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CRM Filter Guide

This document introduces Bicom Systems's CRM Mail Transport Agent plug in for MTA. Current development version is 0.9b. This guide intended to provide a rapid introduction to the CRM using mail client. The goal of this document is to provide you with an efficient mechanism with which you can evaluate CRM against your project's membership and administration. As such, this document is intended for Bicom System's staffs looking improvement in everyday work.

CRM Filter is not developed to replace Web based CRM application instead to support it.

Conventions Used in this Guide

The following conventions are used in this guide.

Site Manager	Collection of web applications that support Bicom's business.
SM	Short of Site Manager
SM user	Or only User means some of staff registered in CRM with any role.
Project manager	Manager of project, has rights to manage project and project's tasks
PM	Short of Project Manager
Project assistant	Assistant of project manager, has rights to manage projects tasks
PA	Short of Project manager assistant
SM task	Or simple Task or Ticket mean some virtual mail list associated to topic of discussion
Task member	SM user member of a task
TM	Task member
SM account	Registered customer. Mast have approved account to use CRM
ACC	Means SM account
Third member	Member of task but not SM account or SM user.
Originator of task	Task creator. Could be SM account or PM/PA.
Project email	Email assigned to project. E.g. support@bicomsystems.com etc.
Account Member	Account member.
AM	Short of account member.

Main features

CRM filter is developed on Linux platform and it works as mail handler for MTA. Currently supports Exim MTA in non batch SMTP mode. CRM mail handler can work as daemon and support other MTAs. We use CRM email handler with Postfix.

CRM filter encode information needs for processing tasks in to subject of email. Currently there are only two numbers like [1234.5678]. This information is essential for CRM filter and has to be preserved during conversation. Changing these numbers can cause unexpected response of CRM, but usually it will create new ticket. But, place where are these numbers in subject is unimportant. Some other information could be sent to CRM as command. Later more words about on that.

Ticket submitting

To submit ticket to CRM using mail client SM account send email to Project email. Then CRM filter will respond with auto reply message sent to account. The original email sent from account will be stored in to Task discussion and resent to PM and

PA, or to other persons included in ‘To:’ or ‘Cc:’. All sent messages from CRM will contain attachment with information relevant to SM user or SM account. Attached information file contains information according to recipient. The default name of attached information is ‘crm-info.txt’ but it depends of CRM settings. Messages reproduced by CRM filter will contain encoded information in subject for example [1234.5678].

Example message from customer:

```
From: Customer Client <seudin.kasumovic@untz.ba>
To: Tech Support <support@bicomsystems.com>
Subject: Trouble with reproducing Voice mail

[Body of message]
```

Auto replay message sent to customer:

```
From: Tech Support <support@crm.bicomsystems.com>
To: Customer Client <seudin.kasumovic@untz.ba>
Subject: Trouble with reproducing Voice mail [203.292]

Customer Client,

This is auto reply message from Bicom Systems Tech Support.

Thank you for contacting Bicom Systems Tech Support team
on 06 Jul 2007 at 07:56:17 with subject "Trouble with reproducing
Voice mail".

We will deal with your issue as soon as possible.
Please check your email for any further messages from us.

Regards,
Bicom Systems Tech Support team.

[crm-info.txt]
Message author: Customer Client
Sent date: Fri, 6 Jul 2007 09:55:52 +0200

Plase note:
Full details on above can be found here:
http://www.bicomsystems.com/~bicomsys/site/my_account/support_tickets
/?ticket=discussion&ttid=292
```

The content of auto reply message is customizable with SM administration Web site. Later on more words on that. As shown in example above, auto reply message contain subject with encoded information about ticket and discussion thread. Do not change this numbers during conversation.

Reply to message

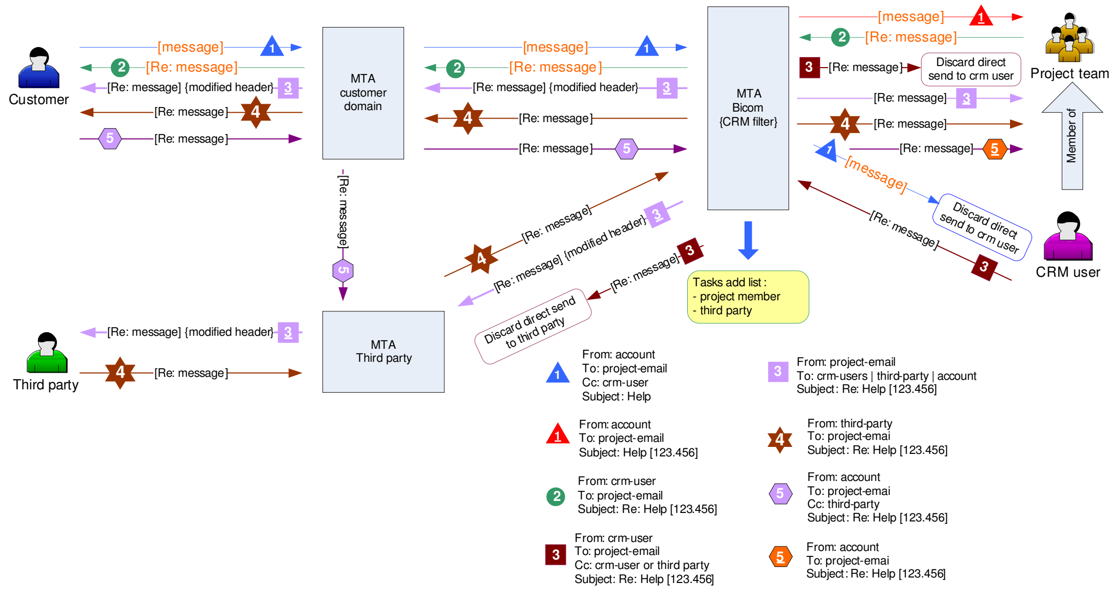
Usually received email will be from Project email. In this case SM user or SM account simple do ‘Reply’. If SM user’s email is from domain different from monitored by CRM filter then is possible to receive email from another MTA with recipients in CC. In this case need to reply to Project email or ‘Reply to all’.

Attachments

CRM email handler supports attachments, and extracts attachment in to CRM repository. Currently only store one attachment in to CRM, but multiple attachments are preserved from sender to recipient(s). Even originator of CRM task can send attachment.

Adding Task members

Adding other persons in to discussion is simple. Just put recipients email in to ‘To:’ or ‘Cc:’ tag. CRM filter will check recipients from ‘To:’ and ‘Cc:’ tag and add them in to Task members list. This list is dual, one for SM users another for third parties not registered in CRM. CRM filter sends copy of message to each task member when ever message comes to ticket. But CRM filter will consider if recipients received copy from another MTA and will not resend. This approach avoids receiving multiple copies of same message from different MTA. It is not possible to cover all situations. Adding members in to ticket/task is possible even in first email, but later conversation depends on who is task originator. CRM filter can control emails in installed MTA, so copies of some recipients will be sent by other MTA(s). If task originator SM user and uses email address from domain where CRM filter handler installed, then CRM filter will discard direct sending to recipients, Instead origin messages CRM filter will send emails with encoded subject to preserve move of discussions outside CRM. If task originator sent email from outside controlled domain, then CRM filter is not able to intercept sent messages, but any way it will remember email addresses for further carbon copy.



Picture above shows almost all possible situation when CRM filter can preserve sending copy of message and insert task/ticket information in to message.

Manage tasks

With CRM email handler we can manage messages, discussion and task. There is list of currently implemented commands.

CRM filter command has format [*command*=*parameter*] and must be put in subject of message. All CRM filter commands require encoded ticket information except command for create ticket on behalf of customer (read SM account). The word *command* must be replaced with supported CRM filter key word. The *parameter* is usually extension of command or information related to command. Some commands have alias just to make usage more comfortable. CRM filter will auto reply on some commands, but not on all, depending of command.

Send private message

In some cases SM user can use command to send private message to recipient (only SM user). Private message will logged in to discussion but will not send to customer or third parties. The command is [message=private] or [client=off]. Add this command in to subject. The square braces are part of command. This command is available for PM, PA and SM users. CRM filter not auto reply on this command. This command requires encoded ticket in subject.

Move to another project

If PM move task to another Project then CRM filter will redirect whole messages to new Project's email. This is done automatically so from user's side it is unimportant, just do reply to message. Only Project email will change in messages. Command syntax is [project=*project_email_address*]. This command requires encoded ticket in subject and send auto reply message back to sender with status of command execution. Replace '*project_email_addres'* with appropriate project email address (e.g. [project=support@bicomsystems.com] move task/ticket to the Support project.)

Complete task

This command allows PM/PA/SM user/ACC to change status of Task to 'Completed'. Send email to project email and add command in to subject [task=completed]. This command require encoded subject. CRM filter auto reply on this command.

Example:

```
From: Tech Support <support@crm.bicomsystems.com>
To: Customer Client <seudin.kasumovic@untz.ba>
Subject: Trouble with reproducing …[203.292][task=completed]

[Body of message is unimportant]
```

It is important to leave encoded ticket information [xxxx.yyyy] unchanged. Where is command [task=completed] is unimportant.
Sender will receive auto reply message that command executed successfully or there is some error.

Cancel task

This command allows PM/PA/SM user/ACC to change status of Task to 'Canceled'. Send email to project email and add command in to subject [task=cancel]. This command require encoded subject. CRM filter auto reply on this command.

Task assign

PM/PA of CRM project can use email client to assign task to SM user, or change assigned member. Command has syntax [assign=*email_of_SM_user*]. Old email address is moved in to task member group, and new recipient become task responsible person.

Unsubscribe from task

Project members are able to unsubscribe from task using command [task=unsubscribe]. This command is available only for SM users as task member and third part members. It is not possible to unsubscribe as task owner (originator of task), have assigned task or sender is project manager or project manager assistant.

Schedule task

SM user can schedule/postpone task. CRM filter will create entry in calendar table (available with SM web interface). Originator of schedule will receive notification on scheduled date. Minimal interval for postpone task is 1 day. Command has syntax [schedule=*date*], substitute *date* with appropriate date in format dd/mm/yyyy. CRM filter accepts only digits for day, month or year. Supported date separators are: '/','.' and '-'. The time of schedule is equivalent send time of email. This command requires encoded task information in subject and auto reply to sender. CRM reminder sends notification daily.

Create discussion (Post message)

Inside one task it is possible to have multiple discussions. CRM filter supports command equivalent to 'post message' for task in SM web interface. We call it fork message as well. Command syntax is [msg=new] or [message=new]. This command requires encoded ticket information in subject and CRM filter not auto reply on this command. You can change subject of discussion.

Submit ticket on behalf of SM account

Most of SM users receive emails from SM accounts (customers) directly. With CRM filter SM user can submit ticket on behalf of SM account using email client.
To submit ticket SM user can send to Project email command [ticket=*email-of-customer*] in subject. SM user becomes task member if is not PM or PA of Project.
Also SM user can add other in to task members with 'To:' and 'Cc:' including third parties. CRM filter will intercept direct sending; instead will send encoded copies for each recipient.

Example:
`From: "Sergej Kasumovic" <sergej@bicomsystems.com>`
`To: <support@bicomsystems.com>`
`Cc: <seudin@hotmail.com>`
`Subject: Final test` **`[ticket=seudin.kasumovic@untz.ba]`**

In this example seudin@hotmail.com is third party. Task originator will receive two emails. One email is auto reply on command with status report. Another email is ticket email, for further use in reply. Recipient added in to 'To' or 'Cc' of email header will classify depending of role in CRM system. SM users become task members; other went in third party members.

Create internal ticket

CRM system recognize another type of ticket/task known as *Default* or internal type. The privilege to originate this task type have SM user. To create this task SM user need to send email to *Project email.* They will not receive CRM command confirmation but will receive email with original content and encoded information of task in email subject. The role in task depends of current position SM user in CRM system. If SM user not PM or PM assitant where sent email then become task member of created task. If sender already PM or PM assistant this will not change position in created task. Adding SM users or other in task is allowed using 'To:' or 'Cc:' fields in sending email.

Support for account members

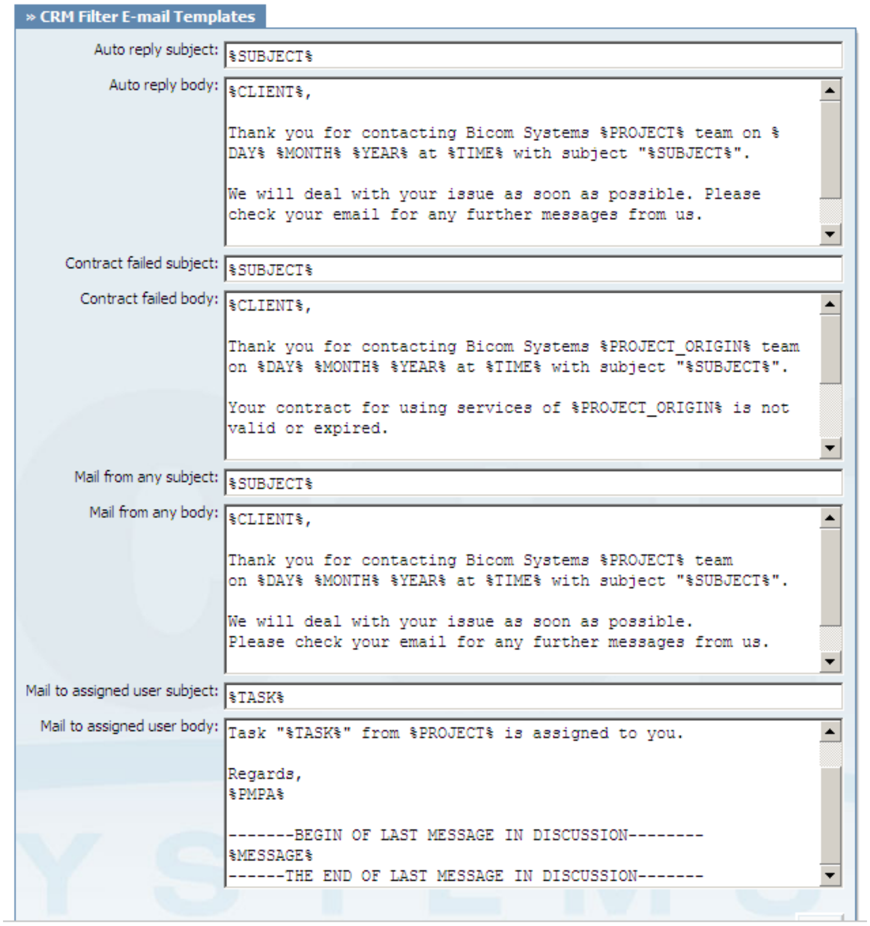
Using SM web interface SM account can add more account members. Account members have restricted access to ticketing systems. AM can use only email client to submit and reply on tickets. AM is special case of account and third party. Therefore email messages for AM will be formated as for third parties but, they have right to submit ticket. All account members will receive copy of message for every ticket, unless disabled from account members.

Client task approval process

The part of CRM filter is CRM reminder. This reminder monitor statuses of tasks and sends notification to SM account or SM users/PA if don't replay (default is 14 days). Sent notification message contain last submitted message. If customer don't replay even be notified CRM reminder will notify PM or PA. Notification message sent to PA or PM contain prepared command to complete task. So, to complete task PA or PM need to reply on message.

Configuring CRM filter

CRM filter uses standard configuration files and database configuration parameters. Configuration files are one time changes usually when installing CRM filter, there is no special need to change these files frequently. Other parameters for control behavior of CRM filter are available inside CRM application of SM web interface. We can configure CRM filter message templates, templates for attached information, how to respond on incoming messages and reminder parameters.
Email templates: there are five templates used by CRM.



There are variables in form %VARAIBLENAME%, Variables will be substituted by real values when message being generated. Variable set depends of message template. There is overview of variables in messages:

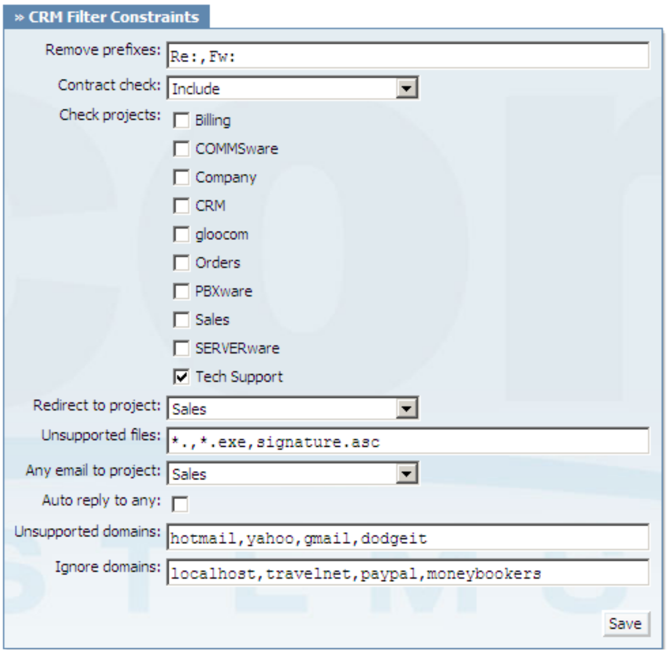
Usage of template variables.		Auto reply subject	Auto reply body	Contract failed subject	Contract failed body	Mail from any subject	Mail from any body	Mail to assigned user subject	Mail to assigned user body
Variable	**Meaning**								
%SENDER%	Substitue first and last name of sender/account.	x	x	x	x	x	x		
%CLIENT%		x	x	x	x	x	x		
%SUBJECT%	Subject of email message	x	x	x	x	x	x	x	x
%PROJECT%	Project name	x	x	x	x	x	x	x	x
%PROJECT_ORIGIN%	Where email was sent to project			x	x				
%TASK%	Task/ticket name	x	x	x	x	x	x	x	x
%DAY%, %MONTH%, %Y	Date and time variables.	x	x	x	x	x	x	x	x
%TASKID%	Task/ticket ID	x	x	x	x	x	x	x	x
%USER%	Name of SM user							x	x
%RECIPIENT%	Name of recipient of message							x	x
%PMPA%	Project manager/project assistant							x	x
%MESSAGE%	Message content								x

Next picture show templates for attached info:

These templates are used to build attached information for e.g message sender, sent date, and to build HTML links to message and ticket in to the Web interface.

There are small numbers of variables available for substitution in process of creates attached info. Variable %SENDER% substitutes if available full name of message sender instead will be replaced with email address. %SENTDATE% is date/time formated as RFC 822 date/time. %ACC% will be replaced with account ID. %TASKID% and %MSGID% are numbers from encoded subject of message, useful for building direct links to ticket and discussion thread.

Behavior of CRM email handler could be managed by next form:



'Remove prefixes': You can remove some prefixes from subject of message. Usefully to prevent multiple 'Re:' in message subject, etc.

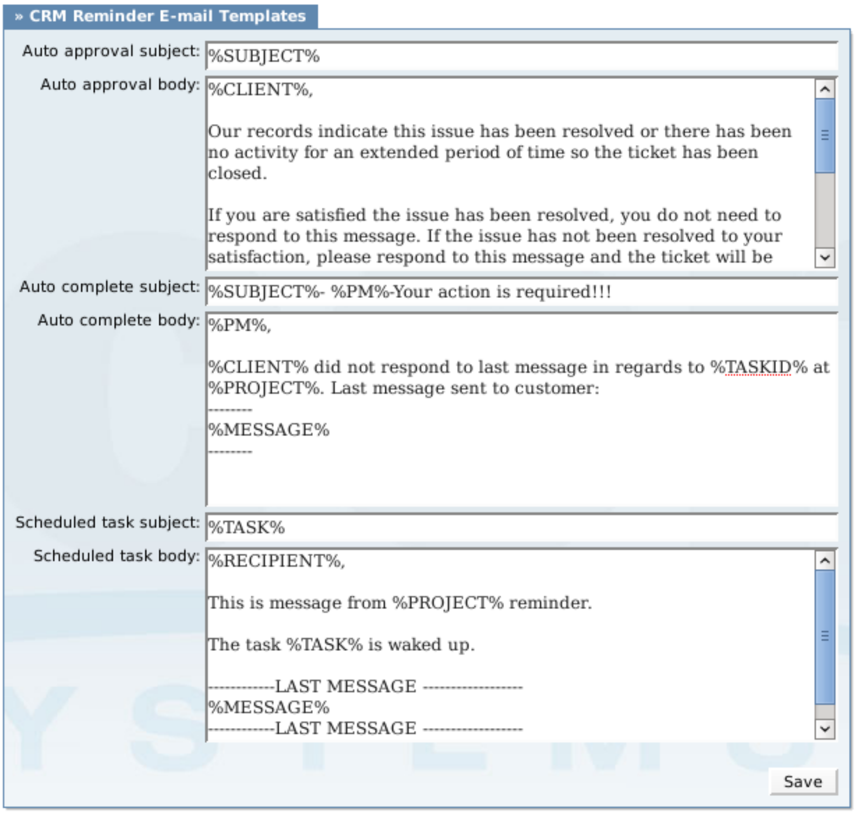
'Contract check' is type of criteria for set of projects. There are three options:

Include – include checked project(s) in to criteria evaluation.
Exclude – apply criteria to all projects except checked
None – do not use contract check for services

'Redirect project' – where email will be redirected.
'Unsupported files' – which files we will not store permanently
'Any email to project' – select email address where emails will be redirected for not registered emails.
'Auto reply to any' – if checked automatic replay to any email.
'Unsupported domains' – list of unsupported domains
'Ignore domains' – domains ignored from this rule and ticketing. CRM filter will not respond on this messages.

CRM reminder templates

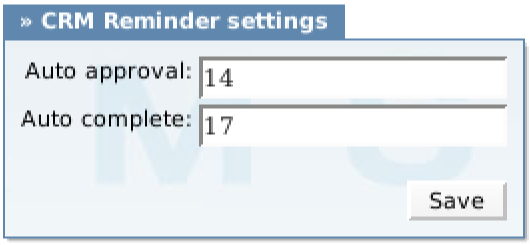
The next templates will be used for message produced by CRM reminder:



There are several variables used in template:

Variable	Meaning	Auto approval subject	Auto approval body	Auto complete subject	Auto complete body	Scheduled task subject	Scheduled task body
%RECIPIENT%		x	x	x	x	x	x
%CLIENT%	The name of recipient.	x	x				
%SUBJECT%	Subject of message, usually it is thread message subject	x	x	x	x	x	x
%TASK%	Task name or title	x	x	x	x	x	x
%PROJECT%	Project name	x	x	x	x	x	x
%DAY%, %MONTH%, %YEAR%, %TIME%	Date/time variable	x	x	x	x		
%TASKID%	ID of task/ticket	x	x	x	x	x	x
%MESSAGE%	Body of last message in thread		x		x		x
%PROJECT_MANAGER%				x	x		
%PM%	Project manager name			x	x		
%USER%	Another name for recipient					x	x
%MSGID%	Message id					x	x

CRM Reminder approval settings



'Auto approval' – number of days to send approval message.
'Auto complete' – number of days after send auto complete message.

Sorting CRM emails in Inbox

CRM filter adds header tag named *X-CRM-project* in to email. This tag contains email address of project so it is easy to create message filter for sorting or some other action in inbox. Next picture shows message filter in Thunderbird fro moving email from CRM to specified folder.