

References and appendix

9.1 References

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- [2]. <http://www.manageengine.com/products/service-desk/ITIL-help-desk-smb-whitepaper.html>
- [3] <http://www.auditnet.org/docs/HelpDesk&ProblemManagement.pdf>
- [4] http://www.mcgarahan.com/article_1_7-Back-to-Basics-Approaches-for-Help-Desk-Operational-Excellence.cfm
- [5] <http://www.isupport.com/isupport-today/help-desk-management/customer-centric-approaches-can-improve-the-help-desk>
- [6] <http://itservicemngmt.blogspot.com/2007/05/service-desk.html>

9.2 Appendixes

- Appendix 1 – ER Diagram with Attributes
- Appendix 2 – Entity and attributes with Relational entities
- Appendix 3 – Project Charter
- Appendix 4 – Detailed Project Plan
- Appendix 5 – Test cases, test schedule and results

Appendix 2 -- Entities with Attributes

Entity	Primary Key	Foreign Key	Other Attributes	Relationship
Employee	EMP_Ser_ID	Emp_HR_Code	Emp_N_Title	HR_Database
			Emp_N_Fname	
			Emp_N_Lname	
			Emp_Status	
			Emp_PR_HR_Code	
			Emp_Designation	
			Des_code	
			Des_Grade	
			Des_Display_Name	
			Emp_Location_Code	
			Location_Code	
			Location_Name	
Concern	Concern_ID	Concern_Assigned_WG	Concern_Category	Work_group
		Concern_Emp_ID	Concern_Sub_Cat	Employee
		Concern_User_ID	Concern_Report_By	Users
			Concern_logged_by	
			Concern_Ack_by	
			Concern_Closed_by	
			Concern_Report_Date	
			Concern_Ack_Date	
			Concern_Closed_Date	
Comments	Comm_ID	Comm_Concern_ID	Comm_Date_time	Concern
			Comment_Text	
Service_Request	SR_ID	SR_Concern_ID	SR_Description	Concern
		SR_System_ID	SR_logged_by	System
			SR_logged_Date	
			SR_Ack_by	
			SR_Ack_Date	
			SR_Category	
			SR_Closed_by	
			SR_Comments	
	SR_Closed_date			
		SR_Status		

Complaint	Comp_ID	Comp_Concern_ID	Comp_logged_by	Concern
			Comp_logged_Date	
			Comp_ack_by	
			Comp_ack_Date	
			Comp_Closed_by	
			Comp_Closed_date	
			Comp_Discription	
			Comp_comments	
			Comp_status	
Incident	Inc_ID	Inc_System_ID	Inc_created_by	System
			Inc_Created_date	
			Inc_Status	
			Inc_Discription	
			Inc_Category	
			Inc_closed_by	
			Inc_Comments	
Problem	Prob_ID	Prob_Inc_ID	Prob_Created_by	Incident
			Prob_created_date	
			Prob_comments	
			Prob_Description	
			Prob_category	
			Prob_Ack_By	
			Prob_Status	
			Prob_Ack_Date	
Change_Request	CR_ID	CR_Inc_ID	CR_Status	Incident
			CR_Category	
			CR_Created_by	
			CR_Craeted_date	
			CR_Approved_by	
			CR_Assigned_to	
			CR_recieved_date	
			CR_initiated_by	
			CR_Description	
Auth_System	AS_ID	AS_Emp_ID	AS_User_group	Employee
		AS_System_ID		System

System	System_ID	System_Ven_ID	System_name	Vendor
			System_Version	
			System_AMC	
Vendor	Vendor_ID		Vendor_contact	
			Vendor_Name	
			Vendor_Category	
			Vendor_Address	
Maintain_area	Mtce_ID	Mtce_System_ID	Mtce_Area_Name	System
		Mtce_Section_ID		Section
Section	Section_ID	Section_HR_Code	Section_Name	Divition
Division	Division_ID	Division_HR_code	Division_Name	Section
Users	User_ID	User_Emp_ID		Employee
		User_Section_ID		Section
		User_WG_ID		Work_group
Work_Group	WG_ID	WG_Role_ID	WG_Name	Roles

Table Appendix 2

Project Proposal For

**DEVELOPMENT OF IT HELP DESK TOOL FOR CENTRALIZED PROCESS FOR
SRI LANKA TELECOM PLC, IT GROUP**

(H.B.M. Palipana – IT MSC - Pgit09044)

Document Control

Document Information

Information	
Document Owner	
Issue Date	

Document History

Version	Issue Date	Changes

Document Approvals

Role	Name	Signature	Date

1. Abstract

Sri Lanka Telecom PLC (SLT) is the pioneer Communication provider in Sri Lanka. To manage the best services to customers of SLT, it deployed mask scale IT systems which maintained by IT group of the organization. Over Seven Thousand employees are using these systems and they are the internal customers or users of the IT group. SLT recently decided to improve these systems and the system maintenance to minimize outage time to users by implementing ITIL, ISO 27000, ISO 9001 etc standard to improve efficiency, effectiveness and information security.

On auditing of the ITIL implementation, it was found that the IT service desk is not centralized within the IT group and also found there is no proper tool is being used by the scattered help desk division wise.

Therefore as a manager working under IT Group, I decided to take this challenge in developing and implementing Common tool for the Centralized help desk proposed and this will be the project for my IT MSC program.

2. Back Ground

Under the ITIL implementation project at Sri Lanka Telecom PLC in 2012, external consultants from VSIS India audited the following processes which are directly impacted for the efficiency and effectiveness of IT group's objectives in SLT:

- Service desk
- Incident management
- Problem management
- Change management
- Capacity and availability management
- Service level management
- IT service continuity management.

They have identified number of process weaknesses that should be mitigating to achieve expected efficiency and effectiveness gains IT Group to achieve objectives defined.

The key weaknesses identified:

- ***Lack of integration between IT Group and SLT business areas such as marketing, human resources, network, and product development teams*** - Often IT Group does not have knowledge of the business changes being developed such as new products and services. Many of these business changes require IT changes which are communicated to IT Group at a later stage of the product development and in most occasions, IT Group does not have adequate time to build and test the required IT changes.
- ***No standard IT processes across IT Group divisions*** – Each division of the IT Group has established their own IT processes. This has lead to inefficiencies (such as duplicate forms).
- ***Adequate accountability has not been established for IT processes*** – Engineers are assigned to some IT processes such as Service Desk. However their responsibility is mainly for HR aspect and often they do not have sufficient time to improve the effectiveness and efficiency of these processes.
- ***Multiple Service Desks*** – IT Group divisions operates multiple service desks. These service desks operates independent to each other and often do not have adequate knowledge of the services offered by other service desks within the IT Group. This may have resulted in confusion among users on contacting IT Group to for incidents and requests.

- **Users contact technical teams directly** – There are instances where users directly contact relevant engineers for incidents and request. Often these user interactions are not recorded. This has resulted in engineers spending their time on service desk related activities.
- **Workflow deficiencies in current processes** – Current processes have several workflow deficiencies such as no process for emergency changes, no distinction between incidents and requests and no clear definition of how incidents should be converted to problems.

By considering the above weakness, the major requirements are to implement a centralized Help desk with proper IT tool. Therefore I have done the further analysed on this area.

3. Outputs of analyses

Within the IT Group, there are several Service Desks or Help Desks in operation. The “IT Service Desk” with an extension number 1657 is the primary Service Desk. SLT Call Centre staff answers calls to 1657 and perform initial logging of the client calls. The call is then transferred to the IT Service Desk. IT Service Desk staff handles calls related to NW & EUS Division, Billing Support Services (BSS) Division, Operation Support Services (OSS) and Systems Division. However IT Service Desk is more effective in handling calls related to NW & EUS Division than other divisions. Through discussion we noted for some calls related to applications such as Geneva and Clarity, the IT Service Desk advises users to call the relevant engineer directly.

There are two other Help Desks operated by Billing Operations team and Oss division. Billing Operations Help Desk comprises of three people and primarily provides support for the user queries in relation to billing operations such as creating a bill or registering a customer. OSS Help Desk comprises of eight people and provides IT support for applications such as Clarity.

Furthermore users sometimes by-pass above-mentioned Service Desk or Help Desks and directly call relevant technical staff (such as an Engineer responsible for system administration or billing configuration). These calls are often not logged. This practice has resulted in technical staff spending time providing service desk support to the customers such as answering their queries and attending to their requests.

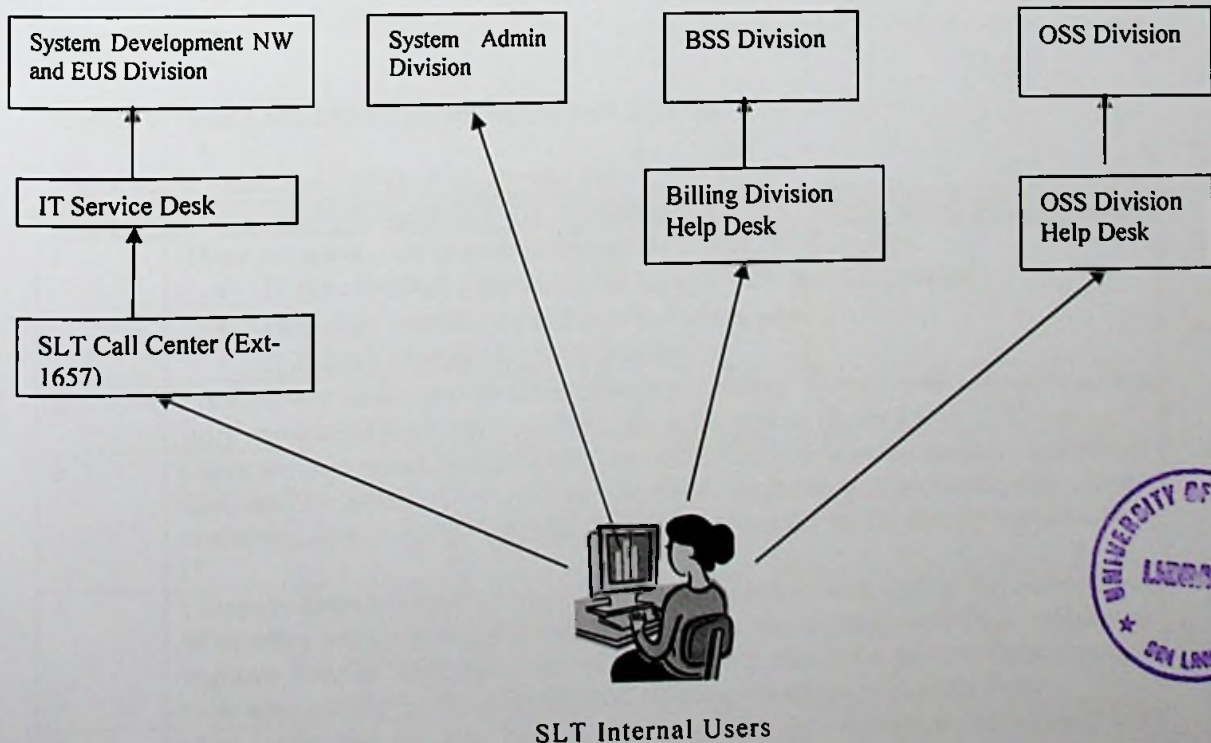


Figure 1- Present IT Help Desk architecture



TABLE 1 - MATURITY ASSESSMENT OF CURRENT SERVICE DESK PROCESS

		Maturing Levels	Rating
0: Non-existent		No process activity is present	
1: Initial		<ul style="list-style-type: none"> Some activities are established, but there is no defined process. The execution of established process activities are ad-hoc and chaotic. Often errors occurred in execution of activities. 	
2: Repeatable		<ul style="list-style-type: none"> A process is defined and documented but has not been agreed across IT Group. Process activities are used repeatedly. However there are situations where process activities are by-passed. Errors do not occur often. 	☑
3: Defined		<ul style="list-style-type: none"> A standard process is defined and documented. The process has been agreed across IT Group. Process activities are used repeatedly and consistently. Errors are not likely. 	
4: Managed		<ul style="list-style-type: none"> A standard process is defined and documented. The process has been agreed across IT Group. Process activities are used repeatedly and consistency. Process activities are monitored for compliance. Errors are rare. 	
5: Optimized		<ul style="list-style-type: none"> A standard process is defined and documented. The process has been agreed across IT Group. The process is actively and continuously improved and is now considered best practice. All process activities are strictly adhered and monitored for compliance. Errors are very rare. 	

TABLE 2 - WEAKNESSES OF CURRENT SERVICE DESK

The specific weaknesses of existing service desks:

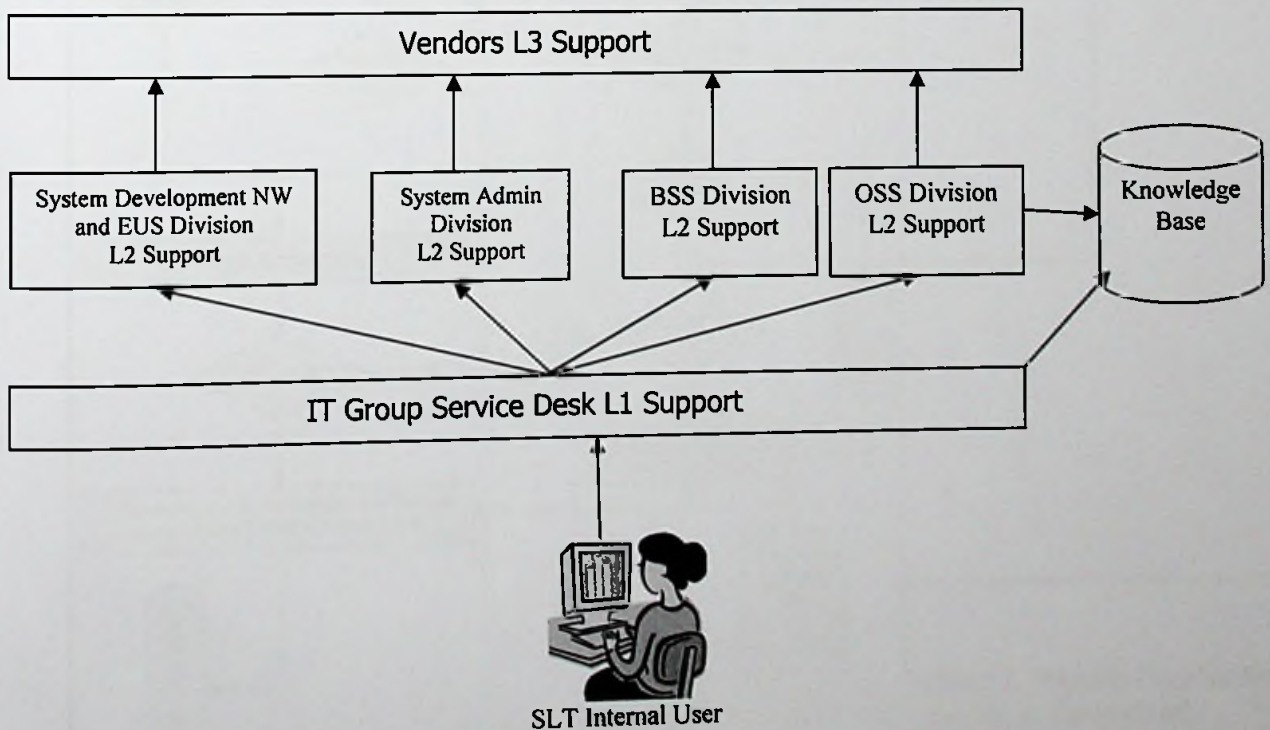
ID	Weakness
1	<p>There are several services desks operating within the IT Group:</p> <ul style="list-style-type: none"> IT Service Desk (Ext 1657) operated by NW & EUS division Help desk operated by Billing Operations team Help desk operated by OSS division.
2	Each service desk operates independently to others. Service desk operators do not fully understand the support provided by other service desks within IT Group.
3	Users are sometimes confused as there are multiple telephone numbers and e-mail addresses to contact. ITIL specify that same telephone numbers and other contact channels (such as e-mail and Intranet) should be used for all user interactions with IT
4	Currently there are Engineers responsible for Service Desk staff in HR perspective. With other job responsibilities these Engineers do not have sufficient capacity to improve Service Desk functions. ITIL specify to appoint a Service Desk manager to be accountable for the effective and efficient operation of Service Desk
5	Users sometimes by-pass Service Desks and directly contact technical staff (for example users directly contact BSS technical staff for billing information requests).

	<p>These interactions are not logged or notified to the Service Desks. Examples include:</p> <ul style="list-style-type: none"> • Users can contact Billing Configuration team through an e-mail box “support_gnv” or by directly calling them • Users sometimes contact Systems Division directly • Senior business managers can contact IT management directly to notify incidents or requests.
6	There are insufficient resources provided to Service Desks. For example a single extension is available for 3 operators in Billing Operations Help Desk
7	Not all areas such as applications have published self-help facilities to enable users resolving minor incidents and requests without contacting Service Desk.

4. Solution

ID	Proposed action
1	Establish a common “IT Group Service Desk (ITGSD)”. Refer figure 2 for structure of this common service desk.
2	Agree a suitable tool for the common service desk

Figure 2: Centralize the service Desk;



Other than the setting up of centralized (Common) Service desk for IT group, it is vast requirement to develop and use common IT tool for help desk process.

Therefore the process has been investigated and finds the following finalized process flow all Service desk staff to be followed.

Chart 1: Common process flow to be followed

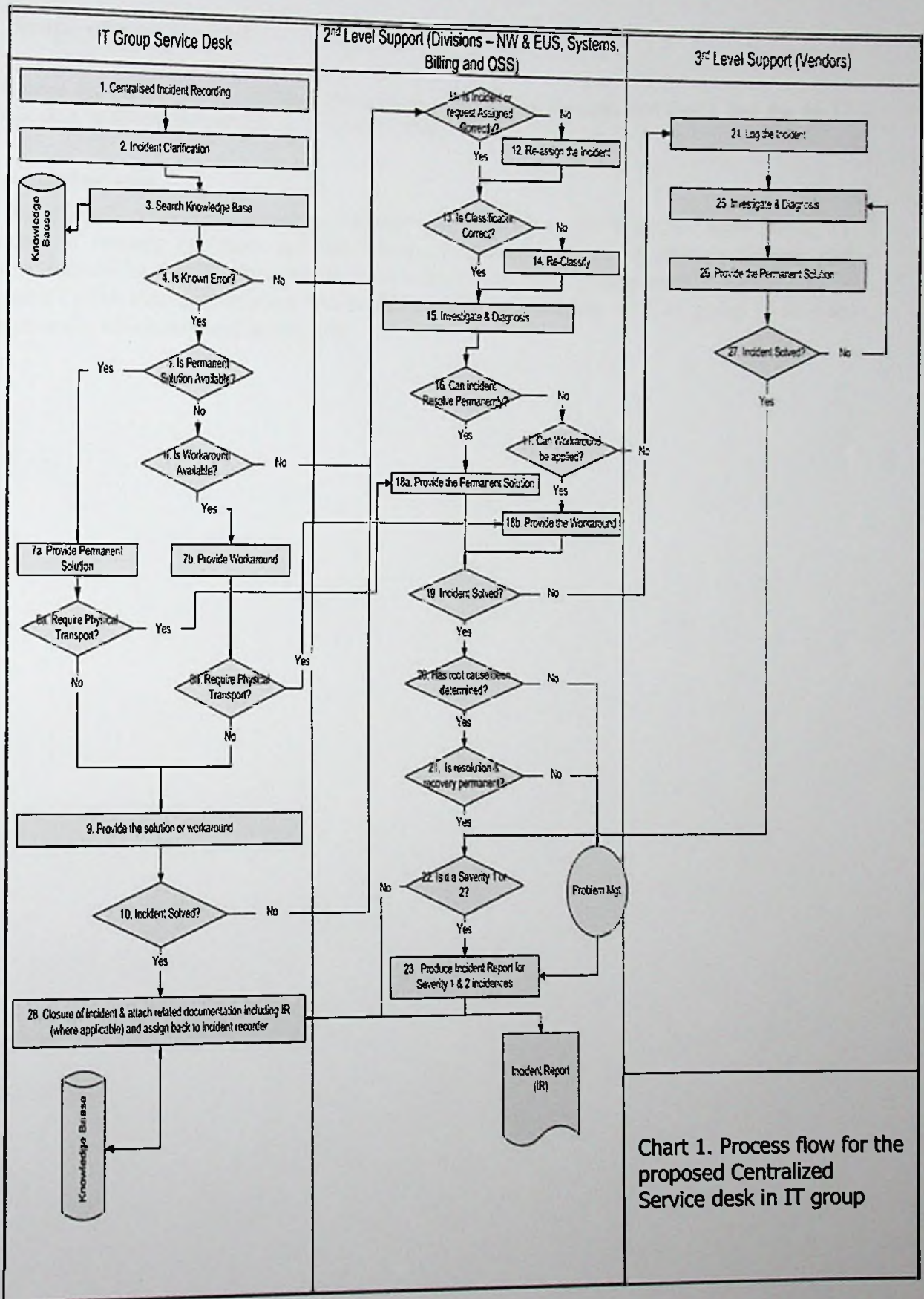


Chart 1. Process flow for the proposed Centralized Service desk in IT group

5. Scope of my Project

The scope my project for the IT MSC program is to develop and implement the IT tool for the IT service desk to follow the process defined under chart 1.

6. Conclusions

As the pioneer telecommunication company in Sri Lanka , SLT should have strong IT systems to manage the customer satisfactions and needs. Hence to address incident and change request for the IT system to resolved in time with better management.

As such I think this development and implementation will support SLT IT group to do their objectives in efficiently and effectively.

Appendix 4 -SLT IT Service Desk Project Plan

ID	Task Name	Duration	Start	Finish	2013														
					3rd Quarter			4th Quarter			1st Quarter			2nd Quarter			3rd Quarter		
					Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
1	SLT IT SERVICE Desk SW	291 days?	Mon 7/23/12	Fri 8/30/13	[Gantt bar spanning from Mon 7/23/12 to Fri 8/30/13]														
2	Start Project	1 day?	Mon 7/23/12	Mon 7/23/12	[Milestone diamond at Mon 7/23/12]														
3	Prepare Project Charter and approval	1 day?	Mon 7/23/12	Mon 7/23/12	[Task bar from Mon 7/23/12 to Mon 7/23/12]														
4	Planing	59 days?	Tue 7/31/12	Fri 10/19/12	[Task bar from Tue 7/31/12 to Fri 10/19/12]														
5	Scope Definition and document approve	12 days?	Tue 7/31/12	Wed 8/15/12	[Task bar from Tue 7/31/12 to Wed 8/15/12]														
6	Requirement gathering	27 days?	Thu 8/16/12	Fri 9/21/12	[Task bar from Thu 8/16/12 to Fri 9/21/12]														
7	Draft researched details	12 days?	Thu 8/16/12	Fri 8/31/12	[Task bar from Thu 8/16/12 to Fri 8/31/12]														
8	Interview Users, Stake holders	10 days?	Mon 9/3/12	Fri 9/14/12	[Task bar from Mon 9/3/12 to Fri 9/14/12]														
9	Draft review revise and approve doc	5 days?	Mon 9/17/12	Fri 9/21/12	[Task bar from Mon 9/17/12 to Fri 9/21/12]														
10	Development Planning	1 day?	Mon 9/24/12	Mon 9/24/12	[Task bar from Mon 9/24/12 to Mon 9/24/12]														
11	Create and approve Development Plannin:	1 day?	Mon 9/24/12	Mon 9/24/12	[Task bar from Mon 9/24/12 to Mon 9/24/12]														
12	Test Planning	4 days?	Tue 9/25/12	Fri 9/28/12	[Task bar from Tue 9/25/12 to Fri 9/28/12]														
13	Create and Approve of test plan	4 days?	Tue 9/25/12	Fri 9/28/12	[Task bar from Tue 9/25/12 to Fri 9/28/12]														
14	Implementing Plan	5 days?	Mon 10/1/12	Fri 10/5/12	[Task bar from Mon 10/1/12 to Fri 10/5/12]														
15	Create and aprove Implementation plan	5 days?	Mon 10/1/12	Fri 10/5/12	[Task bar from Mon 10/1/12 to Fri 10/5/12]														
16	Acceptance criteria	5 days?	Mon 10/8/12	Fri 10/12/12	[Task bar from Mon 10/8/12 to Fri 10/12/12]														
17	Prepare acceptance criteria and approve	5 days?	Mon 10/8/12	Fri 10/12/12	[Task bar from Mon 10/8/12 to Fri 10/12/12]														
18	project plan	5 days?	Mon 10/15/12	Fri 10/19/12	[Task bar from Mon 10/15/12 to Fri 10/19/12]														
19	Prepare Project plan and approve	5 days?	Mon 10/15/12	Fri 10/19/12	[Task bar from Mon 10/15/12 to Fri 10/19/12]														
20	Project execution	188 days?	Mon 10/22/12	Mon 7/8/13	[Task bar from Mon 10/22/12 to Mon 7/8/13]														
21	Designing	51 days?	Mon 10/22/12	Mon 12/31/12	[Task bar from Mon 10/22/12 to Mon 12/31/12]														
22	Develop use cases	15 days?	Mon 10/22/12	Fri 11/9/12	[Task bar from Mon 10/22/12 to Fri 11/9/12]														
23	Create data architecture	15 days?	Mon 10/22/12	Fri 11/9/12	[Task bar from Mon 10/22/12 to Fri 11/9/12]														
24	Design UI	15 days?	Mon 11/12/12	Fri 11/30/12	[Task bar from Mon 11/12/12 to Fri 11/30/12]														
25	Design workflow flow charts	10 days?	Mon 12/3/12	Fri 12/14/12	[Task bar from Mon 12/3/12 to Fri 12/14/12]														
26	Design database	10 days?	Mon 12/17/12	Fri 12/28/12	[Task bar from Mon 12/17/12 to Fri 12/28/12]														
27	Design approved	1 day?	Mon 12/31/12	Mon 12/31/12	[Task bar from Mon 12/31/12 to Mon 12/31/12]														
28	Development	111 days?	Tue 1/1/13	Fri 5/31/13	[Task bar from Tue 1/1/13 to Fri 5/31/13]														
29	Build and Demo prototype	23 days?	Tue 1/1/13	Thu 1/31/13	[Task bar from Tue 1/1/13 to Thu 1/31/13]														
30	Develop Product	64 days?	Fri 2/1/13	Tue 4/30/13	[Task bar from Fri 2/1/13 to Tue 4/30/13]														
31	Develop UI	31 days?	Tue 2/5/13	Fri 3/15/13	[Task bar from Tue 2/5/13 to Fri 3/15/13]														
32	Develop Database	11 days?	Fri 2/1/13	Fri 2/15/13	[Task bar from Fri 2/1/13 to Fri 2/15/13]														
33	Develop Work flow	11 days?	Fri 2/1/13	Fri 2/15/13	[Task bar from Fri 2/1/13 to Fri 2/15/13]														
34	Develop Permission	10 days?	Mon 2/18/13	Thu 2/28/13	[Task bar from Mon 2/18/13 to Thu 2/28/13]														

Project: SLT IT Service desk Sw Deve
Date: Thu 9/5/13

Task		Milestone		External Tasks	
Split		Summary		External Milestone	
Progress		Project Summary		Deadline	

Appendix 5

Test Cases and results with Schedule of IT Service desk software development Project for SLT

S.No.	Test Id	Objective	Modue	Execution Date	Result	User Group Require	Remarks	Signature
1	CASE 1	Verifying the different level of user loggings , and their functionalities allowed in the systems	Logging	6-May-13	Open	1. OSS 2. BSS 3. System 4. Networks	Different level of authorities required to improve	
2	CASE 2	Search by Employee - Service number and check Employee Verification functionality	Employee	6-May-13	PASS	1. OSS 2. BSS 3. System 4. Networks	Check with different Service ID s and verify the employee before adding the cocern	
3	CASE 3	Add concern under an Employee and tetsting for updating in different level of concern	Concern	6-May-13	Open	1. OSS 2. BSS 3. System 4. Networks	Definition of priority levels and escalation not done	
4	CASE 4	Adding complaint for a registered Concern and testing for Updating different Level of complaint	Concern Complaint	7-May-13	PASS	1. OSS 2. BSS 3. System 4. Networks	Users requested complaint registration directly, need development	
5	CASE 5	Service Request addition under Concern registered, Updating Service request in each stages	Concern Service request	7-May-13	Open	1. OSS 2. BSS 3. System 4. Networks	Functionality is Ok, need additional LOV for category, need priority levels and escalations	
6	CASE 6	Create , update Incidents for a concern registered	Incidents	7-May-13	Open	1. OSS 2. BSS 3. System 4. Networks	Incident priority levels and escalations to be added	
7	CASE 7	Testing of Problem created under incident an updste in differet Stages and close	Problem	7-May-13	PASS	1. OSS 2. BSS 3. System 4. Networks	Problem priority need to add	

8	CASE 8	Change Request entry and update CR details in diferent statges	Change request	7-May-13	Open	1. OSS 2. BSS 3. System 4. Networks	Estimated cost, IR document adding need	
9	CASE 9	System support tools testting - SLT application systems, infrastructure MTCE area details entry for refernce and to call at each activities defined. Create new, update and deactivate to be testted	Supports	8-May-13	PASS	1. OSS 2. BSS 3. System 4. Networks		
10	CASE 10	Vendor details of each system and IT insfrastructure with S&M agreements detais entry, update and link with systems	Supports	8-May-13	Open	1. OSS 2. BSS 3. System 4. Networks	Identify the system to Vendor is required	
11	CASE 11	Create and update of Users and assigning to workgroups, change of work groups tetsings	Supports	8-May-13	PASS	1. OSS 2. BSS 3. System 4. Networks		
12	CASE 12	Entry and update of employee details to the system testings	Supports	8-May-13	PASS	1. OSS 2. BSS 3. System 4. Networks		
13	CASE 13	Overall work floor of the system to manage single Service desk in SLT	All	9-May-13	Open	1. OSS 2. BSS 3. System 4. Networks	Partially done	
14	CASE 14	Dashboard features and User level wise customisations	Dashboard	9-May-13	pending	1. OSS 2. BSS 3. System 4. Networks		
15	CASE 15	Reports from the systems which need to montor by the management	Dashboard	9-May-13	pending	1. OSS 2. BSS 3. System 4. Networks		

