

# *Improving Licensing Support Customer Experience*

*Hiram A. Boscio Colón  
Master of Engineering Management Program  
Dr. Héctor J. Cruzado  
Graduate School  
Polytechnic University of Puerto Rico*

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**Abstract** — *Customer satisfaction measurements were affected after a business restructuring event. The Licensing Support ticket resolution times and the number of tickets elevated to engineering teams exceeded business goals long after the event. A Licensing Support process map and the analysis of 3 months of data were studied to identify root causes. It was found that the problems impacting these metrics were directly associated with knowledge and training. The aggressive restructuring timeline and key employee attrition impacted the proper knowledge transfer of product and processes to the new teams. This paper covers findings and recommendations in more details. These include investments in processes, tools and product specific trainings, increase interaction between cross-functional teams, improve documentation process and products knowledge base.*

**Key Terms** — *customer support KPIs, customer support services attached revenue, incident management, product knowledge base*

## **INTRODUCTION**

Information technology companies have two main sources of revenue: selling hardware and software, which generate discrete amount of revenue; and selling “attached” support services, which generate a continuous and a higher stream of revenue. After an organizational restructure, regional offices relocation and employee attrition, two key customer support performance indicators were impacted: Licensing Support incident resolution times and the number of incidents elevated to engineering teams.

Good customer support and efficient incident management activities are key aspects of a technology company revenue and customer retention strategy. Studies have found that business profitability depends on retaining customers and

describe the role of customer service dissatisfaction as a primary factor for customer attrition [1]. It has also been found that decay on customer support levels due to employee attrition could tarnish branding and the company bottom line [2].

## **Project Purpose**

The number of incidents resolved within one business day is at 87%, below its 90% business goal. The number of incidents elevated to engineering is at 14%, above its 10% business goal. The purpose of the project is to improve the Licensing Support operational metrics to retain a healthy partnership relationship with our customers and protect future revenue generation.

To improve the Licensing Support metrics, the project identified the source of the problems through the review of support processes and the analysis of incident management data by products and support activities.

## **Project Objectives**

The project objectives are listed below:

- Increase the percent of tickets resolved within one business day by two points by June 1<sup>st</sup>.
- Decrease the percent of tickets elevated to Engineering (Level 3) by two points by June 1<sup>st</sup>.

## **BACKGROUND**

The scope of this section is to provide context on the Licensing Support Organization structure and services.

## **Historical Information**

The Licensing Support Operation is a worldwide team with presence in three regions: Americas, Europe and Asia Pacific. Support is provided round-the-clock, using a follow the sun support model, where incidents can be handled by

and passed between offices in different time zones. Software Customers, Channel Partners, and Internal Support teams access these services through a web portal. These services are provided via email or chat and are available in 7 languages.

Within the portal, the customers can redeem their licenses keys, or they can request support for activities such as: reprint entitlement documents, temporary licenses, license re-hosting, license transfers, product license activation instructions and product license requirements consulting.

IT Enterprise customers expect high levels of knowledge and efficiency from support and incident management teams. Long turnaround times or multiple interactions with one or more agents to resolve an incident result in customer escalations and low levels of satisfaction.

Given current KPIs, it was a management priority to address any future revenue risk related to poor customer service.

### METHODOLOGY

This section describes the DMAIC methodology used and the scope of the activities performed to meet the project purpose and its objectives.

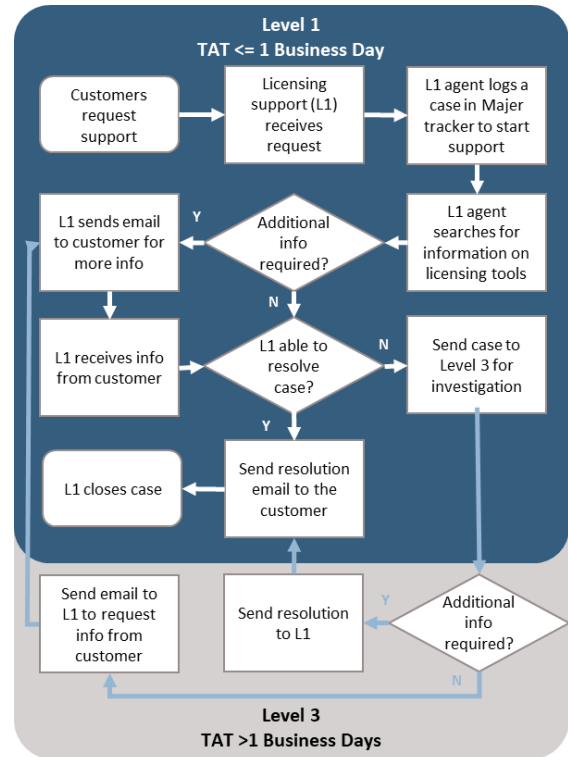
#### Define Phase

A SIPOC and a Process Map were completed for the Define phase to study the Licensing Support Suppliers, Inputs, Processes, Outputs and Customers. The exercise revealed that Licensing Support process has 7 different types of outputs presented on Table 1.

**Table 1**  
**License Support Process Outputs**

Item	Output
1	Licenses keys redemption
2	Reprint entitlement documents
3	Temporary license generation
4	License re-hosting/replacement
5	License transfers
6	License activation instructions (information)
8	License requirements consultation (information)

All outputs flow through the same process. The Process Map in Figure 1 revealed a relationship between Level 1 agent missing information or knowledge to resolve the ticket, elevations to engineering team (Level 3) and the resolution turnaround times.



**Figure 1**  
**Licensing Support Process Map**

#### Measure Phase

Historical information extracted from Majer Tracker database was used to confirm the status of resolution turnaround times and elevations to Level 3 support. The baseline for the project metrics shown in Table 2 were set with measurements as of April 30.

**Table 2**  
**License Support KPI Measured Baseline as of 4/30/18**

KPI Metric	Percent of Tickets
Tickets resolved within 1 business day	87%
Tickets elevated to Level 3 support	15%

## Analysis Phase

To identify the possible causes, a study of detailed ticket information for the last 3 months was performed. Pareto charts were created to identify products and support activity outputs that had the greatest impact on both metrics. The Pareto charts revealed that the products and the outputs with greater turnaround times and elevations to Level 3 support were the same. The scope of work for the next analysis and the Improve phase was narrowed to focus on ten products and four activities as shown on Table 3.

**Table 3**  
Products and Activities Identified in Pareto Analysis

Products		Activities
3PAR	Brocade	Information
D2D	LeftHand	Generation
iLO	Microsoft	Reprint
MSA	OneView	Rehost/Replace
RedHat	VMware	

In coordination with the Licensing Support team technicians, a Cause and Effect diagram and the 5 Why's technique were used to identify possible causes affecting the products and activities identified by the Pareto analysis. Four possible causes were identified:

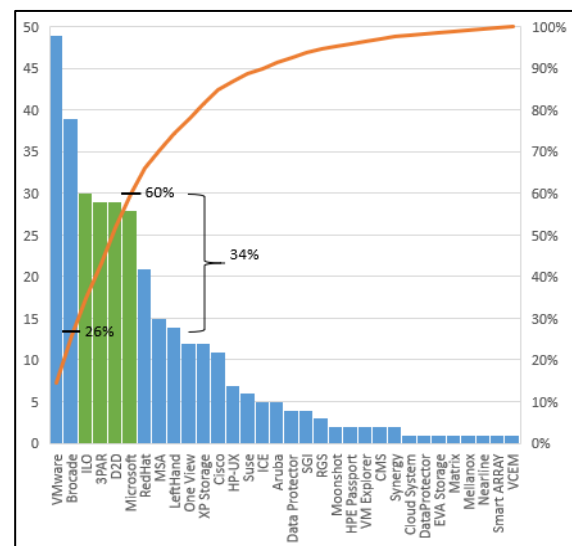
- **Lack of training, lack of agent knowledge:** Attributed to no Engineering team involvement during the new support team bring up and no formal product licensing trainings.
- **Procedure not available or poor documentation:** Attributed to outdated procedures and no centralized location available for support processes or product licensing documentation.
- **Level 3 escalation path and players not always defined:** Attributed to a lack of effective communication between Level 1 and Engineering teams; and some 3<sup>rd</sup> party product teams not identified within the Licensing Support documentation.
- **Transactional information not found in tools:** Attributed to performance and synchronization

problems between sales and licensing systems, which are not addressed or tracked by the infrastructure team. This cause is not part of the project scope.

## Improve Phase

The project focused on facilitating product knowledge and formalizing training documents with product specific licensing information. To drive the efforts, the Licensing Support Management engaged the Software Product Engineering team to create new or update existing training documents.

Training sessions with Product Engineering were facilitated and documentation was completed for iLO, 3PAR, D2D and Microsoft products. As shown in Figure 2, these products account for 34% of the tickets elevated to Level 3. VMware, Brocade, RedHat and MSA are third party products. Training for these were coordinated for June.



**Figure 2**  
Pareto – Tickets by Products Elevated to Level 3

## Control Phase

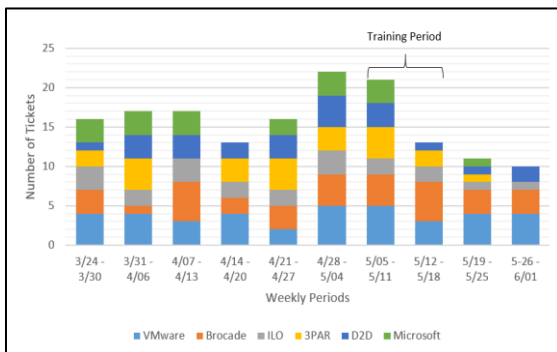
To ensure that project improvements are maintained, the Licensing Support and Product Engineering Management teams agreed to perform the following activities with a regular cadence:

- Respond to support elevations within 24 hours.
- Conduct monthly working sessions between the Licensing Support Leads and Product Engineers to enhance the knowledge of licensing teams.

- Conduct short one on one trainings between the Licensing Support Leads and Product Engineers for specific process changes.
- Conduct formal product specific refresh trainings every six months.
- Consolidate all process documentation and important product specific information into a One Note shared and centralized library.
- Update procedures according to new products or process changes.
- Incorporate Licensing Support metrics in the Product Engineer Management monthly scorecard.

## RESULTS

The Analysis phase showed both metrics were affected by the same product families and process outputs. The Process Map in Figure 1 exposed a direct relationship between turnaround times and the tickets elevated to Level 3 support. To address both metrics, the project focused on reducing elevations to Level 3 by improving product knowledge and formalizing training documents for the selected products (iLO, 3PAR, D2D and Microsoft). As shown in Figure 3, the number of tickets elevated to Level 3 support declined quickly once trainings were provided in early May. The number of tickets resolved within 1 business day increase as expected, as shown in the objectives review.



**Figure 3**

**Tickets Elevated to Level 3 Supports by Product Family**

## OBJECTIVES REVIEW

### Decrease the percent of tickets elevated to Engineering (Level 3) by two points by June 1<sup>st</sup>

Measurements taken post training sessions showed noticeable improvement. For the products in scope, over a four weeks period, the percent of tickets elevated to Level 3 decreased from a baseline of 15% to 11%. The metric for the other products remained close to 14%. The percent of tickets elevated to Level 3 for all products was measured at 12% as shown on Table 4.

**Table 4**

**New Data for Tickets Elevated to Level 3 Support**

Percent of Tickets Elevated to L3 After Training				
Week of	Scoped Products		Other Products	
	Elevated	Not Elevated	Elevated	Not Elevated
5/05-5/11	141	21	94	14
5/12-5/18	114	15	65	11
5/19-5/25	104	15	60	10
5/26-6/01	121	10	68	13
<b>Total</b>	<b>480</b>	<b>61</b>	<b>287</b>	<b>48</b>
<b>Percent</b>	<b>11%</b>		<b>14%</b>	
<b>Percent (All Products)</b>				<b>12%</b>
<b>Baseline</b>				<b>15%</b>

### Increase the percent of tickets resolved within one business day by two points by June 1<sup>st</sup>

For the products in scope, the percent of tickets resolved within 1 business day improved from a baseline of 87% to 90%. The metric for the other products remained close to 86%. The percent of tickets resolved within 1 business day for all products was measured at 89% as shown on Table 5.

**Table 5**  
**New Data for Tickets Resolved Within 1 Business Day**

Percent of Tickets with TAT <= 1 BD After Training				
Week of	Scoped Products		Other Products	
	TAT <= 1	TAT > 1	TAT <= 1	TAT > 1
5/05-5/11	141	21	94	14
5/12-5/18	116	13	65	11
5/19-5/25	108	11	60	10
5/26-6/01	124	7	68	13
Total	489	52	287	48
Percent	90%		86%	
Percent (All Products)				89%
Baseline				87%

### CONCLUSION

The project objectives were met. By June 1<sup>st</sup> the percent of tickets resolved within one business day increased by 2%, from 87% to 89%; and the percent of tickets elevated to Level 3 decreased by 3 %, from 15% to 12%.

The Analysis phase revealed the Licensing Support team lacked training and product knowledge, a result of business restructuring and employee attrition; which accounted for higher than expected number of escalation to Engineering teams and extended turnaround times.

The findings helped to create new and direct relationship between Licensing Support and Engineering management teams. They understood the importance of managing knowledge in the support organization. “Accessible knowledge resided in the mind of an expert can expedite support services” [3].

Studies have found turnover rate can be reduce and service quality improve by ensuring that agents are well trained [4]. The knowledge plan is expected to support the business goals by improving quality of service, increasing team morale and reducing turn over.

The business goals of 90% resolution within one business day and ticket elevations no greater than 10% were not reached within the project timeframe; yet compliance is expected once knowledge transfer and documentation is completed for the remaining identified products families.

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