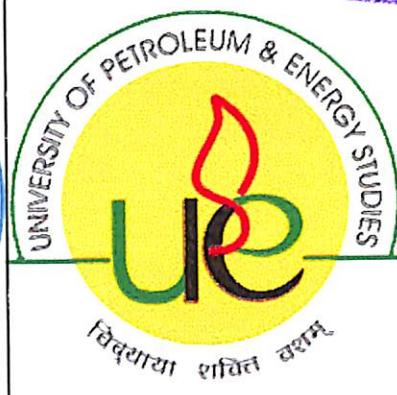


Summer Internship Project Report on E-Enterprise Analysis

Of

Wipro Infotech



Arpit Kumar Saxena
MBA ISM
Final Year
500014671

REFERENCE COPY

Department of Information Systems Management
CMES
UPES
Dehradun

CERTIFICATE

This is to certify that **Mr.Arpit Kumar Saxena**, Roll No.**530014671/R750211006** has completed his summer internship at Wipro Infotech, Madivala, Bengaluru and has submitted this project report entitled "E-Enterprise Analysis" towards partial fulfillment of the requirements for the award of the Post Graduate in Management 2011-2013.

This Report is the result of his own work and to the best of my knowledge no part of it has earlier comprised any other report, monograph, dissertation or book. This project was carried out under my overall supervision.

Date:

Place:

Internal Faculty Guide

Table of Contents

Acknowledgement.....4

Executive summary.....5

Chapter 1: Introduction.....6

Chapter 2: Literature review.....15

Chapter 3: Research Methodology.....19

Chapter 4: Data Collection & Analysis.....20

Chapter 5: Project Analysis.....29

Chapter 6: Conclusions & Recommendations.....35

References.....39

Appendix.....40

Acknowledgement

I would like to thank all the employees and management of Wipro Infotech, Madiwala, Bengaluru for providing me with the opportunity to learn and complete my project on time.

I would like to take this opportunity to thank personally the following people in Wipro Infotech for their continuous help and support Mr. Avneesh Misra, Regional Business & Service Delivery Manager, and my Project Guide Mr. Sandeep Thalanchery along with Mr.Sagar B, Mr. Vijay Kembhavi (Project Lead), Mr.Santosh (Operations manager, CBAYSystems), Mr.Nagraj (Operation manager, Mistral Solutions) without their support it would not have been easy to complete my project on time.

I would also like to thank Dr. D.K. Punia (H.O.D. MBA ISM) for his support and guidance and providing us with the opportunity to be a part of this project. Mr. Vibhav Prasad Mathur (COMES) for his continuous support and guidance during the project.

I would also like to thank my friends and family for their encouragement and belief in me. The efforts of various people directly or indirect contributing to the success of this project are duly acknowledged.

Arpit Kumar Saxena



CERTIFICATE

Date: 27th July 2012

This is to certify that **Mr. Arpit Kumar Saxena** MBA Student of University of Petroleum & Energy Studies, has carried out a project work on "Asset Management & Call Analysis" & "Customer Landscaping" at Wipro Infotech, Bangalore from **04th June 2012 to 27th July 2012**

He was regular & punctual in his attendance & his behavior was very good during this period.

Project Guide – Avaneesh Mishra - Regional Service Delivery Manager
Sandeep Thalanchery - Program Lead

Sincerely,

For Wipro Limited

Gopal Namdeo



Gopal Namdeo
Regional HR Manager

CERTIFICATE

This is to certify that *Mr. Arpit Kumar Saxena* has completed his summer internship at *Wipro InfoTech, Madiwala, Bangalore* and has submitted the project report entitled *Customer Landscape for S2, Asset Management & Call Analysis* using *E-Helpline* tool.

This Report is the result of his own work and to the best of my knowledge no part of it has earlier comprised any other report, monograph, dissertation or book. This project was carried out under my overall supervision.

Date: 26/7/2012

Sandeep Thalanchery
Program Lead
Wipro InfoTech
Madiwala
Bangalore

Sandeep
[Signature]
26/7/2012

Executive Summary

The Project E-Enterprise Analysis of Wipro Infotech was divided into three different phases at four different locations. The main goal was to understand the current problems related to the management & technical aspects. The following problems were identified at each different location:

Location 1: Madivala, Bangalore

Description of the Problem: The main aim was to understand the working of the Wipro Infotech & have a bird eye view of how the Wipro Infotech delivers services to the clients & how the clients are prioritized on a delivery basis & thus providing best & effective service.

The responsibility of providing a better class of services lies with the Regional Business & Service delivery manager. During that time RBSD manager was not having a medium & method by which he can actually see as to how much engineers are deployed at a particular location & what are the various working environments in terms of the skill sets required at that particular location.

Location 2:

1. Sify Data Center, Cyber Park, Electronic city, Bangalore
2. Mistral Solutions, Domlur, Bangalore

Description of the Problem : Initially working upon the asset management, I was suppose to visit the Sify data center situated at the cyber park,ec,Bangalore. At Sify Data Center, UCO RRB data was hosted & all the supports related to the business are provided from this location.

Mistral is a technology design and systems engineering company providing end-to-end solutions for product design and application deployment. Mistral's solutions include hardware board design, embedded software development. Mistral wanted to have an asset management & incident management solution.

Location 3: AKR Tech Park, Kudlu Gate, Bangalore

Description of the Problem: Cbay Systems, A Part of MModal is a customer relationship centre for the US Based MModal Company. Cbay Systems outsourced its incident management process to the Wipro Infotech & previously the incident management tool used was from Wipro which was later on replaced by BMC's Remedy. The purpose was to analyze & understand the reasons behind the continuous degradation of the services & provide a report on the same thus analyzing all the processes & various service norms.

CHAPTER 1: INTRODUCTION

Enterprise Analysis is a knowledge area which describes the Business analysis activities that take place for an enterprise to identify business opportunities, build a Business Architecture, determine the optimum project investment path for that enterprise and finally, implement new business and technical solutions.

According to version 1.6 of the BABOK, Enterprise Analysis is the strategic part of the project lifecycle. It includes;

- developing strategic goals and a strategic plan to get there,
- understanding and developing the business architecture,
- selecting the right solution approaches for projects and developing their business cases, and
- initiating projects and making sure they deliver value to the sponsor

Some of the primary problems faced by organizations that do not conduct enterprise analysis include:

- Poor project prioritization
- Inadequate alignment of goals and services
- Primacy placed on stakeholder demands for quick delivery rather than quality
- deliverables
- Lack of enterprise-wide collaboration
- Non-strategic and ineffective and/or inefficient solutions
- Duplication of effort among various business units
- Poor planning that overlooks all possible approaches to develop the solution
- Focus-limited to examination of only one solution option
- Weak decision-making that lacks buy-in from all key stakeholders
- Inability of the organization to see how a solution developed for one business unit can benefit other business units

Key Reasons to Conduct Enterprise Analysis:

- Better business alignment with strategic goals
- Improved planning
- Improved decision-making
- Risk mitigation
- Reduction of duplicated efforts

IT Asset Management

IT asset management (ITAM) is the set of business practices that join financial, contractual and inventory functions to support life cycle management and strategic decision making for the IT environment. Assets include all elements of software and hardware that are found in the business environment.

IT asset management (also called IT inventory management) is an important part of an organization's strategy. It usually involves gathering detailed hardware and software inventory information which is then used to make decisions about hardware and software purchases and redistribution. IT inventory management helps organizations manage their systems more effectively and save time and money by eliminating unnecessary purchases and wasted resources.

Hardware asset management entails the management of the physical components of computers and computer networks, from acquisition through disposal. Common business practices include request and approval process, procurement management, life cycle management, redeployment and disposal management. A key component is capturing the financial information about the hardware life cycle which aids the organization in making business decisions based on meaningful and measurable financial objectives

Role of IT asset management in an organization

The IT Asset Management function is the primary point of accountability for the life-cycle management of information technology assets throughout the organization.

Included in this responsibility are development and maintenance of policies, standards, processes, systems and measurements that enable the organization to manage the IT Asset Portfolio with respect to risk, cost, control, IT Governance, compliance and business performance objectives as established by the business.

IT Asset Management uses integrated software solutions that work with all departments that are involved in the procurement, deployment, management and expense reporting of IT assets.

Goals of ITAM

ITAM business practices have a common set of goals:

- Uncover savings through process improvement and support for strategic decision making
- Gain control of the inventory
- Increase accountability to ensure compliance
- Enhance performance of assets and the life cycle management
- Improve Availability Time of the Business/Applications/Processes.

Incident Management

Incident Management (ICM) is a term describing the activities of an organization to identify, analyze, and correct hazards to prevent a future reoccurrence. These incidents within a structured organization are normally dealt with by either an Incident Response Team (IRT), or an Incident Management Team (IMT). These are often designated before hand, or during the event and are placed in control of the organization whilst the incident is dealt with, to restore normal functions.

An incident is an event that could lead to loss of, or disruption to, an organization's operations, services or functions. If not managed an incident can escalate into an emergency, crisis or a disaster. Incident management is therefore the process of limiting the potential disruption caused by such an event, followed by a return to business as usual. Without effective Incident Management an incident can rapidly disrupt business operations, information security, IT systems, employees or customers and other vital business functions.

Incident Management Process, as defined by ITIL

Incident management can be defined as: "Incident Definition as per V3" An unplanned interruption to an IT Service or a reduction in the Quality of an IT Service. Failure of a Configuration Item that has not yet impacted Service is also an Incident. For example, Failure of one disk from a mirror set. An "Incident Definition as per V2" An event which is not part of the standard operation of a service and which causes or may cause disruption to or a reduction in the quality of services and Customer productivity. The objective of incident management is to restore normal operations as quickly as possible with the least possible impact on either the business or the user, at a cost-effective price.

The Incident Manager is a functional role and not a position. Incident management provides to the external customer a focal point for leadership and drive during an event by ensuring adherence to follow-up on commitments and adequate information flow. This means, presenting to the customer an entity that accepts ownership of their problem.

The objective of Incident Management during an incident is service restoration as quickly as possible. The objective is not to make a system perfect. If service can be restored by a temporary workaround quicker than by correcting the underlying root cause of the issue then that is

acceptable. After service restoration, correction of underlying root causes is done by the Problem Management team by a process called Root Cause Analysis (RCA).

The primary focus of Incident Management is to ensure a prompt recovery of the system, supervising and directing the internal or external resources. Prompt system recovery and minimization of any impact to the customer's, has priority over unreasonably long and intensive data collection for the event root cause investigation.

Incidents can be classified into three primary categories: Software (applications), hardware, and service requests. ITIL separates incident management into six basic components:

- Incident detection and recording
- Classification and initial support
- Investigation and diagnosis
- Resolution and recovery
- Incident closure
- Ownership, monitoring, tracking, and communication (monitoring the progress of the resolution of the incident and keeping those who are affected by the incident up to date with the status)

From ITIL point of view, the activities of Incident Management are:

- Take ownership for an incident and act as the primary level of escalation
- Provide a prompt recovery of the business within the specified Service level agreement or SLA
- Assure that the focus on the incident resolution is not taken away by other activities
- Escalating incidents: functional (the support of a higher technical skills are needed to solve the problem) and hierarchical (a manager with more authority to be consulted in order to take decision that are beyond the competencies assigned to this level)
- Send incident notifications to the customer (documents that contains detail information)
- Setting-up and leading conference call or bridge communication between all involved parties
- Keep tracking and records of the time lines
- Act as an interface towards other technicians, customer technical staff and other groups within the organization.

An Incident Manager should be able to:

- understand any incident/fault on a basic level (at least) in order to use the appropriate competences (resources)
- drive the restoration team to gather sufficient information to start an analysis
- maintain a general overview of the incident (keeping the focusing on the restoration via a workaround)
- understand the functionality of multiple areas

Incident management software systems

Incident management software systems are designed for collecting consistent, time sensitive, documented Incident report data. Many of these products include features to automate the approval process of an incident report or case investigation. These products may also have the ability to collect real time incident information such as time and date data.

Additionally incident report systems will automatically send notifications, assign tasks and escalations to appropriate individuals depending on the incident type, priority, time, status and custom criteria. Modern products provide the ability for administrators to configure the Incident report forms as needed, create analysis reports and set access controls on the data.

These incident reports may have the ability for customization that may best suit the organizations using the systems. Some of these products have the ability to collect images, video, audio and other data. Incident management software systems exist that relate directly to specific industries.

Company Background

Wipro Ltd., the flagship company of the Azimil Premji group was incorporated in the year 1945. The company started off originally as a manufacturer of vegetable ghee/vanaspati, refined edible oils etc. Gradually the company has diversified into various other businesses.

Today Wipro Limited is the first PCMM Level 5 and SEI CMM Level 5 certified IT Services Company globally. Wipro provides comprehensive IT solutions and services, including systems integration, Information Systems outsourcing, package implementation, software application development and maintenance, and research and development services to corporations globally.

In the Indian market, Wipro is a leader in providing IT solutions and services for the corporate segment in India offering system integration, network integration, software solutions and IT services. Wipro also has profitable presence in niche market segments of consumer products and lighting. In the Asia Pacific and Middle East markets, Wipro provides IT solutions and services for global corporations.

Wipro's ADSs are listed on the New York Stock Exchange, and its equity shares are listed in India on the Stock Exchange - Mumbai, and the National Stock Exchange, among others.

Wipro is the leading strategic IT partner for companies across India, the Middle East and Asia-Pacific - offering integrated IT solutions. They plan, deploy, sustain and maintain your IT lifecycle through their total outsourcing, consulting services, business solutions and professional services. Wipro InfoTech helps you drive momentum in your organization - no matter what domain you are in.

Backed by their strong quality processes and rich experience managing global clients across various business verticals, they align IT strategies to your business goals. Along with their best of breed technology partners, Wipro InfoTech also helps you with your hardware and IT infrastructure needs.

The various accreditations that they have achieved for every service they offer reflect their commitment towards quality assurance. Wipro InfoTech was the first global software company to achieve Level 5 SEI-CMM, the world's first IT Company to achieve Six Sigma, as well as the world's first company to attain Level 5 PCMM.

Their continuing success in executing projects is a result of their stringent implementation of quality processes. Deploying quality frameworks to align with your business will give you the benefit of a smooth and transparent transition while providing complete IT lifecycle management. Reliability and perfection are a result of their adherence to these quality benchmarks and this has been their key differentiator while helping drive your business momentum.

The company's experience and expertise are measured against globally recognized standards to ensure their commitment in delivering competitive solutions to their customers. Wipro InfoTech

epitomizes quality by maintaining high standards in service offerings and products, as well as internal processes and people management. They believe in constantly scaling quality standards by expanding our efficiency in all areas beyond their basic IT offerings.

Different people perceive innovation in various ways. At Wipro InfoTech, their innovative thinking helps them adopt newer business lines and offerings based on your business expectations. They have adapted to the changes brought about by technology and business and this has helped us improve customer experience through service delivery and process optimization.

Different divisions of the company:

Wipro Technologies - Wipro Technologies is the global IT services business division of Wipro Limited. With over 20 offices around the world, Wipro Technologies is the No.1 provider of integrated business, technology and process solutions on a global delivery platform.

Wipro Infotech- Wipro Infotech is the leading strategic IT partner for companies across India, the Middle East and Asia-Pacific - offering integrated IT solutions. We plan, deploy, sustain and maintain your IT lifecycle through our total outsourcing, consulting services, business solutions and professional services.

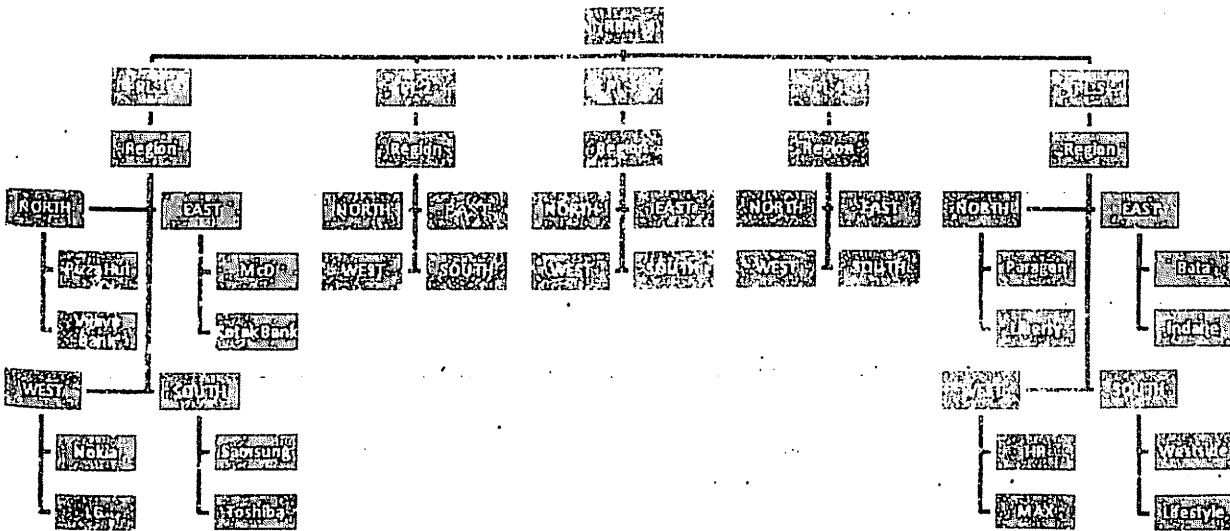
Wipro Consumer Care and Lighting- Wipro Consumer Care and Lighting, a business unit of Wipro Limited, has a profitable presence in the branded retail market of toilet soaps, hair care soaps, baby care products and lighting products. It is also a leader in institutional lighting in specified segments like software, Pharma and retail.

Wipro Infrastructure Engineering - Wipro Infrastructure Engineering was Wipro Limited's first diversification in 1975, which addressed the hydraulic equipment requirements of mobile original equipment manufacturers in India. Over the past 25 years, the Wipro Infrastructure Engineering business unit has become a leader in the Hydraulic Cylinders and Truck Tipping Systems markets in India, and intends growing its business to serve the global manufacturing requirements of Hydraulic Cylinders and Truck Tippers.

Wipro GE Medical Systems - Wipro GE Medical Systems is a joint venture between Wipro and General Electric Company. As a part of GE Medical Systems South Asia, it caters to customer and patient needs with a commitment to uncompromising quality. Wipro GE is India's largest exporter of medical systems, with unmatched distribution and service reach in South Asia. Wipro GE pioneered the manufacture of Ultrasound and Computed Tomography systems in India and is a supplier for all GE Medical Systems products and services in South Asia.

Business Problem

Wipro Infotech is the leading strategic IT partner for companies across India, the Middle East and Asia-Pacific - offering integrated IT solutions. We plan, deploy, sustain and maintain your IT lifecycle through our total outsourcing, consulting services, business solutions and professional services. The organizational hierarchy is depicted as below:



- At the top is the Regional Business Service Delivery Manager
- Next comes the Project Lead who is responsible for his/her respective clients (called internally as accounts)
- These accounts have a set of respective Wipro employees working over there for them

I was supposed to work under Mr. Sandeep Thalanchery & Mr. Vijay Kembhavi who hold the responsibility of Mistral Solutions, Cbay Systems & Sify Data Centre.

At these mentioned accounts there were following listed problems:

- Mistral Solutions : Asset & Incident Management
- Cbay Systems : Incident Management
- Wipro Infotech : Customer Landscape

For each of these accounts I was assigned with the respective role to work out over the managerial & technical business problem & provide a feasible solution for the problem.

Research Objective

The objective of this project was to provide the relevant & feasible solution to the respective accounts for their respective managerial & technical problems. Also one of the prime objectives of this project was to understand the various business scenarios which one might face during interacting at various management levels & how to deal in such situations & negotiating in those situations.

Also with respect to each of the business accounts the following were the main objectives:

Customer Landscape at Location 1: Design & develop a model in order to help the RBSD in delivering the services effectively & efficiently.

Asset Management at Location 2: Developing an Asset Management Solution.

Call Analysis at Location 3: Preparing a report containing reason for service deterioration & remedies for the same by recommendation of appropriate & feasible solutions.

CHAPTER 2: LITERATURE REVIEW

Introduction

Enterprise Analysis describes the work necessary to define a business need, decide on an approach to address that need, and to determine if the organization should invest in the proposed change. The ultimate goal of business analysis is to satisfy a business need, solve a problem or take advantage of an opportunity with a solution. A solution is anything that satisfies the business need. It might include new or updated software, new or updated hardware, a business process or procedural change, an organization or personnel change, or the purchase of a product or service to improve the business efficiency. In Enterprise Analysis, you gain understanding of the needs of the business, find a viable solution, and help the business decide if it should allocate resources to the creation of the solution.

The easiest way to describe Enterprise Analysis is to look at the typical organization and what it does. First, there are well-defined operating units that support the ongoing operations. Every organization makes or provides some type of product or service, so it has a production, manufacturing, operations, or servicing group. Every organization also has some type of sales or marketing department to make customers aware of their product or service. Finally, they all have financial operations and a human resource area.

Asset Management

Asset management, broadly defined, refers to any system that monitors and maintains things of value to an entity or group. It may apply to both tangible assets such as buildings and to intangible concepts such as intellectual property and goodwill. Asset management is a systematic process of operating, maintaining, upgrading, and disposing of assets cost-effectively.

History

Civilization has always relied on its technological assets to support key functions like transport, public health, business, and commerce. There is a clear link between the provision and sophistication of technological assets and our modern lifestyle. Romans built a strong empire through their construction of roads, aqueducts and other assets.

Enterprise asset management

Enterprise asset management is the business processes and enabling information systems that support management of an organization's assets, both physical (such as buildings, equipment, infrastructure etc.)

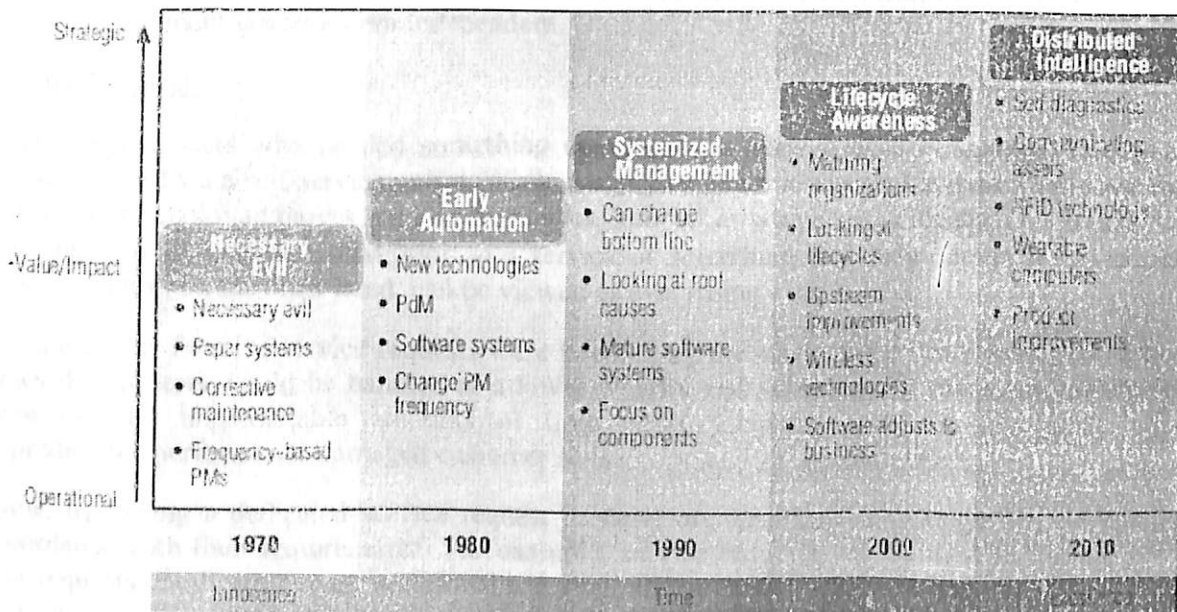
- Physical asset management: the practice of managing the entire life cycle (design, construction, commissioning, operating, maintaining, repairing, modifying, replacing and decommissioning/disposal) of physical and infrastructure assets such as structures, production and service plant, power, water and waste treatment facilities, distribution networks, transport systems, buildings and other physical assets. Infrastructure asset

management expands on this theme in relation primarily to public sector, utilities, and property and transport systems. Additionally, Asset Management can refer to shaping the future interfaces amongst the human, built, and natural environments through collaborative and evidence-based decision processes.

- Fixed assets management: an accounting process that seeks to track fixed assets for the purposes of financial accounting.
- IT asset management: the set of business practices that join financial, contractual and inventory functions to support life cycle management and strategic decision making for the IT environment. This is also one of the processes defined within IT service management.
- Digital asset management: a form of electronic media content management that includes digital assets.

The Evolution of Asset Management

Asset management is not a new discipline. In fact, it is as old as commerce itself. Thirty years ago the job may have been called “plant maintenance”, fifteen years ago it may have been “equipment management”, but today, we think in terms of “enterprise asset management”. While it is tempting to think of this merely as a semantic change, the actual job functions and responsibilities have been taking bigger strides than any of these new titles suggest.



Evolution Of Asset Management

Total Life Cycle Asset Management

An expanded view of classes brings new benefits to the completeness and rigor of asset management. Similarly, an expanded view of the asset lifecycle provides a new level of rigor and understanding. The practice of Total Lifecycle Asset Management (or TLAM) takes an expanded view of how assets are planned for, used, maintained and ultimately disposed of. A traditional view often separates or ignores key phases within the asset lifecycle.

Incident Management

Incident Management (IcM) is an IT service management (ITSM) process area. The first goal of the incident management process is to restore a normal service operation as quickly as possible and to minimize the impact on business operations, thus ensuring that the best possible levels of service quality and availability are maintained. 'Normal service operation' is defined here as service operation within service-level agreement (SLA). It is one process area within the broader ITIL and ISO 20000 environment.

Evolution of Incident Management

For years, real-world ITSM practitioners knew there were challenges with how Incident Management attempted to incorporate service requests and alerts from monitoring tools. As a result, they developed their own practices. Now, with ITIL v3, the Incident, Service Request and Event Management processes are independent.

Service Requests

Traditionally, users who needed something contacted the service desk or opened their own incident record via a self-service portal. While it could be done, it was problematic. A request for information, employee moves, and so forth were lumped in with real incidents. To explain the challenge, an incident is a disruption to a service or something that may disrupt a service. A service request, on the other hand, can be viewed as everything else.

Organizations found if service requests were handled by the same group doing break/fix, often times the requests would be handled at a lower priority and subsequently the requestor would have to wait unpredictable amounts of time while incidents were handled first. This unpredictable performance damaged customer satisfaction and IT's credibility.

Now, by having a dedicated service request process, organizations can design the process in accordance with their requirements. For example, service requests can be used to initiate new user requests, hardware moves, additional software, and so forth that then follow the appropriate workflows and integrate with other processes properly. This results in a more refined single entry into IT.

From an organizational perspective, some IT groups have further improved service by splitting the management of service requests and incidents into two different groups. This way, incidents

have dedicated staff and so do the requests. As a result, the predictability of service requests being handled in a timely and efficient manner increases, as does customer satisfaction.

Event Management

In ITIL v2, practitioners realized they needed to route alerts from monitoring tools into the Incident Management process and the supporting software. The traditional method of sending pages or emails directly to specific staff could cause incidents to be delayed or completely overlooked if someone was very busy, out of the office sick, or otherwise unavailable. Instead, by opening an incident record, there could be escalation, metrics collected and so forth. The approach was very dependent on the process and technology teams implementing the integration because there wasn't formal guidance.

Part of the challenge lays the creation of alerts and responses. Incident Management stakeholders identify as many alerts as they can based on experience. When new or changed services are implemented, alerts are defined as experienced, i.e. in reaction to incidents. "If this happens again we can detect it by monitoring 'X' and will send message 'Y' to the tool 'Z'". Sometimes, more emphasis is given to detecting incidents than resolving them.

Now, with Event Management, there is a robust process that begins in Service Design and flows into Service Transition to understand for each service what potential incidents may be and defines them as "events" before going "live" in production. Detection criteria and responses, ranging from automatic to console alerts with manual handling, are formally defined. The monitoring and ITSM tools are then configured accordingly in a proactive manner. Of course, as new incident types are experienced, the criteria and actions to detect and respond are formally documented and enacted in the tools as well.

This new approach allows for IT to be far more proactive. Knowledge about incidents gained during development and testing are carried forward into operations shortening the learning curve normally associated with new, or heavily changed, services. This, then, results in improved mean time to repair (MTTR), service availability and customer satisfaction.

In closing, the separation of the Service Request and Event Management processes from the Incident Management process is a great move by the authors of v3. IT organizations that are currently following a v2 approach can look to the new processes to identify potential improvement opportunities. At the same time, groups looking to begin ITIL will be well served to look at these three processes and consider the costs and benefits in their unique situation. Most groups will get very real benefits from this combination of processes.

CHAPTER 3: RESEARCH PROBLEM AND METHODOLOGY

The project was divided into three phases & each phase was given a definite set of time with a focus on achieving the main objective of the project. The three phases were divided as below:

1. Customer Landscape for S2 region
2. Asset management
3. Call Analysis

Furthermore the above phases were assigned a specific set of time under which they were supposed to be finished. The allotted set of the time period were as below:

1. Customer Landscape for S2 region : Week 1 – Week 2
2. Asset Management : Week 3 – Week 6
3. Call Analysis : Week 7 – Week 8

The first phase of the project was working on the customer landscape for S2 region. This phase has the list of following set of tasks to be performed:

- Developing a transition milestone plan
- Understanding & Collecting the data required for landscaping the accounts
- Mapping the collected data with the help of color coding & required identification marks

The Second phase was the Asset management, which required the following set of activities:

- Visit to the Sify Data Centre
- Understanding the CA Spectrum, Service delivery manager & E-health
- Next was collection of all the asset details at the Mistral Solutions
- Developing a solution
- Final delivery of the project

The third phase was the Call Analysis at Cbay Systems, where the following activities were performed:

- Collecting call logs from the E-Helpline
- Analyzing these call logs
- Preparing the report

CHAPTER 4: DATA COLLECTION AND ANALYSIS

This chapter throws a light in how the data for the project was collected & how the collected data was analysed, thus arriving on certain conclusion & delivering the final project.

Data Collection

Data was collected in different manner from various sources based upon the phase of the project.

Customer Landscape for S2

During this phase of the project the data was collected in the following manner:

- A template in excel was designed which comprised of the following fields :
 - Project Manager Name
 - Name of the account
 - Total number of Core, Retainer & Franchisee engineer under them with the skills & respective number for each skills
 - Location of the account
 - Pin-Code of the account
- This template was circulated through e-mail to all the project manager & they were suppose to reply back with the same

Analysis of the collected data

After all the data was collected the next phase was landscaping all the collected data while keeping in mind the following requirements:

- All Project Manager should have a same color code mapped at different locations or may be same locations for each account he holds
- No two project manager will have the same color code
- The accounts were grouped on the basis of the pin code
- All the different skill sets assigned with a particular project manager cannot be changed
- Mapping of the final data on the geographical map of Bengaluru

Challenges Faced

Following challenges were faced during this phase of the project:

- Data collection was the difficult task during this phase due to various reasons like unavailability of any project manager, technological reasons.

- Grouping of locations on the basis of nearest location as to minimize the delivery time if needed to switch any engineer from one location to another location.

Sify data Centre & Asset Management

What is UCO RRB?

UCO RRB Stands for UCO Regional Rural Bank. UCO has five rural banks at different locations. These Five rural banks along with their locations are namely as:

1. JTGB(Jaipur Thar Gramin Bank)-Rajasthan
2. KGB(Kalinga Gramin Bank)-Orisa
3. BKGB(Bihar Kshatriya Gramin Bank)-Bihar
4. PBGB(Paschim Bangal Gramin Bank)-West Bengal
5. MKGB(Maha Kaushal Gramin Bank)-Assam

All the above mentioned banks are responsible for taking the banking services to the remote locations of India. where there are still no facilities of banks like SBI, AXIS, ICICI etc. UCO Bank has taken this initiative along with these five rural banks so that the banking facilities can be made available to the rural population of India.

This project is still in the pilot phase; means UCO bank has implemented this project only in the above mentioned five locations & will be extending the reach of the above mentioned project to various other locations if this project be a success. Although this project has yet not been successfully implemented due to certain technical restrictions which will be described below.

Description of the Project

The Following tools were used in this project:

- 1) CA Spectrum
- 2) CA Service Desk Manager
- 3) CA E-Health

The above Enterprise Management Software's are designed & developed by Computer Associates & there license were purchased by Wipro for their use in UCO RRB at the Sify Data Center.

The team at the Sify Data Center for the UCO RRB Project is divided under two sectional heads in order to work effectively:

- Network Team
- Windows Team

Network Team

The network team at the Sify data center works upon CA E-Health & CA Service Desk Manager.

Windows Team

The windows team is the team upon which the whole UCO RRB is mainly depended as this team is mainly responsible for configuration of various servers & databases.

CA E-Health

CA E-Health is a monitoring tool that is mainly used for report extraction. The reports are prepared on timely basis for the following attributes:

1. Memory Usage
2. CPU Utilization
3. Hard Disk
4. Down time of any device
5. Performance measurement of various devices
6. Availability of any particular hardware or software
7. Link Utilization

E-Health uses the Oracle database for saving all these data.

E-Health works on timely basis. Initially it maintains a log on 5 minute interval & this log gets on aggregated on hourly then daily & later on weekly, monthly & yearly basis, if not extracted from the database at the scheduled interval of time.

CA Spectrum

CA Spectrum is a monitoring tool for various devices on the network of the UCO RRB. CA Spectrum regularly check the timely availability of the devices & generates any warning alert if any devices are not working as per the SLA (Service level Agreement).

How Spectrum Works?

Spectrum works in two modes: Manually & Automatically.

In manual mode the operator has to manually send a packet namely a snmp packet to all the mapped devices & check the working of the concerned devices.

In automatic mode the computer automatically send the snmp packet to each device at the regular interval of time.

CA Service Desk Manager

CA Service Desk Manager is an Incident manager tool, which is used for the analysis of the incident occurred at a particular time & resolve the incident within the specific time as per the SLA. CA Service Desk Manager works on both side Client side as well as Server side.

With Client Side it means the client can log onto the application through the web link & post the incident request or in another approach client can reach the help desk through a dedicated hotline & the call attending engineer can log the request.

Financial Inclusion

Financial Inclusion is an initiative by UCO bank in order to promote banking to rural areas without even visiting the branches. The UCO bank is planning to promote banking to the rural areas in its pilot phase through the above mentioned RRBs.

In order to understand Financial Inclusion we must understand the concepts of CBS (Core Banking Solutions). The basic concepts of a CBS are as below:

- 1) All the banks use the tool FINACLE designed by Infosys in order to perform the day to day banking operations.
- 2) This Finacle is an intranet based tool that is hosted on Dedicated AIX Server
- 3) All the transactions that take place daily are updated at that time only to the respective bank servers

This is a typical working of any CBS banking architecture.

Now what Financial Inclusion is proposed to do is that:

- 1) A team of banking personnel will visit the remote area where still there is lack of basic computing devices & bank branches
- 2) This team will carry their own devices that will be connected remotely to the bank
- 3) This team will help the rural population to perform necessary banking operations through the financial inclusion
- 4) Financial Inclusion will be accessible through a web address www.uco-rrb.com
- 5) Login can only be done by the respective team assigned to perform the related operations
- 6) In order to update the accounts in real time this financial inclusion need to be synchronized in real time with the Finacle so that the ACID properties of the database are not violated
- 7) In this way the rural population can avail the banking facilities

Mistral Solutions

The data was collected by designing a form in the Wipro's E-Helpline which consists of the following fields:

- Employee ID
- Laptop Serial Number
- Desktop Serial Number
- Any other asset with its unique serial number
- Location of the employee (Unique cubical number assigned)

The next step was the installation of the IT Asset Management tool. So In order to proceed, agent- less scanning approach was used owing to the organization having a large number of devices. For the above purpose Wipro E-Health was chosen, which is an enterprise management tool, this is an agent- less tool which is only installed at one end mainly at the server side & it can keep track of all the assets registered onto it & maintain their log as well. There are certain Pre-Requisites needed for Agent-less Scanning. The following Pre-requisites are needed before agent- less scanning can be enabled:

1) Domain Admin Rights

Single Domain Admin Rights are needed for all end machines and the domain admin should be added individually to all the end machines.

2) Ping Access needs to be opened/enabled

Ping access needs to be opened/enabled to ensure there is network access between the host & the client that you want to discover & the host that performs discovery

3) Port 135 : Open

Open TCP port 135 on the remote host so that you want to discover & the host that performs discovery. WMI uses port 135 to communicate between the hosts.

4) Port 445

Services typically use these ports to communicate using RPC & distributed component object model (DCOM)

5) Windows Management Instrumentation Service

Windows Management Instrumentation (WMI) is a set of extensions to the Windows Driver Model that provides an operating system interface through which instrumented components provide information and notification. WMI is Microsoft's implementation of the Web-Based Enterprise Management (WBEM) and Common Information Model (CIM) standards from the Distributed Management Task Force (DMTF).

WMI allows scripting languages like VBScript or Windows Power Shell to manage Microsoft Windows personal computers and servers, both locally and remotely. WMI is the infrastructure for management data & operations on Windows based operating systems

6) RPCS

Remote procedure call (RPC) is an inter-process communication that allows a computer program to cause a subroutine or procedure to execute in another address space (commonly on another computer on a shared network) without the programmer explicitly coding the details for this remote interaction. That is, the programmer writes essentially the same code whether the subroutine is local to the executing program, or remote. When the software in question uses object-oriented principles, RPC is called remote invocation or remote method invocation.

7) Remote Procedure Call Locator Service

This must be enabled. In Windows 2003 and earlier versions of Windows, the Remote Procedure Call (RPC) Locator service manages the RPC name service database. In Windows Vista and later versions of Windows, this service does not provide any functionality and is present for application compatibility.

This service manages the RPC name service database. When this service is turned on, RPC clients can locate RPC servers. This service is turned off by default. Systems that are running third party utilities looking for RPC information will be unable to find it unless it has been turned on.

8) Ports 5001-5100

Ports 5001-5100 must be open & free. Ports 5001-5100 use the datagram protocol which is a communication protocol for the internet network layer, network layer, transport layer, session layer. While taking data from remote computer which is in different network, these ports need to be opened.

9) Netsh Firewall Set service RemoteAdmin Enable

The Windows Firewall (formerly known as Internet Connection Firewall) service and Distributed Component Object Model (DCOM) can cause access denied errors (such as an "RPC Server Unavailable" error - 0x800706ba) when your remote computers and accounts, used for remote connections, are not properly configured.

1. For XP Machines go to command prompt

Netsh Firewall set service remoteadmin enable

2. For Windows 7 go to command prompt, run cmd as administrator

Netsh adv firewall set currentprofile settings remotemanagement enable

Call Analysis

In order to collect data during this phase, the data was collected was from Wipro's E-Hepiline, which was imported in an excel file & afterwards the analysis was done. The data collected consisted of the following fields:

- a. ticketid
- b. username
- c. open_datetime
- d. description
- e. resolution
- f. prioritycode
- g. staffid
- h. close_datetime
- i. responded_datetime
- j. resp_viol_reason
- k. resol_viol_reason
- l. age
- m. callclosuredesc
- n. responseviolated
- o. FCR
- p. L1 Resolvable
- q. Services
- r. CATEGORY
- s. TYPE
- t. ITEM
- u. L1 Requirement
- v. CBAY IT L2
- w. User Dependency
- x. Time taken by the user
- y. Vendor
- z. Domain ID & Email ID creation / Deletion (issues with Domain ID & Email ID)(Exchange /Lotus notes) mention only domain name
- aa. VPN Issues
- bb. Other Support team (Application, Network, Server Team, IT Projects & US Team)
- cc. Time taken by the team
- dd. Reason for Delay(User end / Other team, pl specify the name) & Summary and observation on the call
- ee. Duration days from open to resolved
- ff. Nature of Call.

For the purpose of categorizing any service ticket being raised the following matrix was used:

<u>Priority</u>	<u>Definition</u>	<u>Level</u>	<u>Resolution Time</u>
P1(Single User Affected)	<ul style="list-style-type: none"> • Problem affecting end user system 	<ul style="list-style-type: none"> • L1 	<ul style="list-style-type: none"> • 12 Minutes
	<ul style="list-style-type: none"> • Affected user cannot function & system/service not available/usable 	<ul style="list-style-type: none"> • L2 	<ul style="list-style-type: none"> • 20 Minutes
P2 (Multiple users affected but less than 50% of baseline users affected)	<ul style="list-style-type: none"> • Problem affecting production or test systems • Affected user cannot function & system/service not available/usable 	<ul style="list-style-type: none"> • L2 	<ul style="list-style-type: none"> • 30 Minutes
P3 (50% to 25% of the baseline users affected)	<ul style="list-style-type: none"> • Problem affecting production or test systems • Affected user cannot function & system/service not available/usable 	<ul style="list-style-type: none"> • L2 	<ul style="list-style-type: none"> • 2 Hours
P4(More than 25% of baseline users affected)	<ul style="list-style-type: none"> • Severe Problem affecting production system 	<ul style="list-style-type: none"> • L2 	<ul style="list-style-type: none"> • 4 Hours
	<ul style="list-style-type: none"> • Affected user cannot function & system/service not available/usable 	<ul style="list-style-type: none"> • L3 	<ul style="list-style-type: none"> • 24 Hours

There was a service level agreement between Wipro & Cbay systems which highlighted the following service deliverables:

<u>Service Level description</u>	<u>Measurement</u>	<u>Expected Service Level</u>
Helpdesk	Average speed of answering any call < 45 sec	98%
Helpdesk	L1 call should be resolved within 12 min	98%
Helpdesk	<ul style="list-style-type: none"> • P2-L2-Call Should be resolved within 20 min • P3-L3 Call Should be resolved within 2 hours • P4-L4 Call should be resolved within 4 hours 	98%
Helpdesk	L3 call should be resolved within 24 hours	98%
Helpdesk	Notifying users of problem status & resolution	98%
Helpdesk	Notifying users in advance for all known problems	99%
Helpdesk	Provide SLA Compliance reports, monitoring & maintaining related MIS reports	99%

CHAPTER 5: Project Analysis

This part of the project report deals with the analysis of the findings & the results produced during various phases of the project. The project findings can be classified on the basis of the phases in which the project was taken upon. The various findings are discussed here in with a detailed findings at various stages.

Phase 1: Customer Landscape for S2 Region

The following list was generated at the end stage of the phase:

PM / PL	Account	S2 / I3B	Vertical	Core	Retainer	Franchise	Total	Local Co	Pincode	Skill Set Core	Skill Set Retainer	Skill Set Franchise
Sandeep Thadanchery	Paragon	S2	Footweas	10	20	30	60	MG Road	549001	Lotus L1-1, Lotus L2-2, Vmware L2-7	Lotus L1-1, Lotus L2-2, Vmware L2-7	Lotus L1-1, Lotus L2-2, Vmware L2-27
Sandeep Thadanchery	WOLG	S2	Consumer care	11	21	31	63	Sarjapur	549002	Lotus L1-1, Lotus L2-2, Vmware L2-8	Lotus L1-1, Lotus L2-2, Vmware L2-18	Lotus L1-1, Lotus L2-2, Vmware L2-23
Sandeep Thadanchery	Chag Systems	S2	Medical	12	22	32	66	Kudugate	549003	Lotus L1-1, Lotus L2-2, Vmware L2-9	Lotus L1-1, Lotus L2-2, Vmware L2-19	Lotus L1-1, Lotus L2-2, Vmware L2-29
											Lotus L1-1, Lotus L2-	

Phase 2: Asset Management

The following forms were designed & used in the asset management tool!

1. New Incident

The screenshot shows a web form titled "INCIDENT". The form contains the following fields and controls:

- Company * (Text input, value: Wipro Infotech)
- Department * (Text input)
- Location * (Text input, value: Bangalore)
- Contact (Text input)
- Desktop/Laptop/Asset Tag/ID (Text input)
- Support Required For * (Text input)
- Classification * (Text input)
- Have faced the same issue in last 30 days? (Checkbox, unchecked)
- Description of the Issue * (Text area)

At the bottom left, there is a "File Upload" button. At the bottom center, there is a "Submit" button. A note at the bottom left states: "* Marked fields are Mandatory".

2. Incident Screen

The screenshot shows the "Incident Screen" in a web application. The page has a header with the Wipro logo and "Client Logo" on the right. Below the header is a navigation menu with the following items:

- Home
- Dashboard
- Incidents
- Assets
- Reports
- Settings
- Logout

The "Incidents" menu is expanded, showing a sub-menu with the following items:

- List Incidents
- New Incident
- Incident Details
- Incident History
- Incident Status
- Incident Assignment
- Incident Resolution
- Incident Escalation
- Incident Closure

The main content area of the screen is currently blank.

3. Incident Record Screen

INCIDENT

Incident #		Service Type *	
Incident *		Classification *	
Severity *		Status *	OPEN
Priority *		Impact *	
CI		Urgency *	
Contact		Call source *	WEB
Call P *	Dequeue		
Call	Dequeue		
Repeat Call	<input type="checkbox"/>		
Parent Incident			

Files Attached *

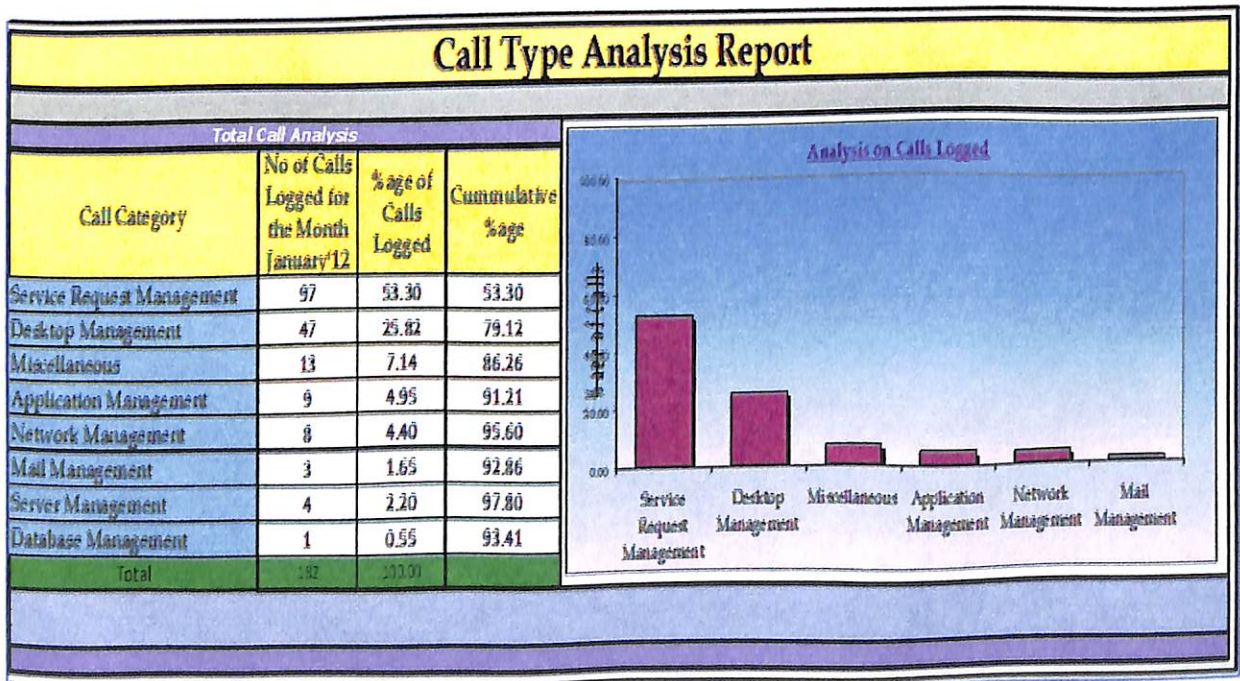
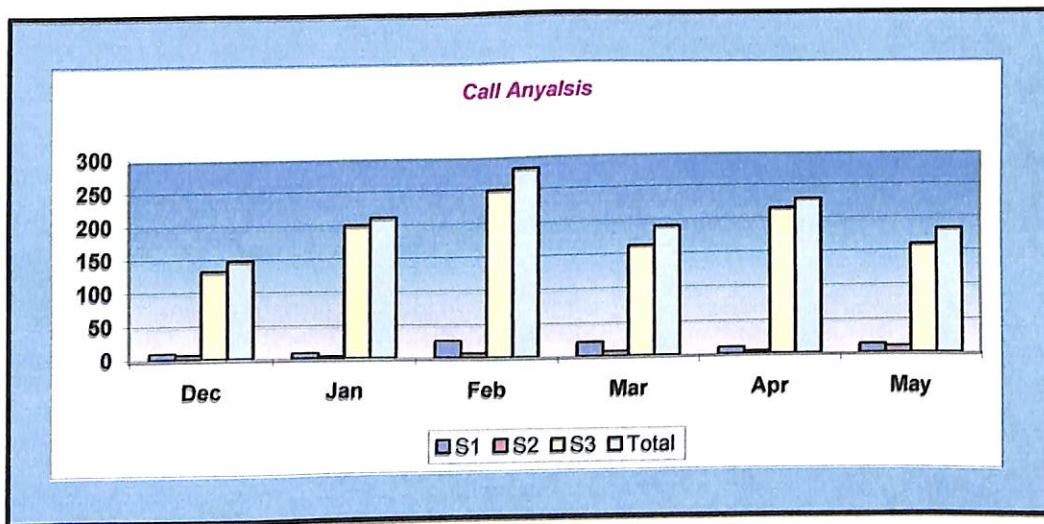
WS-000150

Phase 3: Call Analysis

The following results were collected from the analysis of the call log.

- Most of the calls were left idle due to FCR team unfamiliar with the software
- Calls were left idle after the resolution was provided rather than being closed
- User re-opened the call unnecessarily
- FCR team not familiar during initial phases from the tools like python, Cbaypedia etc used by the Parent company
- The L2 team also responded late in some cases
- There were frequent password reset requests
- An overview of the analysis that was done at Cbay Systems:

Month	S1	S2	S3	Total
Dec	9	6	132	147
Jan	8	3	200	211
Feb	25	6	249	280
Mar	21	7	162	190
Apr	10	4	214	228
May	13	10	159	182



- Number of PC with Updated AV-333
- Number of PC with AV-333
- Number of PC with out of date AV-00
- Vendor Performance Report:

Vendor Performance Report

Sl No.	Vendor Name	No. of Calls Logged	Calls Responded			Bench mark	Calls Closed			Bench mark
			<15 Min	<30 Min	<120 Min		<120 Min	<240 Min	>480 Min	
1	Acer	5								
2	Wipro	0								

Call Description

Sl No	Call Status	Vendor name	Problem description	Vendor call No	Logged Date and Time	Call Closed Date and Time
1	Closed	Acer	Mouse not working	285571	2/5/2012	5/5/2012
2	Closed	Acer	Mouse not working	300875	21/5/2012	23/5/2012
3	Closed	Acer	System not booting	306528	28/5/2012	5/6/2012
4	Closed	Acer	Mother board problem	306903	28/5/2012	6/6/2012
5	Closed	Acer	Mouse not working	308735	30/5/2012	2/6/2012
6	Closed	Airtel	Port 4 is down	15771406	14/5/2012	17/5/2012
7	Open	BSNL	Unable to view usage details	16245600942	11/5/2012	
8	Closed	Reliance	Unable to make outgoing calls	178520213	2/5/2012	5/5/2012
9	Closed	Reliance	Vocera link is down	179299495	17/5/2012	19/5/2012

CHAPTER 6: CONCLUSIONS AND RECOMMENDATIONS

Conclusions

During the summer internship while working on this project, I learnt a number of things along with the final deliverables of the project. The various learning at each phase of the project is as under:

Phase 1

During this initial phase of the project, I was able to understand & learn the following:

- Working within & as a part of the team
- Understand the working & organizational structure of Wipro Infotech
- Negotiating Skills
- Data Analysis & various views of data from different aspects

Phase 2

The next phase of the project was a learning experience. The learning of this phase could be summarized as below:

- Data Center overview
- Financial Inclusion
- Asset Management
- Enterprise Management tools : CA's Spectrum, Service Desk manager, E-Health

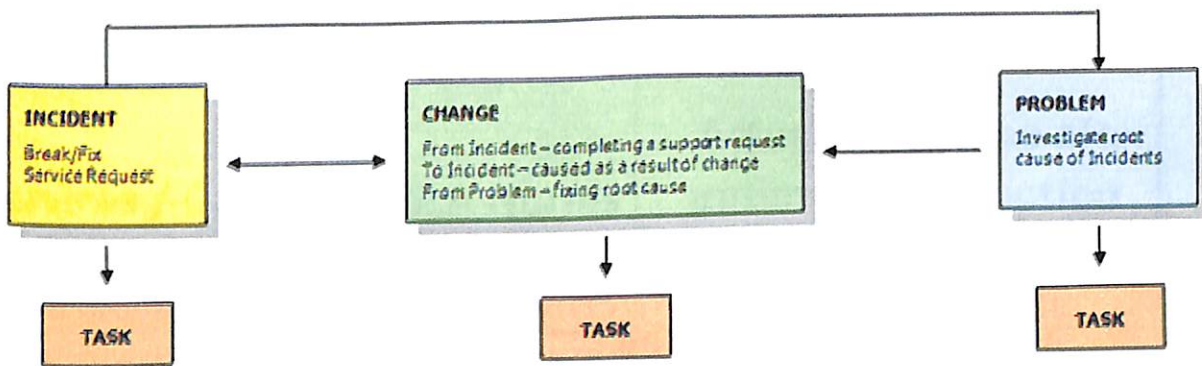
Phase 3

The last phase of the project helped me in understanding the following fundamental thing of IT Incident management:

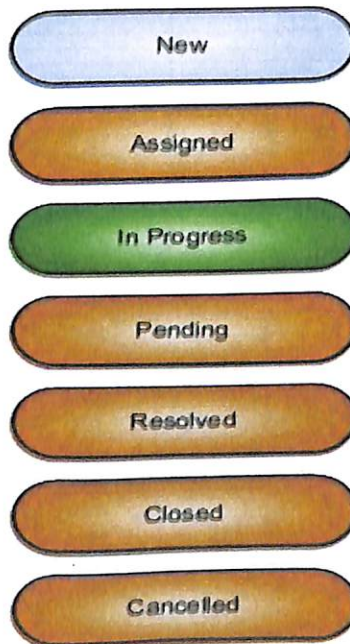
- Service level Agreement
- In appendix a sample of Service Level Agreement is attached for the purpose of reference:

- Difference between Problem, Incident & Event

	Incident	Change	Problem
Definition	An unplanned interruption or a reduction in the quality of an IT Service	A change in state of any IT Infrastructure or any aspect of an IT Service	Root cause of one or more existing or potential Incidents
Process Goal	Restore normal service as quickly as possible Minimize adverse impact on business operations	Ensure change happens in a controlled manner	Prevent Incidents from happening Minimize the impact of Incidents that cannot be prevented



- Working of Wipro's E-Helpline
- Incident Life cycle



Contribution to the Organization

The organization was able to draw the following benefits out of my internship project:

- A model to deliver a services effectively & efficiently
- An Asset management system
- A report to understand the reasons for deterioration in the services
- A close look at the performance of the asset management tool at Mistral :

Services / Domain	SLA Norms	Actual uptime	Uptime after exception
Ticket closure	95%	NA	100%
Server Management	95%	97%	100%
Backup Management	95%	NA	100%
Network Management	95%	NA	100%
Change Management	95%	NA	100%
Virus Management	95%	NA	100%
Applications Management	95%	97%	100%
Repeat & Reopened calls	< 2.5	NA	0

- The Incident ticket analysis:

<u>Incident Management</u>	<u>S1</u>	<u>S2</u>	<u>S3</u>
Total Number of Incidents	13	10	150
Total number of calls violated	0	0	7
Total number of Repeat Calls	0	0	0
Total Number of reopened calls	2	0	0
Total number of Pending Incidents	0	0	1

Recommendations

Following recommendations were made:

- Instead of working upon the excel, it's better to develop a dashboard or any other applications that need not to be modified & manually updated again & again
- In terms of asset management, it's better to have a bar-code system that will automatically capture the individual asset details rather than manually noting down all the records of the particular asset
- Proper training about all the applications to the FCR team at Cbay Systems

References

The following web sources & articles were referred during the preparation of this report

- http://esamultimedia.esa.int/docs/GMES/ITD_0421_TMP_0002_SLA_I1.0_template.pdf
- Wikipedia
- Wipro.com
- Remedy.com
- ITIL management processes
- ISO2000
- Mistral.com

Appendix

A format of service level agreement is described here

Format of SLA

Service Level Agreement

between

Service Providers

Full Address of all Service Providers delivering products through this SLA

hereinafter called "Service Providers"

and

User Organisation

Full Address of User

hereinafter called "User"

(In this Agreement the Service Provider and the User shall be referred to together as the "Parties" and individually as the "Party").

the following has been agreed:

1 SERVICE DESCRIPTION

The following services shall be subject to the delivery:

1.1 Product xxx

The

Key parameter to be assessed:

xxx

Product features:

Content
input data sources
Methodology
Geometric resolution (Scale)
Geographic projection / Reference system
Geometric accuracy (positioning scale)
Thematic accuracy (in %)
Up-date frequency
Base data topicality (how old are base data for production)
Delivery format

Data type

Service features

Customer service
<i>Integration into customer service or downstream services</i>

User interface
<i>Online</i>
Medium
<i>Digital carrier, Online</i>
Delivery reliability
<i>5 months</i>
Delivery time
<i>1 week</i>
Archive
<i>As long as possible. These products will act as basis for change detection/analysis</i>

1.2 Product xxx

2 CONTRACT CONDITIONS

2.1 Responsibilities of the SERVICE PROVIDER

2.1.1 Delivery of Products

2.1.1.1 Delivery of Product xxx

Delivery of xxx

Geographic projection system: UTM WGS84; Datum ETRS89
 Data format: geoTIFF
 Delivery medium: on-line

2.1.1.2 Delivery of Product xxx

Geographic projection system: UTM WGS84; Datum ETRS89
 Data format: ARC Info shapes
 Delivery medium: on-line

2.1.2 Additional Service (Installation/Maintenance/Training)

Training of the national delegations on the content and use of delivered products with respect to applications xxx.

2.1.3 Warranty

The Service Provider guarantees that the products are according to the specification made in the 'product description' shown above.

2.2 Responsibilities of the USER

2.2.1 Service validation

The user will critically review all deliverables. Initial acceptance of products will be based on a written *user acceptance note* for mapping services and for final (downstream) services (model results)

2.2.2 Integration of services within operational mandate

Every service to be delivered shall be used and integrated into the normal work of the respective organisation. This will demonstrate the usefulness of the services and will identify open gaps and problems to be solved for operational use.

2.2.3 Internal contributions

The USER shall provide the following input data free of charge to the service providers:

Type of data	Provision	Ownership	License Agreement needed?	Date of delivery expected	Recipient	Required for product	Remarks	General contact: Customer	Specific national/regional contact

The following additional contributions will be provided:

Type of Contribution	Name of User Organisation	Remarks
Cash Investment		
Staff allocation		Man-days: xy
		Man-days: xy
		Man-days: xy
		Man-days: xy
Infrastructure		Licence: xy K€
		Operating costs: xy K€
		Infrastructure: xy k€
		Data: xy K€
		Data: xy K€
		License: xy K€,
		Data: xy K€
Others		

2.2.5 Reporting Obligations

The USER will provide at least the following documents to ESA via the project manager:

- *Initial User acceptance note* for mapping services and for final (downstream) services (model results)
- For each service *user-side utility reports* will be provided, showing the areas where the services have been applied together with the benefits (real or potential) which can be achieved in comparison to existing work flows / practices.
- Final user acceptance will be documented in a *final user acceptance note*.

2.2.6 Mitigation actions procedure

Identification of critical processes
▪ e.g. permanent tracking of progress and results
Backup provision
▪ e.g. in case of non-availability of data for a certain season transfer of actions into next season upon approval of ESA, user and SP
Recovery procedures
▪ e.g. if certain crucial data sets are not available for certain regions, products will be provided for regions where the appropriate data is available upon approval by ESA, user and SP
Transition
▪
Escalation procedure
▪
Disengagement
▪

2.4 PRICE

The price is for all deliverables Delivery Duty Unpaid (DDU), exclusive of import duties and V.A.T, in accordance with the Incoterms 2000

Price changes

A change in the price or in the apportionment of the price can only be made in accordance with an agreed change in writing.

2.4.1 Price for Production

The price has been set up to produce and deliver the above mentioned products within the framework of the project.

The total firm fixed price excluding any taxes and duties amounts to

EURO 1234,--

With respect to the special contract conditions of ESA GSE Stage II projects it is important to note the following issues:

- The price presented above shows the production costs only for all services offered.
- The effort for the ESA project management and the networking is not included. This is true for additional costs arising from the special tender conditions of ESA as well (e.g. for reporting)
- Under commercial conditions the management overheads (project management and network control) would need to be added

2.4.2 User Side Investment

The following contribution on user side is foreseen:

A) Financial contribution:

EURO 1234,--

B) Investment in kind:

EURO 1234,--

2.5 LIABILITY

2.4.1 Technical specifications, formats, and quality standards may be published from time to time by the Service Provider.

2.4.2 For a period of 3 months after delivery of products/services delivered by the Service Provider, the Service Provider warrants to the User that the products/services supplied by the Service Provider and purchased by the User are free from defects of workmanship and material and are of the area ordered. However the Service Provider's responsibility and liability are the replacement of the defective products/services and the transportation cost from the Service Provider to the User of the new products/services. If the products/services do not fulfil the User's schedule requirements (e.g. fixed need date for specified data without defect), the User shall have the right to cancel the order.

The Service Provider gives no further warranty and expressly excludes the same whether express, implied, statutory, or otherwise, especially as to quality or fitness of the products/services for any particular purpose.

2.4.3 In no event shall the Service Provider be liable to the User or to any other party for any loss or damage whatsoever and howsoever caused arising directly and indirectly in connection with the specification of the products/services. The Service Provider's financial liability shall not exceed amounts paid for products/services ordered and delivered for which a claim has been received.

2.4.4 In case that specific data sets of the user which are requested by the Service Provider for being crucial to produce certain products can not be made available to the service provider in time - which may lead to non-ability of delivering the respective products or to a reduction of the foreseen quality - this shall not lead to any liability of both parties.

**IN WITNESS WHEREOF, THE PARTIES HAVE SIGNED THIS AGREEMENT
THROUGH THEIR DULY AUTHORIZED REPRESENTATIVES,
THIS DAY OF**

Done in original copies,

SERVICE PROVIDER

USER

Company Profile

Company Overview: *Wipro Infotech Ltd*

Date of Establishment

1945

Corporate Address

Doddakannelli, Sarjapur Road, Bengaluru-560035,
Karnataka

www.wipro.com

Management Details

Chairperson - Azim H Premji

MD - Azim H Premji

Directors - Ashok Ganguly, Ashok S Ganguly, Azim H Premji, Azim Premji, B C Prabhakar, Bill Owens, Girish S Paranjpe, Henning Kagermann, Jagdish N Sheth, M K Sharma, Narayanan Vaghul, Priya Mohan Sinha, Shyam Saran, Suresh C Senapaty, Suresh Vaswani, T K Kurien, V Ramachandran, Vyomesh Joshi, William Arthur Ownes

IT - Software

**Business Operations
Background**

Wipro Ltd., the flagship company of the Azim H Premji group was incorporated in the year 1945. The company started off originally as a manufacturer of vegetable ghee/vanaspati, refined edible oils etc. Gradually the company has diversified into various other businesses.

Today Wipro Limited is the first PCMM Level 5 and SEI CMM Level 5 certified IT Services Company globally.