Service Support in Tidia-Ae: an Internal Workflow

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Abstract — This paper presents the Tidia-Ae service support developed by the Intermidia Development Laboratory. The Intermidia team has adopted the IT Infrastructure Library, a framework of “best practices” approach, for the service support process. Users’ requests are registered at the Bugzilla, an open-source bug tracking software, in order to log, track, monitor and create a good knowledge base. This knowledge base keeps the historical information for further auditing and the previous solutions to help the support team.

I. OVERVIEW

When the Tidia-Ae Project has deployed the services at the servers in production, one in São Paulo and other in São Carlos, it was demanded a good service support for the users. The tools that provide the Tidia-ae services have been developed and/or tested by 15 laboratories, being 4 Development Laboratories and 11 Associated Laboratories [1]. These tools have been integrated by the Tidia-ae Learning Management System (LMS) composed by the contexts, content, users, groups and activities management. In totally, the service support deals with 8 tools and 2 servers to manage: whiteboard, chat, e-mail, forum, remote laboratory, instant message, hypertext, portfolio, LMS, Sao Paulo server and Sao Carlos server.

Despite of the products’ diversity and of the number of involved laboratories, the Intermidia laboratory has offered the support for the project aiming the production phase success, i.e., ensuring that users have access to the appropriate services.

The first challenge was to find a good framework that should structure the workflow on the service support. Based on the Electronic Computer Center of the University of São Paulo [2], its experience with ITIL framework [3, 4] – Information Technology Infrastructure Library – in its service support and delivery [5], on the master degree [6] and the certification in ITIL of the collaborator designing the support, this framework have been adopted. After this choice, the process model was designed and it has included the users, products, support team, and workflow. Doing that, the next step was to find an open source environment where the process model could be mapped and executed.

The Intermidia Laboratory is part of the SAFE project (Software Engineering Available for Everyone)[7] and the tool that they use in this project to track the bugs of services is the Bugzilla tool [8]. For this reason, this tool was analyzed and it has fit with our requirements: to permit the process model mapping. The original user interface of Bugzilla is extremely complex, and then the SAFE team had re-implemented a simplified version of Bugzilla. This version was called Bugzilla Light. The Bugzilla Light has a good and easy user interface, to send notifications to support staff and to keep the historical information available.

The remainder of this paper is organized as follows: in session II we introduce the ITIL framework and its service support disciplines. Session III describes the process model designed for the Tidia-ae service support, the relationship with ITIL, the number of request of each product, and some improvements on the requests’ resolutions; in session IV we conclude this paper with our recommendations for the support on Tidia-ae phase 2.

II. IT INFRASTRUCTURE LIBRARY

ITIL is the de-facto global standard in the area of service management [9]. It contains a set of books [10] wrote by specialists on planning, provision and support of Information Technology (IT) services. ITIL describes the architecture for establishing and operating IT service management. The book of the ITIL library that we have adopted was the IT Service Support [3] that describes the support discipline. In this discipline, ITIL recommends five management areas integrated by a database and with a central point of contact between the user and the support team (Figure 1).

![Service Support integration](image-url)

Figure 1 – Service Support integration

The goal of incident management is to restore the service as soon as possible. It involves processing requests and incidents of all types that is achieved by a group of specialists who work in virtual unison. The Service Desk is part of incident management and it is the central point of contact between the user and the IT area in all matters concerning IT services.

Problem management handles all incidents from the aspect of identifying their causes. This includes recommending changes concerning configuration items to change management. Problem management uses information...
III. AE SUPPORT PROCESS MODEL

Following the ITIL recommendations, we have documented the supported services, the support staff members and the roles of each one, and the workflow to guide the processes. Figure 2 shows a brief description of the Tidia-ae process model.

The process starts when a user sends an e-mail to tidia-ae-help@incubadora.fapesp.br with his/her report that can be a request, an incident/problem, a suggestion, or a question. All users’ reports are recorded by the first line support staff at the Bugzilla Light tool database. The user receives an e-mail with the link where he/she accesses the status of his/her report. The second line support staff is composed by members in charge of the services and they are grouped by responsibility – whiteboard, chat, e-mail, forum, remote laboratory, instant message, hypertext, portfolio, LMS, Sao Paulo server and Sao Carlos server. The fulfillment of the field “product” at the Bugzilla Light tool will determine the group that receives the notification. Thus, the second line support is a virtual staff working at the various laboratories of the Tidia-ae project. The problems have higher priority on their resolution than the requests/suggestions, and the treatment follows similar but different ways. The first line support monitors the status and feedbacks of all records until they are closed, and reports no commitments to the laboratories’ coordinators.

A. Tidia-ae support based on ITIL

In Tidia-ae phase I, we have implemented the incident management with some functionalities of the service desk, and a reactive problem management, i.e., there is no process to proactive discovery of potential future incidents causes (Figure 3).

Figure 3 – Tidia-ae Service support

The Tidia-ae users send an e-mail to the e-mail list Tidia-ae-help@incubadora.fapesp.br. There is a person at the service desk that reads all incoming messages, opens a corresponding register at the Bugzilla Light tool and sends a response with the register identification (Bug ID) to the requester. The group associated with the product which the incident occurred or the request is for, receives a notification with the link to the register – Figure 4.
The period of time analyzed in Table 1 corresponds from April to November 2006. The first column lists the products (tools and servers) supported by the Bugzilla tool; the last line totalizes the number of requests per status and the total registered. The second column split in two, defines the actual status of the requests. We are representing the closed status for the requests that have finished their cycle (see Figure 2) and the opened status for ones that are being analyzed or waiting to be deployed in further versions. The last column totalizes the requests per product.

<table>
<thead>
<tr>
<th>Products</th>
<th>Status</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Opened</td>
<td>Closed</td>
</tr>
<tr>
<td>Whiteboard</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>Chat</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>E-mail</td>
<td>11</td>
<td>-</td>
</tr>
<tr>
<td>Forum</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>Remote Lab</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Instant Msg</td>
<td>2</td>
<td>11</td>
</tr>
<tr>
<td>Hypertext</td>
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<td>2</td>
</tr>
<tr>
<td>Portfolio</td>
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<td>2</td>
</tr>
<tr>
<td>LMS</td>
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<td>17</td>
</tr>
<tr>
<td>Servers</td>
<td>-</td>
<td>7</td>
</tr>
<tr>
<td>Other</td>
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<td>1</td>
</tr>
<tr>
<td><strong>Total Tidia-ae</strong></td>
<td><strong>77</strong></td>
<td><strong>57</strong></td>
</tr>
</tbody>
</table>

Table 1 – Requests at Bugzilla

C. Tidia-ae Support Improvements

Before the adoption of the Tidia-ae service support centralized at Intermidia laboratory in São Carlos, the users used to complain about the tools and to ask for changes directly to the project member who he/she has more contact with. It was very difficult for the development team to receive reports from different channels and without any infrastructure to help on their organization, documentation for feedback and historical information. The users in turn had no way to follow their reports.

Nowadays, the users know the central point of contact via the e-mail list tidia-ae-help, they receive a link to follow their reports, there is a strong commitment with feedbacks and resolutions, the coordinators are notified in case of no justification of delays in feedbacks, the support staff can consult previous solutions, and the historical information is available for audit.

IV. CONCLUSIONS AND RECOMMENDATIONS

The adoption of a consolidated framework for the service support guided us through the steps to build a good infrastructure (processes, people and roles, tools, etc). In phase II, the incident management should be consolidated; moreover the support area should be extended with the proactive problem management and the change management.

The present infrastructure should incorporate the service support of the other Tidia projects, e.g., the Kyat era services should be supported by the process model just adding new support staff to the Bugzilla Light tool.

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REFERENCES


