



Project Execution & Client Interaction Methodology

Our interaction with all our clients across the globe

This document is prepared by Thinksol

Introduction

One of the most important goals of Thinksol Overseas Pvt Ltd (TSL) is to create the most comfortable and conducive condition for our customers. We develop plans that are best suited to our clients.

While the implementation and progress details are constantly given to customers, the engineers with problem solving skills at the TSL trouble-shoot most problems internally.

However, our specialists are ready to supply technical consulting of any depth concerning the project, if the client seeks it. This approach allows the client to be updated and kept abreast of the project implementation details.

Interaction

We offer two types of interaction models for project implementation:

Local Manager: : In this a project manager posted at the USA office will offer his services and expertise. Advantages of such an approach are obvious i.e., contact with a project manager (frequent phone conversations, personal meetings, hands on expertise)

Off shore Manager: : Here, the interaction would be with a manager located at our main off shore office in Kolkata, India. The project manager shall be in touch with you through e-mail and other Internet tools. This approach is cost effective, as it is not necessary to pay for services of a local manager

Budgeting

Wide range of planning and budgeting models for our services are available. The most widely used models are-

Project Based Plan (PBP): Providing an estimate before the start of the project (based on detailed specification). If required TSL can develop a detailed specification for a project based on customer requirements. The advantage is that a client is made aware of all aspects of the project deliverables ,budget, time etc before the start of the project.

PBP is the main interaction model for provision of development services. The rules described are suggestive and be tailor made to suit customer's requirements and TSL is fully equipped to provide any level of in-depth project information. Customer monitoring of work can also be factored in.

The client interaction during a project development can be sub divided into two phases:

Project development phase and project implementation phase.

As a rule the client provides the material that is necessary for a project. Ideally the client would also provide a complete specification for the project. In this case the company specialists should state and elaborate on the specification and deliverables. However in situations where the clients are unable to create a complete specification for the task, our specialists would gladly help to create the specification after sufficiently interacting with the customer.

After obtaining the specification that is mutually suitable, our specialists will prepare a complete project proposal defining the deliverables, budget, acceptance criteria and a timetable with milestone and also submit a project implementation plan. Once the client approves the project proposal and working plan, the project will be taken up for execution.

Project development Phase:

This phase takes 80% of a project time, and is structured to entail minimum customer intervention. The customer would receive periodic information on details related to the progress of the project, through regular reports (daily, weekly, bi-weekly or monthly). If during the project development phase the client desires to alter the initial specification, it is possible with the impact of such alterations on the agreed to scope being reviewed.

Time Based Interaction Plan

This approach provides to a client a fixed work resource for a fixed payment. Usually a client sets some tasks to be fulfilled by the resource provided to the client. As a rule the client receives daily report on the work being done. This plan stipulates single payment per certain time interval (usually weekly). The effective working time for this period is to be compensated.

When applied to the development work, this approach is preferable for large projects with constantly changing specifications, as this saves a lot of time required to reach an agreement on the specification and budget changes.

**Approach
&
Responsibility**

Steps

Thinksol approach follows a sequential chain in identifying the levels for final Offshore Development /Maintenance Process.

Client's team hands over the required systems specifications for development/migration of the proposed software applications to the Thinksol team. This process extends over three distinct phases:

1. System understanding
2. Production: Development, testing and delivery
3. Hand over of the proposed software applications

Phase 1) System Understanding

- Obtain initial functional and system overview from client.
- Study technical environment of the system.
- Study standards and conventions.
- Obtain system inventory.
- Study existing system documentation.
- Study and document important system characteristics.
- Conduct due-diligence and document application details.
- Determine and document QA, Acceptance and Production Migration procedures.
- Establish offshore procedures.
- Prepare draft project plan consisting of resource, scheduling, risk management, contingency plan and configuration management.
- Obtain sign-off from the client for the project plan.
- A team is deputed onsite for this phase whenever necessary.
- This onsite team establishes interfaces with the client's development team.
- Set up offshore team with requisite infrastructure.

Phase 2) Production: Development, testing and delivery

- Orientation of offshore team for the project.
- Our offshore team starts designing the application.
- Our offshore team starts coding whenever client approves the design.
- Our offshore team carries out coding, unit testing and acceptance testing as per the project plan.
- Trial runs with the change requests being passed to the offshore team, specifications, coding and unit testing being preformed offshore and acceptance testing being performed onsite.
- Our offshore team logs change request, change specifications, and carries out coding, unit testing and acceptance testing as and when required by the client.
- Phase wise delivery/implementation if required.

**Steps for
Offshore
Maintenance**

- Establish confidence with the client on offshore development model.

Phase 3) Hand over of the proposed software applications

- Final implementation of the application.
- Requisite training to the client.
- Handing over the proposed application to the client with the following:
 - With all codes as per agreeable terms
 - Full-fledged documentation on the application.
 - Warranty as per the terms.

Steps for Offshore Maintenance

Client's team hands over production support, maintenance and enhancement activities to the Thinksol team. This process extends over three distinct phases:

1. System understanding
2. Hand over
3. Maintenance

Phase 1) System Understanding

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- Obtain system inventory.
- Study existing system documentation.
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- Conduct due-diligence and document application details.
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- Prepare draft project plan consisting of resource, scheduling, risk management, contingency plan and configuration management.
- Obtain sign-off from the client for the project plan.

Phase 2) Hand Over

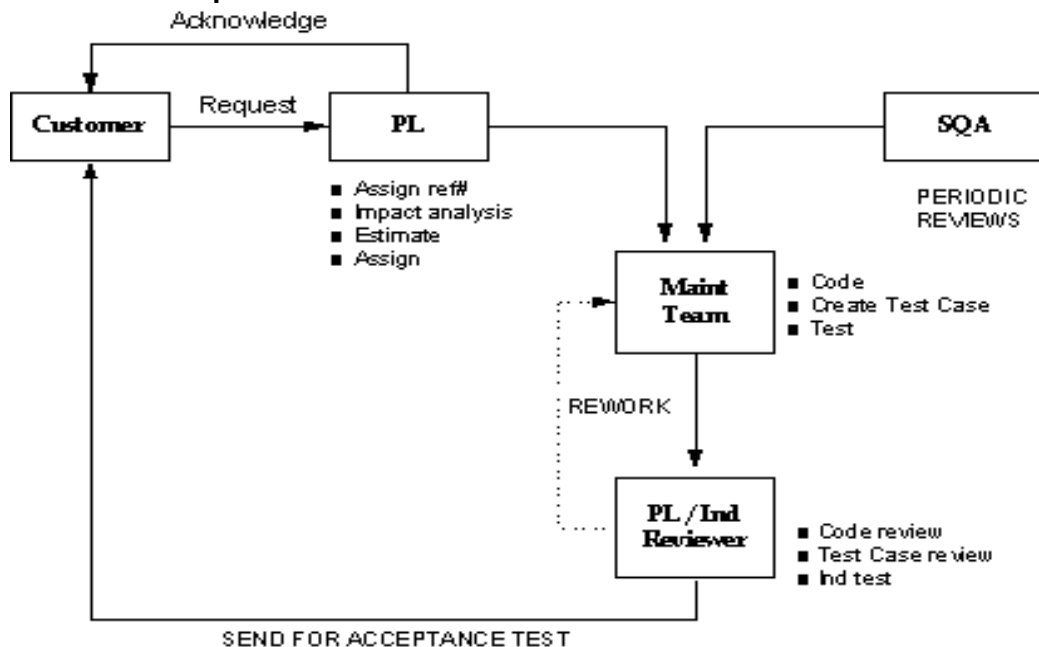
- A team is deputed onsite for this phase.
- The onsite team establishes interfaces with the offshore team.
- The onsite team logs change requests, defines change specifications, and carries out coding, unit testing and acceptance testing.
- Set up offshore team with requisite infrastructure.
- Orientation of offshore team for the project.

- Trial runs with the change requests being passed to the offshore team, specifications, coding and unit testing being performed offshore and acceptance testing being performed onsite.
- Establish confidence with the client on onsite/offshore maintenance model.

Phase 3) Maintenance Activities Phase

- The onsite team will continue to provide production support.
- The onsite team will log requests, carry out preliminary estimation and interface with offshore team.
- The offshore team will design change specifications, carry out coding and testing and interface with onsite team.

Schematic Request flow



Quality Assurance

Quality Assurance

A major concern for customers looking to outsource software development is quality. Can they trust the cost and time estimates they have been given? Will the finished product be to a high standard? There are three ways in which Thinksol addresses this concern.

1. Process Quality
2. Systems Engineer (staff) Quality
3. Product Warranty

Process Quality

Business System Overview

- Conduct System Overview
- Document business system Requirements.
- Study Existing system Documentation.
- Understand and document client expectations and requirements.
- Deliver appreciation document And Obtain sign-off.
- Deliver Maintenance Process Document.

Migrate application offshore

- Test Connectivity
- Test all development and maintenance processes.
- Introduce offshore and onshore teams.

Periodic Team reviews

- Conduct periodic quality Reviews
- Improve cycle time and response times

Systems Engineer Quality

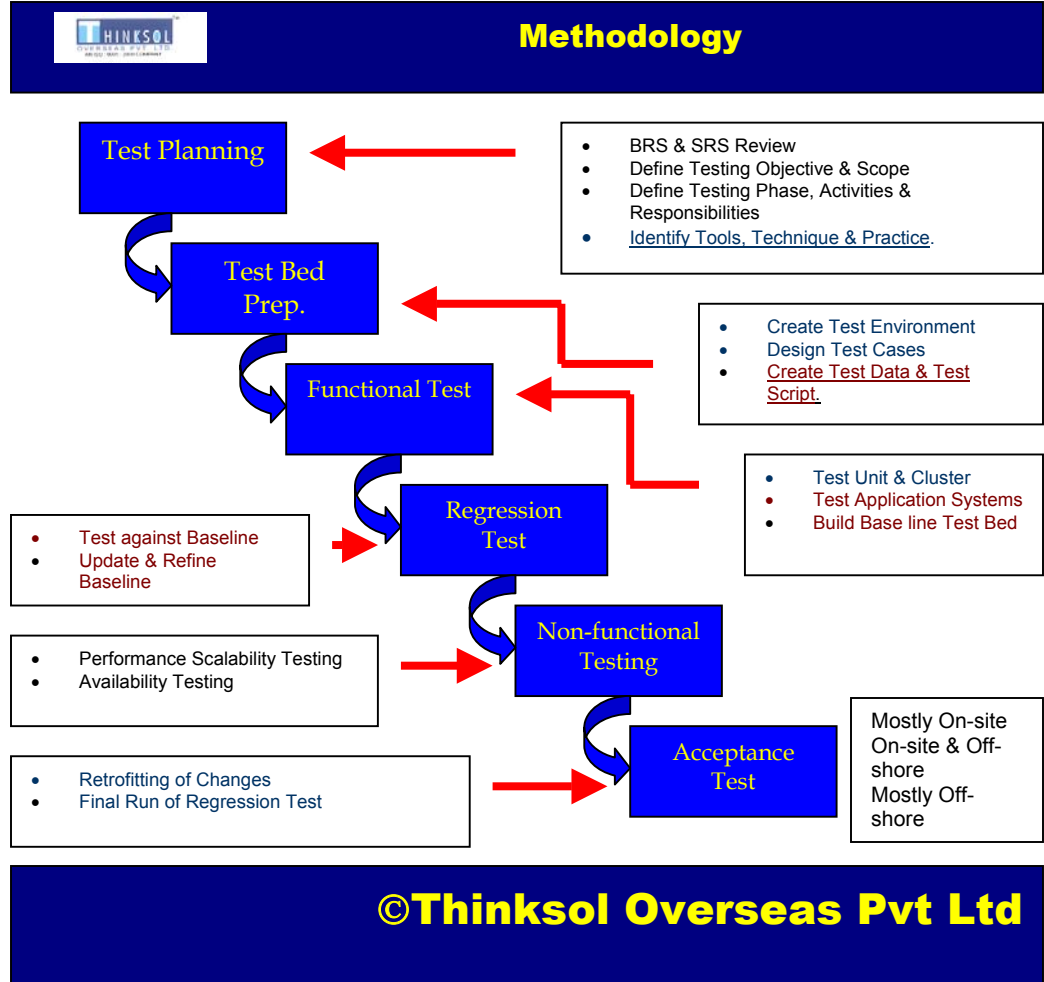
Thinksol always retains top class talents to maintain quality production. This knowledge retention process ensures immaculate solutions within the given time frame. Systems Engineer (staff) Quality is addressed through our competency and staff certification scheme.

Product Warranty

Product Warranty is addressed by warranting all of our products and services during contract negotiations.

Testing Methodology

Testing Methodology



Advantages

The Thinksol Advantages:

- You can concentrate on client's core expertise.
- Our OSDCs have innovation as their motto.
- Improved efficiency.
- Scalability of skilled resources in a short time frame.
- Our comprehensive repository of knowledge and skills at client's service.
- ISO 9001 systems and processes.
- Cost effectiveness.

Concerns:

1. **Knowledge Retention:** We have additional resources lined up to ensure that the knowledge transfer is continuous. All clients' key requirements are updated all the time. We have unique incentive plans linked to ownership and performance on the project. The team follows rigorous documentation standards for the entire duration of the project.
2. **Work Structure and Work Flow Management:** Project planning and contingency planning goes hand in hand. We are aware of the problems associated with long distance project management. We have experience in managing Onsite/Offshore teams. That is why we insist on proper and detailed communication and well thought out milestones.
3. **Ownership of Delivery:** We pride ourselves on our smooth delivery schedules. This is due to entirely our unique Single point of contacts (SPOC) for the client, to ensure complete responsibility for development and deliverables with project milestones.
4. **Configuration Management:** Our OSDCs work as a seamless extension of client's development unit. This requires close monitoring of common software, documents, and other items that client's firm and our offshore team may be simultaneously accessing/modifying. Our Quality Management System implements a formal method to address the complex configuration management issues that need solutions in any collaborative efforts spanning across many locations.

Thinksol provides complete software development lifecycle services, as well as care for systems after implementation. Our services encompass project management, software design, software development, quality assurance, documentation and support.

Case Study

A Live Case Study Report

Currently TSL one of the major project is working for a leading Shipping Container Line Management Company based in the USA. This project is the re-engineering of their multi-tier web based application. We are developing the internet version of that, a two-tier client server application developed in PowerBuilder with Oracle backend.

This project is meant for a leader in the North Atlantic Trade and one of the most respected names in the ocean transportation for last 30 years. This application provides their customer a complete and personalized service like managing customer profile, placing order, quote generation, invoice generation, dispatch, shipment control, managing security etc.

Underlying architectural and design decisions:

This application is a multi-tier Web enabled solution by partitioning the application cleanly into client, application logic, and data sections. In selecting the architecture, we took into consideration the need to deploy and reuse objects. Resulting system has enhanced flexibility, scalability, adaptability, reusability, security, and manageability.

The System has been designed in UML using Rational Rose 2000. The system leverages MVC based model, fully J2EE compliant solution comprising of Servlet, JSP, EJB and Java Bean deployed on application server communicating with backend database Oracle9i. The solution is running on Oracle9ias application server.

Technical Architecture

This is an n-tier J2EE web application designed with J2EE best design patterns. All requests are handled by single front-controller. Which in turn converts the event into application command and executes the command, if the request comes from a authenticated and authorized user then the command calls the SessionBean (implements the business logic) method to get the request processed and return the result to client if the process is successful, else notify the client about the error occurred.

As the application has been designed and developed using J2EE best design patterns and deployed with Oracle 9iApplication Server, it provide ACID (Atomicity, Consistency, Integrity and Durability) for all transactions and better performance. The MessageDrivenBean is used for time-consuming background operations e.g. mail services and logging services.

- Client Layer: HTML, JavaScript running on IE
- Presentation Layer: Front-Controller, JSP, Servlet.
- Business Layer: SessionBean, DataAccess Objects
- EIS Layer: Oracle 9iDB

**Current
process of
Interaction**

Thinksol follows the following steps to interact with client.

Weekly Tele-conference: Twice in a week we organize a tele-conference with our client and discuss the issues at length.

Web bases bug notification: TSL and his client a web based bug notification methodology so that every day what all we develop we forward the same to client via mail for their review. While reviewing if any bugs are found they put it in a secure web area which we can see and take the necessary action very next day.

Secured Net link : Through secured net link client can enter our server and review our code as well as progress. The same way for small bugs client allows us to enter their server through the same route for bug fixing.

Quarterly visit : Every quarter client visit us for the review of our progress and quality.

Modular Approach : We work on a modular approach basis. We take up one model first and finish it up before we move into next module.

Achievement

In spite of having a huge penalty clause on the delivery time line, for last three years span Thinksol has never delayed the delivery time line.