



Online Customer Service Tool for Incident Management

Dr. Mohammed Abdul Waheed¹, Sandhya Kulkarni²

¹Associate Professor, ²P.G. Student

Department of Computer Science & Engineering, VTU RO PG Centre, Gulbarga, Karnataka, India

¹dr.mawaheed@gmail.com; ²sandy0590@gmail.com

Abstract— Services provided to customer needs to maintain so that customer can have uninterrupted services. This paper mainly focuses towards the service provided by the telecom service provider. Now telecom service provider provides services by utilizing some hardware part. These parts always need to be in good condition so as to provide service to customer or end user. Various factors may affect the functionalising part which may causes interruption services so here has o be mechanism to deal with issue or problem associated with these parts. Dealing issue in terms of troubleshooting parts/ repairing the parts or may be replacing parts. Online Customer Service Tool For Incident Management to identify the faulty part based on monitoring tool so that request can be raised by the online customer service tool for incident management and the fault could be addressed.

Keywords— Incident, Incident Management, Report Request, Search Request, Ticket

I. INTRODUCTION

Various industries like Telecom, HealthCare, Aviation, Automobile etc provide uninterrupted services to the customer using the service. Services are provided to the end user or customers through the various components that are laid across. For instance in Telecom industry various telecom giants like Airtel, Vodafone, AT &T etc have their components laid across the globe using which they provide services. The components here for telecom domain are referred as part or product. These parts are actually he routers, Switches, VPN etc which provide the service to the end user. End user is also referred as the Customer. These parts which provide services can go at fault due to reasons like power failure, part corruption, disaster etc. To have the services there has to be a mechanism to detect such fault which are interrupting the services and then resolve such faults to restore the normal service operations. There are monitoring tools which continuously monitor the health or status of parts and then they call up the service engineers to address the problem. Operation team is responsible for monitoring the system and ensuring that the system is healthy implying that all the parts in the system are working fine and there are no fault. In case there are fault then operation team take necessary action to get the fault rectified. Service engineer are the dedicated

set of skilled guys who are trained or have the capability to get the faulty parts rectified for restoration of normal services. On fault detection operation team convey to service engineers and follow up till the resolution. This is manual task where operation team has to communicate to the respective service engineer to resolve the problem and have the services back to normal.

II. INCIDENT MANAGEMENT

Incident management is a defined process for logging, recording and resolving incidents. The aim of incident management is to restore the normal services to the customer as soon as possible, often through a work around or temporary fixes, rather than through trying to find a permanent solution.

III. RELATED WORK

As of today whenever a part is at fault then the operation team has to communicate this to the service Engineer who belongs to the region where the part is at fault. Explain him the problem and then ask him to visit the physical site and rectify the problem. This is usually done by calling up the correct Service Engineer. Progress of the issue is tracked with the Service Engineer using call or email till the issue or the part which is at fault is restored back. This is tedious and time consuming task.

Disadvantages of Existing System:

- 1) Manual and tedious task as the Operations team has to first identify the part which is at fault. Based on that they find the geographical location or site where the part is located so that they determine the Service Engineer who is located in the same geographical region. Fetch the contact details and then provide all the information to the SE so that he can check the problem.
- 2) Contact is made to SE using call or email which is a time consuming task.
- 3) No formal track of the progress of issue as all is tracked manually.
- 4) Lack of manual intervention as everything has to be communicated well in detail to the SE, any discrepancy can lead to delay in resolution of the issue.
- 5) Priority cannot be communicated to the SE he can only be apprised that the issue needs to be looked with highest priority.

IV. PROPOSED SYSTEM

In this paper, we propose an Online Customer service Tool for Incident Management which aims to provide the operations team or CSM (Customer Service Managers) with a portal using which they can locate the part from the database and then create an incident or ticket with problem. Upon successful creation of incident gets routed to the appropriate Service Engineer.

Service Engineer can just look at the incident and find all the details about the part which is at fault. Based on the priority of the incident he starts working towards the resolution of the problem. He can also change the status of the incident till the closure of the problem so that the CSM or Operation team can track the progress of the issue that was reported under the Incident.

Advantages of Proposed System:

- 1) Incidents are properly logged.
- 2) Incidents are properly routed.
- 3) Incident status is accurately reported.
- 4) Queue of unresolved incidents is visible and reported.
- 5) Incidents are properly prioritized and handled in the appropriate sequence.
- 6) Resolution provided meets the requirement of the SLA for the customer.

- 7) No manual intervention.
- 8) Central repository using which we can track and incident and all the incident are stored at a central place.
- 9) Auto destination rules ensure that the incident is routed to the correct Service Engineer automatically

V. SYSTEM ARCHITECTURE

Entire workflow of this tool can be explained with the below diagram

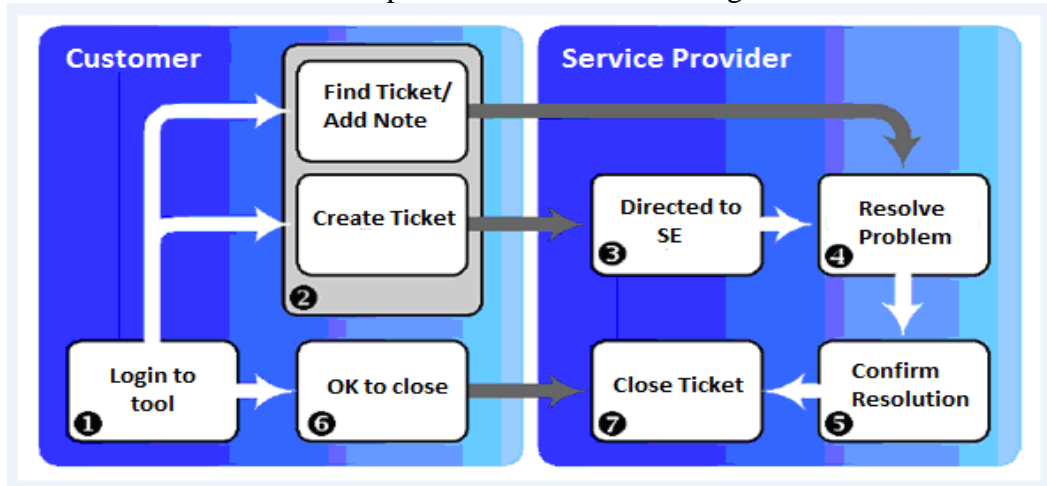


Fig.1 System Architecture

The above diagram outlines a typical lifecycle of a ticket from Creation to Closure.

- 1) Login to the tool- The process is initiated by accessing the tool using your Login and Password.
- 2) Find Ticket/ Add Note – You can use the tool to search for and view open Ticket Request and check on their progress. You can also provide us with additional information on the issue by adding notes which will automatically get directed to the correct group working on resolving the issue.
- 3) Create Ticket– To register a ticket; you need to create a new Incident. The system will generate a Incident ID as a confirmation that the information has successfully be logged.
- 4) Validate and Direct to Service Engineer – The Ticket is immediately validated and routed to the appropriate group to take the necessary action.
- 5) Resolve Problem – The Group receiving the ticket will now be responsible for troubleshooting and identifying a resolution to the problem. You may be contacted by a member of the group to discuss possible solutions and if necessary send a field engineer to your site.
- 6) Confirms Resolution – Once the suitable solution is identified, an automatic email is sent to you and anyone else on the distribution list to request your authorization to close the Ticket.
- 7) OK to Close – To ensure that you are totally satisfied with the resolution, we ask that you provide your agreement to close the Ticket.

- 8) Close Ticket – Only after we have received your confirmation, the Ticket will be closed or after three business days if we don't hear from you.

VI. IMPLEMENTATION

For an IT organization it is important to implement successfully right-sized incident management process. An unsuccessful incident management process will decrease the productivity and increase the downtime and support cost.

The implementation process has to be in place for keeping all the service up and running. ITIL (Information Technology Infrastructure Library) is a framework it is mainly used by IT services for selection, planning and delivery the services to business. ITIL lifecycle involves roles from different groups and support teams within an organization. An incident manager or operational team is responsible for implementing the process and coordinating activities between different team to ensure that to the agreed service level agreement.

Roles and functions involved in the Incident management process are –

First Level Support - Service Desk: They are the only point of contact for the users. They are non-technical person having sufficient business knowledge. Their tasks include

- 1) The user has to login in to the tool.
- 2) Performing initial diagnosis and trouble-shooting the problem
- 3) Directing the incident or case to next level
- 4) Tracking the incident and following up with the concerned service engineer team on incident status
- 5) Updating the incident log and the user or end user with the status.
- 6) Closing incidents once the customer expectations are met.

Second Level Support – Service Engineer Team: The service engineer team has the same objective as that of the service desk – to restore the service as quickly as possible, but they are technically strong and dedicated set of skilled guys who are trained or have the capability to get the faulty parts rectified for restoration of normal services.

Third Level Support – Hardware/Software Team: There support is requested by the technical team if they find the issue is due to hardware or software fault. It includes support from network, voice, server, desktop, and database or environment team.

Steps for setting up the incident management process –

- 1) First implement the Service desk.
- 2) Make proper decision of interface between incident management and service desk.
- 3) Define clear business objectives and goals.
- 4) Involve and consult technical IT staff.
- 5) Plan necessary business and incident management process training for service desk and all involved staff and groups.

- 6) Setup priorities for service desk training first.
- 7) Maintain a dashboard or log with the contact details of the support groups and their respective details.
- 8) Ensure the target for number of objectives for effectiveness of incident management.
- 9) Ensure that incident management training –who, when.
- 10) Produce a monthly reports on the number of incidents logged and time taken to resolve them and the time the equipment is unavailable- .this is your baseline
- 11) Prepare plan, policies and procedures to protect the organization from incident attack.
- 12) Decide what incident management reports and procedure are required.
- 13) Monitor the incident management process is regularly reviewed..

Post implementations ensure that the customer and business needs are met. Surveys can be done to monitor user's perception rather than availability statistics and expectation, defines whether the service is meeting their needs. Design a scope of the survey template that is easy to complete and decide the target audience. Conduct the survey regularly and make sure that the your user understands the benefits. Publish results and follow through on survey result and work on areas that need improvement.

VII. MODULE DESCRIPTION

The main of this project is to simulate such ticketing tool which will be used by the Customer Service Managers to cater such faults efficiently and efficiently thereby ensuring continuous services to their respective clients. The Online Customer Service Tool is an application which is used to provide the customer with facility for creating, managing and checking the progress of their issue resolutions.

1) *Report Request*: This module is used to create part request on site. The user has enter the part name which is fault. After entering the fields when user clicks on Search button new screen will be open. Under this four types of part request is created i.e. Request_name, Request_type, Request_severity and Request_priority. After entering all the mandatory fields when user clicks on Create Request button Header ID is created and new screen will open to add multiple line items on click of Add button.

2) *Request Dashboard*: In this module when we clicked on the Request Dashboard menu item then a new screen gets opened. The request dashboard screen includes the information related to case details.

3) *Search Request*: Search Request Portal provides the information for each and every part Request created by the user in Clarify. User has to just enter the respective Header id and on clicking Submit will display all the records in the fields and respectively in two tabs at the bottom named Site and Part details, Account details. Site and part details will provide the information like Site_ID, Part_Name and Site_Name. Account details will display the detail information about the person who created the case.

4) *User Profile*: This module display all the detail information related to account details and Personal information of user. If in case user wants to change his account details like Password then user has to contact the system Admin.

VIII. CONCLUSION

We have proposed an Online Customer Service Tool for Incident Management which automates the entire process of logging the incident for the parts which are at fault. This tool automates the routing of the incident to the correct Service engineer which helps in speedy resolution of the problem. This tool also

helps to maintain a central repository using which we can track the incidents reported. This creates a hassle free experience for both the Service Engineer and CSM.

ACKNOWLEDGEMENT

I would like to thank my guide Dr. Mohammed Abdul Waheed for assisting me in this Paper.

REFERENCES

- [1] ITIL (R) V3 Foundation IT Service Management Training Based on 2011 edition, Student book,
- [2] <http://www.itilfoundations.com/processes/incidentmanagement/escalation/>
- [3] <http://www.greycampus.com/opencampus/itil-foundation/what-is-itil>
- [4] https://en.wikipedia.org/wiki/Incident_management#Incident_management_software_systems
- [5] http://www.tutorialspoint.com/itil/itil_quick_guide.htm
- [6] IT Infrastructure Library. ITIL Service Delivery and ITIL Service Support. OGCommerce, UK.
- [7] George Ritchie, Serio Ltd Developers of Serio Helpdesk and IT Service Management tools – <http://www.seriosoft.com>
- [8] Al-Deek, H. and Kanafani, A. (1991) ‘Incident management with advanced traveler information systems’, UCB-ITS-PWP-91-5, PATH working paper, California PATH program, Institute of Transportation Studies, University of California, Berkeley.
- [9] Booz, Allen, and Hamilton: Incident Management: Detection, Verification and Traffic Management, Field Operational Test Cross-Cutting Study, September 1998.
- [10] Cambridge Systematic (1990) Incident Management, Alexandria, VA: Trucking Research Institute.