

I. Purpose

The document describes the preferred SDLC Process @ Winsoft (proposed to conform to SEI CMM Level 3)

II. Description

A. Customer Requirements / Concept Document (CRCD) **KPA-S1**

To be initially provided by customer, and further refined by Winsoft. Signoff on the CRCD. CRCD to list all the supporting documents, data/physical documentation formats required to create/finalize the specifications, etc.

At this point Winsoft will designate a „technical interface person (TIP)“ to handle the CRCD phase. This TIP will be the sole customer contact for this phase. This will ensure technical involvement to handle and uncover technology issues that may not be possible to be handled by marketing.

¡ The CRCD may have to be prepared by the TIP for those customers who do not have the wherewithal to create the CRCD on their own.

Alternate CRCD mechanisms are also required, as frequently customers will use informal methods of communication. Therefore the following mechanisms will be taken care of as follows.

1. Emails: Customer emails should be stored in a single location and handled by the TIP. These emails, along with their original headers (date/time stamps, addressing) will be treated as part of the CRCD.
2. Chat: Frequently customers will „chat“ with the TIP. Each of these chats should be saved along with the date+time information to be treated as part of the CRCD.
3. Phone conversations & meetings: Customer phone conversations & meetings that lead to conclusive decisions should be duly summarized in a Minutes-of-Phone-meeting document and emailed to customer for confirmation. Confirmation emails should be saved as part of the CRCD.
4. Physical documents: Customer documentation of form formats, written down notes, faxes etc. should be grouped and stored together, and at same time, should be scanned and stored electronically as part of the CRCD.

i What should be part of the CRCD?

5. A detailed description of the business requirements for the project.
 6. A brief Description of the business process that is to be automated by the project.
 7. The end objectives of the project, in business process improvement terms. (For e.g., if a project is a web based ordering system to augment/replace the order fulfillment process of a customer, how many additional orders the new system is expected to process, how much saving in terms of manpower – due to automation – is targeted).
 8. If the customer has any specific technology requirements, such as for those projects that involve the re-engineering of an existing system or enhancements to an existing system, the details of the same should appear here.
 9. For projects that involve re-engineering/enhancements of existing systems, the list of existing documentation (user, system, etc.).
- § External System Interfaces should also be mentioned in the CRCD (for e.g., if the system needs to read a foreign database; or if the system needs to use an external API; or if the system will need to receive data on the network from an external entity).
- § Any specific Business Restrictions or Business Conditions of the customer should also form part of the CRCD – for e.g. „All reports MUST print on DOT Matrix printer“.
- § UAT Schedules should form part of the CRCD – for e.g., „by when will the customer complete the acceptance tests of the system after it has been delivered“.
- § TIP and TL will jointly interact with customer so as to ensure a smooth knowledge transfer from TIP to TL as the project moves from KPA-S1 to KPA-S2.

Time/Cost estimations to the customer i.e. the commercial proposal will be prepared based on the CRCD.

B. Specifications Documentation **KPA-S1 & KPA-S2**

Prepared by Winsoft, inputs from the CRCD and interaction with customer, and a number of documents as the output of this phase.

Project staffing will have to be finalized @ this point, so that further activities are delegated by the TL.

Documentation CheckList:

1. **System Requirements Specifications (SRS).**
 - a) User Interface Design Spec
 - b) Process & Module Design Spec
2. **Technical and Project Architecture Document TPAD**
Database Design Spec – will be part of TPAD.

3. Functional Design Specifications Document FSD
4. Functional Module-wise Delivery Schedule FMDS
Prototyping of the system/parts of the system may be a part of this phase.
5. Documentation Standards DS – user and technical documentation standards including list of user documentation deliverables :
 - a) User Documentation Manuals
 - b) System Documentation Manuals
 - c) Certain projects may require to follow CODING and/or other standards as imposed by the customer. Those need mention here if needed.
6. Additional supporting documents prepared such as Business Rules Document, project resources (time/person/material) requirements document.
Customer side Responsibilities – Assignment of personnel(s) @ Customer side who will be responsible for interacting/approving the system will be decided and documented.
7. Specification Change Request (SCR) modality document – this can be a generic document useful across projects. Will formalize the process and formats for changes to the original specification requested by customer(s) during the course of the project.
 - § Impact Analysis process to be followed should be specified
 - § For TLs, to accept/escalate change requests based on cost escalation corresponding to the change requested, so that certain changes are automatically accepted by the TL, and only those changes whose projected cost increase needs to be approved by the management.

i Sign-off

Internal TIP Signoff first, on the following documents.

Customer **MUST** sign-off on: SRS, FMDS

Customer **MAY** sign-off on: TPAD, FSD

Sign-off to be achieved through meetings with customer representatives, teleconferencing, on-line chat sessions and email communications. The details of each of these interactive sessions to be formalized in Minutes of Meeting Document (MMD), and preserved as part of the project documentation for posterity.

i A risk management document **MUST** also be prepared at this stage, to identify the various lists associated with the project, and possible mitigation steps.

C. Project Planning & Design **KPA-S2**

In this stage:

í Customer approval for staff

Their inclusion in the project is (optionally) subject to an approval from the Customer, who can check their skills/resumes. Within the project staff, a formal point of customer contact is identified who will be the primary customer contact for all technical issues. In addition, a formal project manager (PM) is identified who will typically devote 20% of his time to the project and who will be a higher level contact for the customer in the order of escalation.

- A project execution road map is prepared (Microsoft Project) with critical deliverable milestones. Deliverable milestones to be designed with a heavy bias toward frequent and early deliveries.

í Customer approved FMDS used as base document for road map preparation.

- Individual Components are detailed out (PS – Program Specs Documents)
- Configuration Management Document (CM) identifying the development platforms, server/workstation resource assignments to team members, tools, project folder locations, version control tools / strategies (CVS / VSS), bug tracking tool details, backup strategies are documented.
- Software „Versioning“ strategy to be followed for this specific project and its individual modules is put in place.
- Test Strategy Document (TSD) detailing testing methodology to be used for the project, and detailing the Development tests, module tests (STUBS), Black box tests, system tests and UAT. Any automation tools to be used are identified.

í TSD Is communicated to customer and Test case design done in conjunction with customer representatives.

- Individual Test Plans. These will detail the test cases.
- List of quality and other metrics to be gathered / tracked over the life time of the project – Quality Metrics Document (QMD).
- Peer reviews of the PS, TSD to be conducted within the Project.

D. Development & Project tracking **KPA-S2 & KPA-S3**

Development of the software as per the design & specifications outlined above. Developers will refer to the specification documents as well as specific technology standards documents (coding and naming standards for example).

1. Code Inspection Review- Random and critical module code (software) reviewed by a team of Code Reviewers and the necessary feedback incorporated into the code. Technique used – a suitable adapted version of Fagan Inspection Technique.
2. Progress review. Based on the specifics of the project, weekly (or shorter) review of the development components as per the roadmap and re-adjustments to the roadmap if any. Conducted by TL along with team members. Critical re-adjustment issues if any escalated to Project Manager.
 § Project Progress review shared with customer on weekly basis.
3. Individual Component Testing. Developers will test individual modules for Development Tests.
4. Development Testing signoff from the developer(s) and TL will release the module(s) for Testing & Validation. The released modules will be accompanied by a Software Installation Note prepared by the development team.

§ User & System Documentation preparation.

E. Testing & Validation (System Integration & Test team) **KPA-S4**

Testing & Validation will be performed by the SIT team as per the TPAD, FSD, the individual PS and the Software Installation Note. Currently it is envisaged that the SIT team will report to the project TL itself – although – ideally the long-term goal is to have a „fiercely“ independent SIT group. The SIT Team will co-ordinate with the project TL and the customer for:

1. Test Plans
2. Test cases. In case of particular projects, such as those involving customer databases, strategies to get access to sample data will be evolved along with customer. Other test cases will be generated by the SIT Team.

Test Result Sheets will be generated as the outcome of the testing phase (these could be using online bug-tracking – bugtracker/ ecrm).

Classification of Defects will be done in broad categories as follows.

PS -> Production Stop (Severe defect that completely stops the software operation)
CR -> Critical (Severe by work-around possible)
NC -> Non Critical (A defect nonetheless, not very critical)
WL -> Wish List item

A test result review meeting between the Development Team and the SIT team review the outcome of the testing process which will lead to either of

3. SIT system sign off – will trigger the RELEASE phase.
4. Return of the system to the Development Team for defect rectification & a revised schedule for the same.

SIT will release the system to „Customer Delivery“ – presently the SIT will handle the job function of Customer Delivery.

F. Release

This refers to BETA as well as the final release.

BETA -> Primarily for UAT and customer acclimatization/familiarization with the system.

Again emphasis on releasing as many discrete deliverables as possible to the customer for avoiding ugly surprises too late in the SDLC.

Customer Signoff on UAT / Beta.

Final Release to customer/ implementation plan. Checklist of documents / resources to be released @ this stage.

¡ At release an Product entry for the system will be created in Winsoft eCRM. The installation, maintenance and support work-flow should necessarily be captured in Winsoft eCRM.

G. Transfer of System to Maintenance / Support phase.

A FINAL Release will relegate the system to Maintenance/Support mode. Checklist of documents and resources to be made available for this phase.