

Functions in Detail

FLM Release 260

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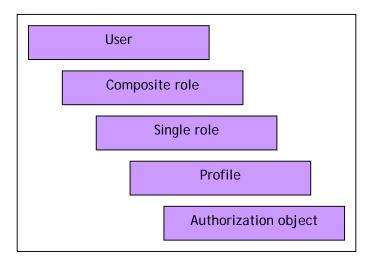
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Setting Up Authorisation Checks For FLM Forms

This section describes the authorization checking functionality within FLM, and describes how to set up this functionality.

1.1 Overview



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.

1.2 Authorization Fields

Three authorization fields are delivered as part of FLM:

- o /FLM/CUST Customer
- o /FLM/FTYPE Form type
- o /FLM/FCAT Form category

These three authorization fields, along with the standard field ACTVT, must be included in the authorization object.

1.3 Authorization Object

FLM is not shipped with an authorization object. Part of the installation process involves the creation of authorization object 'z/flm/0001'.



1.3.1 Creating an Authorization Object

- Transaction RSU21_NEW or menu path 'Tools->ABAP Workbench->Development->Other tools->Authorization objects->Objects'
- Choose the pushbutton for create authorization object.
- Enter the following:
 - Object: 'z/flm/0001'
 - Text: 'FLM: Form posting authorization'
 - Class: 'AAAB'
 - Field name: /FLM/CUST
 - Field name: /FLM/CAT
 - Field name: /FLM/FTYPE
 - Field name: ACTVT

Maintain the Authorization Objects				
🕒 Regenera	te SAP_ALL			
📴 Maintain au	thorization object	×		
Object	Z/FLM/0001			
Text	FLM: Form posting authorization			
Class	AAAB Cross-application Authorization Objects			
Author	USER2			
Authorization 1	ields			
Field name	Heading			
/FLM/CUST	SFS: Customer Code			
/FLM/FCAT	FLM: Form Category Code			
/FLM/FTYPE	SFS: Form Type			
ACTVT Activity				
Authorization Object Documentation				
Create Object Documentation				
Further authorization object settings				
Conversion for authorization fields allowed				
Permitted Activities				

- o Select pushbutton to maintain the permitted activities.
- o Select options '01', '02', '03' and '10' only. Save,
- Select pushbutton to create documentation, then save
- Save the authorization object.
- Finally we need to regenerate the SAP_ALL profile in order to include the new object. Use the pushbutton 'Re-generate SAP_ALL' on the top of the front screen for transaction RSU21_NEW.



1.3.2 Linking the Authorization Object to FLM forms

Table /FLM/FTYPE_A stores the authorization object for each form. Typically just one authorization object will be sufficient for all the forms, so the same object will appear for all forms. This table is available through the IMG or through transaction SM30.

New Entries: Overview of Added Entries				
FLM: Form Type Authorisations				
Customer FType Object				
ACL ADBE Z/FLM/0001				

1.4 Roles

There are various ways of linking the authorization object to user ids using roles and profiles. In this section we describe one method, using a 'single role' and a 'generated profile'.

1.4.1 Creating an FLM Admin Role

We need one role for FLM administration

- Select the menu path 'Tools->Administration->User Maintenance->Role Administration->Roles.'
- Enter role name 'FLM_ADMIN' and choose the 'Single Role' pushbutton.
- o Enter the role description then Save



Change Roles				
🕅 🖷 Other role 🚭 🖪				
Role				
Role FLM_ADMIN				
Description FLM administration				
🔍 Description 🛛 💓 Menu 🖉 Authorizations 🏾 🏹 User 🛛 MiniApps 🛛 👹 Personalization				
Administration Information Created User: USER2 Date 2007-06-11 Time 10:22:17				
Long Text				
Li 1, Co 1 - Li 1, Co 19 Ln 1 - Ln 1 of 1 lines				

- Select the Authorizations tab
- Select the 'Propose Profile Names' pushbutton, and a profile name is generated automatically. Save.

🔇 Descripti	on 🛛 💓 Menu 🖉 💓 Authorization	s 🛛 🎽 User	MiniApps	🙀 Personaliza	ation			
User		User						
Date		Date						
Time	00:00:00	Time	00:00:00					
Information Abo	ut Authorization Profile							
Profile Name	Profile Name T-EF550393 📋							
Profile Text	file Text Profile for role FLM_ADMIN							
Status No authorization data exists								
Maintain Authori	Maintain Authorization Data and Generate Profiles							
Change Authorization Data								
Expert Mode for Profile Generation								

- Select the Change Authorization Data pushbutton. A pop-up window is displayed. Select the 'Do not select templates' pushbutton.
- Now select the 'Manually' pushbutton, and enter the authorization object 'Z/FLM/0001'.



Change role: Authorizations	
뒘 🖺 🚱 🗊 🛃 Selection criteria 🛃 Manually	y 📴 Open 📴 Changed 🔃 Maintained Organizational levels 🔢 🚺 Information
Maint.: 0 Unmaint.org.levels	0 open fields, Status: Changed
FLM_ADMIN COC FLM administ	stration
🖙 Manual selection of authorizations 🛛 🖂	1
Authorization object Z/FLM/0001	
Authorization object	
✓ ×	
	1

• Expand the hierarchy and then enter values for each field: select the '*' symbol in order for this role to include all form types, categories and activities.

Change role: Authorizations					
🔁 🎦 🛃 🚱 🗊 🛃 Selection criteria 🛃 Manually 🕅 Ope	en 📴 Changed 📴 Maintained Organizational levels 📳 🚹 Information				
Maint.: 0 Unmaint.org.levels 0 ope	n fields, Status: Changed				
FLM_ADMIN COO FLM administration					
Cross-application Authorization	Objects				
🖵 🖂 😋 🔚 🔏 Manually 🛛 📙 FLM: Form posting auth	norization				
🖵 🖂 🕞 Manually 🛛 FLM: Form posting authorization					
→ PSS: Customer Code					
Control Category Code * Set Set Set Set Set Set Set Set Set					
All activities					

- o Generate.
- Role FLM_ADMIN is now ready to be linked to user records.

1.4.2 Creating Form User Roles

Follow the same steps as for setting up the FLM_ADMIN role, but in the final step, limit the role by form category or form type. If the user only submits forms but cannot change submitted forms then select activity 01 but not 02.

If the user can post forms in FPE and display them, but not submit or approve forms, then choose activities 03 and 10 but not 01 or 02, etc.



Change role: Authorizations	Change role: Authorizations				
🖻 🔚 🊱 👕 🛃 Selection criteria 🛃 Manually 📧 Open 💌 Changed 📧 Maintained Organizational levels 🔢 🖬 Information					
Maint.: 0 Unmaint.org.levels 0 open fields, Status: generated					
FLM_USER OOD FLM form user					
Cross-application Authorization	Objecte				
	objects				
🖵 🖂 🖂 🔚 🚨 Manually 🛛 🕞 FLM: Form posting auth	orization				
COD La Kanually FLM: Form posting authorization					
* SFS: Customer Code ACL					
🗕 🖌 FLM: Form Category Code 🛛 SD					
SFS: Form Type					
Treate or generate, Change					

1.4.3 FLM Portal Role

Each user who is to be able to access Adobe forms via the FLM Portal *must* be assigned the role FLM_PORTAL_USER. This role doesn't not have to contain any particular authorisations, but must be generated and assigned to the user.

1.5 User Masters

1.5.1 Roles

Once the roles and profiles have been created, it is necessary to link the roles to the user master records as normal.

This can be achieved on a user-by-user basis, or by adding the FLM roles to existing composite roles.

Users are maintained in transaction SU01.

The role is added as shown in the 'Roles' tab.

Maintain User						
19 🖾						
User USER3 Last Changed On USER2 2007-0	6-08 15	5:01:11	Status	Revised		
Address Logon data Defaults Parameters Roles Profiles Groups T () 변 로마르 다 아이지 않는 것 같은 것 같						
Role Assignments						
St. Role	Туре	Valid From	Valid to	Name		
FLM_ADMIN	-	2007-06-11	9999-12-31	FLM administration		
Z:TEST	-	2007-06-08	9999-12-31	FLM test role	-	

When the role is added to the user, the profile appears in the 'Profiles' tab.



1.5.2 Parameters

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:

Maintain User						
1						
User USER1 Last Changed On USER3	14.08.2007	13:15:42 Status Saved				
Address Logon data Defaults Parameters Roles Profiles Groups						
Parameter						
Parameter ID	Parameter value	Short Description				
/FLM/CCODE	ACL	FLM Customer to over-ride default				
			-			
Parameter Parameter ID /FLM/CCODE						

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.

1.6 Offline User

The FLM system requires one SAP user as the so-called 'Offline User'. The FLM framework uses this user for processing offline forms [ie form sent to user not via the FLM Portal], since at this time no SAP dialog user is available for authorisation checking.



It is recommended that an SAP user is given open authorisations to the FLM system as follows:

/FLM/CUST	
/FLM/CAT	
/FLM/FTYPE	
ACTVT	

This user master record is entered into the FLM configuration under the 'Set Customer Code' IMG activity against the 'Offline User' field.

2 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
- o Off-line forms: outbound e-mail with PDF attachment
- o Off-line forms: inbound e-mail with attachment processing
- o 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.

2.1 Outbound Emails

2.1.1 Transaction SCOT: SAP Connect

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

SMTP node set-up



SAPconnect: Adm	ninistration (system status)	
0 🖉 🚱 🖸 🛛	3 ▽ ≙ € 🕮 🖷 🚱	
Start of evaluation time	e: 2007-06-10 00:00 Duration Duration Completed Error In transit Waiting In transit Waiting Ø hh:mm Ø hh:mm	
E5F (800)	🖙 SAPconnect: General node data 🛛 🗵	
FAX Telefax	General information Node SMTP	
INT Internet	Description Mail Server Maximum waiting time for repeat send attempt procedure: Hours/minutes / 30	
IMGW SMTP	✓ Node in use	
E X40 X.400	SMTP Connection	1
SXC1	Mail Host pickwick.w4.local	
── <mark>◯ RML</mark> R/Mail or	Mail Port 25 Code Page 4110 Unicode UTF-8	
MAIL	Supported address types	
	Fax Set	
PSSFAX	✓ Internet Set Pager (SMS) Set	
	Last changed by USER1 on 2007-05-30	

Set up the Internet address types as follows:



🖻 SAPconnect: Adr	ess type for node		 ×
General informatio	n		
Node	SMTP		
Description	Mail Server		
AddrType	Internet		
Address areas			
Address area			
*			
Output Formats for			
SAPscript/Smart	Forms	PDF	
ABAP List		НТМ	
Business Object	/Link	НТМ	
RAW Text		TXT	

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

🖙 SAPconnect: Internet Mail Confirmation of Receipt	×
O SAPconnect expects receipt confirmations for Internet mail	
SAPconnect does not expect receipt confirm. for Internet mail	
The following recipients are excluded from this rule	
(specified by Internet domain, e.g. SAP-AG.DE):	
Internet domain	
If you select option "not expecting any receipt	
confirmation or exceptions", usually no receipt or	
read confirmations are requested.	

Set default domain

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



🖙 SAPconnect: Internet Mail Addresses 🛛 🖂				
Default domain	@quattro.w4.local			
✓ ×				

Paragraph

2.1.2 Transaction SICF: Service for SAP Connect

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

Create/Change a Virtual Host
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Path /
Service Name SAPconnect.
Default Service:
Lang. English 👔 🚽 Other Languages
Description
Description 1 SAPCONNECT (E)SMTP
Description 2
Description 3
Host Data Logon Data Handler List Administration
Host Names and Port Numbers
Profile Parameter No. 0 (Parameter 'is/SMTP/virt_host_#')
Host Configuration Information
Host Configuration Information

Enter a user id to logon to SAPconnect.

Host Data	Logon Data	Handler List	Administration		
Logon Data Client	800			 	
User	USER1				
Language Password Status	English Set				



Host Data Logon Data Handler List	Administration
Handler List (in Order of Execution)	
N Handler 1 CL_SMTP_EXT_SAPCONNECT 2 3 3	

2.1.3 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).

2.1.4 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.]

2.1.5 SOST for tracking test e-mails.

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

		Refresh 皆							
F	erio	d 🖉 Send st	atus Sender	Options					
	aitini	, [Further	📴 Display Other	Status				
	rors	۵ <u>ل</u>		🔽 🔕 Still Not Er	ntered in Queue				
1 Se		V		Send Date					
								_	
Ex	ecute	e Close							
_									
C		ରନ୍ 📓 Ti	ace 📅 🛱 🕀	B A	7 (1) (12 (TO) (1	🕒 🛃 🗉 💷 🛍 🛛 📆 Status te	xt		
2	<u>s</u>						~		
	Ror	d Deguante							
		d Requests	Dec Tille		loandar.	Designat	O and state	In and times	
	tatus	Send Meth			Sender	Recipient	Send date	Send time	
_	tatus ∆	Send Meth via Internet	LGCA Demo form		ag@arch.co.uk	ag@arch.co.uk	2007-06-11	20:01:46	672
S	tatus △ △	Send Meth via Internet via Internet	LGCA Demo form LGCA Demo form		ag@arch.co.uk ag@arch.co.uk	ag@arch.co.uk ag@arch.co.uk	2007-06-11 2007-06-11	20:01:46 19:30:00	672 672
S	tatus △ △ △	Send Meth via Internet via Internet via Internet	LGCA Demo form LGCA Demo form LGCA Demo form		ag@arch.co.uk ag@arch.co.uk ag@arch.co.uk	ag@arch.co.uk ag@arch.co.uk ag@arch.co.uk	2007-06-11 2007-06-11 2007-06-11	20:01:46 19:30:00 19:29:56	672 672 672
S	tatus △ △	Send Meth via Internet via Internet via Internet via Internet	LGCA Demo form LGCA Demo form		ag@arch.co.uk ag@arch.co.uk	ag@arch.co.uk ag@arch.co.uk	2007-06-11 2007-06-11	20:01:46 19:30:00	672 672 672 73
S	tatus △ △ △	Send Meth via Internet via Internet via Internet via Internet	LGCA Demo form LGCA Demo form LGCA Demo form LGCA Demo form		ag@arch.co.uk ag@arch.co.uk ag@arch.co.uk ag@arch.co.uk	ag@arch.co.uk ag@arch.co.uk ag@arch.co.uk ag@arch.co.uk	2007-06-11 2007-06-11 2007-06-11 2007-06-11	20:01:46 19:30:00 19:29:56 19:23:40	672 672 672
S	tatus △ △ △	Send Meth via Internet via Internet via Internet via Internet	LGCA Demo form LGCA Demo form LGCA Demo form LGCA Demo form		ag@arch.co.uk ag@arch.co.uk ag@arch.co.uk ag@arch.co.uk	ag@arch.co.uk ag@arch.co.uk ag@arch.co.uk ag@arch.co.uk	2007-06-11 2007-06-11 2007-06-11 2007-06-11	20:01:46 19:30:00 19:29:56 19:23:40	672 672 672 73

2.2 Inbound E-mails



2.2.1 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.

Exit Rules for Inbound Processing (Maintenance Mode)									
۶y	•								
B	Communication	Τ	Recipient Address	Docu	Exit Name	Call			
	Internet Mail	×.	flm@quattro.w4.local	*	/FLM/EMAIL_HANDLER	1			
	Internet Mail	Ē	*	ICS	CL_APPOINTMENT_REPLY	2			
	Internet Mail		survey@800.id3.r3.sap-ag.de	*	CL_UWS_FORM_RUNTIME_MA	3			

2.2.2 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.

Display Profile Paramete	Display Profile Parameter						
Q & E B A 7 7 4							
R Parameter Name	User-Defined Value	Que	tem Default Value				
Display Profile Parameter	Ober-Delined Value	 ⊠ ∕					
Parameter Parameter Name Short Description]cm/server_port_1 -						
Value 1.1 C kernel	PROT=SMTP,PORT=0						
2.1 Default Profile	PROT=SMTP,PORT=0						
E:\usr\sap\E5F\SYS\profile\DEFAUL	T.PFL		FILE=dev_icm_sec,MAXSIZEKB=500				
3.1 Instance Profile	PROT=SMTP,PORT=25		DT=HTTP,PORT=0				
E:\usr\sap\E5F\SYS\profile\E5F_D	/EBMGS01_quattro)T=SMTP,PORT=0				
- 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						
-							



3 Setting up FLM Routing Server

The FLM Routing Server is a service program that runs as a background job, and performs actions on forms based on their system status. The set-up required for the routing server depends on the business process to be mapped. This document describes the set-up for four types of functionality:

- Using the Routing Tables for Form Submission.
- FLM Routing Server for triggering Off-line forms.
- FLM Routing Server for Form Escalation.
- FLM Routing Server for Reminder E-mails.

3.1 Using the Routing Tables for Form Submission.

When a form is submitted back to SAP, either for an on-line scenario or for an off-line scenario, the form is returned with its original status plus the 'action' selected by the submitting user. The system follows the routing server logic to determine a new status, new user etc. for the submitted form during the update to SAP.

3.1.1 Table /FLM/WF_STAT: Form Status Derivation

The form derivation table is keyed on customer, form type, form status and action. The following information is derived from this table:

- o New form status
- For example an initial form with an action 'submit' may derive the new status 'submitted'
- New form version
- We can define several versions of the same form which can be used at different points during the form lifecycle, such that the basic form data can be represented with a different form template throughout the form's journey.
- New form mode
- This can be set to 'on-line' or 'off-line'. See section 1.2
- E-mail notification settings
- There is an e-mail notification flag, plus standard texts for the e-mail subject and e-mail body.

Within the form status derivation table we need to map every possible status of the form, and every possible action that can be performed for each status, such that a business process is mapped; it is this table that defines the form's lifecycle.

Ехатр	Example of a simple off-line form fouring without approval:								
Form	Status IN	Action	Status	Version	Mode	E-mail			
type			OUT	OUT		Notification			
AB01	Initial	Submit	Submitted						

Example of a simple off-line form routing without approval:

Note that as there are no approval steps, the final form status is 'Submitted'.



=//a///p									
Form	Status IN	Action	Status	Version	Mode	E-mail			
type			OUT	OUT		Notification			
AB01	Initial	Submit	Submitted		On-line	Х			
AB01	Submitted	Approve	Approved		On-line				
AB01	Submitted	Reject	Rejected		On-line	Х			
AB01	Rejected	Submit	Submitted		On-line	Х			

Example of a simple on-line	form routing with approval:

This example represents an on-line form, with an approval step. When the form is submitted or rejected, an e-mail notification will be triggered to the next person in the business process.

Form type	Status IN	Action	Status OUT	Version OUT	Mode	E-mail Notification
AB01	Initial	Submit	Submitted	001	Off-line	
AB01	Submitted	Approve	Approved		On-line	
AB01	Submitted	Reject	Rejected	000	On-line	Х
AB01	Rejected	Submit	Submitted	001	Off-line	

Example of an on-line form with off-line approval:

Note that an e-mail notification is not sent to an off-line user, since they will already be receiving an e-mail with the PDF form. Note that in this example there is a different form version for the off-line form – it is not necessary to use separate form versions for on-line and off-line processing, but may prove useful.

3.1.2 Table /FLM/WF_USER: Form owner Derivation

The user derivation table is keyed on form type, status, current owner and action. This table is used to derive the new form owner only.

FLM: Form Routing Prototyping table									
FType	User Name	User Name							
ADBE		P 🖺	Reject 🚦	USER3					
ADBE	USER2	P 🖺	Reject 🚦	USER3					
		Ē	l C	1					
		Ē	l C	1					
		Ē	l C	1					

This table can be used in scenarios where the number of users is very low, or when there is no other source of organizational data available to determine who should approve a form. Its main use might be for workshopping or prototyping a business process without the need to develop code to determine the user.



3.1.3 User-exits

In practice the new form owner is likely to be derived from an existing data source such as the SAP HR Organisational structure.

A user-exit will be available to determine the next form owner, based upon any SAP data including the form posting table (FLM/FPE) and form history table (FLM/FPE_H) such that previous form owners can be determined. *(This is of particular importance when deriving the new owner in the case of form rejection.)*

3.1.4 Variable substitution in e-mail standard texts

Variable substitution is available in all three e-mail scenarios (*offline* e-mail, *notification* e-mail and *reminder* e-mail).

Three types of variable can be substituted: FLM fields, system fields and form fields.

FLM fields

•

FLM fields can be included in each standard text using the format: '&<field name>&'

In FLM version 2.4, the following fields are available:

- &FID& Unique Form ID
- &FORMTYPE& 'Long' description of form type
- &URL& URL link to the form

System fields

System fields can be included in each standard text using the menu path: Include->Symbols->System->ABAP System Symbols

In FLM version 2.4, the following fields are supported:

- &SYST-DATUM& System date
- &SYST-UZEIT& System time
- &SYST-UNAME& System user

Form fields

In the scenarios when form data exists, any non-repeating data can be included in the standard texts; the data field must not exist within a repeating subform. So root/header/footer fields can all be included, whereas item fields cannot. Again the format required is:

'&<field name>&'

Note that if any form field was given the same name as an FLM field then the substitution would work for the FLM field, not the form field.

3.2 FLM Routing Server for triggering Off-line forms.

During a status change as defined within table /FLM/WF_STAT, if the mode flag is set to 'off-line' then this will trigger the render and distribution of an off line form. The settings for the off-line form e-mail are stored in table /FLM/EMAIL.



3.2.1 Table /FLM/EMAIL: Off-line form e-mail settings

This table stores the standard texts for the subject, body and attachment name, plus the recipient e-mail address for a form. The full key includes the status and version of the form, so that different versions of the form at different statuses would be sent to different recipients.

C	Change View "FLM: Offline form settings": Overview										
6	🎾 New Entries 🕼 🕞 🕼 🕃										
	FLM: Offline form settings										
	Customer	FType	Langua	Version	Status	Receiver EMail	Title Text	Body Text	Attachment Name		
	ACL	ADBE	EN	00	٦	ag@arch.co.uk	/FLM/OFFLINE_EMAIL_TITLE	/FLM/OFFLINE_EMAIL_BODY	/FLM/OFFLINE_EMAIL_ATT_NAME		
	ACL	ERCS	EN	00	٦	ag@arch.co.uk	/FLM/OFFLINE_EMAIL_TITLE	/FLM/OFFLINE_EMAIL_BODY	/FLM/OFFLINE_EMAIL_ATT_NAME		
	ACL	LGCA	EN	00	٦	ag@arch.co.uk	/FLM/OFFLINE_EMAIL_TITLE	/FLM/OFFLINE_EMAIL_BODY	/FLM/OFFLINE_EMAIL_ATT_NAME		
					٦						
					٦						
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3.3 FLM Routing Server for Form Escalation.

The FLM Routing Server program /flm/wf_engine should be scheduled as a background job and performs two functions: (a) Escalate forms, (b) Send e-mail reminders.

FLM Routing Server			
b			
Restrict Form Selections			
Customer Code Form Type	to to	\$ \$	
Perform Routing Actions			
✓ Escalate ✓ Send E-mail reminders ☐ Test only			

The form escalation job should be run at least once per day. For form escalation the routing server checks on all forms to check whether they need to be escalated to another user. The form escalation settings are stored in table /FLM/WF_ESCA.



C	Change View "FLM: Form Escalation": Overview								
🎾 New Entries 🗈 🕞 🕼 🖪									
	FLM: Form	Escala	tion						
	Customer	FType	Status	Esc Days	Action				
	ACL	ABIE	P 🛅	10	Reject				
	ACL	ADBE	P 🛅	1	Reject	-			
	ACL	KL10	P 🛅	10	Reject				
			1						

3.3.1 Table /FLM/WF_ESCA: Form Escalation settings

The form escalation table is keyed on customer, form type and status. For any form at any particular status an escalation window (in days) can be set, plus an escalation action, which will be taken for any form that exists in the status for the escalation window.

The escalation action pushes the form one step along its route, for example, a submitted form could be automatically rejected [or approved] if no approval was granted within 5 days.

The effect of the action is to trigger five potential updates:

- Change the form owner
- Change the form status
- o Change the form version
- Trigger an offline form
- Trigger an e-mail notification

These actions are configurable using tables /flm/wf_stat, /flm/wf_user and /flm/email as described in sections 1.1 and 1.2.

3.4 FLM Routing Server for Reminder E-mails.

The second task the routing server provides is to send out reminder e-mails to users who have not processed a form. Normally this would be used in an approval scenario; if the form has been neither approved or rejected then a reminder is sent out. The functionality is similar to the escalation functionality, since a 'window' of days is defined after which a reminder e-mail will be sent out.

If both an escalation window and a reminder window are defined for the same form and same status, then the reminder window will be set to be less than the escalation window. For example, a submitted for that is waiting approval might trigger a reminder after 2 days, and then be escalated after 4 days.



3.4.1 Table /FLM/WF_REMI: Form Reminder settings

C	Change View "FLM: E-mail Reminders": Overview						
🎾 New Entries 🗈 🖃 🕼 🖪							
	FLM: E-mail Reminders						
	Customer	FType	Stat	Esc Da	Resend	Title Text	
	ACL	ABIE	P	4		/FLM/REMINDER_EMAIL_TITLE	
	ACL	ADBE	P	1		/FLM/REMINDER_EMAIL_TITLE	-
	ACL	ADBE	R	5		/FLM/REMINDER_EMAIL_TITLE	
	ACL	KL10	P 📱	20		/FLM/REMINDER_EMAIL_TITLE	
				1			

The e-mail reminder window is defined by form status on table /FLM/WF_REMI. Standard texts for the e-mail subject and e-mail body are also derived from this table, and variable substitution is possible as described in section 1.1.4.

There is also a 'Resend' flag, which controls whether several e-mail reminders will be sent out for the same form/status.

FLM Routing Server must only be run once per day for any form type, as running this multiple times on a single day would generate multiple reminders on the same day regardless of the 'Resend flag'.

The logic behind the selection of the form for a reminder e-mail is as follows:

[1] Is today the last day of the reminder window?

[2] Has the reminder window passed AND is the Resend flag set?

If the answer to either of these is yes then a reminder e-mail is generated.

For example, if the reminder window was set to be 2 days and the resend flag was not set then the owner would receive a reminder on day 2 only. However, if the reminder window was set to be 2 days and the resend flag was set, then the owner would receive a reminder on day 2 and on each subsequent day until he/she processed the form, or the form was escalated by FLM Routing Server.