SLAC Office of the CIO

Contract Management Technical Specification

https://slacspace.slac.stanford.edu/Operations/SCCS/AppDev/doc/Projects/ContractMgt/TechSpec_ContractMgmt.docx

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1 Purpose

This document specifies the technical requirements for the Contract Management software component. The technical specification states what the development team intends to build. Note that this may be in “answer” to stakeholder requirements (if this was provided).

2 Scope

The Contract Management software component is used by SLAC Contract Management administrator (CMA) to manage the deliverables specified in prime contract between SLAC and DOE. A deliverable usually consists of several documents submitted to DOE. It has one owner and optionally multiple sub owners. The owner and sub owners upload required document. When all required documents are ready, the owner submits them to DOE site office at SLAC (SSO). The SSO can accept or reject the deliverable.

The Contract Management software component source code is maintained by Application Development, Office of the CIO, SLAC National Accelerator Laboratory.

Development or enhancement of the Contract Management software component is planned according to phased releases as follows:

Phase i – current release: major processes, workflows, and dashboard

- CMA can add directive, clauses, sub clauses, and requirements in prime contract and appendix E
- CMA can set up one or multiple deliverables for each requirement
- CMA can set Owner and sub owners for each deliverable and can edit them
- Owner can change (add/remove) sub owners
- Owner or sub owners can upload files and write comments to deliverables they are assigned to
- Owner can submit the deliverable to SSO
- SSO can view the submitted deliverable and download uploaded files
- SSO can accept or reject submitted deliverables if applicable
- Rejected deliverable is re-opened to owner and sub owners.
- Dashboard for CMA, Owners, Sub Owners, and Super Users, similar as ATS
- Basic (predefine) search and reports for CMA and ALDs.
- User group administration by CMA

Phase ii – future release: customized workflows, email templates, and enhanced reports or dashboard.

- CMA can customize (add/edit) dropdown list for deliverable type, frequency, notification schedule, .. that may affect the workflow in CMA panel
- CMA can customize email templates with variables
- CMA can clone a deliverable and customize it to be the next one
- CMA can find and replace one owner in all places
- SSO may have a dashboard to show annual deliverable status and progress
- CMA can export all requirements in prime contract and appendix E into an excel file.
- Search and report for owner and sub owner.
- More browser support
- More CMA tools

Throughout the document, we discuss the requirements in Phase i only. Requirements in Phase ii are listed to track some features that are nice to have in the future.

Throughout the document, any box in the format of the following example will note design and implementation notes for the benefit of the assigned developer. These notes are not requirements and do not constitute part of the specification:

> This requirement should be implemented using quicksort for better performance.

3 Responsibilities

Requestor	Burtnett, James, Flynn, Vickee
Technical Manager	David Deatherage
Developer	Madhu Swaminathan, Jay Tang
QA	Grigoriy Ayzenshtadt
Project Manager	Purcell, Kevin

4 Users and their roles in this application

4.1 Non-Authenticated user

- user with no SLAC computing credentials shall have no access to the system. Only internal SLAC users with a SLAC Windows account are allowed to access.

4.2 Authenticated user

- any users with a valid SLAC Windows account are allowed to access the system. If the user does not have any assignment or role in the system, they shall see a page with message like “You have no ~~pending deliverables~~ permission” for Add and View pages. Authenticated user will be treated as owner with no assignments. Dashboard will show all zeros.

4.3 Contract Management Admin (CMA)

- CMA are set up by the developers.
- CMA is a group of SLAC accounts, but when we refer CMA in the context of email below, we assume it is a CMA email alias (Contract@slac.stanford.edu).
- CMA can
  - Set up/edit clauses and requirements
  - Set up/edit deliverables, owners, sub owners
  - Change deliverable status from “In Progress” to “Submitted”
  - Upload deliverable files when it is in New,In Progress or Reopened status
  - Change deliverable owner at any time until the deliverable is submitted
  - Access admin tool to set up ALD group, set up dropdown list, report, set up SSO members, and to generate report.
  - Can delete file at any status.

4.4 Owner

- Only CMA can set Owner
- Owner can
  - Set Sub owners for a deliverable
  - Upload files when in New, In Progress, Re-opened status
  - Change deliverable status from “In Progress” to “Submitted”
  - ~~Add comments~~
  - Can delete files till it is submitted

4.5 Sub Owner

- Only CMA or Owner can set or change sub owner
- Sub owner can
  - Upload files when in New, In Progress, Re-opened Status
  - ~~Add comments~~
  - Can delete files till it is submitted (only files uploaded by them)

4.6 ALD

- Only CMA can add/change accounts to this role
- This is a lab wide role
- They can
  - View monitor the deliverable statuses and progresses
  - View deliverable details

- Access reporting tool

4.7 **SSO (Stanford Site Office)**

- Only CMA can add/change accounts to this role
- SSO is a group of SLAC accounts. Approvers are people within this group and specified during deliverable set up by CMA.
- They can
  - Access only deliverables in “submitted” status through a customized view (page).
  - If the deliverable is information-only, no actions are allowed.
  - If the deliverable is Not information-only, SSO can either “approve” or “reject” it.
  - When SSO rejects a deliverable, a reason of rejection is required.

5 Major business objects in this application (see Appendix A)

5.1 Contract

5.1.1 This object contains two data layers:

- First layer define the Contract Type with two possible values: Prime Contract or Appendix E
- For Appendix E, it has a second layer of “Directive”

This is a self-reference database table

5.2 Clause

5.2.1 This object is a child of ‘Contract” object

5.2.2 It contains two data layers:

- First layer is the contract “clause”, “clause number”, and a default owner
- The second layer is “sub clause” and “sub clause number” if available. One clause may have zero or multiple sub clauses.

This is also a self-reference database table

5.3 Requirement

5.3.1 This object is a child of “Clause” object.

- A clause may have zero or multiple requirements.
- A sub clause may also have zero or multiple requirements

5.3.2 Each requirement has a frequency with possible values of

- Bi-Annual
- Annual
- Semi-Annual
- Quarterly
- Monthly
- Semi-Monthly
- Once

5.3.3 Upload_File_Required is a flag to indicate if one or more upload file is required to fulfill the requirement.

> This flag is used for system validation of a deliverable when it is submitted to SSO

5.3.4 Start_date is used to flag when the system shall notify CMA to set up deliverables for the requirement. When the start_date is due, the system will send reminder email to CMA. The columns: is_CMA_notified and Notify_date, are used to record the notification event.

> The above three objects, Contract, Clause, and Requirements, come from the legal contract document between DOE and SLAC. They are pretty much static data.

5.4 Deliverable

5.4.1 This object is set up by CMA

5.4.2 Each deliverable must has an Owner

5.4.3 Each deliverable belongs to one of four types (see Type object)

- Prime Contract
- Contractual DOE Directive (from Appendix E)
- Data Call
- DOE Request

5.4.4 If the deliverable is one of the first two types, it shall be based on a Requirement object. One requirement can have one or multiple deliverables. If it falls to one of the last two types, a deliverable is not based on a contract Requirement. Instead, a Description of the deliverable request is required.

5.4.5 If the deliverable is based on a contract Requirement, the “Sequence No.” is used to label the deliverables for the same Requirement, incrementally. The Composite_Key is just a user-friendly key to identify a deliverable.

> One option to construct Composite_Key is to use the format: Type_Requirement ID_Sequence No
>
> For Data Call and DOE request, we can use a special and fixed Requirement ID for each of these two types.

5.4.6 Each deliverable shall have one Owner (default value comes from Clause object if applicable) and zero or multiple sub owners

5.4.7 Each deliverable shall have a due date. The owner is notified by emails based on the due date and requirement Frequency. The Notification is a series of date before the due date that an email shall be sent to the Owner (see Notification Map and Notification Schedule objects). The default notification schedule are

Bi-Annual	Annual	Semi-Annual	Quarterly	Monthly	Semi-Monthly	Once (1-offs)	Reopen Status
90	90	90	-	-	-		-
60	60	60	60	-	-	-	-

30	30	30	30	30	-	-	-
10	10	10	10	10	10	-	10
1	1	1	1	1	1	1	1

- Please note that these are just default notification schedule for a deliverable.
- CMA can customize the values from the available Notification Schedule days of 90,60,30,10, and 1.
- The 1 day notification email shall CC to CMA and the owner's manager if Notify_Manager is set to true (default is false).
- For Reopen deliverables, the new due date shall be set to the later of the original due date or 30 days from the rejection date. Two notification emails are set as default. Please note that the email subject and body shall be different from the regular notification email.

5.4.8 Each deliverable is assigned to a Directorate and a Department. The default values are set to the directorate and department of the Owner. But CMA may change to different values.

5.4.9 Each deliverable has one or more approvers from SSO group. Only the approvers can access the filtered view to SSO.

5.4.10 Each deliverable shall have a status (see Status object) with the following possible values. These statuses are also used in dashboard and reporting. The Status_Changed_On and Status_Change_by record who and made the current status and when he/she did it (applicable only to Submitted, Approved, and Reopen).

- New: the deliverable is set up already by CMA but has not been touched by either Owner or Sub Owners.
- In Progress: the deliverable is touched by Owner or Sub Owners but has not been submitted to SSO
- Submitted: the deliverable is submitted by Owner or CMA to SSO. The Date_submitted and Submitted_By record this event.
- Over Due: the deliverable's due date has past but the deliverable has not been submitted to SSO
- Approved: the deliverable is approved by SSO.
- Reopen: the deliverable is rejected by SSO
- Approved by Default: the deliverable has been submitted to SSO and SSO has neither approved nor rejected it after 60 days since submission. Or the deliverable becomes approved by Default once ~~SSO views~~ owner submits the deliverable it if Is_Information_Only flag is set to true.

5.4.11 Upload_File_Required is a flag to indicate if at least one upload file is required to fulfill this requirement. For a deliverable that is based on a Requirement, the default value of this flag is propagated from Requirement object. This flag is used to check data validation when submitting to SSO.

5.4.12 Is_Information_Only is a flag to indicate if SSO approval is required. If this flag is true, no actions are required from SSO. Once SSO views the submitted deliverable, the status is changed to "Approved by Default" automatically. If this flag is false, the two buttons are available for SSO. If SSO clicks "Reject" button, a reason of rejection is required for SSO to explain.

5.4.13 Notify_Manager is a flag to indicate if the owner's manager should be CCed when the 1 day notification email is sent. By default, it shall be set to true.

Upload File stores files uploaded by owner or sub owners.

~~Comments is used by owner, sub owners, or CMA for tracking progress and communications~~

SSO Activities records login of SSO when they access the filtered view and their activities.

6 Major workflows

6.1 See appendix B for the major workflow diagrams.

6.1.1 These diagrams are drafted to help understand the requirements.

7 Functional requirements

7.1 Dashboard for CMA and ALDs

7.1.1 Show the dashboard in the first page after login

7.1.2 Show the number of deliverables in all statuses defined 5.4.10 for all directorates.

7.1.3 The user can navigate to the listing of deliverables by clicking the number.

7.1.4 The scope of the dashboard is the whole lab.

7.1.5 Dashboard for SSO: One for all items needing approval, 1 for all items that are approved and approved by default, and a third maybe small section of the pending view for My Items, where the specifically assigned SSO person would see their items.

7.2 List of deliverables assigned to the Owner and Sub Owners

7.2.1 Show the list in the first page after login

7.2.2 Show deliverables in one of the statuses: “Over Due” or “New”, or “In Progress”

7.2.3 Show the list in default order of due date

7.3 CMA can add/edit a Directive to Appendix E

7.3.1 For the contract type of Appendix E, CMA can add multiple Directives

7.3.2 CMA can also edit any existing Directives

7.4 CMA can add/edit clauses and sub clauses

7.4.1 CMA can add multiple new clauses for the Primary Contract or for a Directive in Appendix E

7.4.2 CMA can add multiple sub clauses for each clause

7.4.3 CMA can edit any existing clauses or sub clauses

7.5 CMA can add/edit requirements

7.5.1 CMA can add multiple new requirements for each clause or sub clause

7.5.2 CMA can edit any existing requirements

7.6 The system should notify CMA for setting up the first deliverables

7.6.1 When the Start Date of the requirement is due, the system shall send notification email to a CMA email aliases.

7.6.2 The email detail will be specified by CMA

7.7 CMA can set up deliverables

7.7.1 CAM shall first choose deliverable type, defined in 5.4.3

7.7.2 If the type is Primary Contract or Appendix E, then the deliverable shall be based on Requirement defined in 9.5. Otherwise, a Description shall be specified.

7.7.3 One requirement may have multiple deliverables based on frequency, defined in 5.3.2

7.7.4 The default owner comes from the Clause object if applicable

7.7.5 If the default owner is available, the default directorate and department shall be set accordingly

7.7.6 The default notification schedule is set according to 5.4.7. CMA allows multiple select from all available schedule values.

7.7.7 CMA can set zero or multiple sub owners

7.7.8 The status of the deliverable is set to “New” automatically

7.8 Owner will be notified after a deliverable is set up

7.8.1 Only when the deliverable is set up the first time

7.8.2 The email detail will be specified by CMA

7.9 CMA can edit deliverables

7.9.1 Any time when it is in open status of “New”, “In Progress”, or “Reopen”

7.9.2 Most attributes can be changed, including Owner and Notification Schedule

7.9.3 But the deliverable type and requirement ID cannot be changed

7.9.4 CMA can even delete it

7.10 CMA and Owner can add, delete sub owners to a deliverable

7.10.1 When the deliverable status is in open status

7.10.2 An notification email shall be sent to sub owner when they are added

7.10.3 The email detail will be specified by CMA

7.11 Owner, Sub owner, and CMA can upload files to a deliverable

7.11.1 When the deliverable status is in open status and Upload_File_required flag is set to be true

7.11.2 The file extension must be one of pdf, docx, xlsx, jpg, and png

7.12 CMA, Owner, Sub owner can write comments on a deliverable

7.12.1 When the deliverable status is in open status

~~7.12.2 Comments cannot be edited or deleted~~

7.13 Owner and CMA can submit a deliverable to approvers

7.13.1 Only when the deliverable status is “In Progress”, “Over Due”, or “Reopen”

7.13.2 An notification email will be sent to Approvers and CCed to CMA

7.13.3 The deliverable is locked and read-only now. No one, including CMA, is allowed to make changes to the deliverable.

7.13.4 The status is changed to “Submitted” automatically

7.14 Approvers can view a submitted deliverable

7.14.1 When the deliverable status is “submitted” or ‘Approved”.

7.14.2 Only the specified approvers allow accessing the submitted deliverable through a filtered view (different from the view by CMA and Owners).

7.14.3 The filtered view may need to be customized by CMA. Initially, please use the following format:

- Composite_Key
- Deliverable Type
- Directive, Clause, and Sub Clause if applicable
- Requirement or Description
- List of upload files and they can be downloaded
- Due date
- Date Submitted
- Directorate and Department
- Approve and Reject buttons (if it is NOT Is_Formation_only and the status is “Submitted”)
- Reason of Rejection (only when the SSO clicks on Reject button)

7.15 Approvers can approve/reject submitted deliverables

7.15.1 For an Is_Information_only deliverable~~, its status is changed to “Approved by Default” once any approver accesses the filtered view (7.14.3).~~, no action buttons shall be available for approvers.

7.15.2 For a None “Is_Information_Only” deliverable, the filtered view shall have two buttons of “Approve” and “Reject”. Once the Approver clicks the “Approve” button, the status is changed to “Approved”. If the Approver clicks “Reject” button, the status is changed to “Reopen” and SSO is required to provide a reason of rejection.

7.15.3 The owner and CMA shall be notified when approver changes the deliverable status by clicking any buttons.

7.15.4 Once the status becomes “Reopen”, the due date has to be adjusted accordingly. If the original due date is 30 or more days away from the rejection date, keep the original due date. Otherwise, set the new due date 30 days from the rejection date. Also the Notification for a Reopen deliverable should be set to default 10 and 1 days.

7.15.5 The owner and CMA shall be notified when SSO changes the deliverable status.

7.16 Email Notification to Owner before the due date

7.16.1 The System shall send notification emails to the Owner based on the notification schedule of the deliverable specified by CMA

7.16.2 The email is required only when the status is New, In Progress, or Reopen. We do not need to send email once the status is Submitted or approved.

7.16.3 The 1 day email should include CMA and the owner's manager if the Notify_Manager is set to true.

7.16.4 The email subject and body are different for Reopen deliverables that are to be specified by CMA

7.16.5 It is desired to send an email to each person in one day. This means the system may need to find all notifications to one person and list them in one email body.

7.16.6 The email detail for each notification will be specified by CMA

7.17 CMA can add/edit ALD accounts

7.17.1 This is an admin tool for CMA to add/.edit ALD account list

7.17.2 No notification email is required

7.18 CMA can add/edit SSO accounts

7.18.1 This is an admin tool for CMA to add/.edit SSO account list

7.18.2 No notification email is required

7.19 CMA and ALD can search deliverable and generate report

7.19.1 This is an admin tool for CMA and ALD

7.19.2 This is advanced search that can filter on most attributes of a deliverable

7.19.3 The search result can be exported into an excel file.

8 Non-functional requirements

8.1 Authentication

8.1.1 IIS Windows authentication shall be used.

8.2 Browser Support

8.2.1 IE 8 and IE 9 must be supported

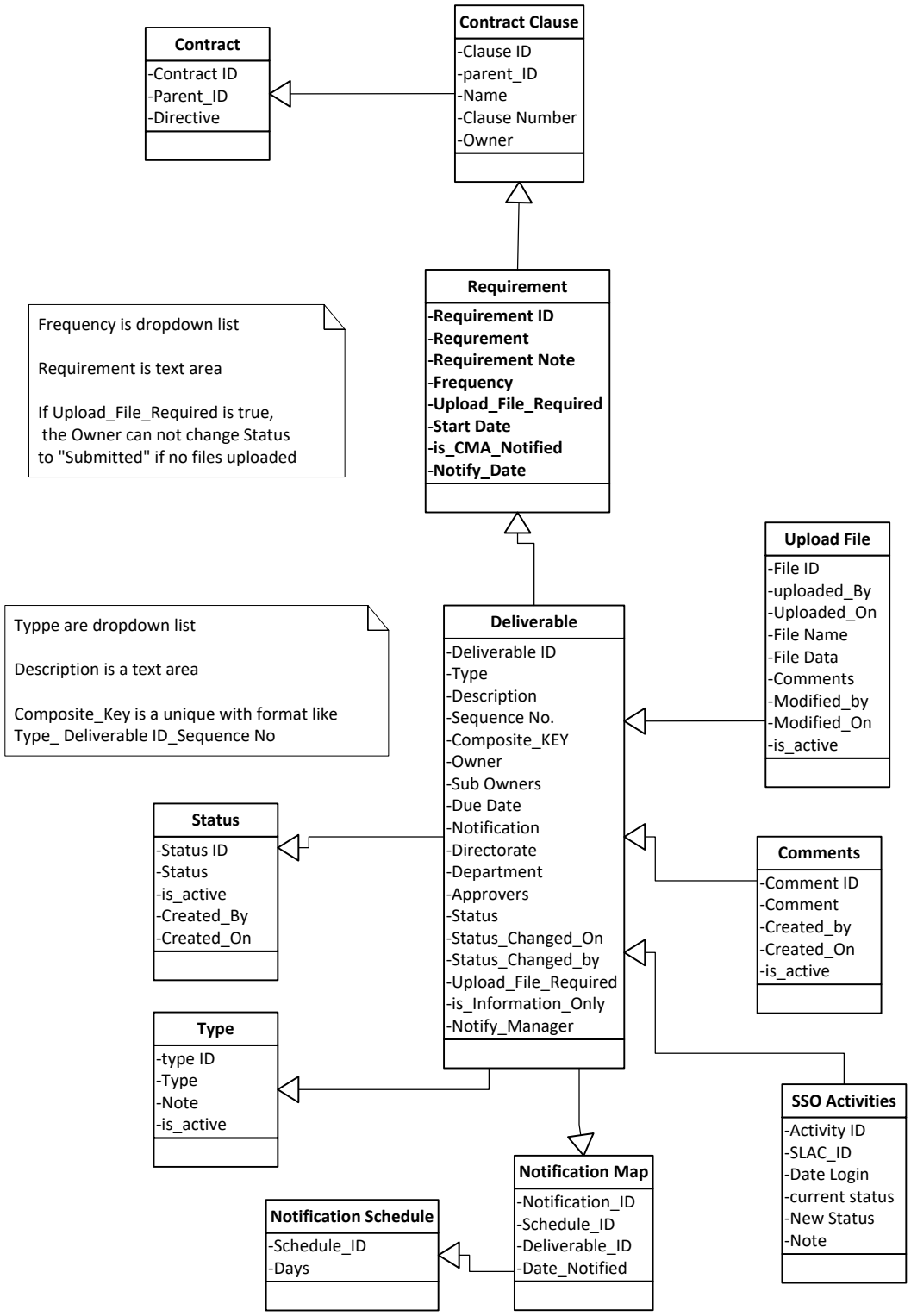
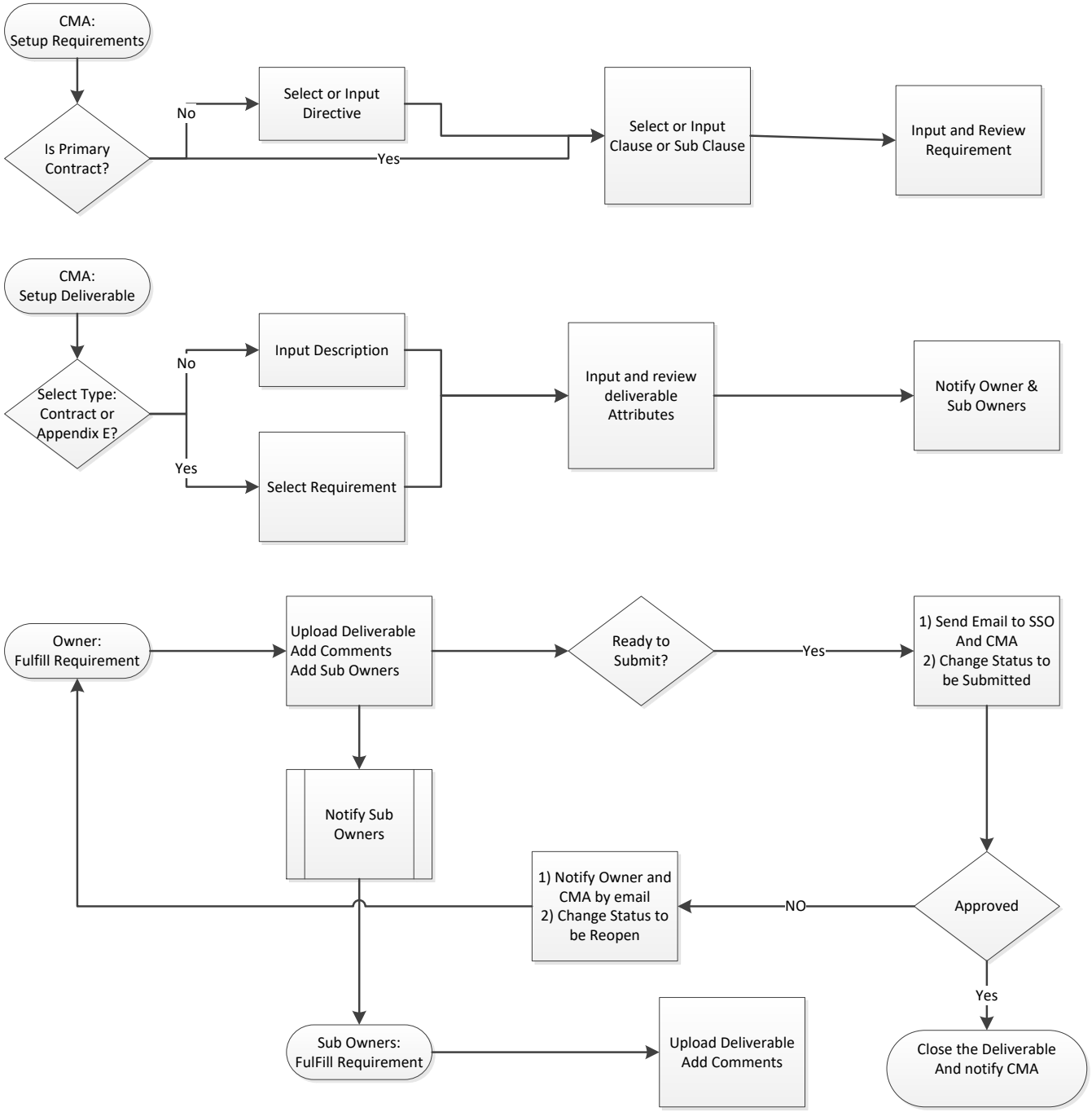
8.2.2 Other browsers are optional

Revision History

Date	Author	Purpose
April 15,2013	Jay Tang	Original release
April 17, 2013	Jay Tang	Revised version after Wednesday's meeting
May 15, 2013	Jay tang	Removed Comments. The approved-by-default needs to be confirmed
May 31, 2013	Madhu Swaminathan	Included File delete permission level 4.4,4.5,4.6 Added Alias Email address Removed comments info from 7.12 Removed approvedbydefault details from 7.15.1 Modified the logic for approved by default 5.4.10 Added SSO Dashboard details 7.1.5
June 05, 2013	Madhu Swaminathan	Updated Authenticated user section

Appendix A: Major Business Objects and Their Relationships

Please note these are business objects that help set terminologies and understand business requirements. They are not technical Entity Relationship Diagram.


Contract
-Contract ID
-Parent_ID
-Directive
Contract Clause
-Clause ID
-parent_ID
-Name
-Clause Number
-Owner
Requirement
-Requirement ID
-Requrement
-Requirement Note
-Frequency
-Upload_File_Required
-Start Date
-is_CMA_Notified
-Notify_Date
Frequency is dropdown list
Requirement is text area
If Upload_File_Required is true,
the Owner can not change Status
to "Submitted" if no files uploaded
Upload File
-File ID
-uploaded_By
-Uploaded_On
-File Name
-File Data
-Comments
-Modified_by
-Modified_On
-is_active
Deliverable
-Deliverable ID
-Type
-Description
-Sequence No.
-Composite_KEY
-Owner
-Sub Owners
-Due Date
-Notification
-Directorate
-Department
-Approvers
-Status
-Status_Changed_On
-Status_Changed_by
-Upload_File_Required
-is_Information_Only
-Notify_Manager
Typpe are dropdown list
Description is a text area
Composite_Key is a unique with format like
Type_ Deliverable ID_Sequence No
Status
-Status ID
-Status
-is_active
-Created_By
-Created_On
Comments
-Comment ID
-Comment
-Created_by
-Created_On
-is_active
Type
-type ID
-Type
-Note
-is_active
SSO Activities
-Activity ID
-SLAC_ID
-Date Login
-current status
-New Status
-Note
Notification Map
-Notification_ID
-Schedule_ID
-Deliverable_ID
-Date_Notified
Notification Schedule
-Schedule_ID
-Days

Appendix B: Major Business Objects and Their Relationships