MyCoSI- | Directed |
| 6 PegaSIPymt-Work-Sanctions-RFI | Sanctions RFI | Pattern |
| 7 PegaSIPymt-Work-Sanctions | Sanctions request for information | Pattern |
| 8 PegaSIPymt-Work- | PegaSIPymt-Work- | Pattern |
| 9 PegaSIPymt- | PegaSIPymt- | Directed |
| 10 PegaSI-Work-Sanctions-RFI | Sanctions RFI | Both |
| 11 PegaSI-Work-Sanctions | Sanctions request for information | Pattern |
| 12 PegaSI-Work- | PegaSI-Work- | Pattern |
| 13 PegaSI- | PegaSI- | Directed |
| 14 PegaSI-Work-Cover- | PegaSI-Work-Cover- | Pattern |
| 15 PegaCommBank-Work-Cover- | PegaCommBank-Work-Cover- | Pattern |
| 16 PegaCommBank-Work- | PegaCommBank-Work- | Pattern |
| 17 PegaCommBank- | PegaCommBank- Commercial Banking | Directed |
| 18 PegaApp-Work-Cover- | PegaApp-Work-Cover- | Pattern |
| 19 PegaApp-Work- | PegaApp-Work- | Pattern |
| 20 PegaApp- | PegaApp baseclass | Directed |
| 21 Work-Cover- | Cover classes | Both |
| 22 Work- | Case | Directed |
| 23 @baseclass | @baseclass | NA |

Message Templates

The correspondence generation process for Sanctions RFI uses the SWIFT and Struct-Email message templates for context and UI generation. These custom rule types have been an integral part of Smart Investigate for Payments.

However, unlike older MT messages, Sanctions RFI templates do not use HTML rules and segments to render the UI for user input. The wrapper HTML rule referred in template ultimately calls template based sections. Below are the new template rules created:

| Sl. No. | Applies to class | Corr Name | Corr Type | Label | Rul e s t | Rule set versi on |
|------------|---------------------|--------------------------|-----------------|---|--------------------|----------------------------|
| 1 | PegaSI-Work- | SanctionsRFI | Swift_M T199 | Request for Information- Sanctions | Peg aSI | 08-0 8-01 |
| 2 | PegaSI-Work- | SanctionsRFIResp onse | Swift_M T199 | Response to incoming RFI- Sanctions | Peg aSI | 08-0 8-01 |
| 3 | PegaSI-Work- | SanctionsRFI | Swift_M T299 | Request for Information- Sanctions | Peg aSI | 08-0 8-01 |
| 4 | PegaSI-Work- | SanctionsRFIResp onse | Swift_M T299 | Response to incoming RFI- Sanctions | Peg aSI | 08-0 8-01 |

| S I .n o | Applies to class | Corr Name | Corr Type | Label | Rul e s t | Rule set versi on |
|-------------------|---------------------|--------------|------------------|--|--------------------|----------------------------|
| 1 | PegaSI-Work- | SanctionsRFI | Struct- Email | Request for Information- Sanctions | Peg a SI | 08-0 8-01 |

| S | Applies to | Corr Name | Corr | Label | Rul | Rule |
|---|--------------|-----------------------|--------------|---------------------------|---------|----------|
| I | class | | Type | | ese | set |
| . | | | | | t | vers |
| n | | | | | | ion |
| o | | | | | | |
| 2 | PegaSI-Work- | SanctionsRFI_Response | Struct-Email | Response to RFI-Sanctions | Pega SI | 08-08-01 |

Data initialization

The message creation screen for Sanctions RFI is pre-populated with a set of data which helps users to complete the assignment quicker.

These data are initialized in the Model rule, i.e., Data Transform specified in correspondence templates. By default, all Sanctions RFI data transform rules are named as DefaultRFI.

Data Transform: Default RFI values [Available]

CL PegaCommBank-Struct-Email ✓ ID: DefaultRFI RS: PegaCommBank:08-08-01

Definition Parameters Pages & Classes Test cases Specifications History Save as Actions Private edit

| Action | Target | Relation | Source |
|-----------------|---|----------|--|
| • 1 Set | :Mail | equal to | OperatorID.pyAddresses(Email).pyEmailAddress |
| • 2 Set | :SanctionField | equal to | pyWorkPage.AlertDetails.SanctionField |
| • 3 Set | :DateOfAlert | equal to | pyWorkPage.AlertDetails.DateOfAlert |
| • 4 Comment | ## Set Reply due in step 5 and 6 | | |
| • 5 Set | :Param.Adddays | equal to | @getDataSystemSetting("PegaSI", "RFIResponseDays") |
| • 6 Set | :ReplyDue | equal to | @(Pega-RULES:BusinessCalendar).addDays(@CurrentDateTime(),Param) |
| • 7 Set | :RFIType | equal to | "" |
| ▼ • 8 When | pyWorkPage.AlertDetails.RepeatRFI=="true" | | |
| • 8.1 Set | :RepeatRFI | equal to | "Repeat" |
| ▼ • 9 Otherwise | | | |
| • 9.1 Set | :RepeatRFI | equal to | "New" |
| • 10 Set | :SanctionString | equal to | pyWorkPage.AlertDetails.SanctionString |
| • 11 Set | :SelectTransactionReference | equal to | pyWorkPage.AlertDetails.SelectTransactionReference |
| • 12 Set | :PaymentReference | equal to | pyWorkPage.AlertDetails.PaymentReference |
| • 13 Set | :UETR | equal to | pyWorkPage.AlertDetails.UETR |
| • 14 Set | :SanctionParty | equal to | pyWorkPage.AlertDetails.SanctionParty |
| • 15 Set | :ValueDate | equal to | pyWorkPage.ValueDate |
| • 16 Set | :FullName | equal to | "" |

Validations

Similar to the existing messages in Smart Investigate for Payments, the user entered details are validated once submitted or previewed in rules called from activity

`PostCreateSwiftMessage` and `PostCreateStructMessage` for SWIFT templates and Structured Emails respectively.

Validate rules are as follows:

- `ValidateMessageForSanctions` : Validates an outbound request for information.
- `ValidateMessageForSanctionsResponse` : Validates an outbound response to RFI

Validate: Validate message for sanctions response [Available]
CL: PegaCommBank-Struct- **ID:** ValidateMessageForSanctionsResponse **RS:** PegaCommBank:08-08-01

Validate Input Pages & Classes Specifications History

Expand all Collapse all Default Validation

| PROPERTY | *Req Conditions | Edit |
|-------------------------|--|------|
| .VesselName | IF Rule ISRFITypeVesselPlane evaluates to true AND .VesselName EQUALS "" OR .Identification EQUALS "Vessel name" THEN display message: ThisFieldMayNotBeBlank | Edit |
| .Identification | IF Rule ISRFITypeVesselPlane evaluates to true AND .Identification EQUALS "" THEN display message: ThisFieldMayNotBeBlank | Edit |
| .IMONumber | IF Rule ISRFITypeVesselPlane evaluates to true AND .Identification EQUALS "IMO number" AND .IMONumber EQUALS "" THEN display message: ThisFieldMayNotBeBlank | Edit |
| .TailNumber | IF Rule ISRFITypeVesselPlane evaluates to true AND .Identification EQUALS "Tail number" AND .TailNumber EQUALS "" THEN display message: ThisFieldMayNotBeBlank | Edit |
| .OriginCountry | IF .OriginCountry EQUALS "" AND Rule ISRFITypeVesselPlane evaluates to true THEN display message: ThisFieldMayNotBeBlank | Edit |
| .DestinationCountry | IF Rule ISRFITypeVesselPlane evaluates to true AND .DestinationCountry EQUALS "" THEN display message: ThisFieldMayNotBeBlank | Edit |
| .GoodsOrServicesPayment | IF Rule ISRFITypeVesselPlane evaluates to true AND .GoodsOrServicesPayment EQUALS "" THEN display message: ThisFieldMayNotBeBlank | Edit |

Parsing of inbound Sanctions specific messages

There are flow updates done with condition checks for Sanctions RFI parsing.

Activity ParseBlock4 is updated to call two new data transforms

`ParseSanctionRequestDetails` and `ParseSanctionResponseDetails` to parse RFI and Response to RFI respectively.

A new activity `ActionNewWorkCase` is created to initiate an exception case for the new case type from inbound message case.

Additional Configurations

Following Dynamic System Setting rules are created to control the SLA for RFI cases.

The rules are:

- `RFIResponseDays` - Number of days used to calculate the default goal for expecting response to a Sanctions RFI.
- `RFIresponseDeadLineDays` - Number of days used to calculate the default deadline for expecting response to a Sanctions RFI

Use Cases

Our out-of-the-box solution for Sanctions RFI has been developed to accommodate the core expected scenarios that a financial institution may expect to handle in relation to a Request for Information to facilitate the resolution of a sanctions alert/block.

Clients are expected to handle the request for information from a correspondent bank via MT message (or alert from a Sanctions screening technology), the response to a request for information from a correspondent bank via MT message, and also potentially correspondence between relationship management parties within the internal setting of the client.

The following use cases describe the steps that clients can take to address the various scenarios with the out-of-the-box solutions. These can be also customized to meet the needs of each individual implementation, such as introducing automation where permissible and applicable to your business rules.

- [**Send Sanctions RFI via MT 199**](#)
- [**Send Response to Sanctions RFI via MT 199**](#)
- [**Send Sanctions RFI via Email**](#)
- [**Send Response to Sanctions RFI via Email**](#)

Send Sanctions RFI via MT 199

Upon receipt of an alert or request for more information pertaining to a sanctions hold, a new case of type Sanctions request for information will be created.

Upon creation of the case, if the provided details are parsed and extracted from the inbound alert or request, the case will automatically:

- Capture the request
- Perform Transaction Search
- Search for duplicate cases
- Identify the request context (Identify context)

At this point, having completed the above automatically, the case will await user intervention to Create Correspondence

At this point, the user will need to identify the party from whom they wish to request the information necessary to resolve the alert. In this example, the inbound request has been received from an internal sanctions screening/alert technology - we can see the alert details in Work Information > Sanctions alert details.

The screenshot shows the 'Sanctions request for information' (PEG220815-000007) case in the Smart Investigate for Payments Sample application. The 'Work information' tab is selected, indicated by a red box and arrow. The 'Sanction alert details' section is also highlighted with a red box. Key details shown include:

- Payment reference:** 23225123523
- Field that triggered the alert:** 70
- Is this a repeat RFI request?**: No

In this instance, we can see that information is requested for the Sender of the payment, and that details in field 70 triggered the alert. To resolve this matter, we will need to obtain information from the Debtor agent (remitting bank).

Within the create correspondence take action panel, we would then make the following selections:

- Submit correspondence to the remitting bank
- Of type SWIFT MT199
- Using template 'Request for information – Sanctions'

Create correspondence
Due in 7 days from now

| | |
|-------------------------------------|----------------|
| To * | Language * |
| Remitting bank | English |
| Correspondence type * | Message type * |
| SWIFT | Swift_MT199 |
| Correspondence * | |
| Request for Information - Sanctions | |

Once we have made these selections, confirmed the destination details, selected if we wish to auto-generate follow-up messages ('ticklers'), and set any post verification and post generation status, we are then directed to complete required inputs for the template. Wherever the key details have been mapped from the alert or request, these will be set in the template automatically. The key input required from the user is to determine what type of Sanctions Request for Information scenario is involved – the selections available are:

- Individual (a request related to a person sender or receiver)
- Entity (a request related to a business or organization)
- Sectorial Sanctions Identifications (SSI)
- Specific Sanctioned Countries
- Vessel/Plane
- Other

Message text

| | |
|---|---|
| Transaction reference number* | Related reference |
| PEG220815-000007 | 23225123523 |
| Select transaction reference* | Payment reference* |
| <input type="radio"/> UETR <input checked="" type="radio"/> Payment reference | 23225123523 |
| Date of alert* | Value date* |
| 8/15/2022 | 2/16/2018 |
| String that triggered the alert* | Field of alert* |
| CUBAN CIGARS | 70 |
| Due date of reply* | Repeat or new request for info* |
| 8/18/2022 | <input type="radio"/> Repeat <input checked="" type="radio"/> New |
| Details requested for?* | RFI type* |
| Sender ▾ | Specific Sanctioned Countries ▾ |
| Document response email* | simanager@pega.com |

Key user-driven selection

Once the required inputs are completed and the step is submitted, Smart Investigate for Payments will assemble the message using the suggested guideline content from SWIFT and the community working group for the RFI type selected as follows in this example:

▼ Message text

```

1 {1:F01MYCOCHZ0XXX0000000000}{2:I199PEGACHZZ0XXXU3003}
2 {3:{121:104957B5-677D-4216-93D5-46A8E40C17EF}}{4:
3 :20:PEG220815-000007
4 :21:23225123523
5 :79:THIS TRANSACTION IS BEING HELD FOR SANCTIONS
6 REVIEW. PLEASE DO NOT CHANGE OR RESUBMIT THE
7 TRANSACTION AS IT WILL NOT BE PROCESSED UNTIL WE
8 RECEIVE THE REQUESTED INFORMATION. THE INFORMATION
9 IS REQUIRED AND MUST BE RECEIVED BEFORE THE DUE
10 DATE OR THE TRANSACTION MAY BE HELD FOR FURTHER
11 DELAYS AND MAY ALSO BE REJECTED, BLOCKED OR
12 RETURNED. PLEASE PROVIDE YOUR RESPONSE VIA
13 AUTHENTICATED SWIFT MESSAGE.
14 PAYMENT REFERENCE: 23225123523, DATE OF ALERT:
15 220815, VALUE DATE: 180216, STRING THAT TRIGGERED
16 THE ALERT: CUBAN CIGARS, FIELD ON WHICH THE ALERT
17 WAS TRIGGERED: 70, ASKING FOR DETAILS SENDER OR
18 RECEIVER: SENDER, REPEAT OR NEW RFI: NEW, RFI
19 TYPE: SPECIFIC SANCTIONED COUNTRIES
20 PROVIDE THE FOLLOWING DETAILS BY 220818
21 COUNTRY THAT TRANSACTION INVOLVES, FULL NAME,
22 BUSINESS SECTOR, LEGAL ADDRESS, REGISTRATION NO.,
23 COUNTRY OF REGISTRATION, COUNTRIES OF ALL
24 BUSINESS/OPERATION LOCATIONS, OWNERSHIP DETAILS
25 (INCL. ADDRESS), DETAILED PURPOSE OF PAYMENT, COPY
26 OF INVOICE, OTHER, CONFIRMATION IF INFORMATION HAS
27 BEEN SENT THROUGH OTHER CHANNELS, UNIQUE REFERENCE
28 NUMBER TO TRACE ADDITIONAL DOCUMENTATION.
29 ANY REQUIRED DOCUMENTS SHOULD BE SENT TO
30 SIMANAGER(AT)PEGA.COM WITH A REFERENCE TO THE
31 UNIQUE TRANSACTION IDENTIFIER PROVIDED ABOVE. IN
32 ORDER TO SETTLE THE TRANSACTIONS BETWEEN THESE
33 COUNTER PARTIES, YOU PROVIDE THE BANK WITH
34 INFORMATION RELATING TO AT LEAST ONE OF THEM. THIS
35 INFORMATION MAY BE PERSONAL DATA AND AS SUCH, WE
36 KINDLY ASK YOU TO PROVIDE THE CONCERNED PARTY WITH
37 THE DATA PROTECTION NOTICE AVAILABLE ON OUR
38 WEBSITE PEGA.COM
39 -}

```

At this point, the user has the opportunity to edit the content/inputs, or submit the message to verification or generation. The final stage of the process, **Review case and wrap-up**, permits the investigation user to take any further actions necessary to resolve the case.

At this point, it is most likely that you will need to select Update status from the actions menu and change the status to Pending-External or Pending-Internal (depending on whether the information request is from an internal or external party), and await their response.

You can save this step by setting these values during template generation as described earlier. Alternatively, you can generate further correspondence or resolve the case

depending on the individual circumstance. All relevant case processing actions are available at this stage/step from the actions menu.

Send Response to Sanctions RFI via MT 199

To send a response to a sanctions request for information query, from the Create Correspondence action/assignment, select the party to whom you wish to send the information, select correspondence type **SWIFT/MT199**, and select the **Response to incoming RFI - Sanctions** template.

The screenshot shows the 'Create correspondence' interface. At the top left is the title 'Create correspondence' and a note 'Due in 7 days from now'. On the right is a small circular icon with 'SM'. Below are four input fields arranged in a 2x2 grid: 'To *' (Remitting bank), 'Language *' (English), 'Correspondence type *' (SWIFT), and 'Message type *' (Swift_MT199). At the bottom are three buttons: 'Cancel', 'Save' (in a light blue oval), and 'Submit' (in a dark blue oval).

After the usual opportunity to set automated follow-up messages (ticklers), and post verification and message generation statuses, the user will have the opportunity to complete the required inputs for the response template.

You should customize elements that are mandatory/not mandatory in accordance with your individual implementation requirements.

RFI type *

Specific Sanctioned Countries

Confirmation if information has been sent through other channels

Yes No

Unique reference number to track additional documentation

First name *

Pega

Middle name

Last name *

Systems

Full name
Pega Systems

Business sector *

IT Software

Registration number *

329798209

Country of registration *

USA

Detailed purpose of payment

Settle invoice

Ownership details *

Alan T

Legal address *

1 Main St. Cambridge, MA

Other

Is a copy of invoice shared? *

Yes

Countries of all business/operation locations

Add

| Country | Delete |
|---------|--------|
| | ☒ |

Once the response inputs have been completed, you have an opportunity to edit the content/inputs, or submit the message to verification or generation.

The final stage of the process, Review case and wrap-up, permits the investigation user to take any further actions necessary to resolve the case. At this point, you can generate further correspondence or resolve the case depending on the individual circumstance. All relevant case processing actions are available at this stage/step from the actions menu.

Send Sanctions RFI via Email

This is similar to Send Sanctions RFI via MT 199. you simply need to substitute the template for the email version by selecting Correspondent type Struct-Email and the Request for information – Sanctions template



Note: Note, at this point you can also select to add attachments if applicable (such as a copy of a passport, or invoice as an example).

Create correspondence
Due in 7 days from now

To * Language *

Correspondence type *

Correspondence *

Select attachments

Send all attachments Attach most recent

Add attachments if required

Once selected, as usual you have the opportunity to confirm address and automated follow-up sequences; however you are able to edit the destination email address and email subject lines here as shown below.

Confirm Address and Tickler Information
Due in 7 days from now SM

Confirm address and tickler information

| | |
|---------------------------|---|
| Send to Remitting bank | Corr type Struct-Email |
| Language English | Correspondence Request for Information - Sanctions |

Address
E-mail *

Email subject

Verification details
Verification
Required

Tickler details
Ticklers required?
 Yes No

Post statuses
Post-generation status
Post-verification status

Send notification of assignment to Inquirer automatically?
 Yes No

Ensure email address and subject are correct/as required before generation

Once completed, you can fulfill the requirements of the generation template, as normal – details that can be automatically mapped across from the case will carry through automatically.

To: zurmanager@pegabank.com
From: simanager@pega.com
Subject: Demo Request for Information - Sanctions

RFI type*

Introduction
This transaction is being held for sanctions review. Please do not change or resubmit the transaction as it will not be processed until we receive the requested information. The information is required and must be received before the due date or the transaction may be held for further delays and may also be rejected, blocked or returned. Please provide your response via authenticated swift message.

Select transaction reference*
 UETR Payment reference

Payment reference*

Date of alert*

Value date*

String that triggered the alert*

Field of alert*

Due date of reply*

Repeat or new request for info*
 Repeat New

Detail of sender or receiver*

Within the email request for information template, you optionally have the ability to select what data elements you wish to be provided with in relation to the request, as driven by the RFI type selection at the top of the template authoring panel.

| Select... | Field description |
|-------------------------------------|--|
| <input checked="" type="checkbox"/> | Full name |
| <input checked="" type="checkbox"/> | Date of birth |
| <input checked="" type="checkbox"/> | Place of birth |
| <input checked="" type="checkbox"/> | Citizenship |
| <input checked="" type="checkbox"/> | Passport/National ID number |
| <input checked="" type="checkbox"/> | Relationship between Remitter and Beneficiary |
| <input checked="" type="checkbox"/> | Detailed purpose of payment |
| <input checked="" type="checkbox"/> | Other details |
| <input checked="" type="checkbox"/> | Confirmation if information has been sent through other channels |
| <input checked="" type="checkbox"/> | Unique reference number to track additional documentation |

Footer

Any required documents should be sent to simanager@pega.com with a reference to the unique transaction identifier provided above.

In order to settle the transactions between these counter parties, you should provide the bank

Once the template is submitted, it will be immediately generated without a preview unless your business rules direct the generation of the message to first stop with a verification.

To: zurmanager@pegabank.com

From: simanager@pega.com

Subject: Demo Request for Information - Sanctions

This transaction is being held for sanctions review. Please do not change or resubmit the transaction as it will not be processed until we receive the requested information.

The information is required and must be received before the due date or the transaction may be held for further delays and may also be rejected, blocked or returned. Please provide your response via authenticated swift message.

Payment reference: 23225123523

Date of alert: 220815

Value date: 180216

String that triggered the alert: CUBAN CIGARS

Field on which the alert was triggered: 70

Asking for details of: Sender

Repeat or new RFI: New

RFI type: Individual

Provide the following details by 220818 :

Full name

Date of birth

Place of birth

Citizenship

Passport/National ID number

Relationship between Remitter and Beneficiary

Detailed purpose of payment

Confirmation if information has been sent through other channels

Unique reference number to track additional documentation

Any required documents should be sent to simanager@pega.com with a reference to the unique transaction identifier provided above.

In order to settle the transactions between these counter parties, you should provide the bank with information relating to at least one of them.

This information may be personal data and as such, we kindly ask you to provide the concerned party with the data protection notice available on our website pega.com

Regards,
SI Manager

pega.com

Send Response to Sanctions RFI via Email

This is similar to Send Sanctions RFI response via MT 199. Substitute the template for the email version by selecting Correspondent type Struct-Email and the Response to RFI – Sanctions template.

- Note:** At this point, you can also select to add attachments if applicable (such as a copy of a passport, or invoice as an example) as shown in the Send Sanctions RFI via Email scenario.

This is an important step for the response scenario, if documentation has been requested as part of the original request. Ensure the documents you wish to include as attachments have been uploaded to your Smart Investigate case.

Similar to the Send Sanctions RFI via Email scenario, after you have confirmed the destination, email address and subject fields and setting any automated chaser (tickler) pattern and post generation/verification case status, you will then be in template authoring mode.

Within the template authoring screen, select the RFI Type, and complete the required inputs for the RFI Type.

From: simanager@pega.com

Subject: Response to RFI - Sanctions

Your request for information has been assessed and we are able to supply the following details in accordance with your request.

RFI type*

Individual

Payment reference
23225123523

Full name*

Pega

Date of birth*

08/09/2000

Place of birth*

Country of birth*

Citizenship country*

Passport / National identification number*

Relationship between remitter and beneficiary*

Select relationship

Detailed purpose of payment

Other details

Confirmation if information has been sent through other channels

Yes No

Unique reference number to track additional documentation

Once submitted, the email response will immediately be generated unless your business rules direct the message to the verification.

Pega Smart Investigate for Payments gCase Tech note

Pega Smart Investigate for Payments provides gCase functionality that helps streamline the investigation process and accelerate the resolution of Unable to apply credit/debit and Unable to effect payments case types for gCCT payment transactions.

With gCase functionality operational, system can connect with SWIFT API's allowing compliance officers/users to create, assign and conclude an investigation case in real time.

The functionality also provides provision to connect with TRACKER and get the latest case details from TRACKER for UETR or an operational date range.

To learn how to use the OOTB gcase API functionality, refer to [gCase API](#).

- [Technical overview](#)
- [Sending MT messages to TRACKER](#)

Technical overview

Pega Smart Investigate for Payments gCase package includes rule changes to cover end to end TRACKER communication via API channel. Below section covers few use cases along with rule changes involved.

Create correspondence/New correspondence flow changes

This section covers scenarios where user can perform "Case creation", "Case assignment" and "Case response and closure" API actions.

| | |
|-----------------|---|
| Scenario | Application users should be able to invoke TRACKER API for Creation of case message, Assign case message and Conclude case messages to SWIFT TRACKER via Create correspondence flow action. |
|-----------------|---|

Smart Investigate Implementation

1. Created correspondence type Swift_GPI.
2. Modified Flow *PegaCommBank-Work- SwiftCorrCreate* to add *SwiftGPICorrCreate* subflow for handling Swift_GPI correspondence type. If Swift_GPI is selected, system will follow *SwiftGPICorrCreate* process flow path.
3. Created flow action *CreateSwiftGPIMessage* to provide "gCase action" screen.
4. New section "ManageGCase" for class *PegaSI-Data-SWIFT-GPI-gCase* created to allow user add data for individual API calls. On change of gCase action dropdown list, system will display API specific screens.



Note: All data for the new API messages is stored on **SwiftGPIMessage** page on clipboard.

5. Created new "Send" activity at *PegaCommBank- Corr-Swift-GPI* layer to invoke *SwiftGPICorr* data transform.
6. *SwiftGPICorr* Data transform will map required data to pass to Connect REST rule and invoke applicable data page.
7. Individual Connect REST rules have been configured with header information and endpoint information.
8. For Endpoint configurations and header parameters, system will use data page *D_gCase* to populate endpoint URL properties and default parameters.
9. The relevant properties will be used by Application settings rule marked for category *GCaseEndpointConfigurations*.

| | |
|---|---|
| <p>How to Test the Functionality</p> | <p>10. Create, Assign and Conclude Connect REST rules will connect with Swift API's to submit the data captured and in return capture the "Network reference" ID. The network reference ID serves as an indicator of successful submission.</p> <p>Any error will be captured in <i>SwiftGPICorr</i> data transform and user can see the error message on the user screen.</p> <p>1. Launch create correspondence/Fast correspondence from step by step local action and follow the path for send "Swift_GPI" message type.</p> <p>2. Observe that the system will send out an API message with network reference captured as successful API connection confirmation.</p> |
|---|---|

Case query to TRACKER

| | |
|--|---|
| <p>Scenario</p> | <p>User should be able to get case details from TRACKER based on UETR or for a provided date range.</p> |
| <p>Smart Investigate Implementation</p> | <p>1. Updated Section SearchPortalHome for class <i>PegaResearch-Results-CommBank</i> to include SearchPortalSwiftGPI section for GPI based search operations.</p> <p>2. Based on Select transaction by drop-down list as Swift_GPI, system will load UI for GPI related search operations.</p> <p>3. Drop-down list SelectSearchResultsValue will be</p> |

populated as Case details and Changed case details defined by field values for field name `SelectSearchResultsValue`.

4. Using Case details option, user can search for Case details related to a transaction, key to search is UETR.
5. Using Change case details option, user can search, and view activity covered on a time window. It can include a list of gpi transactions for which there are cases.
6. On change of select search value target drop down, data page *D_SwiftGPICaseDetails* is loaded for "Case details" action and data page *D_SwiftGPIChangedCaseDetails* is loaded for Change case details with data from TRACKER. Both the above data pages invoke different connect REST API as described in table above.

How to Test the Functionality

1. Click search portal link from New left navigation icon or launch search portal from case local actions.
2. Select business as Message and transaction type as Swift GPI.
3. Select Case details or Change case details in type drop-down list and click find to get the results from TRACKER.

Sending MT messages to TRACKER

For system not enabled for API communication, MT messages can be sent to TRACKER BIC with required templates. The TRACKER party can be added to work case to be available for outbound MT messages.

Before you begin:

Adding TRACKER party to exception work case

Application ships OOTB data transform "PegaSI-Work- AddGPITrackerParty" which can be used to add "GPITracker" party.

This data transform can be invoked by updating "PegaSI-Work-AddException" activity, which will add the "GPITracker" party by default to the exception work case.

To send MT messages to TRACKER BIC, please follow below mentioned steps post changes covered in "Adding TRACKER party" section.

1. Login to system via appropriate user.
2. Select/create Unable to apply credit/debit or unable to effect payments case.
3. Process Transaction search and duplicate search stages.
4. At step by step stage, select Create correspondence.
5. Select To as GPITracker, Language as applicable, Correspondence type as SWIFT and "Message type" as applicable ex. Swift_MT192.
6. All the MT messages applicable to selected Language and Message type will be listed in the correspondence template drop down.

Note: Similar action can be performed via Fast correspondence flow

- ① action as well. User will have to select "To" as GPITracker in order to send MT messages to TRACKER via fast correspondence path.

Pega Smart Investigate for Payments SWIFT gpi Tech note

SWIFT gpi ensures that international payments meet the industry's needs for speed, traceability, and transparency. It allows banks to provide a transformed payments experience to their customers through quickly configurable and easy-to-use digital tools.

Through gpi, SWIFT and the global banking community have collaborated to build a new standard for handling cross-border payments.

To learn how to use the OOTB gpi API functionality, refer to [gpi API](#).

- [Technical overview](#)
- [Sending MT messages to tracker](#)

Technical overview

Pega Smart Investigate for Payments gpi package includes rule changes to cover end-to-end tracker communication through the API channel. The following section covers a few use cases along with the involved rule changes.

This section covers scenarios where users create correspondence through guided path.

| | |
|---|--|
| Scenario | Application users can invoke tracker API for Cancel transaction message and Transaction cancellation Status messages to the SWIFT tracker through the Create correspondence guided path. |
| Smart Investigate Implementation | <ol style="list-style-type: none">1. Created the Swift_gpi correspondence type.2. Created a new flow called <i>PegaSI-Work-Cancel STPCancellationRequest</i> to trigger |

assignment create correspondence and added a the *Sendcorr* subflow for verification process.

3. Created the *CreateCorrespondenceForSTP* flow action to provide the gpi action complete message window.
4. Created a new section called *MessageCreate* for the *PegaSI-Data-SWIFT-gpi-GpiTracker* class to allow the users to add data for individual API calls. On changing the gSRP Operations drop-down values, the application displays API-specific windows.

Note:

 *SwiftgpiTrackerMessage* page on the clipboard stores all the data for the new API messages.

5. Updated the Send activity on the *PegaCommBankCorr-Swift-gpi* layer to invoke the *SendGSRPCorr* data transform through the *SendgpiCorr* data transform.
6. *SendGSRPCorr* data transform maps the required data to pass to the Connect REST rule and invokes the applicable data page.

Test the Functionality

7. Configured individual Connect REST with the header and endpoint information.
8. For Endpoint configurations and header parameters, used the *D_Gpi* data page to populate the endpoint URL properties and default parameters.
9. *Canceltransaction*,
Transactioncancellationstatus Connect REST rules connect with Swift APIs to submit the data captured. In turn, they capture the network reference ID. The network reference ID serves as an indicator of successful submission in version 3. For version 4, the response is of Severity Ok.
10. The application captures any error in the *SendGSRPCorr* data transform, and the users can see the error message.

1. Launch create correspondence and follow the path for the send *Swift_gpi* message type.
2. Observe that the system sends an API message with the network reference ID as the confirmation for successful API connection.

Scenario

Application users can parse the inbound message for Swift Message_199, Swift Message 192 for block 4 content of the

| | |
|---|--|
| | <p>Response Code and Response Sub Code in field 79.</p> |
| Smart Investigate Implementation | <ol style="list-style-type: none">1. Updated the <i>PegaCommBank-Swift-ParseBlock4</i> activity to parse the 79 filed data of the Response Code and Response Sub Code in step 7.2. Added a new decision tree called <i>PegaSI-Work-SetDetailResponseCodes</i> to parse the Response Sub Code.3. Updated the <i>PegaSI-Work-SetResponseCode</i> decision tree to parse the Response Code. |
| Test the Functionality | <ol style="list-style-type: none">1. Create a new business type and MsgCase.2. Select the Generic Message case type, enter the SWIFT MT_199 message, and create a case.3. Verify the Work Information tab for the Response Code and Response Sub Code fields in the footer section. |
| Scenario | Application users can parse the inbound message for Swift Message_199 block 4 content of Transaction Reason Code and Transaction Status Code in 79 field. |
| Smart Investigate Implementation | <ol style="list-style-type: none">1. Updated activity PegaCommBank-SwiftParseBlock4 to parse the 79 filed |

| | |
|---|--|
| | <p>data of Response Code and Response Sub Code in step 6.</p> <ol style="list-style-type: none"> 2. Added a new decision tree called <i>PegaSI-Work-SetStatusCode</i> to parse the transaction status code. 3. Added a new decision tree <i>PegaSI-Work-SetReasonCode</i> to parse transaction reason code. |
| Test the Functionality | <ol style="list-style-type: none"> 1. Create a new Business type and MsgCase. 2. Select the Generic Message case type. 3. Inbound the Swift Message_199 message and create a case. 4. Verify the Work Information tab for the Transaction Status Code, Transaction Reason Code fields in the footer section. |
| Scenario | User can get case details from tracker based on UETR or for a selected period. |
| Smart Investigate Implementation | <ol style="list-style-type: none"> 1. Updated the SearchPortalHome section for the <i>PegaResearch-Results-CommBank</i> class to include the SearchPortalSwiftgpi section for gpi-based search. 2. If the user selects Swift_gpi in the Select transaction by drop-down list, the application opens the user interface for gpi-related search. |

3. The SelectSearchResultsValue drop-down list shows case details and changed case details defined by the field values in SelectSearchResultsValue.
4. Using the Case details option, users can search for the case details related to a transaction. The search key is UETR.
5. Using the Payment Transaction details option, the users can search, and view activity covered on a time window. It can include a list of gpi transactions that are associated with the cases.
6. On changing the select search value target drop-down list, the data from the tracker loads the following:
 - *D_GetPaymentTranDetails* data page for the payment details action
 - *D_GetChangedPaymentTrans* data page for Payment Transaction details.

Both the data pages invoke different connect REST APIs as described in table above.

Test the Functionality

1. Click the search portal link from the new left navigation icon or launch search portal from case local actions.
2. Select the following values for the corresponding fields:

| | |
|---|---|
| | <ul style="list-style-type: none"> • Business: Message • Transaction type: Swift gpi <p>3. To get the results from the tracker, in the Type drop-down list, select the Payment details or Payment Transaction details and click Find.</p> |
| Scenario | User can get the case details from the tracker based on UETR or for selected period. |
| Smart Investigate Implementation | <ul style="list-style-type: none"> • Find Button: On clicking Find with a proper UETR, the application calls a data transform to erase the API-specific <i>SetPaymentTransactionDetails</i> data page. This data transform invokes the new <i>PopulateDataForTransactionTracker</i> data transform which prepares the page list for tracker display. • <i>PopulateDataForTransactionTracker</i> data transform: This data transform performs the following steps: <ul style="list-style-type: none"> ◦ Copies all the events received from the SWIFT gpi service for the searched UETR into a new <i>TransactionTracker</i> page list. ◦ Checks if the transaction is forwarded to any agent by the last agent in the events chain. If yes, it appends the agent information in the <i>TransactionTracker</i> page list, after the completed events. |

- It then verifies if all the required agent parties in the first event are present in the *TransactionTracker* page list as a from party of events. If no, it adds them in the same order to the page list, ensuring that the credit party is the last event in list.

Both the data pages invoke different connect REST APIs as described in table above.

- Created the *DisplayTransactionTracker* section that the application calls from the *gCCTTransactionDetails* primary search results section. This contains layouts with conditions based on the event status, event type, and transaction status. Layouts have links to display events with shapes and colors suitable for the event type and status.
 - Green - transaction events
 - Blue- tracker updates
 - Grey - Pending events
- Created the *DisplayTransactionEventDetails* section that the application refers from the *DisplayTransactionTracker* section layouts as a smart Information on hover action. This enables users to see the event details such as parties, status,

Test the Functionality

update date, and time on hovering over the events on the tracker UI.

- Using Payment details option, the users can search for the case details related to a transaction. The search key is UETR.
- On changing the Select Search Value target drop down, the *D_GetPaymentTranDetails* data page loads for the Payment details action and the *D_GetChangedPaymentTrans* data page loads for the Payment Transaction details with the data from the tracker. Both the above data pages invoke different connect REST API as described in table above.

1. Click the search portal link from the new left navigation icon or launch the search portal from the case local actions.
2. Select the following values for the corresponding fields:
 - Business: Message
 - Transaction type: Swift gpi
3. Select Payment details or Payment Transaction details in the Type dropdown list and click Find to get the results from the tracker.

| | |
|---|---|
| Scenario | User can send the gcct or gcov payment confirmation to the tracker after successful Accounting or Adjustment. |
| Smart Investigate Implementation | <ol style="list-style-type: none">1. Created the <i>CreatePaymentConfirmation</i> flow and plugged in as a spin off for the verification flow.2. Passed the following parameter to the flow: <i>CreatePaymentConfirmation</i> is StepIndex. StepIndex provides the index of current Adjustment on which the verification occurred.3. Using StepIndex, the application computes the status of adjustment. If it's posted and DSS: <i>gpiPymtConfirmationEnabled</i> is true, the application proceeds for payment confirmation. Else, it skips the payment confirmation process.4. The application verifies if the gcct API is enabled through the <i>IsPaymentConfirmationAPINeeded</i>. To enable gpi API when rule, update to DSS: <i>gCCTPymtConfirmationAPINeeded</i>. Else payment confirmation happens through the MT message.5. The application calls the <i>PrepareGpiConfirmationList</i> data transform to create a pagelist for each gcct gcov applicable payment type within the relevant adjustment page. |

6. To map data for gcct payment confirmation version 3, update the *SetPaymentConfirmationData_APIv3* data transform.
7. To map data for gcct payment confirmation version 4, update the *SetPaymentConfirmationData_APIv4* data transform.
8. DSS: *gpiVersion* decides the Gcct version
9. If gpi API is enabled, the *CreatePaymentConfirmation_API* subflow initiates. Else, *CreatePaymentConfirmation_MT* initiates.
10. The *IsGcctGcovPaymentTypeSelected* when rule analyses if any gcct/ gcov applicable payment type were selected by comparing the length of the pagelist *gpiConfirmation* within the relevant adjustment page.
11. The *ValidatePaymentConfirmationDetails* data transform verifies if any required data is missing.
12. The *VerifyIfPymntCnfmSTPApplicable* when rule verifies if STP is enabled. Enable STP by updating DSS: *gCCTPymtConfirmationSTPEnabled* to true.
13. If STP is enabled, the payment confirmation is sent without any user input unless any mandatory data is missing, or API fails.

14. If the Payment Confirmation API fails, the payment confirmation assignment for manual data entry and verification is presented to the user.
15. When users present the payment confirmation assignment, they can update the data and retry. Upon submitting, the Post data transform of the *EnterPaymentConfirmation* flow action invokes the API iteratively. If any API passes, the attachment generates and gets attached to the case.
16. If DSS: *gCCTPymtConfirmationAPIEnabled* is not true, the *CreatePaymentConfirmation_MT* sub flow is initiated to send payment confirmation through the MT message.
17. To map data for the gcct payment confirmation through MT message, update the *SetPaymentConfirmationData_MT* data transform.
18. The *BuildSwiftMessageFormat* data transform is used to create final data for field 79 segments of MT 199/MT299. If STP is enabled, the gpi payment confirmation is processed through straight through process.
19. Configured a utility that runs the *ProcessPaymentConfirmationMTMessage* activity. It iterates on Pagelist *gpiConfirmation* under the relevant

Adjustment page and calls the SendCorrespondence activity to send or attach the correspondence.

20. If STP is not enabled, the application presents an assignment to the user. On assignment, users can update the data. They see only the gcct or gcov applicable payment type data on the window.
21. Upon submit activity, ProcessPaymentConfirmationMTMessage sends the payment confirmation message to the tracker and attaches to case.

Test the Functionality

1. Set DSS: gpiPymtConfirmationEnabled to true.
2. Select or create any case.



Note: Payment confirmation to tracker after adjustment is applicable to all case types.

3. Process Transaction search and duplicate search stages.
4. At the step by step stage, select Create Adjustment.
5. Select appropriate Adjustment type and select the Payment type that includes

any of the following: MT 102, MT 202, MT 202 COV or MT 205 COV.

6. Submit Adjustment.
7. Login as manager and approve the verification required for Adjustment.
8. Verify Payment confirmation correspondence in the Adjustment tab when STP is enabled. Else, verify assignment Payment Confirmation to Tracker.

Sending MT messages to tracker

If your application is not enabled for API communication, MT messages can be sent to the tracker BIC with the required templates. You can add the tracker to the work case to make it available for outbound MT messages.

- [Send gSRP MT message to the tracker](#)
- [Send gCCT MT message to the tracker](#)
- [Send gCOV MT message to the tracker](#)

Send gSRP MT message to the tracker

To initiate a gSRP process, an MT message is sent to the Tracker system, enabling the stop and recall of a gpi payment.

To send MT messages to tracker BIC, perform these steps after making the changes mentioned in the Adding tracker party section.

1. Log in to the application.
2. Select or create the Cancellation Request case.
3. Process transaction search and duplicate search stages.

4. At the step by step stage, select Create correspondence.
5. Enter the following values for the corresponding fields:
 - a. To: gpiTracker
 - b. Language: any applicable language
 - c. Correspondence type: SWIFT
 - d. Message type: any applicable message type.

 **For example:**

Swift_MT199.

6. All the MT messages applicable to the selected language and message type get listed in the correspondence template drop-down list.
7. Select the gpi Stop and Recall from the drop-down list and fill the appropriate field and Submit.

 **Note:** You can perform similar action through the Fast correspondence flow action. Users should select gpiTracker in the To field to send MT messages to the tracker through fast correspondence path.

Send gCCT MT message to the tracker

To initiate a gCCT process, an MT message is sent to the Tracker system, enabling the submission and tracking of customer credit transfers within the SWIFT gpi network, ensuring efficient and transparent processing of cross-border payments and providing real-time visibility into transaction status.

To send MT messages to tracker BIC, perform these steps after making the changes covered in the Adding tracker party section.

1. Log in to the application.
2. Select or create the Cancellation Request case.
3. Process transaction search and duplicate search stages.

4. At the step by step stage, select Create correspondence.
5. Enter the following values for the corresponding fields:
 - a. To: gpiTracker
 - b. Language: any applicable language
 - c. Correspondence type: SWIFT
 - d. Message type: any applicable message type.

 **For example:**

Swift_MT199.

6. All the MT messages applicable to the selected language and message type get listed in the correspondence template drop-down list.
7. Select the Payment Confirmation message from the drop-down list and fill the appropriate field and Submit.

 **Note:** You can perform similar action through the Fast correspondence flow action. Users should select gpiTracker in the To field to send MT messages to the tracker through fast correspondence path.

Send gCOV MT message to the tracker

Sending a gCOV MT message to the Tracker system facilitates effective processing and tracking of cover-related activities, ensuring smooth handling of payment transactions and providing visibility into the status and progress of covers within the payment ecosystem.

To send MT messages to tracker BIC, please follow below mentioned steps post changes covered in Adding tracker party section.

1. Log in to the application.
2. Select or create the Cancellation Request case.
3. Process transaction search and duplicate search stages.

4. At the step by step stage, select Create correspondence.
5. Enter the following values for the corresponding fields:
 - a. To: gpiTracker
 - b. Language: any applicable language
 - c. Correspondence type: SWIFT
 - d. Message type: applicable cover message
6. All the MT messages applicable to the selected language and message type get listed in the correspondence template drop-down list.
7. Select the Payment Confirmation message from the drop-down list and fill the appropriate field and Submit.

Note: You can perform similar action through the Fast correspondence flow action. Users should select gpiTracker in the To field to send MT messages to the tracker through fast correspondence path.

Pega Smart Investigate for Payments ISO 20022 AND CBPR+ Tech note

Pega Smart Investigate provides the infrastructure for financial institutions that helps you to adapt and comply with ISO 20022 and SWIFT Cross-border Payments and Reporting Plus (CBPR+) standards.

The ISO standard establishes a standardized language and model for payment data communications and aims to become the predominant language of financial communications over the coming years. This free and open format improves compliance, efficiency, and customer experience.

CBPR+ leverages ISO 20022 standards to facilitate cross-border payments and cash reporting on the SWIFT network.

The Smart Investigate includes data models, inbound data parsing, mapping, and reference outbound templates aligned to and validated against specific ISO 20022 and

CBPR+ message version definitions. Financial institutions can use these capabilities and message templates, or customize the implementation of ISO 20022 message variants.

Supported Versions

The following messages are supported in this release of Smart Investigate:

| Message | ISO20022 Message Version | CBPR+2.0 Message Version |
|---|--------------------------|------------------------------------|
| Status report | pacs.002.001.11 | pacs.002.001.10 |
| Customer Credit Transfer | pacs.008.001.09 | pacs.008.001.08 |
| Financial Institution Credit Transfer | pacs.009.001.09 | pacs.009.001.08 |
| Financial Institution Credit Transfer Cover | Not available | pacs.009.001.08 |
| Payment Return | pacs.004.001.10 | pacs.004.001.09 |
| Bank to Customer Account Report | camt.052.001.08 | camt.052.001.08 |
| Bank to Customer Statement | camt.053.001.08 | camt.053.001.08 |
| Bank to Customer Debit Credit Notification | camt.054.001.08 | camt.054.001.08 |
| Stop & Recall Request | camt.056.001.09 | camt.056.001.08 |
| Resolution of Investigation | camt.029.001.10 | camt.029.001.09 |
| Unable to Apply | camt.026.001.08 | SWIFT assessing for future release |
| Request to Modify Payment | camt.087.001.07 | SWIFT assessing for future release |
| Free format Message | camt.998.001.03 | SWIFT assessing for future release |

| Message | ISO20022 Message Version | CBPR+2.0 Message Version |
|---|--------------------------|------------------------------------|
| Case Status Report Request | camt.038.001.04 | SWIFT assessing for future release |
| Cancel Case Assignment | camt.032.001.04 | SWIFT assessing for future release |
| Claims Non Receipt | camt.027.001.09 | SWIFT assessing for future release |
| Debit Authorisation Response | camt.036.001.05 | SWIFT assessing for future release |
| Additional Payment Info | camt.028.001.11 | SWIFT assessing for future release |
| Debit Authority | camt.037.001.09 | SWIFT assessing for future release |
| Other Investigations | camt.035.001.05 | SWIFT assessing for future release |
| Notification of Case Assignment | camt.057.001.07 | camt.057.001.06 |
| FI to FI Payment Status Request | pacs.028.001.05 | SWIFT assessing for future release |
| Account Report Request | camt.060.001.06 | camt.060.001.05 |
| Customer Payment Cancellation Request | camt.055.001.11 | camt.055.001.08 |
| Notification to Receive Cancellation Advice | camt.058.001.08 | camt.058.001.08 |

- Multi version support for ISO 20022 and CBPR+ messages
- ISO 20022 Extensions for message variants

Multi version support for ISO 20022 and CBPR+ messages

With the release of ISO 20022 based CBPR+ messages, SWIFT supports current and previous versions of messages. Hence, the application permits multi-version support for a few different scenarios.

Smart Investigate handles the receipt and processing of ISO 20022 and CBPR+ messages, along with valid previous versions of SWIFT messages. The application supports multi-version message for ISO 20022 and CBPR+ messages, based on SWIFT guidelines, as follows:

- ISO 20022 and CBPR+ messages only for the current ('n') and previous ('n-1') release versions.
 - **Note:** ISO 20022 and CBPR+ messages from more than two releases prior to the current release (n-2) are not supported and become deprecated.
 - Smart Investigate ships with the most current versions of supported ISO 20022 and CBPR+ 2.0 messages as at development freeze in Q4 2021 and nothing previous.
- Multiple application header versions for ISO 20022 and CBPR+ messages are supported under the SWIFT guidelines.
- Messages attached to cases, irrespective of version, for an existing investigation case (where reference inbound message remains as a static text attachment on the case) are always retained and supported. You can archive and purge cases per normal business-as-usual or internal processes.

Multi version implementation for outbound messages

'Active message version' functionality provides multi-version support to send outbound messages from the previous version when a higher version becomes available. The application provides the following:

- Active message version for each ISO 20022 message. This version is maintained in the custom data type definition.
- Filter and use the active version of the correspondence templates associated with message types at run time.
- *PegaCommBank-ISO20022-*, *PegaCommBank-ISO20022-BnkToCustAcctRep* classes extend from the respective Correspondence Type class and support the new message infrastructure and individual messages. You can customize local infrastructure messages based on these classes.
- Each message version has a corresponding document class to support multi-version implementation. A new instance of the message template is created for each message version with the associated correspondence context. For example, *PegaCommBankISO20022-BnkToCustAcctRep-DocumentV8*.

Multi version implementation for inbound messages

To provide multi-version support for inbound messages, Smart Investigate is enhanced to parse multiple application headers and message bodies. The application handles inbound messages as follows:

- The *ParseMessageHeader* flow is updated to extract primary data from the message header.
- A header code is used to identify the message version of the application header used in the inbound message.
- Out-of-the-box functions are used to extract this header code.
SetInboundHeaderClassForISO decision table is used to map the message header's corresponding context class.

- The application triggers *SetInboundDocClassForISO* or *SetInboundDocClassForCBPRPlus* decision rules to map the applicable class for message case and context for message body parsing.
- These decision rules are created for each layer, ISO/CBPR+. A capability to extend the enhancement is provided.
- The application triggers these decision rules based on the correspondence type, ISO 20022 or CBPR+, which is retrieved from the application header.
- The mapped properties are used by the application parsing engine to determine message type then create a message case, followed by the creation or opening of an exception case.

To learn how to configure the CBPR+ messages, refer to [CBPR+: Extension points and configurations](#).

To learn how to configure the ISO20022 messages, refer to [ISO 20022: Extension points and configurations](#).

ISO 20022 Extensions for message variants

Along with a foundation for ISO 20022 messages, Smart Investigate provides utilities to add ISO 20022 message variants for local markets interpretations like SEPA, FedNow, Lynx, NPP, etc.

- **Data model accelerator**
- **Enable the utility**
- **Trigger the Utility**
- **Post installation configurations for outbound messages**
- **Post installation configurations for inbound messages**
- **Accounting framework updates**

Data model accelerator

The Data model accelerator creates a data model built on the ISO 20022 implementation in Smart Investigate. This job completes the major part of the base message structure implementation, saving a lot of effort and analysis during customer implementations.

The elements and sections in ISO 20022 layer are accessed due to established inheritance.

Classes for the new implementation layer are created and each class directly inherits its corresponding ISO 20022 class. All complex properties (page/page list) are saved in new implementation classes with updated page contexts.

Note:



- Variations in respective regional infrastructures must be updated manually.
- Message templates are also not created.

Enable the utility

The Generate ISO 20022 DataModel utility is disabled by default. To enable this utility, set the ISO 20022Enabled dynamic system setting value to true.

The screenshot shows a Pega Smart Investigate interface. At the top, there's a navigation bar with 'Home' and 'PEGASIISO2002...'. Below it, a dark header bar displays the title 'Edit Dynamic System Settings: IsISO2002Enabled' and the ID 'PegaSIISO20022 • IsISO2002Enabled' along with a 'RS: PegaSIISO20022 [Edit]' button. A tab bar below shows 'Settings' (which is selected) and 'History'. The main content area has a table with one row, labeled 'Value' and containing the value 'true'.

Trigger the Utility

1. Navigate to Dev Studio > Configure > Generate ISO 2002 Data Model page.
2. In the Generate ISO 2002 Data Model page, specify the required Target Branch Ruleset, Parent Class, Organization name, and Implementation Layer Name fields.
3. Click Generate. The required classes and properties are created in the specified target branch ruleset.

The screenshot shows a 'Generate ISO2002 Data Model' dialog box. At the top, there are buttons for 'Home' and 'Generate Data...'. On the right, there's a 'Close' button. The main form has a title 'Generate data model for messages based on ISO2002 model'. It contains four input fields: 'Target Branch Ruleset *' (dropdown menu), 'Parent Class *' (dropdown menu), 'Organization Name *' (text input field containing 'MyOrg'), and 'Implementation Layer Name *' (text input field). At the bottom, there are 'Generate' and 'Reset' buttons.

Post installation configurations for outbound messages

Perform the following steps for outbound messages:

1. Navigate to Dev Studio > Configure > Smart Investigate > Multi-version maintenance page to update active versions for outbound messages.
2. Create local message templates with the corresponding class context, based on the CBPR+ templates. The naming convention for the templates is <Message Name>_V<Message Version>.

For example:

FICreditTransfer_V08

3. Configure the required extension rules. See ISO implementation configuration.

Post installation configurations for inbound messages

Perform the following for inbound messages:

1. Create inbound message classes in the implementation layer for each message-specific class derived from PegaSI-MsgCase-ISO 20022 class. Use the CBPR+ implementation as a reference.

For example:

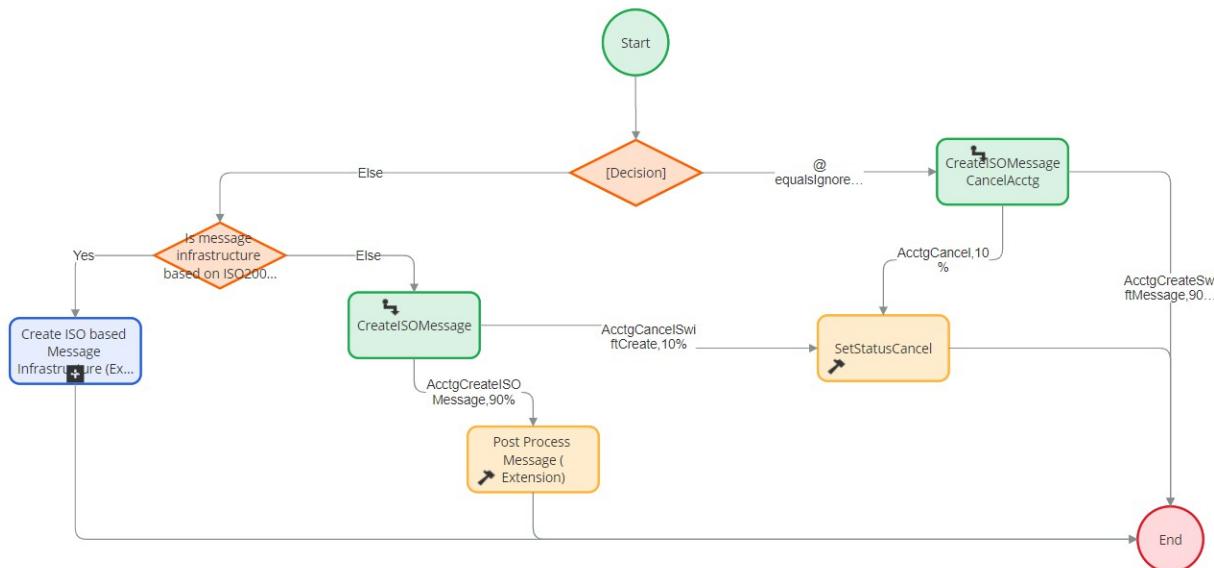
PegaSI-MsgCase-CBPRPlus-BkToCstmrStmt inherits directly from PegaSI-MsgCaseISO20022-BkToCstmrStmt

2. Extend the **LookupMessageClass** activity to trigger the customer's decision rules as follows, perform the following:
 - a. Update the **SetInboundHeaderClassForImpl** and **SetInboundDocClassForImpl** decision tables with implementation layer classes, based on your business requirement.
 - b. Update the **IsImplementationCorr** when rule to identify your message type.

- c. On the **LookupMessageClass** activity, update the corresponding when rule extension steps to **SetInboundHeaderClassForImpl** and **SetInboundDocClassForImpl** decision tables.

Accounting framework updates

Smart Investigate provides the **AcctgISOCorrCreate** flow to process ISO 20022 based messages.



- This rule has an extension flow to override OOTB ISO 20022 message processing
- An extension utility, Post Process Message, is provided for additional postprocessing.