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Helpdesk ticketing system for a small -sized company

- Selection and deployment

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The objectives of this thesis were to explore through the process of acquiring and deploying a ticketing system, starting with explaining what is a ticketing system and what are the benefits of using one for handling incoming support issues, the search for knowledge about what kind of ticketing systems there were and then to narrow down the choices to three candidates, with pre-determined criteria from the company and from the author. After the three candidate-systems had been selected, the trial-versions of those systems were deployed to test out their functionality in real-life situations. After this test period, the choice was made between these three systems and the best one was selected and then fully deployed into production. Of the three systems, the choice was made to deploy Zoho Desk. Zoho Desk was then immediately deployed into use for the company to receive and handle the support requests.

Keywords:

support, process, deployment, Zoho

Jani Sorsa

Helpdesk tiketöintijärjestelmä pienikokoiselle yritykselle

- Valinta ja käyttöönotto

Tämän opinnäytetyön tarkoitus on käsitellä mikä on tiketointijärjestelmä ja millaisia hyötyjä sen käytössä tukipyyntöihin liittyen on. Lisäksi käydään läpi prosessi tällaisen järjestelmän hankkimiseksi yritykselle. Prosessi alkoi tiedonetsinnällä millaisia tiketöintijärjestelmiä on olemassa ja karsimalla vaihtoehtoja yrityksen kanssa ennaltasovittujen kriteerien mukaan kolmeen vaihtoehtoon. Nämä kolme vaihtoehtoa pystytettiin testikäyttöön, minkä jälkeen voitiin testata ja vertailla näiden järjestelmien toimintaa oikeissa tilanteissa. Näin tehtiin tarkempia huomioita tiketöintijärjestelmien käytettävyydestä ja ilmoitetuista ominaisuuksista. Tämän testijakson jälkeen valittiin yksi tiketöintijärjestelmä, joka täytti vaadittavat kriteerit ja jolle toteutettiin lopullinen käyttöönotto. Kolmesta tiketöintijärjestelmästä lopullinen valinta kohdistui Zoho Deskiin, joka otettiin yrityksessä käyttöön välittömästi tukitikettien vastaanottoon ja käsittelyyn.

Asiasanat:

tuki, prosessi, käyttöönotto, Zoho

Content

Pictures

List of abbreviations

GDPR	General Data Protection Regulation
ITIL	Information Technology Infrastructure Library
ITSM	Information Technology Service Management
SaaS	Software as a Service
SLA	Service-Level Agreement

1 Introduction

The objective of this thesis is to gather knowledge about different ticketing systems available for helpdesk support and then select the best one for the commissioning company's needs.

Firstly, it is necessary to define what a ticketing system is.

According to SysAid, "A ticketing system allows IT support to be organized, focused, efficient, and effective" (SysAid, 2021). A ticketing system is a system that will gather all relevant information about a request into one place. So for instance, if a support request can come via email or phone call, all the relevant information can be logged and handled in the same place. The system will log from whom is the ticket from, what system, product or department it is concerning and who the agent handling the request is. The agent may then write comments and tasks that need to be carried out to resolve the request, as well as reply to the customer, all within the same portal. Once the request is resolved, the resolution can be given to the customer and the ticket may be closed.

So what are the benefits of using a ticketing system?

As mentioned before, a ticketing system allows the agent to view and handle ticket details all in one place. If there are support requests coming from multiple channels, such as email, phone, or social media, it becomes almost impossible for agents to keep track of incoming requests without a dedicated system and request handling slows down significantly, so using a ticketing system benefits the customer and company by saving time and consequently money for both parties.

There are added features to using ticketing systems, such as the ability to log time spent on tickets, getting reports and data about incoming and closed tickets such as resolution times, how many tickets are received per day, how many are resolved, and so on. These metrics will help to optimize the helpdesk

activity in many ways, such as finding out what requests are the easiest to solve, at what times during the week or day is the helpdesk busiest, etc.

This leads us back to the topic of this thesis. The commissioning company wanted a helpdesk ticketing system, because they did not currently have one and they commissioned the author to find them a ticketing system that they would deploy into use.

The thesis is structured as follows. Chapter 1 introduces the objective of the thesis and what is a ticketing system.

In chapter 2, this author discusses the process of gathering information about ticketing systems based on the criteria agreed upon with the commissioning company. After information has been acquired from different kinds of ticketing systems, the results are then narrowed down from a larger pool into the "top three" candidates.

Chapter 3 introduces the three candidates that are then tested in their respective trial versions which have all the attributes and features of the version that would be deployed into production would they be chosen. After setting up the ticketing system and testing them out, the author summarized all data acquired during the testing period to select one ticketing system to recommend for the company to choose and deploy.

Chapter 4 introduces the selection of the ticketing system and the implementation of said system, from the trial version to production with all the necessary changes to make the system ready to receive support tickets from customers.

2 The process of acquiring a ticketing system

In this chapter, the focus is on the process of seeking information about different ticketing systems. The results are then narrowed down based on given criteria, or minimum requirements for functionality, for the ticketing system.

2.1 Minimum requirements

The process starts with a meeting with the client or a company to discuss the need for a ticketing system and what features and requirements must be met for it to function properly at the given task. Not all ticketing systems have exactly the same features and it is important to note the pricing plan of the system and work out what features are available at which price points. So in one ticketing system one might have to opt for a costlier subscription plan to get a feature that is necessary for their needs, but at the same time one would have to take into consideration the other added features that come with that price plan, and determine if those other features make it more cost-effective than other products at a lower subscription plan.

In this instance, the minimum requirements for the ticketing system were established as:

- Cloud-based or SaaS
- Data center in the EU
- Cost-effective
- Supports multiple email accounts
- Multichannel
- Customer satisfaction surveys
- Detailed reporting of tickets
- Scalability to the future with additional features

This author will now explain what these requirements mean.

Cloud-based, or SaaS means that the service provider maintains the software and it's data on their servers. Therefore there is no need to host the service on the company's own equipment and maintain it, because the software provider will do that. An agent can run the software from their web browser anywhere they are, without needing to configure user access to their company's network, etc.

A Data center in the EU allows better management of where the data is stored and who, if any, have access to it and which laws govern the handling of data. This makes it easier to follow the GDPR guidelines when the data does not have to leave the EU at any point.

Cost-effectiveness. If there are similar products which offer the same features, but one costs more than the other, what does the pricier one offer in addition to make it worth purchasing.

Support for multiple email accounts means that the company is able to have multiple support email addresses, for example support emails for different products, and that the ticketing system can collect emails from all of these accounts to one place. This allows agents to handle everything in one place which increases effectiveness when not having to switch between multiple ticketing systems.

Multichannel refers to tickets being able to be created from other channels as well as email, for instance from social media or from incoming calls. This allows the support staff to be reached more easily and customers are able to choose their preferred method of contact.

Customer satisfaction surveys that are built-in to the system allow the company to keep track of how well does the support personnel do their jobs according to customers. These surveys can then be imported into reports for the company to see if the customer satisfaction is at an acceptable level or if something needs to be adjusted.

Detailed reporting of tickets means that the company is able to get accurate metrics of incoming tickets vs. closed or resolved tickets, agent performance, time spent on tickets, etc. It allows for better planning for the support team, when the company is able to get accurate data and trends about what kinds of tickets are the most common, at what times of day or week do the most tickets come in, which tickets take the longest to resolve, etc.

Scalability to the future gives the option to expand the functions of the ticketing system with additional features if or when the need arises. So for instance, there are options in some ticketing systems to implement a chatbot to the company's support site, where customers can ask questions regarding their problems and the bot will search the knowledge base for previous resolutions to said problems and offer these to the customer. Scalability also includes the price of active agents, so when determining which ticketing system to implement and deploy into use, the company has to keep in mind how many agents there are currently in the support staff and if the number increases in the future, how much will the addition of agents affect the pricing of the ticketing system.

2.2 Gathering knowledge

Once the requirements for the ticketing system are known, the process of gathering knowledge about what kind of ticketing systems there are can begin. There are multiple sites on the Internet which offer reviews from different angles on most popular ticketing systems, such as PCMag and TechRadar among others. Although these reviews can be helpful in the knowledge gathering phase, the reader has to remember that the information may be outdated or biased in some way. While these sites may offer good notes about the functionality of different ticketing systems, the reviews are best taken with a grain of salt. This author used these sites, as well as other sources such as Google, to find out what different ticketing systems there are available.

This author found 14 different helpdesk ticketing systems with these methods and then proceeded to list their features and price plans to get a better understanding of what features these systems offer and what would be the minimum price plan in which they meet the minimum requirements given for this assignment.

2.3 Different ticketing systems

The ticketing systems found are:

- Freshdesk
- HaloITSM
- HappyFox
- Vivantio
- Zoho Desk
- Agiloft Service Desk
- Freshservice
- ManageEngine ServiceDesk Plus
- Zendesk Support
- Jira Service Desk
- Gorgias
- SysAid
- Jitbit
- osTicket

These ticketing systems have some variance in their features that they offer and also in what kind of businesses they are targeting as their audience. Here is a brief description of the different systems.

Freshdesk is a popular helpdesk system aimed for small to midsize businesses (Brame, 2019), which offers four different price plans with the lowest tier being free of charge. However, this free tier has only the most basic functionalities of a ticketing system and for this project the tier that offers all the necessary

features is the third out of the four tiers called Pro with a cost of 49€ / 59€ per agent per month, depending on the subscription type (Freshdesk, 2021).

HaloITSM is a helpdesk system aimed at enterprise level businesses or larger organisations who are looking to build a help desk for internal use following ITIL guidelines (Ferrill, 2021b). This system has their pricing fixed on the number of agents using the system, which means that all the features are available and the price of the system depends on just the amount of users. Because this system is aimed at enterprise level businesses, most offered features will not be used and with the pricing of 69€ per agent per month at the lowest pricing tier available (up to 3 agents), there are better options available for this project.

HappyFox is another popular helpdesk system (Rist, 2021) with plenty of features available at different price tiers. However, HappyFox has their data centers located in the United States, which means that this system does not meet the given requirements for this project.

Vivantio is much like HaloITSM, in that it is aimed at larger businesses or organisations rather than small ones (Rist, 2021). The same problem as with HaloITSM can be found here, that Vivantio offers too many features for the company's needs with a higher price than some other systems.

Next is Zoho Desk. This system is aimed at small to midsized businesses, with a long list of features that ensure that it can be used throughout the company's growth from a smaller business to even a large enterprise level business (Ferrill, 2021a). Zoho Desk offers competitive pricing compared to the other systems, with their Professional tier that has all the necessary features for this project costing 35€ per month per agent (Zoho Desk, 2021).

Agiloft Service Desk is another service desk system aimed at larger businesses rather than small to midsized companies, with a long list of features to handle not only support requests, but also manage different departments such as marketing, sales, etc. in this one system (Agiloft, 2021). Similarly to the previous enterprise level systems, this system is "too large" for the company's current

needs. Agiloft's data centers are also situated in the United States, so unfortunately it does not meet the requirements given for this project.

Freshservice is the "big brother" of Freshdesk. Where Freshdesk is aimed at small to midsized businesses, Freshservice is aimed at larger organisations and offers more than simple support desk management, such as purchase orders, contract management, etc. (Freshservice, 2021). Due to this, using this kind of system for just a helpdesk service is more difficult than a system aimed at smaller businesses to handle their support needs. Freshservice also has their data centers in the United States so it does not meet the data storage requirements for this project.

ManageEngine ServiceDesk Plus is a system that is aimed at enterprises or organisations rather than smaller businesses, but this system has a couple of advantages compared to the previously mentioned similar systems. Firstly, this system has a data center in the EU, so unlike the previous larger systems this does meet all the requirements given for this project. Secondly, this system is free to use with full features if there are less than 6 agents, and the company currently has two agents working in support, so this in fact makes this system the most cost effective out of all the systems at the moment (ManageEngine ServiceDesk Plus, 2021).

Zendesk Support is a good candidate for a real multichannel helpdesk system. It offers the same kind of features as Freshdesk and Zoho Desk (Zendesk, 2021), however, it is pricier than it's competitors, especially since data storage in the EU is a paid extra feature. This makes the cost effectiveness of this system drop below some other competitors.

Jira Service Desk is a popular choice for a helpdesk system. It offers all the necessary features to run a helpdesk system from small to enterprise level businesses (Jira Service Management, 2021). However, most of the features offered are not relevant for the company currently which means that user experience for the agents working on tickets will be affected by this.

Gorgias is a support desk aimed quite narrowly at e-commerce vendors. Most of the features offered focus on this field, such as Shopify integrations, etc. (Gorgias, 2021). The pricing plan differs from the rest of the competition, since the pricing is based on the number of tickets received. This can be hard to estimate for some companies, especially when setting up a helpdesk system for the first time without prior data on tickets received per month.

SysAid is a helpdesk system that heavily markets its automation processes for tickets to help companies with their support requests (SysAid, 2021). Unfortunately to get their pricing models they have to be requested separately via email and subscribe to SysAid's newsletter at the same time. This author tried requesting a price quote, but never received a reply from SysAid.

JitBit is a helpdesk system that offers the basic features for a company to manage their support requests (Jitbit, 2021). However, JitBit does not offer as many features as some of the other systems, for example, it is missing SLA - timers for tickets which is essential for accurate reporting on ticket management.

osTicket is a helpdesk ticketing system that this author has used for another service to manage support requests. The drawback to this system is that it does not offer a hosted service, so the system would have to be self hosted which in turn means additional costs and upkeep.

2.4 Narrowing down the results

Once the list of features and price points had been created, this author began the process of elimination for the ticketing systems, to remove those systems that did not meet one or more requirements given and those that did not offer a free trial to test the functionality of the system. After this, the list of systems was narrowed down even further with taking into account the cost-effectiveness of given features vs. price of the system. So if one system has the same or more features for a lower price, the higher pricing system gets eliminated from the list of candidates.

This elimination process left three possible candidates, all that meet the given criteria and which all have their own differences in the features they offer based on the pricing plan that would be selected.

In the next chapter, this author will go over setting up and trying out the trial versions of these three systems and how they function in real life situations.

3 Trial versions of the three candidates

Based on the findings in the previous chapter, three ticketing systems are selected to be tested and reviewed. These systems are Freshdesk, Zoho Desk and ManageEngine ServiceDesk Plus.

This author will not go into detail about how to setup these three systems individually, since they all have the same basic process and the differences between them in the setup phase are small. Briefly summarized, the process is setting up the support email → Configure mail fetching or mail forwarding to the ticketing system → Configure outgoing email settings → Add agents who will be working on the tickets → Configure templates for outgoing emails and incoming tickets → Configure SLA policies → Configure automation rules. After these steps are done, the ticketing system is functional enough to be tested in real-life situations. When deploying the system into full use, some additional configuration may be required.

3.1 Freshdesk

Freshdesk offers a free 21-day trial version that can be used to test the functionality of the system before deciding to subscribe. Setting up the trial version has been made simple and easy, all that is required is to sign up for the trial with ones name, phone number, email and company name. After signing up, one is given a companyname.freshdesk.com domain in which the ticketing system is hosted at.

After the domain has been given, Freshdesk offers a "Get started" wizard to help set up the company's support desk, or everything can be manually configured by going to the Admin -page, which contains all the settings. The setup wizard asks to input all the relevant data for the ticketing system, such as what email address is used for support requests, adding additional agents to the system, etc. Once these steps are completed, additional settings such as SLA-rules and others can be configured from the Admin -page.

After the Freshdesk trial had been set up and configured for test use, this author began testing the functionality of the system. This was done by sending test emails to an email address set up for this purpose, from which Freshdesk was configured to fetch emails every couple of minutes and turn them into tickets in the system. The key points here were determining how much automation can be set up on ticket creation, such as automatic assigning to an agent, categorisation and priority assignment and determining correct SLA policies, what kind of reporting is available as well as determining how good the overall experience is to handle tickets.

Freshdesk performed well in these tests, tickets could be sorted automatically according to which support email the tickets were created from, and the overall user experience was good. Freshdesk only offers automatic categorization of tickets according to which support email the requests are coming from as can be seen from Picture 1. Other ticket details need to be edited manually, such as prioritization, request category, etc. However, when manually creating tickets, the agent can use premade ticket templates to expedite the process. Yet since the assumption is at this point that most tickets would be received via email, this means that agents have to spend time first editing categories and priorities for the ticket, before actually diving into the issue at hand.

Freshdesk also features automatic time logging for tickets, which is useful when looking at statistics on how the helpdesk is functioning. Because time is logged automatically, agents do not need to estimate their time spent working on each ticket and the data remains accurate, so it is easier to see which kinds of tickets take the longest and thus maybe offer the development team working on the project some insight as to what to prioritize in future development.

The statistics from the tickets can be found from the Dashboard -view in Freshdesk as soon as the agent logs in to the service with customizable graphs. This makes it easy to see how the helpdesk is running with a quick glance, there are statistics for the amount of incoming vs. closed tickets, average resolution times and others. In addition to the Dashboard -view, detailed reports can be easily found and exported from the system to pdf -files.

One small downside of Freshdesk is that it does not offer a separate "Resolution" for a ticket, compared to the other two systems. So a ticket can be marked as closed or resolved, but to resolve a matter to a customer, the agent has to reply to their message like a standard email reply, there is no separate template or a message that would signify that the matter has been resolved, here is the resolution.
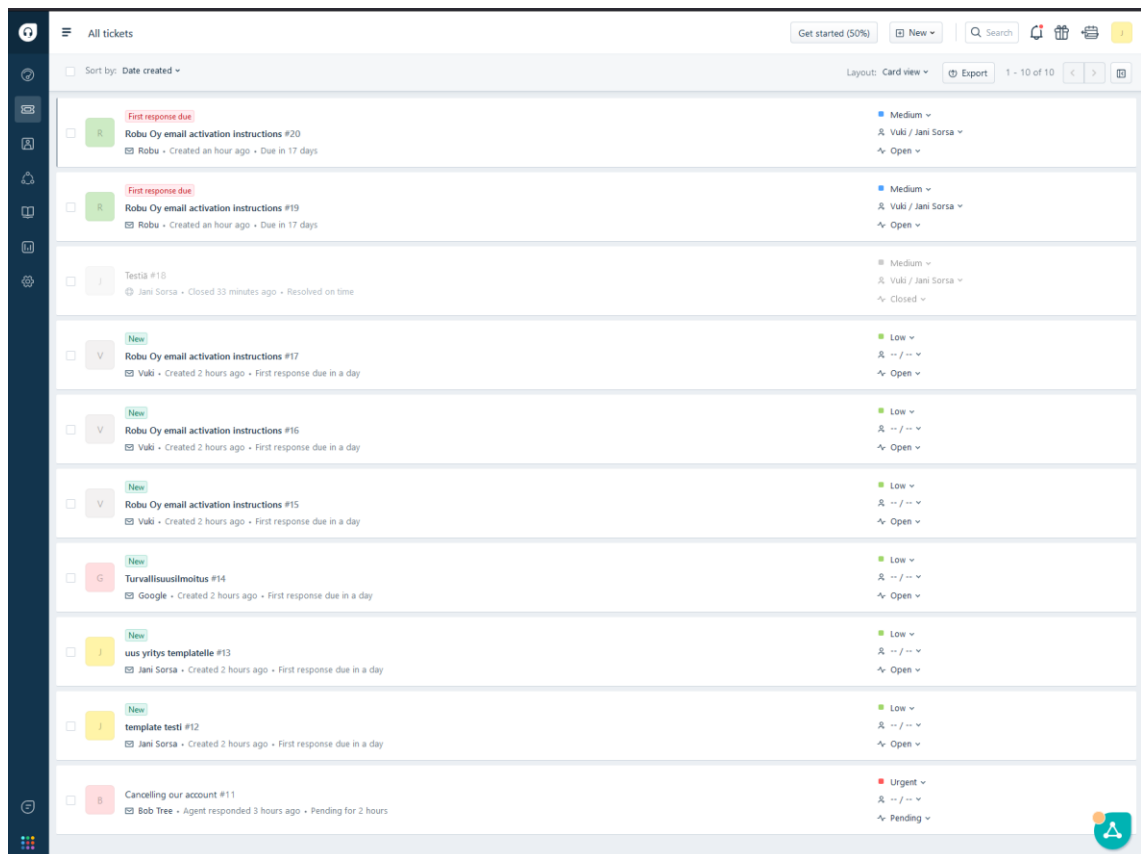
Picture 1. View of all tickets in Freshdesk. It indicates the status of the tickets, whether they are open or closed, who the tickets are from and which product they are concerning.

3.2 Zoho Desk

Zoho Desk offers a slightly shorter trial period compared to FreshDesk with a 15 day free trial. However, the setup is very similar, registering for the trial one needs to provide their contact details and company name, after which they are given a desk.zoho.com/support/companyname domain in which the system is

hosted at, as well as a support email @companyname.zohodesk.com. In comparison to Freshdesk, there is no "Get started" -wizard tool to help set up the system, instead one is required to manually go through all settings to configure the system to their needs.

Once one is able to log in to the system, they are able to access the Setup - menu seen on Picture 2 and configure the settings for the system, such as support email, company information, departments and other necessary settings to run the helpdesk system that have been described earlier in this chapter. Departments in this case mean the different products the company is offering support to, so a company is able to have product X, product Y and so on with each of them having their own support emails, to differentiate between these in case not all requests come to the same support email address.

After the system configuration had been completed, this author began testing Zoho desk's functionality much in the same way as was done with Freshdesk by sending out test emails to a support address, from which the emails get transferred into the system as tickets. The difference between Freshdesk and Zoho desk in this stage is that Freshdesk is able to fetch the emails straight from the support email that has been configured to be used. Zoho desk on the other hand requires one to forward the emails from their support email to the email address created by Zoho desk when setting up the system and department, address@companyname.zohodesk.com.

The same testing parameters were used to test the functionality of Zoho desk as with Freshdesk: how much automation there is when creating tickets manually and from emails, what kind of reporting is available and how good the overall user experience is.

Zoho desk offers automatic templates for tickets received via email, so the most used parameters can be assigned to the incoming tickets as default. This enables the agents to only modify the ticket details when necessary and most of the time can start to immediately delve into the problem at hand, which saves

time and improves productivity. This is better than Freshdesk, since the latter only offers templates for manual ticket creation.

One thing that makes Zoho Desk stand out from the two others is the quality of the automatic time tracking feature, as seen on Picture 2. This allows to keep track of agents productivity and enables to get accurate data on how much time is spent on different tickets. Getting accurate data on the time spent on request tickets allows the company to see if there are some problems that need to be prioritised more in the development of the product.
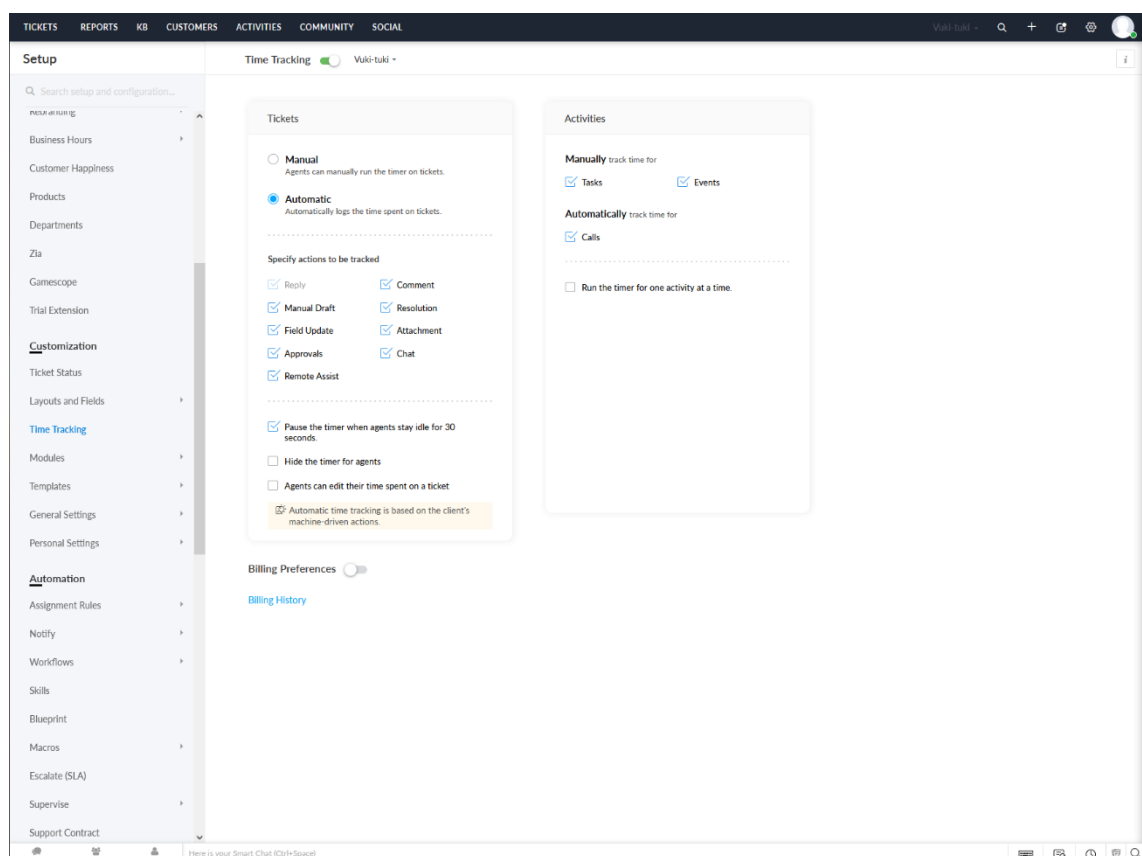
Picture 2. Settings for Zoho Desk's time tracking.

Statistics from tickets can be accessed from the Reports -page and the default view here offers the most important data regarding tickets automatically, as can be seen from Picture 3. There are many detailed reports that can be accessed here and the agent is able to create their own custom reports here as well. These reports can also be exported as either .pdf, .csv, or .xls files if necessary.
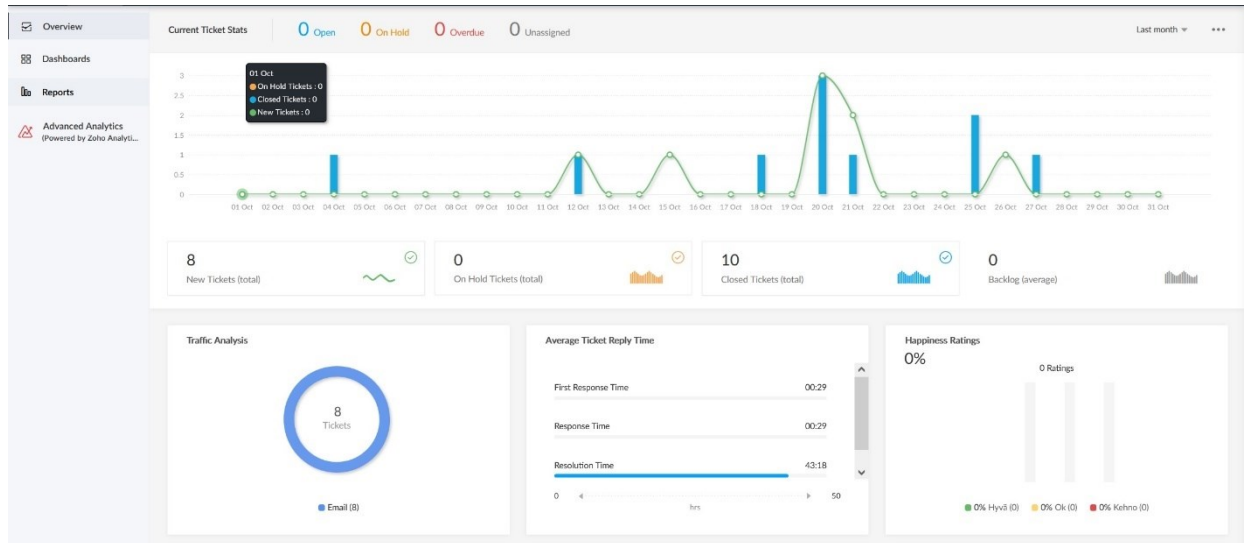
Picture 3. Report view taken from Zoho Desk. Here the most important data regarding helpdesk's functionality can be seen automatically.

One problem with the reporting in Zoho Desk is that the reports are department specific. So if there are multiple departments (products), the report data has to be compiled manually if the company wants overall data on all tickets in the system.

Zoho Desk offers one feature that is missing from Freshdesk, and that is the option to give a resolution to a ticket and send this to the customer. This lets the customer know that a ticket has been resolved instead of just closed and the resolution can be added to a knowledgebase for future reference if the same kind of problem / request comes again.

3.3 ManageEngine ServiceDesk Plus

This system offers the longest trial period of the three chosen systems at 30 days. Trial registration happens the same way as with the previous two systems, with contact information (name, company email, etc.) and after this one is given a domain in which the ServiceDesk Plus instance is being run. Once the domain has been given and one is able to log in, customization of the system can begin.

Similarly, as with Zoho Desk, there is no "Get started" -wizard tool available to help with the setup process of this system. But the same process of setting up applies here as with the previous two systems, after one is able to log in to the system, they are able to access the Settings menu as seen on Picture 4. From here they can access the Mail Settings to configure mail fetching from the support email, add more agents to the system from the Users & Permissions page, etc.
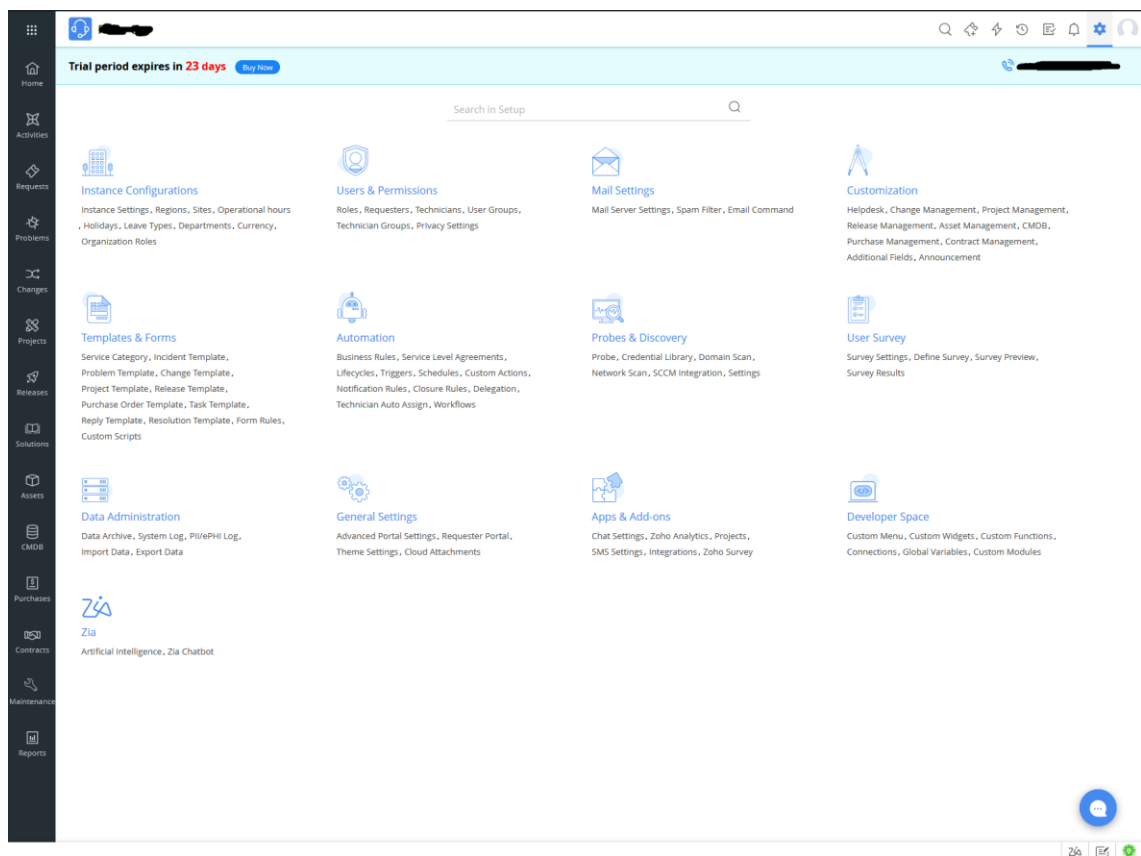

Picture 4. Settings menu in ServiceDesk Plus.

Like Freshdesk, this system can be configured to fetch emails straight from the company's own support email address and turn these into tickets. ServiceDesk Plus offers the greatest range of automations for tickets, where the company can define Categories > Subcategories > Items for a ticket, for detailed reporting on what kinds of tickets are received and what the tickets are about. For example, Product > User > Forgotten credentials, or Product > User > New user. As mentioned, this additional information compared to the other two

systems can be used in reporting to keep track of what kind of items are the most common, which items take the longest to solve, and so on. With this much detail in categorizing, the company can really delve deep into the statistics and functionality of the support, to enhance it further when deemed necessary. The downside of this is the manual labour involved when handling a ticket, where the agent has to select the applicable sub-categories and items for each ticket individually.

This information about tickets can be easily tracked in the dashboard view in ServiceDesk Plus, as can be seen in Picture 5. The dashboard view can be customised to show the statistics and reports that the agent wishes to see, such as SLA violations, open requests by agent and other options.
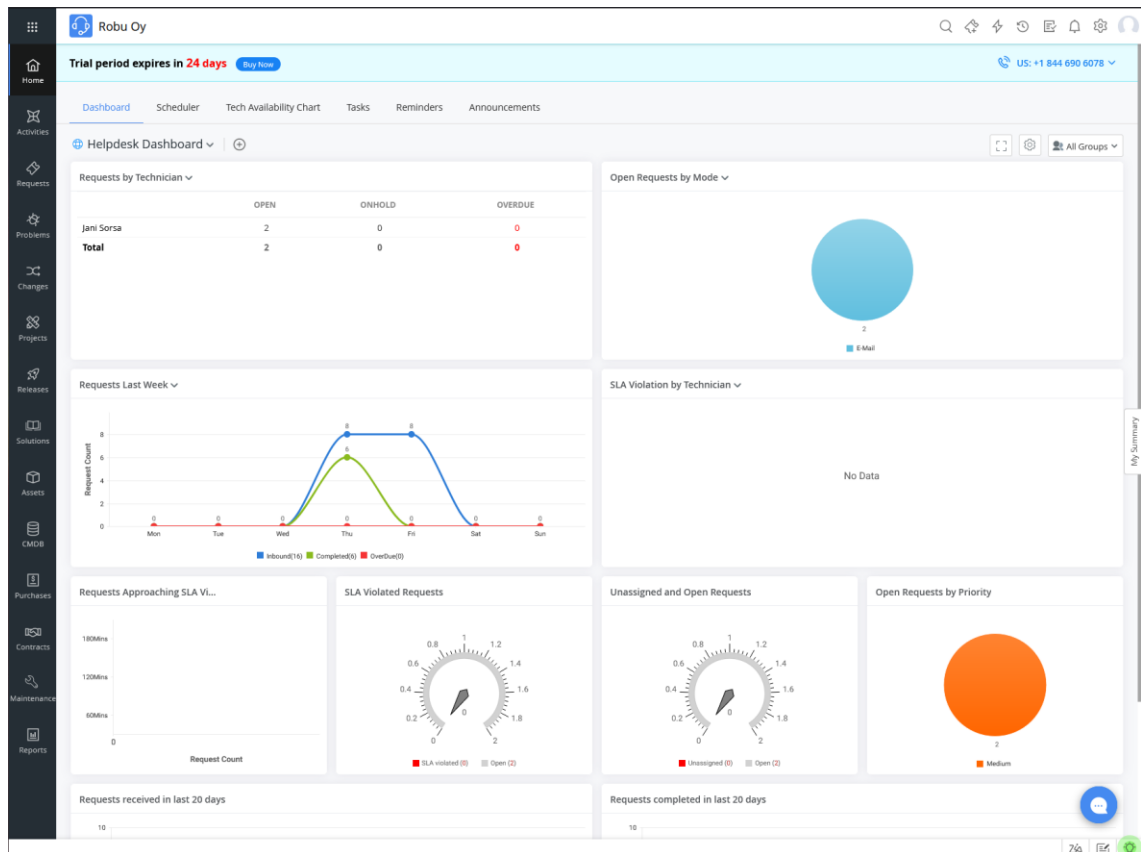
Picture 5. Dashboard view in ServiceDesk Plus. Different reports and statistics from tickets can be monitored here.

ServiceDesk Plus offers the greatest range of reports out of the three systems, which was also found to be one of its downsides. Because there are so many different reports available to choose from, finding the correct reports and modifying them, for example to show reports from a certain time period, is time consuming and more difficult than with Zoho Desk or Freshdesk.

Another negative aspect found while testing is the lack of scalability to the future with this system. In comparison with the other two systems which offer chatbots, multiple channels to receive tickets from, and other features, ServiceDesk Plus is lacking in these. It handles all required functions well, but since tickets can be received only from emails or manually created to the system, it meets the minimum requirements given for this project but the other two systems offer features that can be implemented in the future if necessary when the company and the support it offers grows in size. For this reason, ServiceDesk Plus is left out of the final choice for a ticketing system, in order to prevent having to find another service desk in the future when the company's needs grow for the helpdesk features.

3.4 Summary

Based on the testing period for all three ticketing systems, all three ticketing systems functioned well and would suit the company for their current needs. However, there were some differences in the features provided with the systems and with the overall user experience. Such being the lack of automation in Freshdesk when it comes to incoming tickets, which means that manual labour is required before the ticket is able to be resolved. ServiceDesk Plus was found lacking in features for the future, which means that should the choice be made to implement this system, there might become need to migrate to a different ticketing system that would better suit the needs of the company in the future. And Zoho Desk only offers reports by department, so overall report data on tickets has to be manually combined from these reports when there are multiple products / departments to which support is offered.

4 Choosing and implementing the best system for the commissioning company's needs

4.1 Why Zoho Desk?

Zoho Desk offered the best overall experience based on this author's testing and the only negative aspects that were found for this system do not affect the agent's work, but were more in the sense of mild inconveniences as mentioned in the previous chapter. In both Freshdesk and ServiceDesk Plus, there is manual labour involved in editing the ticket details before working on the ticket itself, where as in Zoho Desk most of the work is done via automation, and manual labour is only required when the ticket is something else than a support request, such as maintenance information or a bug report, which do not happen so frequently.

Zoho Desk also offered scalability to the future, when there are multiple products and the services provided by the support staff are increased, so there is no need to switch from this ticketing system in the foreseeable future.

Once these findings were presented to the company CEO, they agreed on the results and the implementation process could start immediately to deploy Zoho Desk into production.

4.2 Implementing the ticketing system into production

Once the choice had been made to select Zoho Desk as the ticketing system for the company, deployment of the system could begin. The process of this was fairly simple, since the trial version that had been set up for testing purposes could be used as the base and had most of the settings already configured for possible deployment.

First thing that was done was to invite the second agent from the company who would be working on the support tickets and give them admin rights as well as ownership to the system. This can be done from the Users & Control -page in the settings as can be seen from Picture 6. After the agent has been added to the system, they are sent an invitation link to their email with which they can create an account and log in to the system.
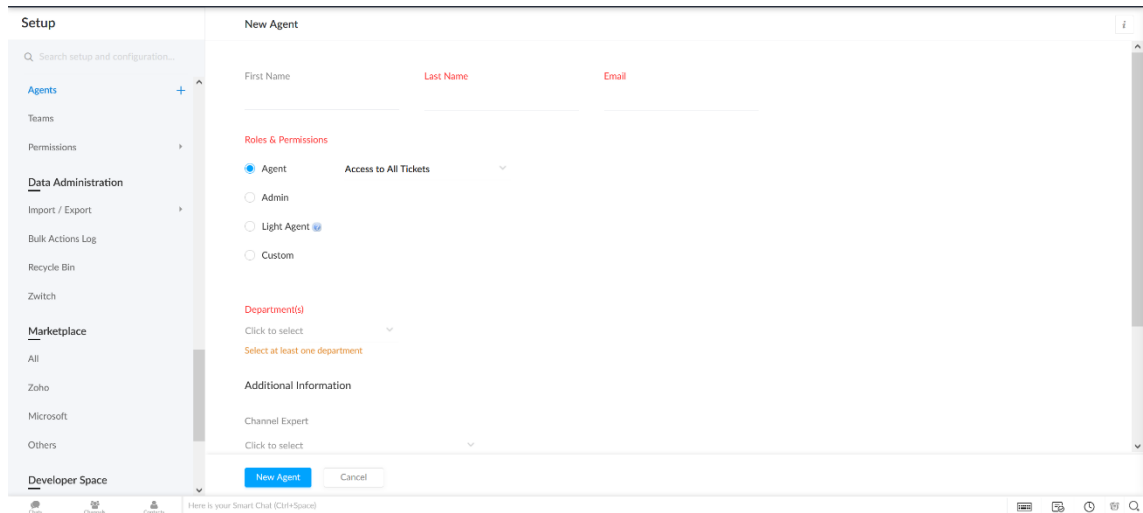

Picture 6. Adding an agent to Zoho Desk.

The next step was to change the support email from the email address set up for test purposes to the actual support email that the company would be using. This was easily done, as the old address could simply be removed and the new email set up in its place. For the new support email, one additional step was required, which was to set up email forwarding to the Zoho Desk support address in the email providers settings.

After this, the next step of the implementation process was to configure the settings for the email templates that would be used in communication to the customers via Zoho Desk as can be seen in Picture 7, such as what kind of message goes out to the clients when a ticket is resolved or closed. These templates are all in English by default, so they had to be translated to Finnish and the messages customized to the product in question, such as the sender information to match the support handling the ticket. Also this author added a

customer happiness survey to the resolution template which can be seen from Picture 8.
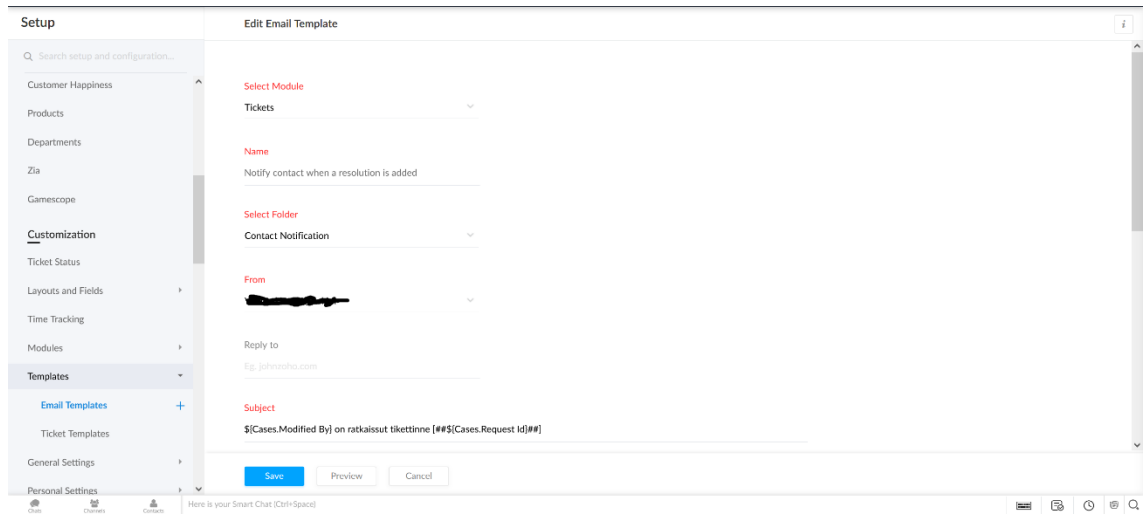
Picture 7. Settings for email template on ticket resolution.
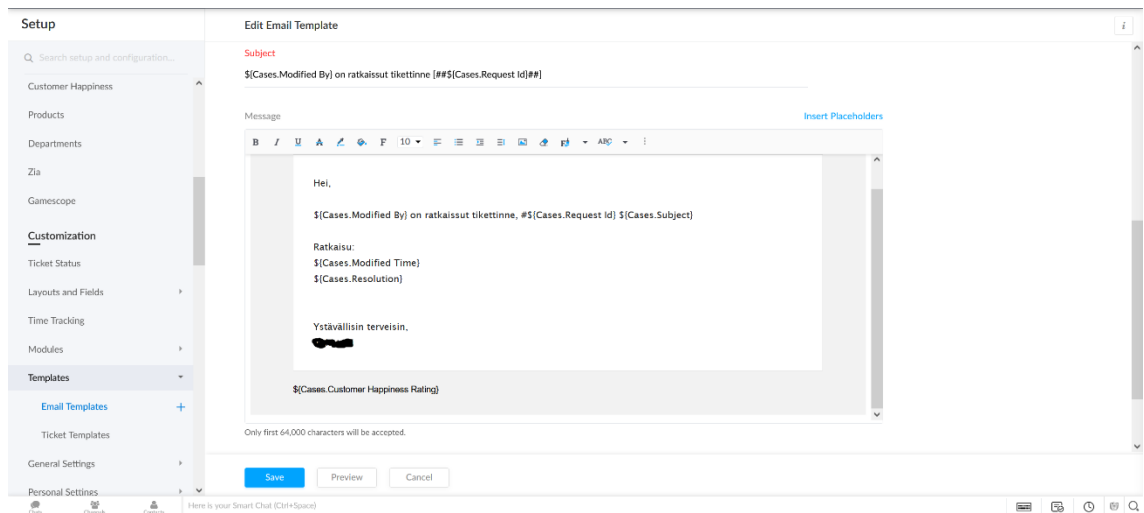
Picture 8. Template text on ticket resolution that goes out to the customer.

The next process to follow was to disable the self-service portal that Zoho Desk automatically creates for customers. This is not relevant for the company at this time, but it can be activated in the future if the need arises. Unfortunately the self-service portal cannot be fully disabled outright, but the settings for it were modified so that the portal address is not related to the company in any way and should anyone find that page on the Internet, they cannot submit tickets or

access anything via that portal. This was done by only allowing users who are logged in to the portal to have access to features, but the login process was disabled. Since no one can log in to the portal, no one is able to access any features either. If the need surfaces to activate this, all that is required is to allow users to log in and the portal is functional after that.

Once these steps were complete, along with the settings already customized in the testing period, the final step was to upgrade the trial version into a paid subscription. This was done by the other agent who had been given ownership of the product, and required simply to add credit card details for the account to upgrade the trial version to a paid subscription. After this, the deployment of the ticketing system was complete and work on the incoming support tickets can start.

5 Conclusion

The objectives of this thesis were to explain what is a ticketing system, the benefits of using one and to acquire and implement the best ticketing system for the commissioning company's needs.

This was an interesting project to do overall, from having to research what kind of existing ticketing systems there are available on the market to narrowing down the results and selecting one system that would best fit the needs of the company now and in the future.

There are plenty of choices for ticketing systems currently available on the market, each of them having their different strengths and available features. This is why a company needs to understand their needs and wants when starting the process to acquire a ticketing system to find the best one for their needs.

In this project, after the initial requirements had been discussed and agreed upon with the company, gathering information about the different kinds of ticketing systems on the market could start. After a reasonable amount of ticketing systems were found, in this instance 14 different ones, the process of elimination to reduce the number of potential candidates could begin.

The process of elimination started with removing those systems from the list that did not meet all of the given requirements and those that did not offer a free trial for the system, because since this is an important tool in helpdesk support, the user experience matters to ensure that everything works and work can be carried out as easily and effortlessly as possible. If the system cannot be tried out before purchasing and it does not fit the needs of the company despite having all required features, it results in loss of money for the company. Once these ill-suited systems had been removed, the next step was to look at the cost-effectiveness of the products and eliminate those that had a higher overall cost vs. features given by the applicable subscription plan.

Once this elimination process had left three potential candidates that fit the company's needs for features and had free trial versions for testing, the results were discussed with the company's CEO and the decision was made to test these three systems to find out how they functioned and which one would have the best overall user experience to make sure that support work would not be hindered by the system used.

After the three systems, Freshdesk, Zoho Desk and ManageEngine ServiceDesk Plus, had their free trial versions deployed, the testing period began. All systems were tested in the same way and the same basic functionalities were looked at when determining user experience working with the systems.

Based on the findings from testing these three systems, the results were again presented and discussed with the company CEO and the choice was made to implement Zoho Desk as the ticketing system for the company.

At the time of writing, Zoho Desk has been in use for the company for a month and this author has received and resolved tickets with it during this time as part of their work for the commissioning company. The system was deployed with the features of their Professional plan, and these features are adequate for the support level offered by the company at the moment.

This author strongly believes that the correct choice was made with Zoho Desk for this project, the system has delivered on all the fronts that it was marketed and promised on and suits the company's needs. If the requirements for the system did not contain the need for multichannel support, the choice might have been made to deploy ManageEngine ServiceDesk Plus instead, due to the free cost of that system. However, with Zoho Desk offering more features for future needs of the company, this ensures that there is no need to switch to a different ticketing system for the support needs in the future.

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