SCM

SRS Document

Disclaimer

This Software Requirements Specification document is a guideline. The document details all the high level requirements. The document should be used as a guideline by the students to design the Solution Architecture for the project. The document also describes the broad scope of the project and high level logical object model. But while developing the solution if the developer has a valid point to add more details being within the scope specified then it can be accommodated after consultation.

Sales Cycle Management

Introduction

The purpose of this document is to define scope and requirements of automation for a leading Channel partner of an IT giant. The channel partner has an exceptional track record in quality of sales and solutions provided by their team. As a growing organization its their endeavor to make sure that their Sales and Solutions team is fully conversant the company's expectations with respect to handling of Sales opportunities.

This document should be used by the development team to architect the solution the project.

Management Summary

The company plans to ramp up their sales and solutions team from the next quarter. Its imperative that a system should be in place to manage the opportunities generated or leads received as reference from the IT giant. For any kind of negligence or improper communications, the company stands to loose on its anticipated growth.

The objective of SCM (Signature Selling Methodology) followed by the company is to enable and empower the team on the process of building prospects, converting them into long term relationships. The key features of the applications are:

1. Capture Opportunities from all sources
2. Assign opportunities to Sales team
3. Manage and track a complete opportunity management cycle.
4. Build an information hub of the customer interactions and meaning data collated.

The proposed solution will be designed & developed to run on IBM WebSphere Application Server and IBM DB2 Universal Database in a 2-tier architecture.

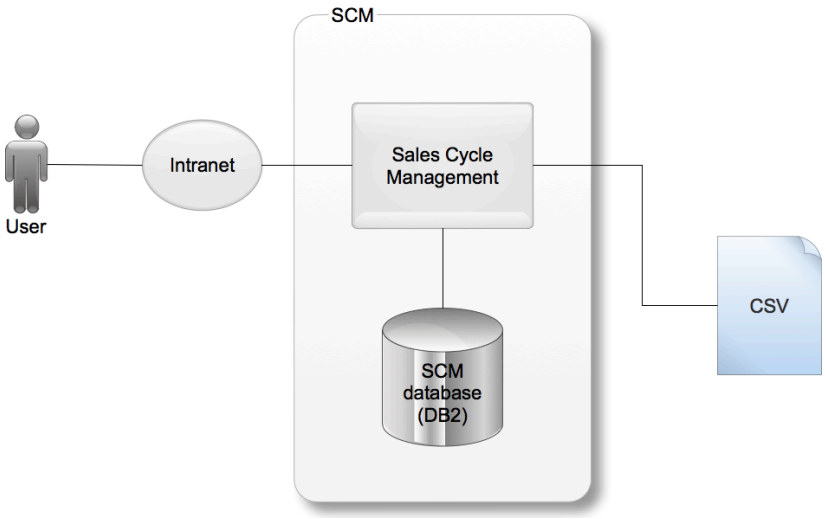
Key Assumptions

1. The project owner understands the importance and challenges of Opportunity management. Building a sales cycle, making the business grow with repeat orders by nurturing existing relationships and sowing new ones.

High Level Architecture

SCM high level architecture is illustrated through the context diagram shown below. It will have following categories of users:

1. Sales Manager
2. Solutions Sales Executive
3. Administrator

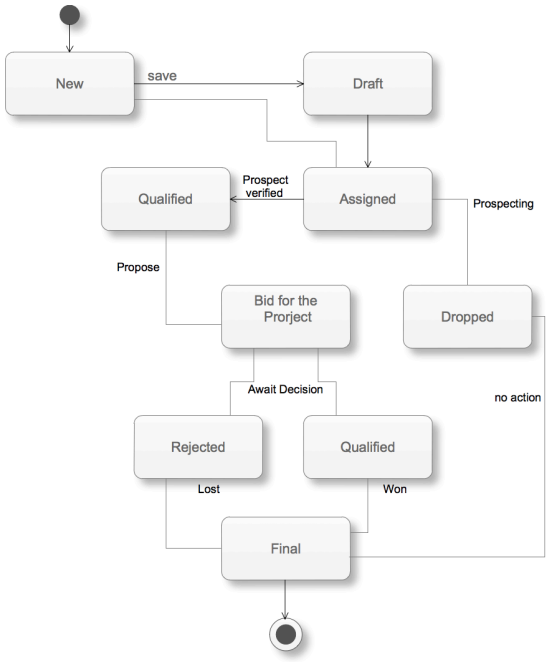


SCM Context Diagram

SCM	The application services access to content like prospects, activities, outcomes, details, interests etc of the prospective customer. A complete workflow from Initiated to sales outcome (Wins / Lost)
SCM Database	This will hold data for SCM on a central server.
CSV	Employees data, Vertical, Stages, Location are uploaded using CSV.

State Diagram

The state transition diagram for a Sales Opportunity to follow in the system is given below for reference.



1. The Sales Manager (SM) captures the Sales Opportunity (SO) and saves it either as draft or assigns to Solution Sales Executive (SSE) operating in the location of the prospect.

2. The SSE researches on the SO as part of the prospecting process. The prospect is either dropped if the SO is not verifiable from the customer sources or its taken as Verified.

3. The SSE creates a proposal and Bids for the Project, the stage is Proposed.

4. SSE awaits for the customer decision as either Rejected or Qualified.

5. In this system Rejected, Qualified and Dropped are end states, as no action is planned in this scope.

Functional Requirements

The high level functional requirements for the SCM are outlined in the Use Case diagram described in this section.

SCM will provide a secure user-id/password based secured login mechanism to access its services. The details of this are not outlined here. The development team is expected to create these keeping in mind the general practices followed by the web applications.

Once Sales Manager logs in, it displays two options, 1) My Sales Opportunities, 2) Team@Work, 3) Add New SO

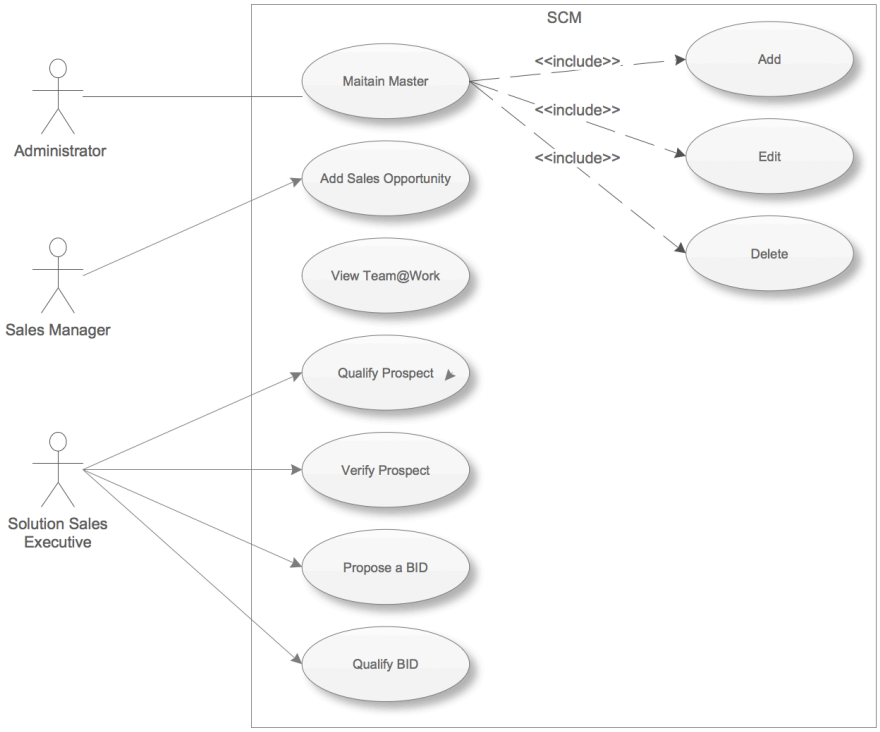
Click on My Sales Opportunities displays data in summary form of all SOs count in various stages as well as the details of entires on any of the stage.

Click on Team@Work displays Summary and list of team members with status wise opportunity count and SLA missed if any. Selecting one of the team members will display information for that member only.

Please refer to use cases for the detail on each of these pages.

Use Case Diagrams

The following figure illustrates the Use Case diagram for the system. The MiS use cases are not detailed here.



Use Case Diagram

Use Cases

Maintain Masters

Use Case Element	Description
Number	UC.01
Application	Master maintenance in terms of basic operations viz. **add**, **edit**, **delete** and **view**. All master maintenance like Vertical Master, SSE, location Master are child use cases of this Use Case. • Vertical Master is the brands being sold via solutions and hardware sales. The master will contain columns like Vertical id, Solution Brand Name, Employee id • Sales & Solution Employee (SSE) master will store the Sales managers and their respective teams. Each employee record will have its reporting manager the employee id of the manager shall be used in the Reporting manager column. The master will have columns like Employee id, Employee Name, Reporting Manager. • Location Master contains list of locations which the company is servicing.The master will comprise of location id and location name. For the purpose of simplicity, City Names shall be uploaded in this master. • Stages SLA Master - The opportunity handling stages will have an SLA to drive action in the Sales team. The master will store information like Stage id, Stage Name, SLA (No. of Days) which means the Sales opportunity's current stage has to be completed within the number of days defined in SLA.
Use Case Name	Maintain Masters
Primary Actor	Administrator
Secondary Actor	None
Pre-condition	None
Trigger	Administrator clicks on the **Maintain Masters** menu item on the admin interface page

Use Case Element	Description
Basic Flow	• System presents a list of masters that can be maintained. Administrator selects the desired master. • System displays a list *view* and links for *add*, *edit* and *delete*. 1. In case add, a new master record data entry form is presented. The master record is saved on clicking the save button provided form clears all the data validations (if any). The list view is updated accordingly. 2. In case of edit, from the list view user is prompted to select the desired record to edit, Selected record is opened for editing. The edited master record is updated on clicking the update button, provided form clears all the data validations (if any). 3. In case of delete, from the list view user selects the check box(s) against each record. Selected records are deleted up on clicking the delete button. However, user is presented a confirmation dialog before deleting the records.
Alternate Flow	• In event of any error, it is clearly displayed and user is asked to renter data or perform operation again.
Output	System displays the details of the successful operation.

Add New Sales Opportunity

Use Case Element	Description
Number	UC.02
Application	The Sales manager is handed over a new opportunity or they generate a lead themselves by calling or visiting or reference.
Use Case Name	Add New Sales Opportunity
Primary Actor	Sales Manager
Secondary Actor	None
Pre-condition	None
Trigger	The user clicks on the **Add New SO** link on the Landing page

Basic Flow	• System displays a form the with following data to be captured.
	  • Organization Name, Address 1, Address2, Location(pick list)
	  • Contact Name 1, Phone Number
	  • Contact person 2, Phone Number
	  • Sales Employee Assigned - Pick list of team members of the logged in Sales Manager.
	  • Reference : Self Generated / Team Member / Direct / Brand Seller's Lead. (Select any one)
	• The user clicks on Save button, the system saves a new record for the SO, assigns a SO-Id, a running serial number. The date of entry is also captured as the SO date.
	• Please refer to the workflow diagram for assigning a state to the SO.

Use Case Element	Description
Alternate Flow	Cancel will abandon the operation and will not save any record.
Output	None

Qualifies a Prospect

Use Case Element	Description
Number	UC.03
Application	The Sales team member does research on the customer finds out their plan, budget, target dates for finalization etc. This stage is called as prospecting
Use Case Name	Prospecting
Primary Actor	Sales Executive
Secondary Actor	None
Pre-condition	None
Trigger	The user clicks on the **Prospecting** option on the Landing page

Basic Flow	• System displays the list of Sales Opportunities that are in the Assigned State.
	• The user selects one of the SO, and system displays a form with the Prospect details as entered in the New SO. The fields can be modified.
	• The user enters the following data as part of the Prospecting stage.
	  ◦ Broad Business IT needs - Description text
	  ◦ Approximate Target Date - Date picker
	  ◦ Approximate Budget
	On click of Save the state changes occurs. Now the SO is in Prospect state. The SLA in this state is assigned to SO.
	Note: Please refer to the state diagram while assigning a state.

Alternate Flow	None
Output	None

Verification of a Prospect

Use Case Element	Description
Number	UC.04
Application	The Sales team member collects verifiable information from the prospect and the prospect is ok to explore the company is established. This stage is called as prospected.
Use Case Name	Prospected
Primary Actor	Sales Executive
Secondary Actor	None
Pre-condition	None
Trigger	The user clicks on the **Prospected** option on the Landing page

Use Case Element	Description

Basic Flow	• System displays the list of Sales Opportunities that are in the Prospecting State.
	• The user selects one of the SO, and system displays a form with the Prospect details as entered and updated earlier. Only the contact fields can be modified at this stage from the previous set of data entered
	• Additional fields to be entered at this stage are as follows:
	  • Expected Decision Date
	  • Potential Service / Solution
	  • Estimated Customer Spending
	  • Conditions of Satisfaction
	On click of Save the state changes occurs. Now the SO is in Propose state. The SLA in this state is assigned to SO.
	Note: Please refer to the state diagram while assigning a state.

Alternate Flow	None
Output	None

Propose a BID

Use Case Element	Description
Number	UC.05
Application	The SO is being pursued and a solution is being designed for the bid
Use Case Name	Propose a bid
Primary Actor	Sales Executive
Secondary Actor	None
Pre-condition	None
Trigger	The user clicks on the **Propose** link on the Landing page

Basic Flow	• System displays the list of Sales Opportunities that are in the Propose State.
	• The user selects one of the SO, and system displays a form in a read only mode with the Prospect details as entered and updated earlier.
	• Additional fields to be entered at this stage are as follows:
	  • Expected Order Date
	  • Odds
	  • Preliminary Solution
	  • Expected Revenue
	On click of Save the state changes occurs. Now the SO is in Qualify state.
	Note: Please refer to the state diagram while assigning a state.

Use Case Element	Description
Alternate Flow	None
Output	An altered view of the changes made are displayed after each change made by the user.

Bid is Qualified

Use Case Element	Description
Number	UC.06
Application	Once the bid gets qualified by the prospective client, the system is updated with information.
Use Case Name	Bid is qualified
Primary Actor	Sales Executive
Secondary Actor	None
Pre-condition	None
Trigger	The user clicks on the **Qualified** link on the Landing page

Basic Flow	• System displays the list of Sales Opportunities that are in the Qualify State.
	• The user selects one of the SO, and system displays a form with the Prospect details as entered and updated earlier.
	• Additional fields to be entered at this stage are as follows:
	  ◦ Revised Expected Order Date
	  ◦ Odds
	  ◦ Refined Solution
	  ◦ Expected Revenue
	On click of Save the state changes occurs. Now the SO is in Qualified state.
	Cases like Not bid, Not qualified, Contract, Winning a bid, Order release are not included here for containing the scope of this project. The purpose was to provide an exposure to a Sales opportunity handling cycle as a critical business need.

Alternate Flow	None
Output	An altered view of the changes made are displayed after each change made by the user.

View Team@Work

Use Case Element	Description
Number	UC.06
Application	The status of SOs per Sales Executive is critical to be monitored.
Use Case Name	View Team@work
Primary Actor	Sales Manager
Secondary Actor	None
Pre-condition	None

Use Case Element	Description
Trigger	The user clicks on **Team@work** link on the Landing page
Basic Flow	• System displays 2 sections on this page • Summary Section displays the Total Number of SOs with break down of various stages and their count, Total Expected Revenue • Team Section displays the Tabular view of Teams and their SO count and expected value stage wise in columns. The last column displays where the SLA has not been met. • Sales manager can further click on the Team member to view transaction level details of the SOs being handled by a Sales Executive.
Alternate Flow	None
Output	View Refreshes on selection of links available in the 2 sections.

Please note, use case for existing customer cases of new Sales opportunities are not mentioned here, if the time permits, you may like to add those.

Logical Object Model

A high level logical object model of the system is shown below. During technical design it will be transformed into a physical model covering all system entities. Such a diagram will include their relationship and its cardinality.

Logical Object Model

1. Sales Manager covers various locations under him/her for servicing sales opportunities (SO).
2. Sales manager has Solution Sales Executives (SSE) aligned from locations to work on SOs.
3. Solution Sales Executive works on the SO by verifying, proposing and converting the prospect to a new customer.
4. An existing customer also sends in an enquiry that is recorded as Sales Opportunity.

Database Design Guidelines

This involves the transformation of the use cases, state diagrams, and logical object model into detailed and optimized physical database table designs.

Typically persistent classes will map to table(s) with their attributes as columns of the table. In some cases a high level object may map in to a master-child table. Invoice is one such example where it maps in to "invoice_header" and "invoice_line_item" table.

Associations between two persistent objects are realized as foreign keys to the associated objects. A foreign key is a column in one table that contains the primary key value of the associated object.

Similarly, a standard technique in relational modeling is to use an intersection entity to represent many-to-many associations. Following is a broad checklist for physical database database design:

1. Database must be properly normalized except those instances where de-normalization help improves performance. This option must be used with special care.
2. All persistent classes that use the database for persistency must map to database structures.
3. Many-to-many relationships must have an intersecting table.
4. Primary keys should be defined for each table, unless there is a performance reason not to define a primary key.
5. Indexes should be defined to optimize access.
6. Data and referential integrity constraints should be defined.

Testing Approach

Quality of the software can be achieved with basic hygiene and consistency followed during design and development of User Interface(UI), Navigation, Validations as per the business process requirement.

To ensure the project delivers acceptable quality to the customer, its important to create a checklist of the conventions to be followed across. Common checks as below are for your reference during design and development:

Common Checks	Validation Type
Page Title is valid for the feature being provided on the page	UI
Order of the Data Entry Fields is logical as per the functionality being provided by the feature	UI
Order of the Display only Fields makes viewing and understanding easy for the user	UI
Spellings and Correctness of Label for the Data Entry and Display fields	UI
The labels are not wrapping onto another row thereby adding a blank row on the page	UI
The fields with drop down are displayed in single row instead of drop down coming on the next row	UI
Data Entry field basic validations are working i.e Text field /Numbers / Dates allow data for their type only	Functional
The dates are following a standard format dd/mmm/yyyy on all forms	UI
The color scheme of all forms i.e headers labels , alerts, entry fields are uniform throughout the application	UI

Common Checks	Validation Type
The action buttons for a New Data Entry Form are uniform for all forms that is allowing data entry	UI
The action buttons are performing the desired action e.g. "submit" is creating a new record if there are no errors and recording all the input fields, whereas 'cancel' is not creating a new record in the database	Functional
The links provided on the forms are opening correctly.	Functional
The data feed mechanism for Read and Write files is generating a log with count of entries.	Navigation

Suggested Technical Reading

The project is aimed at making the student understand concepts of Design and Development using IBM Rational tools, Web Sphere Application Server and DB2 Database. The following reading reference is easy to understand and should be read to get a clear understanding of capabilities of the tools and how you would leverage them to execute a project.

Technical Reference	URL to access
RAD - Tackling challenges of software development with Rational Application Developer for WebSphere Software	http://www.ibm.com/developerworks/rational/library/08/0926_ackerman-mahate/index.html
IBM Education Assistant - Rational Application Developer 7.5	http://publib.boulder.ibm.com/infocenter/ieduasst/rtnv1r0/index.jsp?topic=/com.ibm.iea.rad_v7/rad/rad75.html
RSA-Overview of Rational Software Architect for WebSphere Software Version 7.5	http://www.ibm.com/developerworks/rational/library/08/0926_arnold/index.html
Using the new features of UML Modeler in IBM Rational Software Architect Version 7.5	http://www.ibm.com/developerworks/rational/library/08/0926_diu/index.html
Rational Technical Library	http://www.ibm.com/developerworks/rational/library/