



Forms Lifecycle Manager [FLM] Administrator's Guide

Release 274

Version History

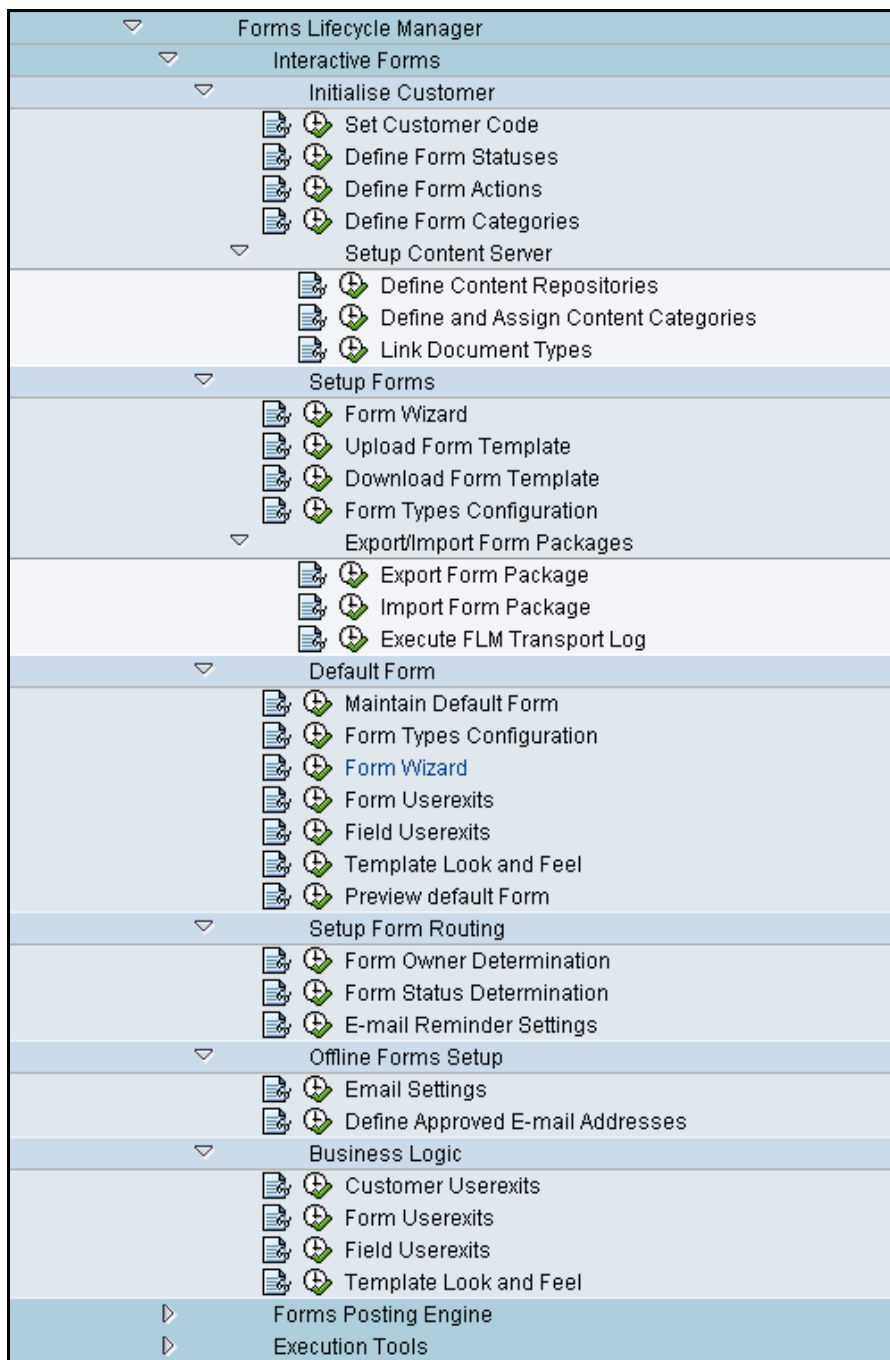
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1 Introduction

This document explains the functions of the 'interactive forms' menu in the FLM section of the SAP IMG, as shown below. To access this menu go through Cross-Application Components> General Application Functions> Forms Lifecycle Manager.



2 User Management

In SAP, each user's authorization can be defined with reference to a composite role, single roles, and profiles. The object to be checked is an 'authorization object', and is made up of authorization fields that the system will need to use in the check.

FLM is delivered with authorization checking code and the authorization fields, but the set-up of the users, roles, profiles and objects will be different in each implementation.

The installation guide suggests the creation of the following roles, one of which will be need to be assigned to a user accessing FLM.

FLM_ADMIN

FLM_DEVELOPER

FLM_USER

3 Customer Code Initialisation

This section explains how to customize the actions associated with the form routing according to the desired workflow and customer.

Each implementation of FLM is defined by at 3-digit customer code.

The following objects must be created once-only for each customer code and transported through the landscape:

3.1 Number Range /FLM/<Customer Code>

Each FLM customer is allocated a 3-digit customer code, for example ABC. The customer must create a number range object in this case called /FLM/ABC. Process:

1. Transaction SNRO [es-en-ar-oh].
2. Enter number range object name.
3. Press create icon.
4. Enter Short and Long Texts.
5. In *Number length domain* enter CHAR10.
6. Set the warning %, eg 5%.
7. Press save.
8. Ignore warning about buffering.
9. Assign to package /FLM/CUST.
10. Create a transport/assign to an existing transport.
11. Create a number interval. E.g. 01 1000000000 - 1999999999 - 1000000000

3.2 Message Class /FLM/<Customer_Code>

The customer message class is used to store work instructions for your forms. For example, message 001 could be 'Please resubmit your form'. The process for creating your message class is as follows:

1. Transaction SE91.
2. Enter message class /FLM/<Customer_Code>.
3. Press create icon.
4. Enter short text.
5. Press save.
6. Assign to package /FLM/CUST.
7. Create a transport/assign to an existing transport.

3.3 Set Customer Code



You will need to use the **Set Customer Code** IMG activity to setup a default customer code by clicking on 'new entries' at the top of the window and defining a new 3-letter customer code. Also enter a text description.

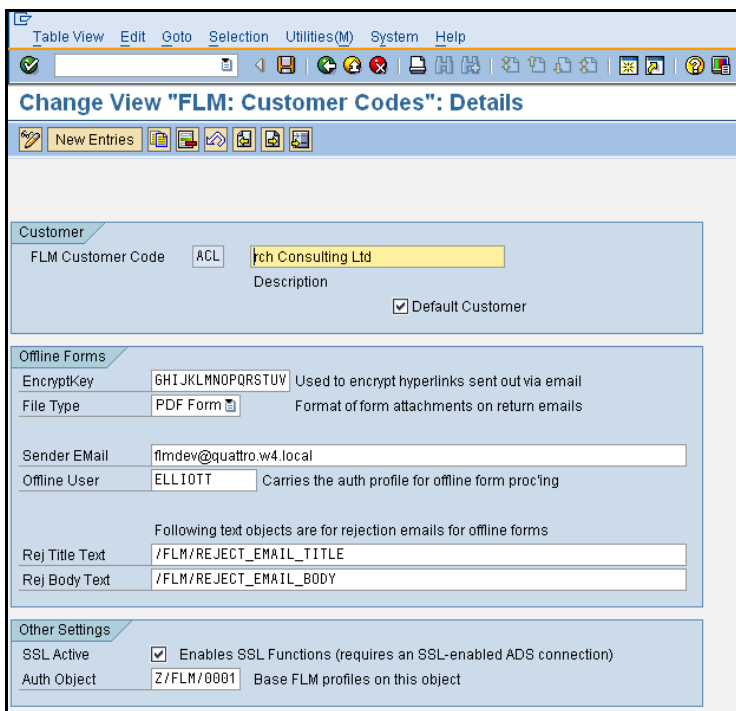
On the main screen is a list of setup customer codes. The tick box shows which customer code is currently set as default

System Default

Shows which of the available customer codes is currently set as default

Creating a new customer code

You can create a new customer code by clicking 'new entries' at the top of the screen. This must be a unique 3-letter code approved by Arch.



Customer

Enter the 3-letter code you want to define your new FLM implementation

Text

Enter text that describes the customer code.

Encryption/Key

The encryption key is used in the case of reminder emails. If, in an online scenario, a user for example, fails to approve a form within a given time frame, a reminder email will be sent out containing a URL link to the form. In order to provide security, this URL is encrypted according to the encryption key entered with each customer code. The encryption key can be any 14-letter combination that does not include the same letter twice.

File Type

Forms can be sent as PDF format (entire form) or Data Only Format. PDF format contains both the form and the data held within it so the file attachment size can be very large.

Data only format sends only the information contained within the form, which means that the size of the attachment can be minimized. However, if this option is preferred, it is worth checking that this kind of data transmission would be supported by your firewall settings.

Default Customer

Checking this box renders this customer the default in the system. Each FLM system can have multiple FLM Customer Codes maintained. However, only one FLM Customer Code can be 'default' in each system. Only the default customer can be actively processing forms at runtime - other FLM Customer Codes are for development purposes only.

Sender Email

This field holds the name of the email address from which reminders will be sent, and to which any incoming mail will be directed.

Enter the email address from which any prompts should be sent, and from which replies can be retrieved

Authorization Object

This object was created during the installation process and is most likely Z/FLM/0001. To be sure contact the administrator who did the installation or check in Class AAAB of transaction SU21.

An authorization object combines up to 10 authorization fields, which are checked using the AND connective.

Authorizations are checked against objects in the system. Authorization objects enable complex checks (linked to several conditions) of an authorization. For the authorization check to be successful, the user must pass the check for each field contained in the object.

Offline User

The username assigned to the customer code

Rej Title Text

Text Object for Body of e-mail Rejection

When an off-line e-mail is received back into the FLM system it may have certain fields validated before it is received fully into the system. If the form fails validation, an e-mail may also be sent back to the sender to explain why it could not be received.

This field holds the name of the text object that is used to store the title of that e-mail.

Rej Body Text

FLM: Text Object for Body of e-mail Rejection

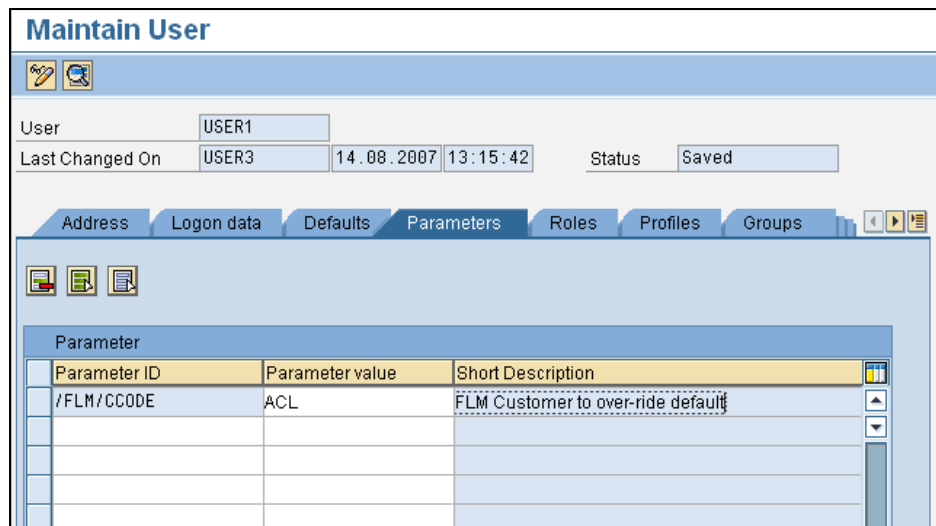
When an off-line e-mail is received back into the FLM system it may have certain fields validated before it is received fully into the system. If the form fails validation, an e-mail may also be sent back to the sender to explain why it could not be received.

This field holds the name of the text object that is used to store the body of that e-mail.

3.4.1 Customer Code Parameters

If the Customer is only maintaining one Customer Code than this step can be skipped.

The FLM framework needs to know for every FLM user which 3-digit FLM Customer Code that user should be associated with. This is achieved in the user master record, by adding the parameter /FLM/CCODE to the user master record in the 'Parameters' tab, as shown below:



Parameter ID	Parameter value	Short Description
/FLM/CCODE	ACL	FLM Customer to over-ride default

Any user that does not have this parameter maintained will take the default customer code set up in the FLM system; hence any FLM customer only maintaining one customer code is not required to maintain this parameter.

3.4 Define Form Statuses

This section displays all the available statuses that can be assigned to each form. A separate status is available according to customer code, description and category.

Form statuses refer to the stage of the workflow, or routing, that the form is in at any one time.

Change View "FLM: Form Statuses": Overview

New Entries

Customer	Status	Description	Category
ACL	*	All Statuses	All Statuses
ACL	A	Approved	Intermediate Status
ACL	I	Initial	Initial Status
ACL	P	Posted	Final Status
ACL	R	Rejected	Intermediate Status
ACL	S	Submitted	Intermediate Status
BCC		Approved not posted	Intermediate Status
BCC	*	All Statuses	All Statuses
BCC	A	Approved	Intermediate Status
BCC	I	Initial	Initial Status
BCC	P	Posted	Final Status
BCC	R	Rejected	Intermediate Status

Position... Entry 1 of 14

An **initial** status defines a form at the first stage of a routing, i.e. **initial**.

An **intermediate** status defines a form in the middle stages of a routing, e.g. **approved**, **rejected**, **submitted**, or **approved**

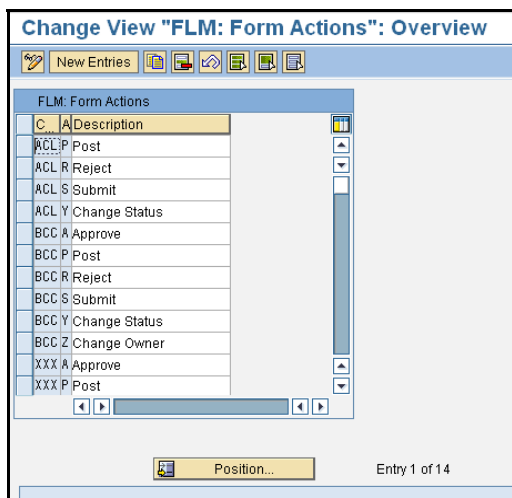
A **final** status defines the form at the end of a routing, e.g. **End Of Routing**

All statuses displays all available statuses

You can create a new form status tag by going to the 'new entries' menu and entering new criteria for customer code, status code, description, and category. Once this new status has been created in this activity, it will then become available to select in the routing configuration table (see 1.3.2)

3.5 Define Form Actions

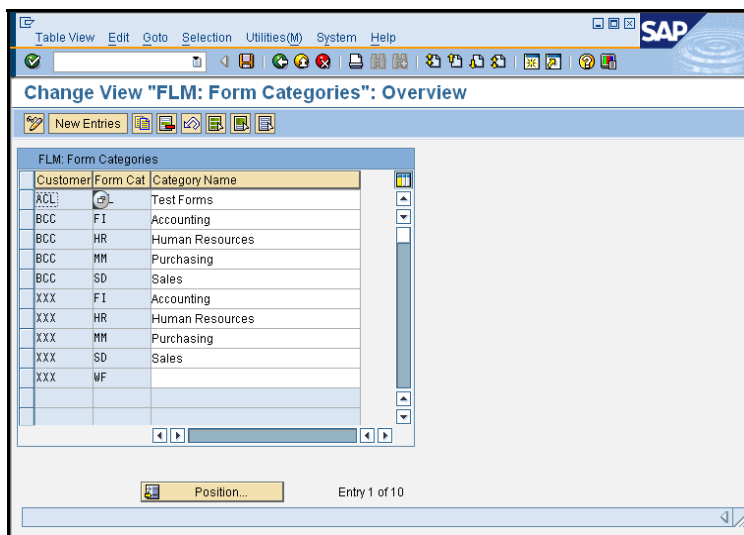
Form Actions list the options available to select the next position in the form routing, e.g. submit, approve, post etc. You can enter a new action by going to 'new entries' and entering a customer code, action code and description for each new action. Actions Y and Z are reserved and cannot be reassigned. All other letters of the alphabet are available to assign to different stages of a workflow as you wish. The stage names themselves are only suggestions and are completely customisable.



3.6 Define Form Categories

In this activity you define the set of available Form Categories in your system. A Form Category is a logical grouping of Form Types that is used as a part of the user authorisation concept in FLM. You must define your form categories before you can begin creating logical forms via the FLM Form Wizard, as each form must be assigned to a 2-character category.

The groupings shown in the demo below are examples of typical form categories: 'Purchasing' 'Human Resources' and 'Accounting'.



To create a new form category, go to 'New Entries' and define a two-character form category code with an associated description for each form category required. Form Category codes are only applicable for the customer code within which they were set up.

3.7 Link Document Types

In this activity, you link your document types to the content categories. The only meaningful file type entries here are:

ATT Attachments

PDF Documents

XDP Form Templates

XML Form Data

The content repository was created during the installation phase 3.7 and can be found in transaction OAC0 (OH-A-C-Zero). We suggested the name be something like ZFLM0001 but it could be anything. If in doubt contact the administrator who did the installation.

3.8 Master Form Template

FLM bases all new forms on an existing template, and so for each new customer code initialization this template must be uploaded into the system.

This procedure can be repeated as required if the template must be changed later on:

1. Copy the FLM template from the DOCU/RESOURCES folder on the installation disks to the presentation server
2. Rename the file to 'Master_FLM_Template.xdp'.
3. Navigate to transaction SPRO, select F5
4. Navigate to FLM in the Cross-Application Settings, General Application Functions
5. Navigate to Interactive Forms/Setup Forms/Download Form Templates
6. Browse to the file from step 1)
7. Press Execute and follow the on-screen instructions
8. You will need a script object in the template called 'ContainerFoundation_JS' which can be created following the procedures in SAP Note number 1042394:

ZCIMigration - Windows Internet Explorer

Address bar: http://quattro:50100/webdynpro/dispatcher/local/_webdynpro_ZCI_migration/ZCIMigration

File Edit View Favorites Tools Help

Google Go Bookmarks Popups okay Check AutoLink

★ ZCIMigration

Instructions Configuration Migration

Instructions - How To

This application is all about converting/updating the existing Interactive Form templates (XDP files) to ZCI (Zero Client Install) style form templates. Having your forms converted to ZCI, will enable you to enjoy the following benefits:

- Your Interactive Forms based application will become platform and browser independent. Please take a look at the PAM (Platform Availability Matrix) in SAP service market place to know more in details about all the supported platforms and browsers.
- You will no longer need to install ACF on each and every browser system. No more maintenance overhead.

[Introduction]:
To convert an ACF style form into a ZCI style form, you will have to run your template through a number of update modules. Let us call them "Update Items". These Update Items gets shipped to the SAP customers along with the Adobe Document Services (ADS) component. Every Update Item/module has a specific task to be performed in the entire migration process. When applied one by one, in a sequence, every update will take our form closer to 100% ZCI style form. Every Update Item would return an updated intermediary template. But, you can ignore them. At the end of the process what you get is a ZCI style form ready to be downloaded. We will see the detailed steps in a moment.

Depending on the requirement, you will have to select one or more Update Items on the screen and put them in a sequence. Please take a look at the appropriate SAP note that describes which Update Items should be selected and in which sequence they need to be applied to get your requirements satisfied. Having said that, you are now left with three major tasks and they are:

- Select all the relevant Update Items.
- Put all the selected Update Items in a sequence (top to bottom approach).
- Select a form to be migrated and then migrate.

[Pre-requisites]:
Please follow the ADS installation and configuration guide available in the service market place to make sure that:

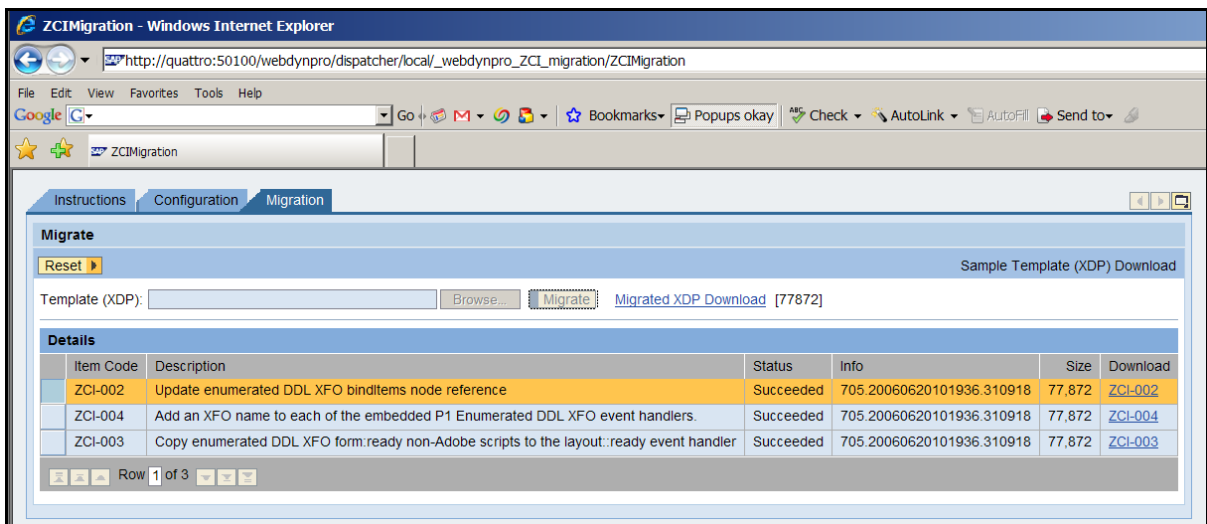
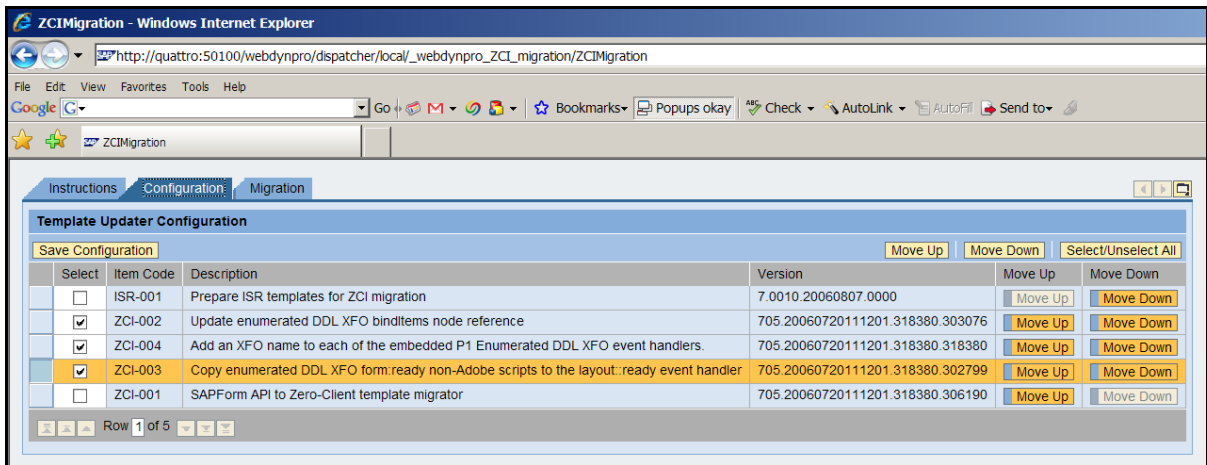
- Adobe Document Services (ADS) has been configured properly and the service is running.
- Web Service client proxy (to connect to ADS) has been configured on the server where this Web Dynpro application has been deployed.

[Steps]:

- Take a backup of all your forms that you intend to migrate.
- Click on the "Configuration" tab. We will select all the required Update Items and put them in a sequence here.
- Select the required Update Items. There might be more number of Update Items in the configuration table than you might actually need for your specific task. A corresponding SAP note will guide you on which Update Items are of our interest while converting our existing forms into ZCI style forms.
- Use the "Move Up" and "Move Down" buttons to put the selected Update Items in the sequence. For example, there are 10 Update Items with Item Codes starting at ZCI-001 to ZCI-010 (Item codes could be any String or sequence of numbers or a combination of both). Assume that the corresponding SAP note asks you to apply 3 Update Items among the 10 and they are ZCI-004, ZCI-006, and ZCI-009. It has also been instructed in the note that these three Update Items needs to be applied in a sequence of ZCI-009 > ZCI-006 > ZCI-004. Use the Move Up and Move Down buttons to move the records up and down in the table, so that the ZCI-009 appears before ZCI-006 and then ZCI-006 appears before ZCI-004. It does not matter, where these records appear on the table with respect to the non-selected records, but it is of utmost importance that the selected items maintain a sequence within themselves in the configuration table in a top-down manner. This essentially means, that you can have your first record in the table as ZCI-001, second record as ZCI-007, last record as ZCI-003 so on and so forth but ultimately, ZCI-009 should appear before ZCI-006 and ZCI-006 should appear before ZCI-004 for this example.
- Save the configuration by clicking on the "Save Configuration" button. You are done with the configuration. Remember, this is an in-memory configuration and is not persisted in any permanent storage. Once the application is destroyed and recreated (may be restarting the application or refreshing the application), configuration needs to be done again.
- Move on to the Migration tab.
- Select a template (XDP) to be updated by browsing your file system. If you wish to test around the application before you actually convert an existing productive form, please download the sample XDP from the server following the "Sample Template (XDP) Download" link on the top right corner of the screen under the "Migration" tab.
- Click "Migrate" button.
- If the migration goes successful, the "Migrated XDP Download" link next to the Migrate button will become active. The "Details" table below will also show the migration status for every Update Item along with a link to the intermediate XDP to be downloaded. You can ignore all such intermediate XDPs. What is important for us here is the final one. Click on the "Migrated XDP Download" link to download the ZCI style form from the server and then store it at an appropriate location. Be careful while replacing the original template with this one in your application directory to save the migrated form with the same name as the original one.
- Press "Reset" button when you are done with downloading the final form. This will allow you to select another XDP to be converted. It reinitializes the Migration tab UI as well. But your configuration remains unchanged. So, go ahead with your next form and follow the same steps (6 - 10).

[Verify]:

Done



3.9 Setup Form

At this phase you should setup a new test form to ensure the customer code is setup properly.

Please see the Developers Guide on how to setup a new form.

3.10 From Classes - MSG 194

FLM is delivered with 250 form class. A class is used each time a new form is created.

If you get MSG 194 you've run out of classes and must generate more.

1. Go to transaction: SE38
2. Execute Program: /FLM/SFS_CLONE_CLASS
3. Select the number of classes to generate (1-99).

4 Default Form

This menu compiles a number of functions that allow easy manipulation of the form which is currently set as default.

4.1 Maintain Default Form

This contains a list of all forms stored in the system, from which you can set one as default using the tickbox next to its name.

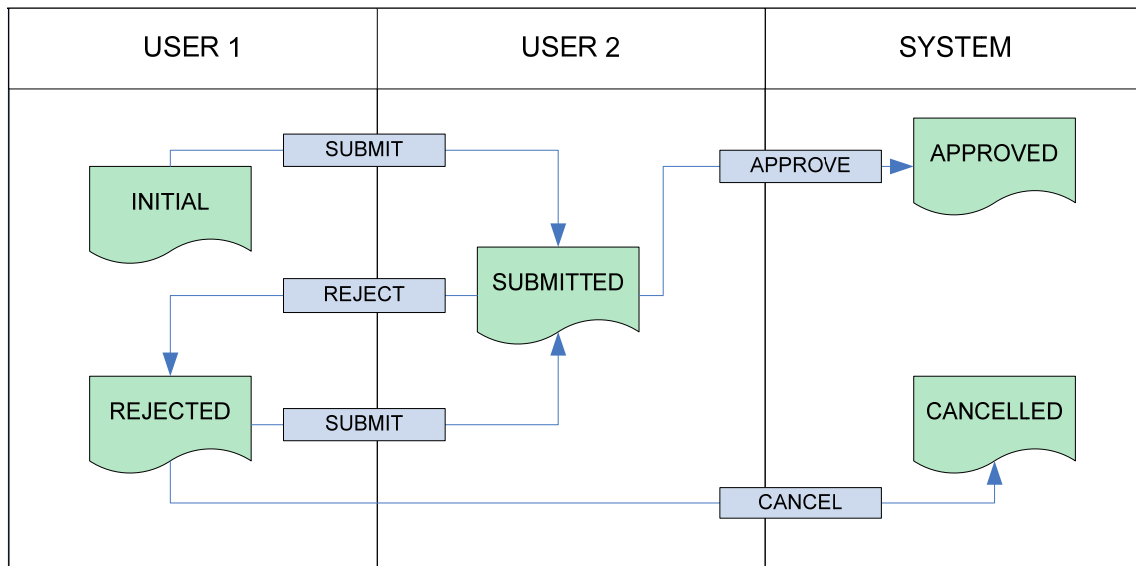
4.2 Preview Default Form

In the activity 'Form Types Configuration', one of the options allows you to set a form as default.

In 'preview default form', that form will be displayed as a pdf as it currently appears in the system. You cannot enter any data into this preview form, nor open it for editing.

5 Form Routing

This section allows you to define all aspects of the form workflow, or routing. e.g:



5.1 Form Owner Determination

In this activity you determine which user will become the new form owner after an action by a specified user on a form of a specified status.

This activity is typically only relevant for workshops and rapid forms prototyping.

Change View "FLM: Form Routing Prototyping table": Overview

Customer	FType	User Name	Status	Action	User Name
BCC	ABC2	USER1	S	A	USER3
BCC	ABC2	USER1	S	R	USER2
BCC	ABC2	USER2	I	S	USER1
BCC	ABC2	USER2	R	S	USER1
BCC	ABC4	USER1	I	S	USER2
BCC	ABC4	USER1	R	S	USER2
BCC	ABC4	USER2	S	A	USER3
BCC	ABC4	USER2	S	R	USER1
BCC	SDS1	USER1	I	S	USER2
BCC	SDS1	USER1	R	S	USER2
BCC	SDS1	USER2	S	A	USER3
BCC	SDS1	USER2	S	R	USER1

Position... Entry 1 of 31

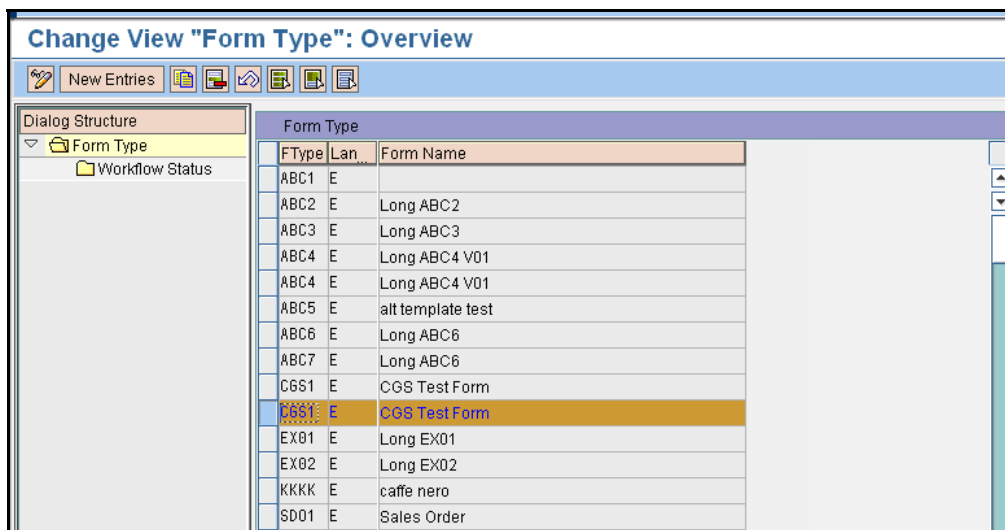
Stages in the form routing are listed as a function of customer code, form type, form status, action and user.

To add a stage in the form routing, go to 'new entries' and enter a new sequence of form ownership transfer.

4. Enter the customer code
5. Enter the form type code
6. Enter the first form owner
7. Enter the form status code to which the action will be applied
8. Enter the desired action code
9. Enter the name of the user that will become the owner of the form once steps 1-5 have been applied.

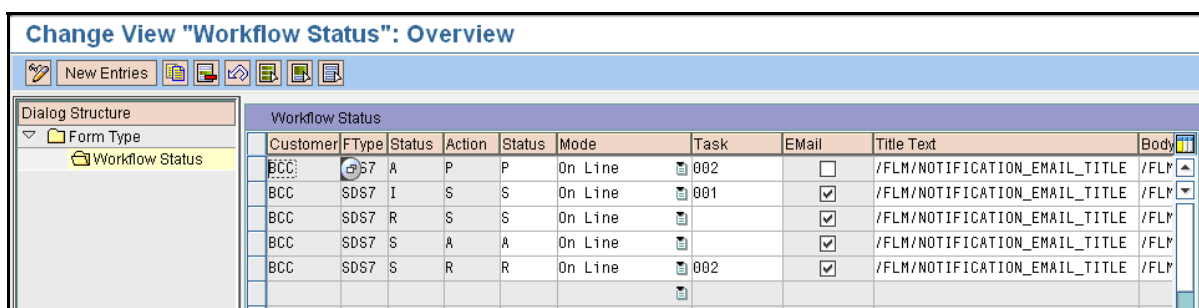
5.2 Form Status Determination

This menu allows you to view Form Statuses and Actions for Form Routing.



Form Type		
FType	Lan	Form Name
ABC1	E	
ABC2	E	Long ABC2
ABC3	E	Long ABC3
ABC4	E	Long ABC4 V01
ABC4	E	Long ABC4 V01
ABC5	E	alt template test
ABC6	E	Long ABC6
ABC7	E	Long ABC6
CGS1	E	CGS Test Form
CGS1	E	CGS Test Form
EX01	E	Long EX01
EX02	E	Long EX02
KKKK	E	caffe nero
SD01	E	Sales Order

To view the workflow status of a form, select its name from the list by clicking on the blue bar to the left of the relevant row, then double-click on 'Workflow Status' under Dialog Structure. This will bring up a screen detailing the workflow of that form, including whether that stage of the routing is to be conducted online or offline, email settings and links to any email title and body text.



Workflow Status										
Customer	FType	Status	Action	Status	Mode	Task	Email	Title Text	Body	
BCC	SDS7	A	P	P	On Line	002	<input type="checkbox"/>	/FLM/NOTIFICATION_EMAIL_TITLE	/FLP	
BCC	SDS7	I	S	S	On Line	001	<input checked="" type="checkbox"/>	/FLM/NOTIFICATION_EMAIL_TITLE	/FLP	
BCC	SDS7	R	S	S	On Line		<input checked="" type="checkbox"/>	/FLM/NOTIFICATION_EMAIL_TITLE	/FLP	
BCC	SDS7	S	A	A	On Line		<input checked="" type="checkbox"/>	/FLM/NOTIFICATION_EMAIL_TITLE	/FLP	
BCC	SDS7	S	R	R	On Line	002	<input checked="" type="checkbox"/>	/FLM/NOTIFICATION_EMAIL_TITLE	/FLP	

A new status routing can be created by selecting 'New Entries' and entering the Customer Code, Form Code, Version, Status, Action on Status, Status After Action and Online/Offline settings.

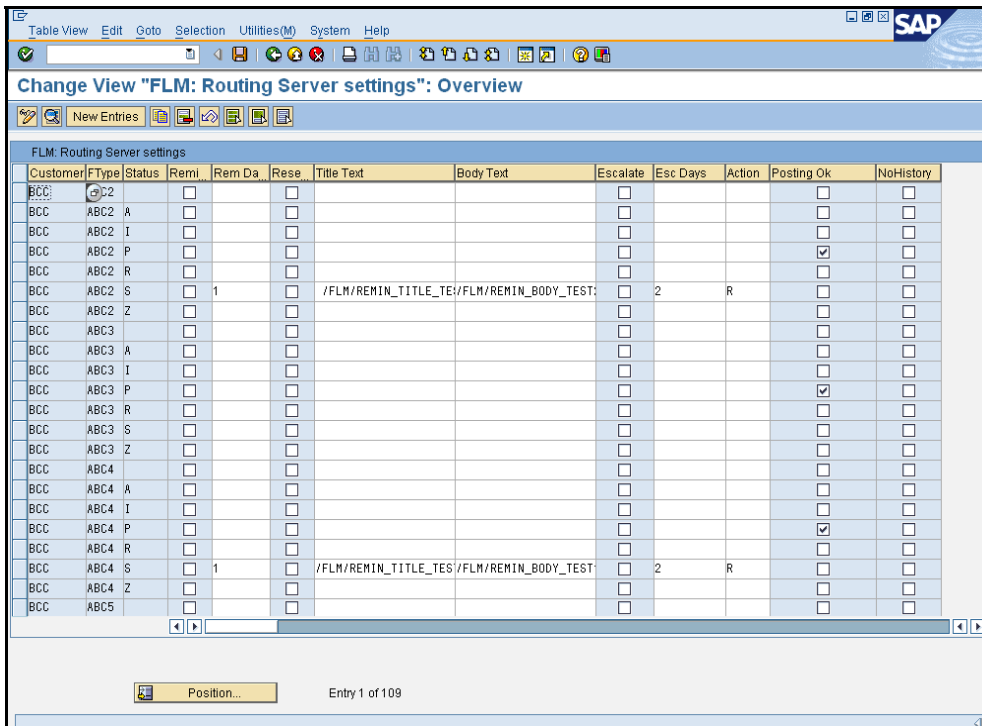
To insert a newly created status into a routing, you can click on a status field and the new status will automatically appear in the selection table. The new status configuration will have to be saved using the floppy disc icon.

ABAP code can be entered to define the form owner in the next stage of the routing by accessing data from the SAP database. Please see the Developer Guide for further details.

5.3 E-mail Reminder Settings

Email reminders can be automatically sent to the relevant user if the form spends too long at their stage in the form routing. You can set which form statuses have automatic reminders associated with them, the number of days that are allowed to pass before a reminder is sent and whether a reminder will be resent if no action is taken.

This option allows you to create and modify email reminder settings for every individual form in the system, identified by its customer code and form type. Reminders can be configured according to form status; e.g. different reminder settings can be made depending on whether the form is in initial or rejected status. Links can be made to the desired email title text and body text, and an automatic action should reminders be ignored (e.g. rejection) can be set up.



Customer	FType	Status	Remri	Rem Da	Rese	Title Text	Body Text	Escalate	Esc Days	Action	Posting Ok	NoHistory
BCC	ABC2		<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>
BCC	ABC2	A	<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>
BCC	ABC2	I	<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>
BCC	ABC2	P	<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>			<input checked="" type="checkbox"/>	<input type="checkbox"/>
BCC	ABC2	R	<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>
BCC	ABC2	S	<input type="checkbox"/>	1	<input type="checkbox"/>	/FLM/REMIN_TITLE_TEST/FLM/REMIN_BODY_TEST		<input type="checkbox"/>	2	R	<input type="checkbox"/>	<input type="checkbox"/>
BCC	ABC2	Z	<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>
BCC	ABC3		<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>
BCC	ABC3	A	<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>
BCC	ABC3	I	<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>
BCC	ABC3	P	<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>			<input checked="" type="checkbox"/>	<input type="checkbox"/>
BCC	ABC3	R	<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>
BCC	ABC3	S	<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>
BCC	ABC3	Z	<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>
BCC	ABC4		<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>
BCC	ABC4	A	<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>
BCC	ABC4	I	<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>
BCC	ABC4	P	<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>			<input checked="" type="checkbox"/>	<input type="checkbox"/>
BCC	ABC4	R	<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>
BCC	ABC4	S	<input type="checkbox"/>	1	<input type="checkbox"/>	/FLM/REMIN_TITLE_TEST/FLM/REMIN_BODY_TEST		<input type="checkbox"/>	2	R	<input type="checkbox"/>	<input type="checkbox"/>
BCC	ABC4	Z	<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>
BCC	ABC5		<input type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>

To make a new email reminder entry, go to 'new entry' at the top of the screen. Here you can enter the 3-letter customer code, four-digit form type, and form status at the time the reminder should be sent.

Under 'FLM routing server settings' you can check options to:

Send reminder email. The 'reminder window' is the number of days allowed after the recipient has received the form for their completion or authorization before a reminder is sent.

Resend reminder: here enter the name of the text object used to store the title of the reminder e-mail, and the name of the text object used to store the email body text.

Escalate form. If the user has still not passed the form on after all reminders have been sent, the system can automatically take action on the form. You can enter the number of days that make the escalation window, and the required action code, e.g. R.

Posting OK

Tick this box if posting is required at the given status/stage in the workflow. The actual posting configuration takes place in the Forms Posting Engine, under 'Define valid FPE statuses', but this box must also be checked to allow posting to take place.

No History

Allows you to select whether the form history is viewable by the owner in that status/stage of the workflow. For example, it may be desirable to hide the form history from a user.

New Entries: Details of Added Entries

Customer

Form Type

Status

FLM: Routing Server settings

Send reminder email

Reminder Window

Resend reminder

Title Text

Body Text

Escalate Form

Esc Win [Days]

Action

Posting Ok

NoHistory

6 Offline Forms Setup

Offline Forms Setup

6.1 E-mail Settings

This facility allows you to view and create email sender and receiver settings. This defines the email addresses assigned to particular stages in an offline form routing. For example, a form with status I (initial) may be submitted to an approver at the first stage of the form routing. In the example below, an Initial form ABC3 will be routed to rg@arch.co.uk once submitted by the initiator.

Change View "FLM: Offline form settings": Overview

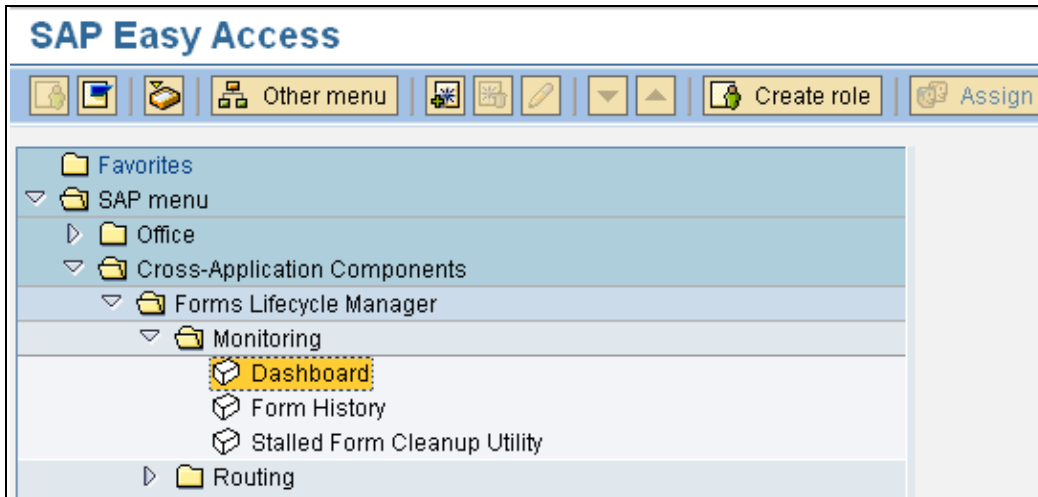
Customer	FType	Language	Version	Status	Receiver EMail	Title Text	Body Text	Attachment Name
BCC	ABC2	E	00	*				
BCC	ABC3	E	00	*				
BCC	ABC3	E	00	I	rg@arch.co.uk	/FLM/OFFLN_TITLE_TEST	/FLM/OFFLN_BODY_TEST	/FLM/OFFLN_ATT_
BCC	ABC4	E	00	*				

6.2 Define Approved Email Addresses

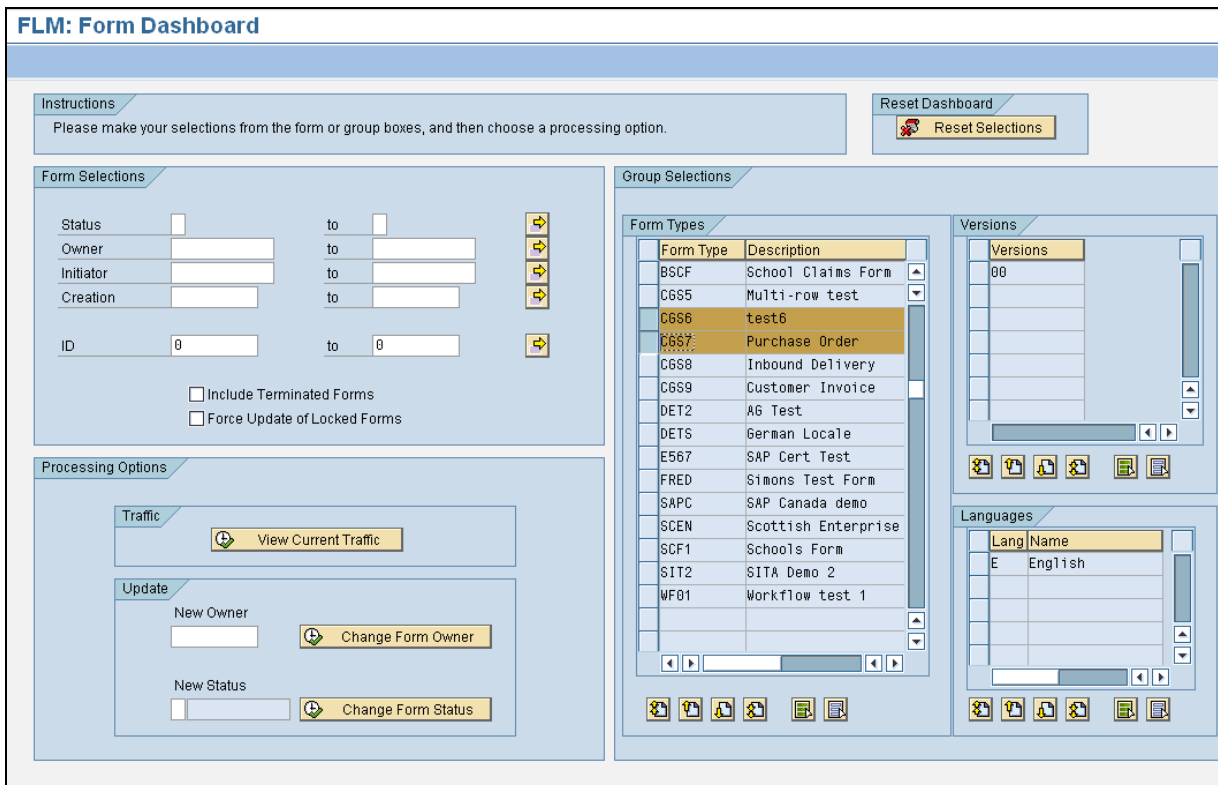
This facility allows you to create a list of Safe Email Recipients recognized by the system to be used in form routings.

7 Forms Dashboard

7.1 FLM Dashboard for Form Monitoring



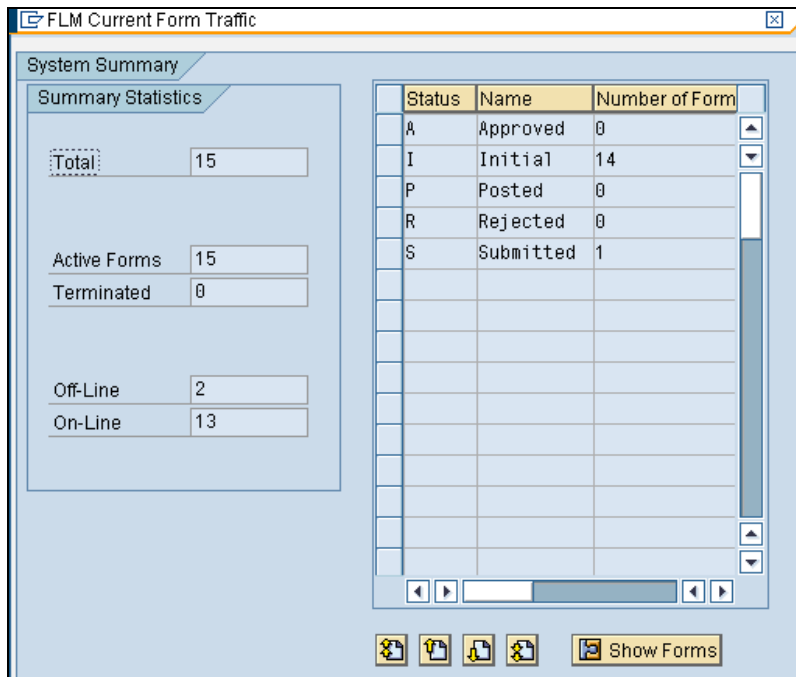
From the SAP menu select the menu path Cross-Application Components->Forms Lifecycle Manager->Monitoring->Dashboard.



Select the Form Types under review and select the pushbutton 'View Current Traffic'.

Alternatively, use the 'Form Selections' section for a free selection based on form type, owner, initiator, creation date or form ID.

Use the 'Include Terminated Forms' checkbox to include forms at the end of their lifecycle in the returned selection.



System Summary

Summary Statistics

Total: 15

Active Forms: 15

Terminated: 0

Off-Line: 2

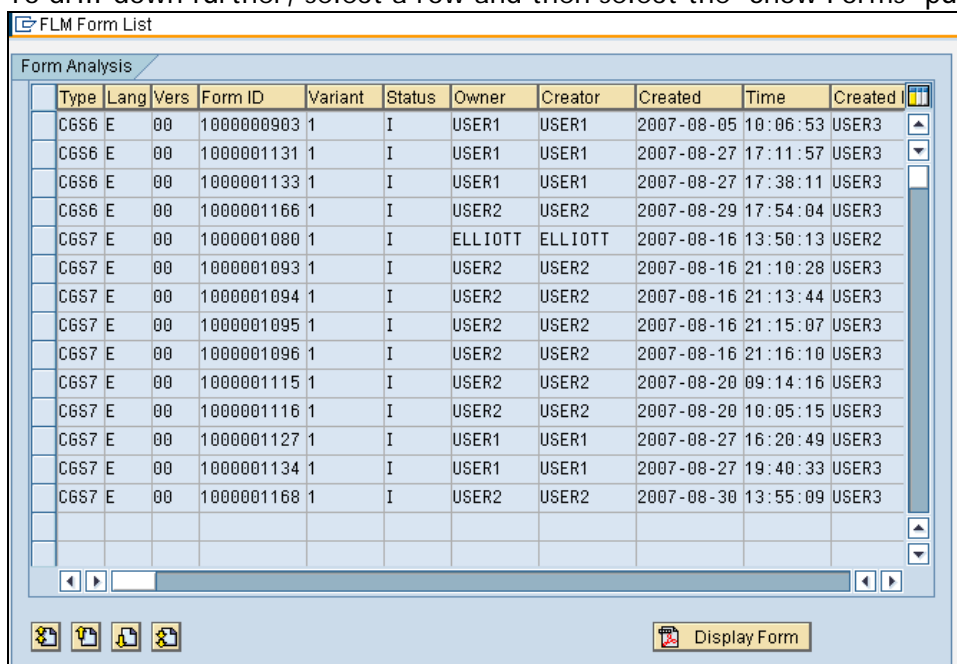
On-Line: 13

Status	Name	Number of Form
A	Approved	0
I	Initial	14
P	Posted	0
R	Rejected	0
S	Submitted	1

Buttons: Show Forms

The returned pop-up report shows the number of forms by status, broken down by active forms and terminated forms, and broken down by on-line forms and off-line forms.

To drill-down further, select a row and then select the 'Show Forms' pushbutton.



Form Analysis

Type	Lang	Vers	Form ID	Variant	Status	Owner	Creator	Created	Time	Created
C6S6	E	00	1000000903	1	I	USER1	USER1	2007-08-05	10:06:53	USER3
C6S6	E	00	1000001131	1	I	USER1	USER1	2007-08-27	17:11:57	USER3
C6S6	E	00	1000001133	1	I	USER1	USER1	2007-08-27	17:38:11	USER3
C6S6	E	00	1000001166	1	I	USER2	USER2	2007-08-29	17:54:04	USER3
C6S7	E	00	1000001080	1	I	ELLIOTT	ELLIOTT	2007-08-16	13:50:13	USER2
C6S7	E	00	1000001093	1	I	USER2	USER2	2007-08-16	21:10:28	USER3
C6S7	E	00	1000001094	1	I	USER2	USER2	2007-08-16	21:13:44	USER3
C6S7	E	00	1000001095	1	I	USER2	USER2	2007-08-16	21:15:07	USER3
C6S7	E	00	1000001096	1	I	USER2	USER2	2007-08-16	21:16:10	USER3
C6S7	E	00	1000001115	1	I	USER2	USER2	2007-08-20	09:14:16	USER3
C6S7	E	00	1000001116	1	I	USER2	USER2	2007-08-20	10:05:15	USER3
C6S7	E	00	1000001127	1	I	USER1	USER1	2007-08-27	16:20:49	USER3
C6S7	E	00	1000001134	1	I	USER1	USER1	2007-08-27	19:40:33	USER3
C6S7	E	00	1000001168	1	I	USER2	USER2	2007-08-30	13:55:09	USER3

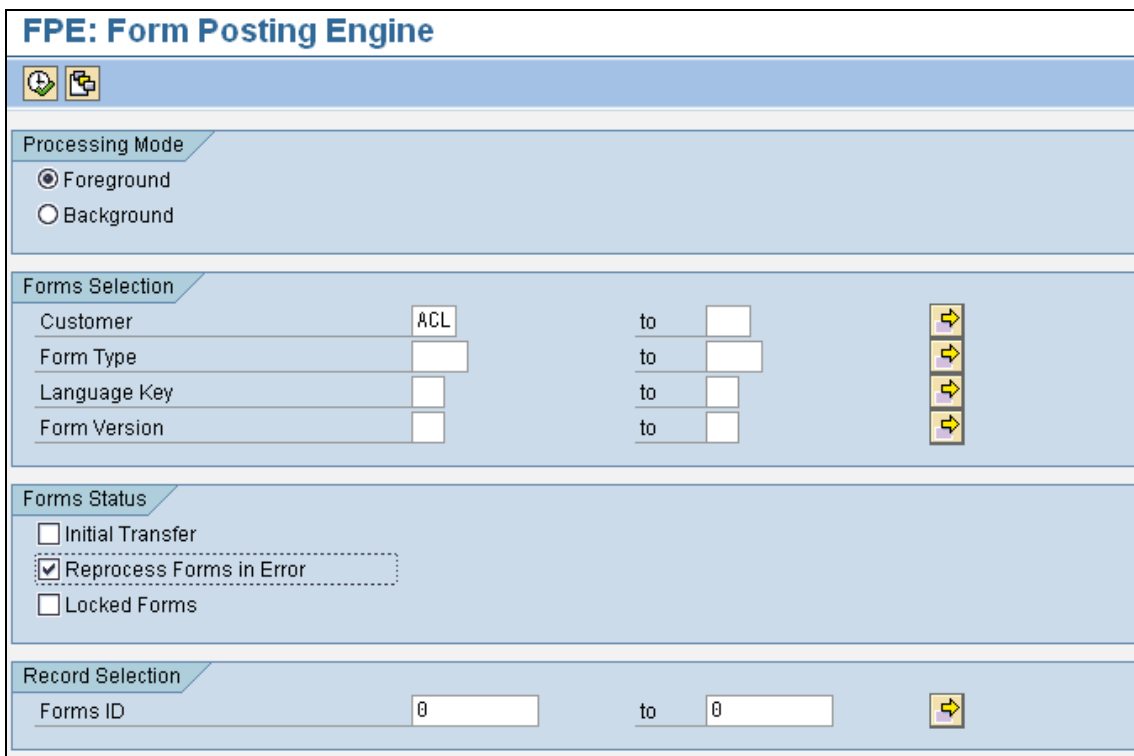
Buttons: Display Form

The FLM Form List shows the detailed list of the forms selected, showing the Form ID and Form Variant.

To drill-down to see the details of the particular form, select a row and then select the 'Display Form' pushbutton.

7.2 Manually posting field forms using the FPE

From the SAP menu select the menu path Cross-Application Components->Forms Lifecycle Manager->Monitoring->Dashboard.



FPE: Form Posting Engine

Processing Mode

Foreground
 Background

Forms Selection

Customer: ACL to []

Form Type: [] to []

Language Key: [] to []

Form Version: [] to []

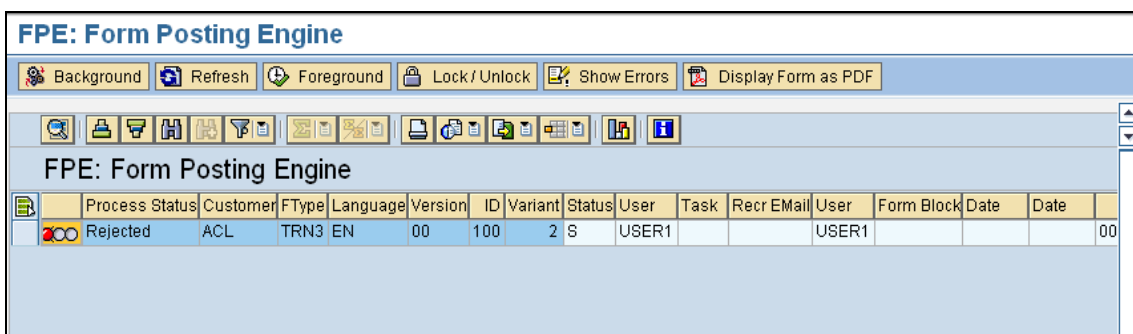
Forms Status

Initial Transfer
 Reprocess Forms in Error
 Locked Forms

Record Selection

Forms ID: 0 to 0

Leave the Form Type selection empty and select the option 'Reprocess Forms in Error'. Execute in the Foreground as shown.



FPE: Form Posting Engine

Background Refresh Foreground Lock / Unlock Show Errors Display Form as PDF

FPE: Form Posting Engine

	Process Status	Customer	FType	Language	Version	ID	Variant	Status	User	Task	Recr EMail	User	Form Block	Date	Date
	Rejected	ACL	TRN3	EN	00	100	2	S	USER1			USER1			00

Any failed forms are displayed. The following options are available:

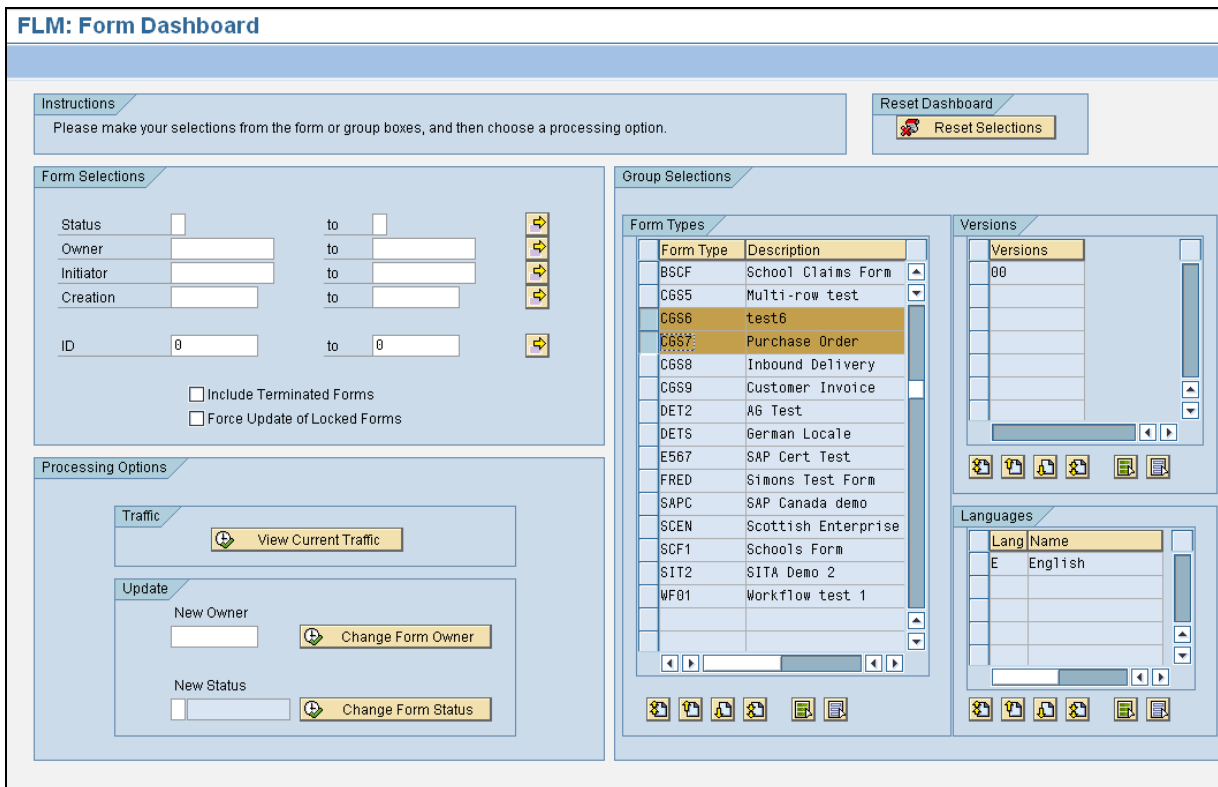
- 1) 'Show Errors': Display any errors returned by the posting adapter.

- 2) 'Background': Try to post the failed form in the background. This is suitable for posting adapters that use BAPIs to update SAP.
- 3) 'Foreground': Try to post the failed form in the foreground. This is suitable for posting adapters that use 'call transaction' (like a BDC session) to update SAP.
- 4) 'Lock/Unlock': Lock a form so that FPE stops trying to post it. The form can be fixed later or removed using the clean-up utility as necessary.
- 5) 'Display Form as PDF': Show the form data to help understand why the posting failed.

Select the option as desired to further process the form.

7.3 Form status re-assignment

From the SAP menu select the menu path Cross-Application Components->Forms Lifecycle Manager->Monitoring->Dashboard.



Enter selections using the 'Form Selections' or 'Group Selections' section boxes.

Enter the current status in the 'Status' field within the 'Form selections' selection box. Enter the target status in the 'New Status' field within the 'Update' section of the 'Processing Options' selection box.

If any forms to be updated are locked then the 'Force Update of Locked Forms' checkbox must be selected.

Execute using the 'Change Form Status' pushbutton. Several pop-up windows now appear:

- 1) A warning pop-up window is displayed
- 2) A confirmation pop-up window is displayed to confirm the change status action

- 3) A pop-up window is displayed for each locked form, explaining that the form will be unlocked.
- 4) The following final confirmation window is displayed:

Code	Form ID	Run Date	Run Time	Old User	New User	Old Status	New Status	Text
0	1000001222	24.09.2007		USER1	USER1	I	P	Status can be changed
0	1000001168	24.09.2007		USER2	USER2	I	P	Status can be changed
0	1000001134	24.09.2007		USER1	USER1	I	P	Status can be changed
0	1000001127	24.09.2007		USER1	USER1	I	P	Status can be changed
0	1000001116	24.09.2007		USER2	USER2	I	P	Status can be changed
0	1000001115	24.09.2007		USER2	USER2	I	P	Status can be changed
0	1000001096	24.09.2007		USER2	USER2	I	P	Status can be changed
0	1000001095	24.09.2007		USER2	USER2	I	P	Status can be changed
0	1000001094	24.09.2007		USER2	USER2	I	P	Status can be changed
0	1000001093	24.09.2007		USER2	USER2	I	P	Status can be changed
0	1000001080	24.09.2007		ELL10TT	ELL10TT	I	P	Status can be changed

Accept Changes Reject Changes

Select 'Accept Changes' to continue.

- 5) A final confirmation window is displayed when the changes have been posted.

7.4 Form owner re-assignment

From the SAP menu select the menu path Cross-Application Components->Forms Lifecycle Manager->Monitoring->Dashboard.

FLM: Form Dashboard

Instructions: Please make your selections from the form or group boxes, and then choose a processing option.

Reset Dashboard Reset Selections

Form Selections

Status to

Owner to

Initiator to

Creation to

ID to

Include Terminated Forms

Force Update of Locked Forms

Group Selections

Form Type	Description
BSCF	School Claims Form
C655	Multi-row test
C656	test6
C657	Purchase Order
C658	Inbound Delivery
C659	Customer Invoice
DET2	AG Test
DETS	German Locale
E567	SAP Cert Test
FRED	Simons Test Form
SAPC	SAP Canada demo
SCEN	Scottish Enterprise
SCF1	Schools Form
SIT2	SITA Demo 2
WF01	Workflow test 1

Versions

Versions
00

Languages

Lang Name
E English

Processing Options

Traffic:

Update:

New Owner:

New Status:

8 Execution Tools

8.1 FLM System Log

FLM specific events are recorded in the FLM Application Log.

Old log entries can be removed by using transaction SLG2 and object /FLM/LOG

8.2 ADS Performance Test

The performance of ADS can be measured using this transaction. ADS performance is a function of hardware, software and basis settings. The overwhelming majority of processing in ADS rendering is done on the java stack.

Performance improvements fall into 2 main categories, firstly making an individual CPU thread run more quickly, and secondly, providing more parallel CPU threads for ADS processing:

Individual CPU thread Tuning

Check there is no memory limitation on the machine at the OS layer. Processes to monitor are "PDFManipulation.exe" and "XMLForm.exe".

Run the ADS system on native 64-bit hardware. Even though some ADS modules are 32-bit, the overall performance can be improved by building on 64-bit hardware. Check SAP note 925741 for details of supported platforms.

Make the form templates as small as possible. Do not embed logos and use non-embedding fonts [TNR, Times, Arial, Helvetica and Courier] only.

Parallelising ADS Processing

Java stacks can be clustered.

In the Visual Administrator, <SID> / ServerXX / Services / PDF Manipulation module - Low encryption, change the PoolMax setting to allow more CPU cores to run ADS process threads. Obviously this can have a detrimental effect on other services provided by the java stack. Similarly adjust 'XML Form Module' service via the VA. Always restart the java stack after these changes.

Please see SAP's "Sizing for Adobe Document Services" guide for more details on performance tuning. This can be downloaded from OSS

9 Form Monitoring

9.1 Form History Report

From the SAP menu select the menu path Cross-Application Components->Forms Lifecycle Manager->Monitoring->Form History.

Form History Report

Form selections

Customer	<input type="text"/>	to	<input type="text"/>	
Form Type	<input type="text"/>	to	<input type="text"/>	
Form Version	<input type="text"/>	to	<input type="text"/>	
Language Key	<input type="text"/>	to	<input type="text"/>	
ID	<input type="text" value="0"/>	to	<input type="text" value="0"/>	

Status selections

Status	<input type="text"/>	to	<input type="text"/>	
Form Owner	<input type="text"/>	to	<input type="text"/>	
Form Creation Date	<input type="text"/>	to	<input type="text"/>	
Form Initiator	<input type="text"/>	to	<input type="text"/>	

Enter selections as normal for any selection screen.

The report performs a simple selection on table /FLM/FPE_H and displays the form history for one or many forms.

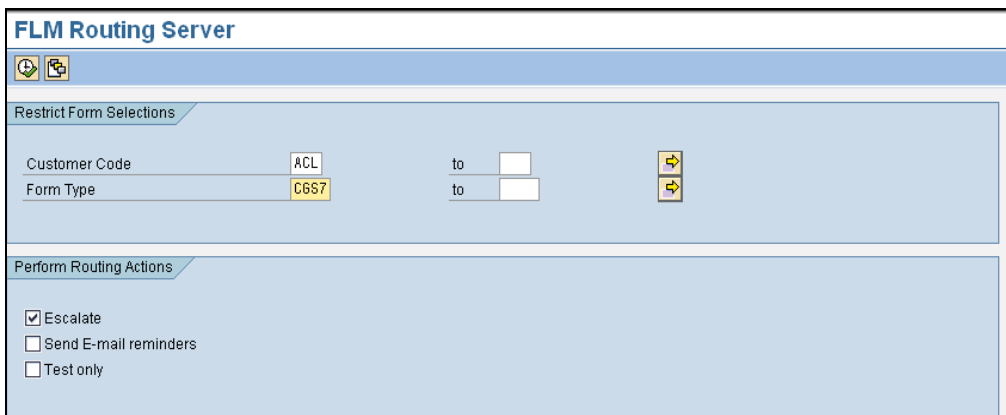
Form History Report												
Form History Report												
Form ID	Variant	Event	Old Owner	New Owner	Old Status	New Status	Created on	Created at	Initiator	Description	Action	Posting Status
1000001078	0001	001		USER2		Initial	15.08.2007 17:41:13		USER3	New form instance		Initial
1000001078	0002	002	USER2	USER2	Initial	Initial	15.08.2007 17:42:30		USER3	New Variant Generated	6	Initial
	0002	003	USER2	USER2	Initial	D	15.08.2007 17:42:30		USER3	Status Change	D	Initial
1000001078	0003	004	USER2	USER2	D	D	15.08.2007 17:43:14		USER3	New Variant Generated	6	Initial
	0003	005	USER2	USER2	D	Posted	15.08.2007 17:43:14		USER3	Status Change	Submit	Initial
	0003	006	USER2	USER2	Posted	Posted	15.08.2007 17:43:56		USER2	FPE: Posted to SAP. Document:- 0180000126		Posted

10 Background Jobs

Typically the following jobs should run daily, depending on the business process requirements:

10.1 Form Escalation

Program: /FLM/WF_ENGINE



FLM Routing Server

Restrict Form Selections

Customer Code: to

Form Type: to

Perform Routing Actions

Escalate

Send E-mail reminders

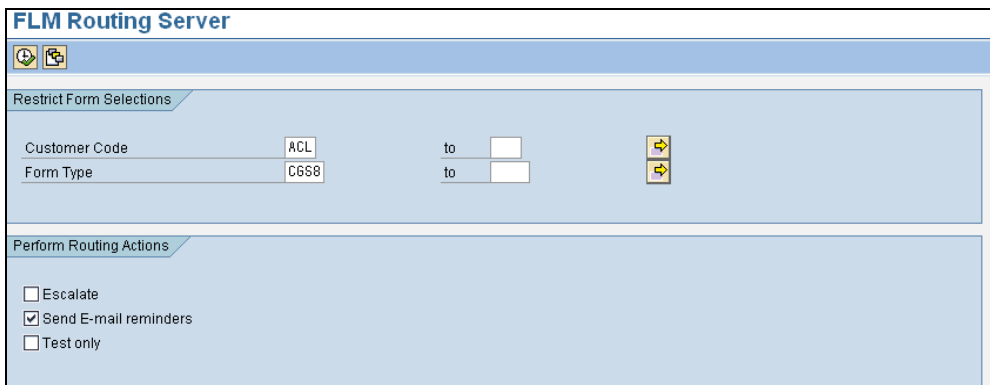
Test only

The form routing server should be run with the 'escalate' option for all form types. The program can be run in this mode multiple times per day; for example it could be run hourly depending on the business requirements.

The output written to the spool shows all forms selected for escalation.

10.2 Form Reminder E-mails

Program: /FLM/WF_ENGINE



FLM Routing Server

Restrict Form Selections

Customer Code: to

Form Type: to

Perform Routing Actions

Escalate

Send E-mail reminders

Test only

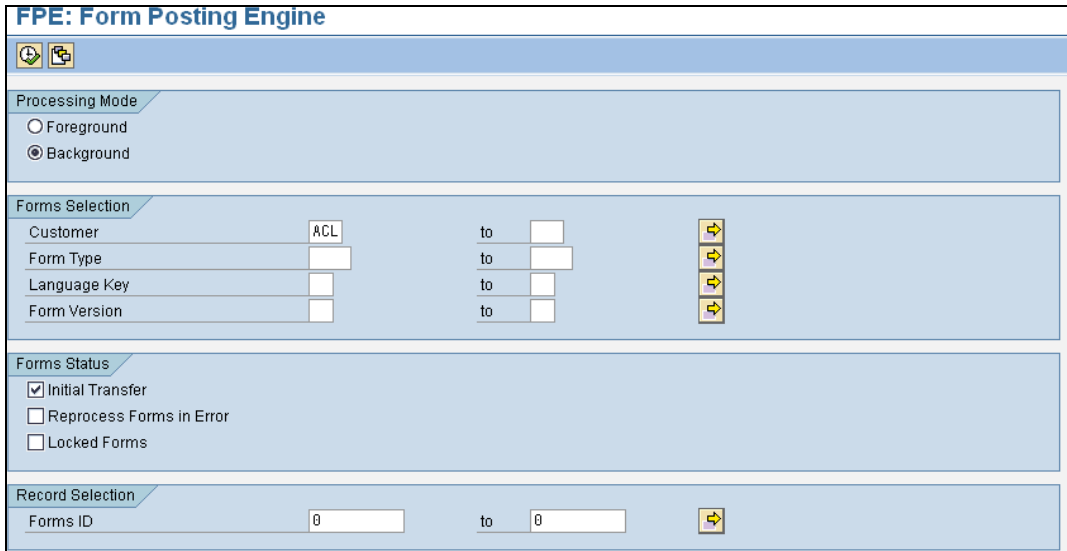
The form routing server should be run with the 'Send e-mail reminders' option for all form types.

The program must only be run in this mode once per day.

The output written to the spool shows all forms selected for e-mail reminders.

10.3 Form Posting

Program: /FLM/FPE_INVOKE



FPE: Form Posting Engine

Processing Mode
 Foreground
 Background

Forms Selection
 Customer to
 Form Type to
 Language Key to
 Form Version to

Forms Status
 Initial Transfer
 Reprocess Forms in Error
 Locked Forms

Record Selection
 Forms ID to

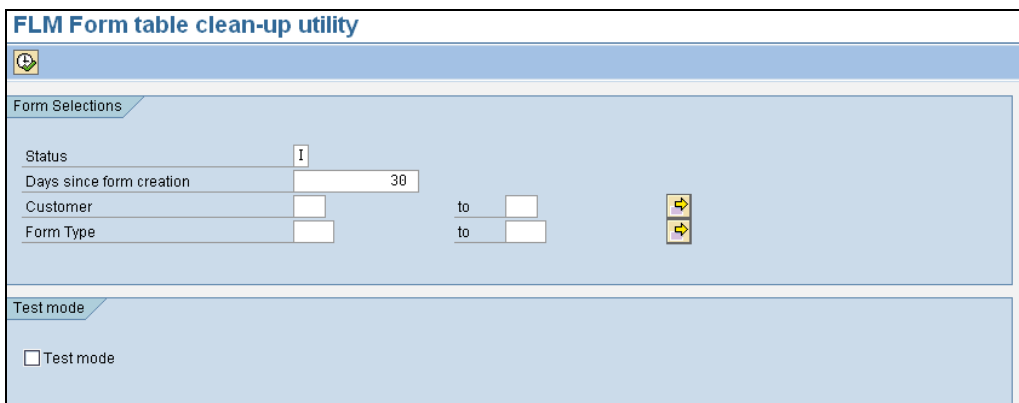
The Form Posting Engine should be run as a background job multiple times per day; for example it could be run once every hour depending on the business requirements.

The option 'Initial Transfer' should be selected for background processing. The options 'Reprocess Forms in Error' and 'Locked Forms' should not be selected.

The output written to the spool shows all forms posted.

10.4 Form Clean-up

Program: /FLM/FORM_CLEANUP



FLM Form table clean-up utility

Form Selections
 Status
 Days since form creation
 Customer to
 Form Type to

Test mode
 Test mode

It is recommended that the clean-up utility is run daily to remove unwanted forms. These forms have been rendered but not submitted, so remain in their initial status.

For offline forms the deletion window (shown above as 30 days) should be set at the point in time after which no submissions are accepted for the form type.

For on-line forms the deletion window should be set to 1 day.

Typically there would be one variant for on-line forms and one variant for off-line forms for the clean up utility background job. Alternatively a separate variant could be used for each form type.

The output written to the spool shows all forms removed. The form history table is not deleted and records that the form has been removed.

11 Setting Up Email Handling in FLM

FLM processing relies on e-mails in the following scenarios:

- On-line forms: outbound notification e-mails
- On-line forms: outbound reminder e-mails
- Off-line forms: outbound e-mail with PDF attachment
- Off-line forms: inbound e-mail with attachment processing
- SAP Output: e-mail with PDF attachment

This document describes the SAP set-up for handling the outbound and inbound e-mails for these scenarios.

Also refer to SAP note 455140 for further reading.

11.1 Outbound Emails

11.1.1 Transaction SCOT: SAP Connect

Change the SMTP node to point this at the external SMTP server.

SMTP node set-up

SAPconnect: Administration (system status)

Start of evaluation time: 2007-06-10 00:00

Completed	Error	In transit	Waiting	Duration In transit	Duration Waiting
Ø	hh:mm	Ø	hh:mm	Ø	hh:mm

E5F (800)

- FAX Telefax
 - SXC1
- INT Internet
 - IMGW
 - SMTP
- X40 X.400
 - SXC1
- RML R/Mail or
 - MAIL
- PAG
 - PSSFAX
- PRT

SAPconnect: General node data

General information

Node: SMTP

Description: Mail Server

Maximum waiting time for repeat send attempt procedure:

Hours/minutes: / 30

Node in use

SMTP Connection

Mail Host: pickwick.w4.local

Mail Port: 25

Code Page: 4110 Unicode UTF-8

Supported address types

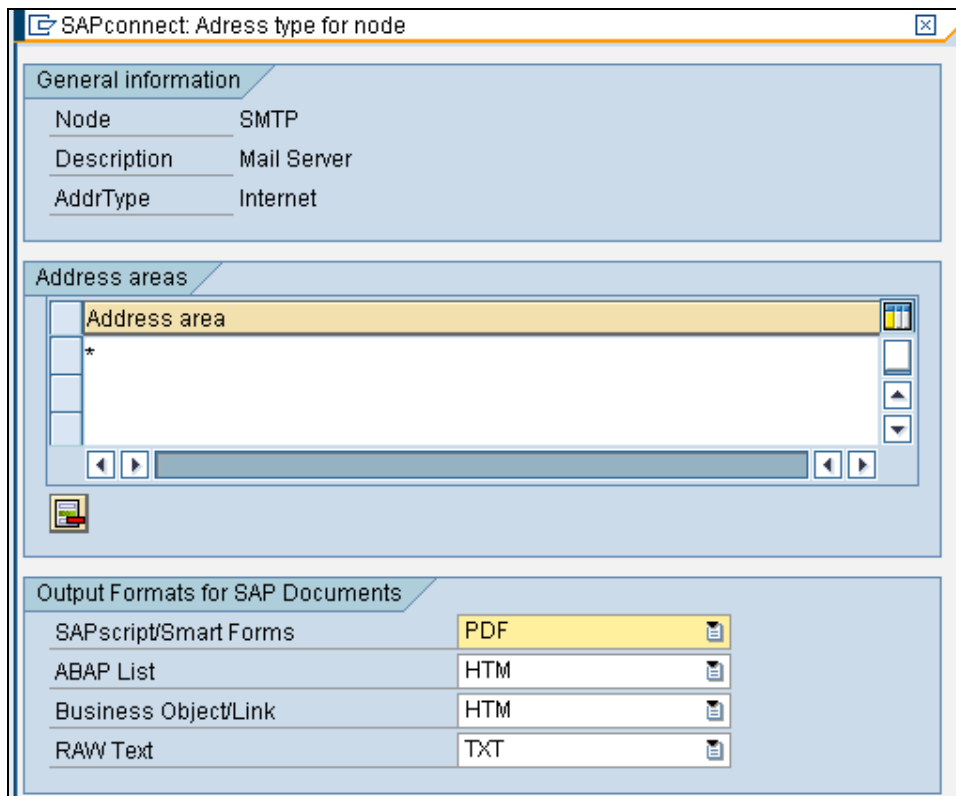
Fax

Internet

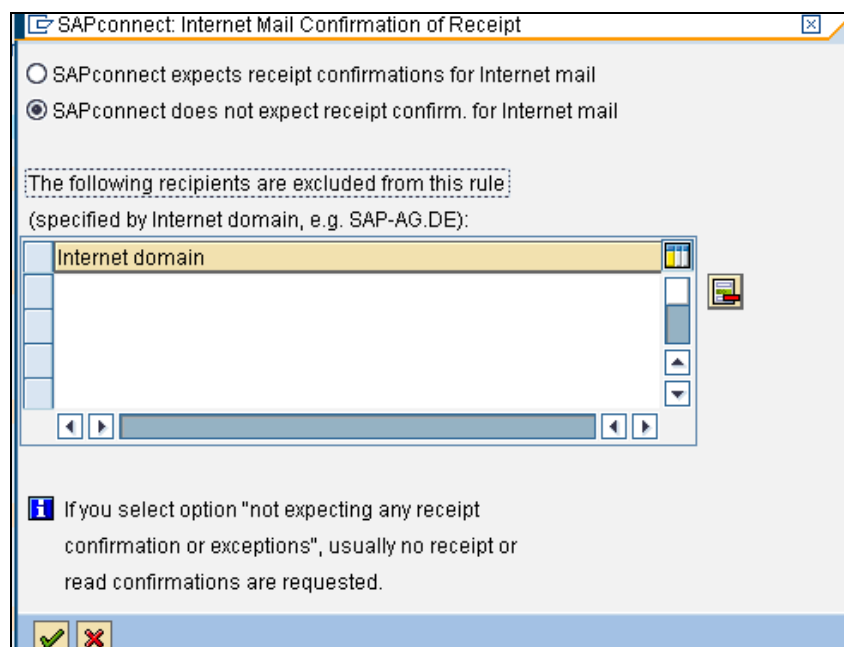
Pager (SMS)

Last changed by: USER1 on 2007-05-30

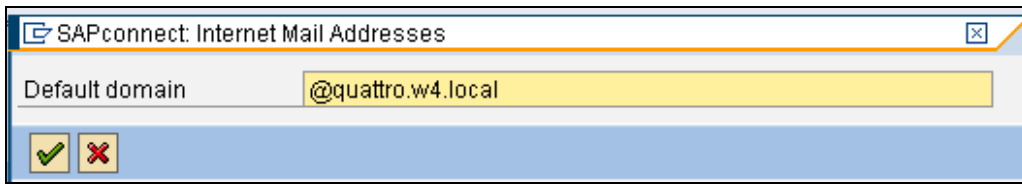
Set up the Internet address types as follows:



Turn off confirmation of receipt
 Use the menu path *Settings->Confirmation of receipt*.



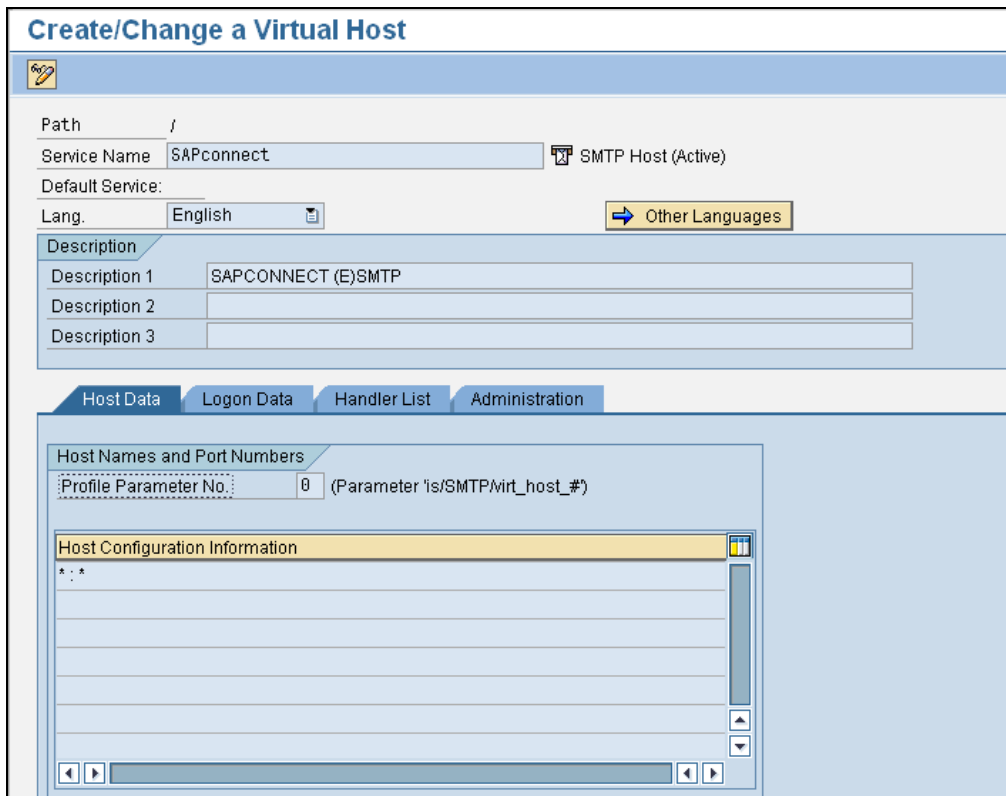
Set default domain
 Use the menu path *Settings->Default domain*. This is the location of the SAP application server.



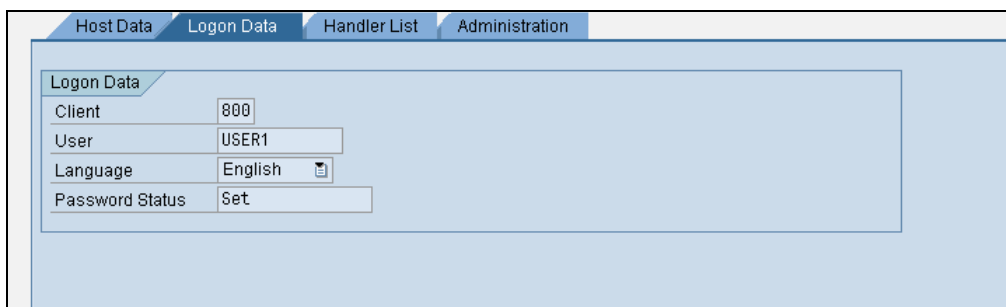
Paragraph

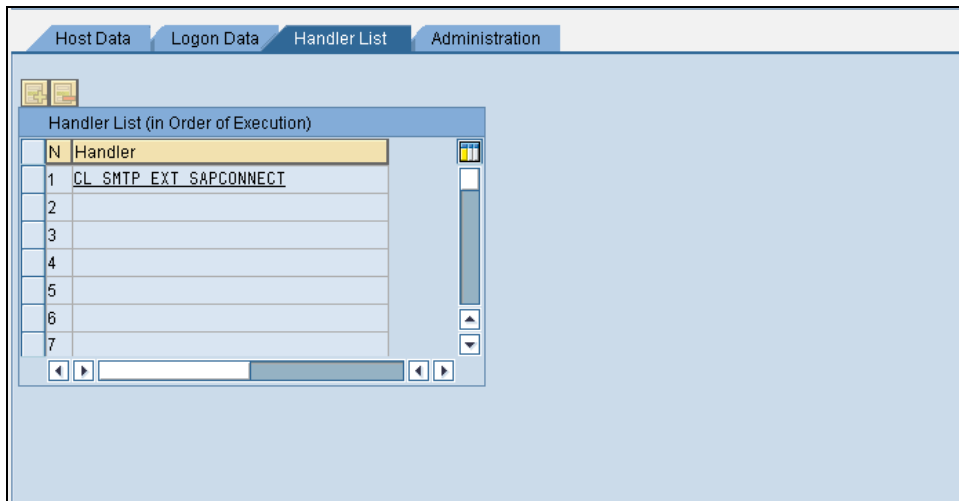
11.1.2 Transaction SICF: Service for SAP Connect

Execute hierarchy type 'SERVICE' and change the 'SAPconnect' service.



Enter a user id to logon to SAPconnect.





11.1.3 User Defaults

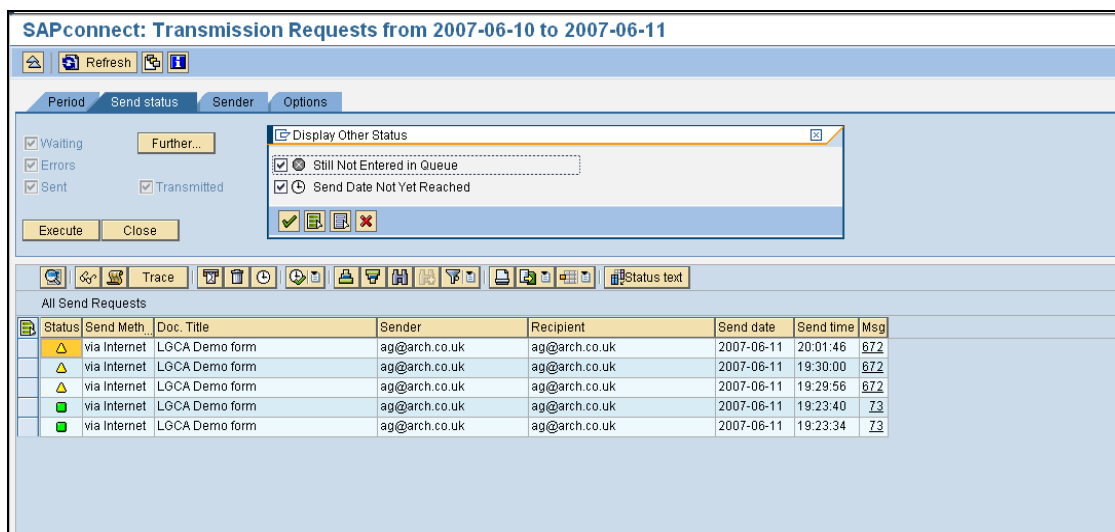
Ensure that the user selected for the SAPconnect logon has an e-mail address, and has a personal time zone that matches the required locale. (Transaction SU01).

11.1.4 SPAM filter on Exchange Server.

Set the Intelligent Message Filter on the Exchange Server in order to enable e-mails from the SAP server. [We needed to set this to '8' in order for the e-mails to be permitted.]

11.1.5 SOST for tracking test e-mails.

Use the 'Send status' tab with the 'Further' settings in order to track outbound e-mails.



11.2 Inbound E-mails

11.2.1 SCOT: SAP Connect Settings

Use the menu path *Settings->Inbound processing*.

Insert an entry for the address to which off-line forms are to be returned.

Choose the exit '/FLM/EMAIL_HANDLER' to process all inbound e-mails.

Communication T...	Recipient Address	Docu...	Exit Name	Call...
Internet Mail	flm@quattro.w4.local	*	/FLM/EMAIL_HANDLER	1
Internet Mail	*	ICS	CL_APPOINTMENT_REPLY	2
Internet Mail	survey@800.id3.r3.sap-ag.de	*	CL_UWS_FORM_RUNTIME_MAI	3

11.2.2 System Profile Parameters

Run program RSPARAM in SE38 to display the profile parameters.

Navigate to parameter icm/server_port_1, and set the port to 25.

Parameter Name	User-Defined Value	System Default Value
Display Profile Parameter		
Parameter		
Parameter Name	icm/server_port_1	
Short Description		
Value		
1.1 C kernel	PROT=SMTP,PORT=0	
2.1 Default Profile	PROT=SMTP,PORT=0	
E:\usr\sap\E5F\SYSTEM\profile\DEFAULT.PFL		
3.1 Instance Profile	PROT=SMTP,PORT=25	
E:\usr\sap\E5F\SYSTEM\profile\E5F_DVEBMGS01_quattro		
3.2 program parameters	PROT=SMTP,PORT=25	
3.3 Replace \$\$ and \$(.)	PROT=SMTP,PORT=25	
3.4 Generate file name	PROT=SMTP,PORT=25	
4.4 Current Value	PROT=SMTP,PORT=25	
		FILE=dev_icm_sec,MAXSIZEKB=500
		RT=HTTP,PORT=0
		PROT=SMTP,PORT=0