INDUSTRY INTERNSHIP

SUMMARY REPORT

Application Support Engineer

BACHELOR OF TECHNOLOGY

in

COMPUTER SCIENCE AND ENGINEERING

Submitted by

ABHISHEK SHARMA (18SCSE1050009)

SCHOOL OF COMPUTING SCIENCE AND ENGINEERING
GREATER NOIDA, UTTAR PRADESH

Winter 2021 – 2022

OFFER LETTER

iBoss
Tech Solutions

Date: 12th Nov'2021

Mr. Abhishek Sharma

Dear Mr. Abhishek,

This has reference to your Interview and subsequent discussions you had with us. We are pleased to offer you a position of **Trainee-Application Support** for our company on the terms/salary discussed with you.

Please report for work, at first instance, to Mr. Rishi Ghai, Director at iBoss Tech Solutions Pvt. Ltd., 1st Floor, D- 37, Sector 63, Noida 201301, on or before **12th Nov'2021.**
Further, if you do not join work on the above-mentioned date, that is, latest by **12th Nov'2021,** this letter will stand automatically withdrawn; and hence to be treated as 'void ab initio',

A formal appointment letter with detailed terms and conditions as agreed and accepted by you, will be issued to you on the date of your joining.

While first reporting for work, please bring the following: -

- Educational / experience / last salary certificate/s (In original)
- 2 Passport size photographs
- Relieving letter from your previous employer

Please sign a similar copy of this letter in token of your acceptance of the same and submit to us for our records.
A copy of the resignation letter submitted by you, to your present employer, may also be sent to us at the earliest for our records.

Thanking You,

Yours faithfully,
For **iBoss Tech Solutions Pvt. Ltd.**

Swati Priyadershi

Swati Priyadershi
(Asst. Manager - HR)

CERTIFICATE

I hereby certify that the work which is being presented in the Internship project report entitled " APPLICATION SUPPORT ENGINEER" in partial fulfillment for the requirements for the award of the degree of Bachelor of Technology in the School of Computing Science and Engineering of Galgotias University , Greater Noida, is an authentic record of my own work carried out in the industry.

To the best of my knowledge, the matter embodied in the project report has not been submitted to any other University/Institute for the award of any Degree.

Abhishek Sharma (18SCSE1050009)

This is to certify that the above statement made by the candidate is correct and true to the best of my knowledge.

Signature of Internship Coordinator

Dr.N.Partheeban
Professor & IIIC
School of Computing Science & Engineering
Galgotias University
Greater Noida.

Signature of Dean (SCSE)

Dr. MUNISH SABHARWAL
Professor & Dean
School of Computing Science & Engineering
Galgotias University
Greater Noida.

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ABSTRACT

Today's all businesses have Data Base and UI Application. The number of tools and apps designed for small business to large business has skyrocketed. From automation, finance, banking management to customer and analytic, the increasing amount of information and capabilities is powerful.

An application engineer plans the design and implementation of technology products like specialty industry equipment or computer programs. He or she works together with a company's manufacturing, sales, customer service and data base departments. Companies typically require this type of worker to have a four-year degree along with years of field experience. He or she should have good communication, math, coding and teamwork skills.

In this field design data base, build data base, and test various technological products. Gather information about clients' needs and work with managers to develop products using sophisticated computer software. We can make original applications or redesign ones that a customer already has and do research and development.

LIST OF FIGURES

LIST OF ABBREVIATIONS

LGY	Legacy
EAS	Ease
SOAP UI	Simple Object Access Protocol User Interface
EVAL Error	Evaluation Of Java code Error
DBCR	Data Base Change Request

CHAPTER 1

INTRODUCTION

What is Application Support Engineer?

Application Engineers set out to improve the overall functioning of their client's software. They do so by creating new software architecture, working within existing software and engineering hardware components that optimize certain technology. They are hired by application development firms with a number of clients toward the goal of meeting unique software needs.

These engineers are similar to Business Analysts because of their skill full extraction of information from clients to determine the project scope and design a solution. However, unlike Business Analysts, they typically work with external clients and not on internal projects.

In addition to developing applications and improving the functioning of existing software, an Application Engineer must also possess hardware knowledge and understand technical specifications of a broad range of software to address client concerns. They are the key customer-facing team member and are also expected to have the soft skills that come along with sales and customer service.

What does Application Support Engineer do?

Develop applications, built Data Base and improve existing software

The primary role of an Application Engineer is to design and improve software. They perform need evaluations with clients to understand the unique goals of each project and then implement after careful assessment.

This sometimes means they are tasked with the development of custom software. But Application Engineers should keep thinking one-step ahead as they are also in charge of planning and implementing expansion projects for the client's current software infrastructure.

For example, an Applications Engineer might be tasked with building a whole new database platform for a client. Or they may recommend only a database upgrade that allows sales representatives to see more customer contact information from the database in another application they frequent, like Microsoft Outlook. It is up to the Applications Engineer to understand what the client is trying to accomplish and make the best recommendation for how to get there.

This means, first and foremost, Application Engineers must be comfortable with many coding languages, and particularly those that apply to enterprise solutions.

Provide tech support to clients

An Application Engineer also serves as a help desk point of contact for their clients, answering 2nd, 3rd and 4th tier tech support calls. If working with a help desk team, the Applications Engineer may define priorities and assist with the higher-level calls, ensuring quality troubleshooting services are delivered to clients in a timely manner.

In some cases, Application Engineers will respond to client needs onsite and provide additional consultation. These kinds of tech support calls can lead to up-selling opportunities for assertive Application Engineers who are tasked with incremental sales growth.

Whether by phone or in person, an Application Engineer is always expected to deliver the highest level of customer service when responding to calls. They use their knowledge of both hardware and software, along with critical thinking skills, to provide solutions for clients from running software updates to recommending and installing new hardware components that make their infrastructure run more smoothly.

Provide hardware upgrades as needed

Application Engineers are expected to not only understand the needs of the client but also the technical needs of their software. This means they must have a deep understanding of hardware technical specifications as they relate to client software needs.

Things like server speed and availability, processor speed and other mechanical components have an impact on software performance. That's why experts recommend going into this field with a general computer science degree or one in electrical engineering. In some cases, Application Engineers design and develop custom mechanical components as they relate to software applications.

For instance, some Application Engineer jobs require knowledge of solid state drives for those who are working with mobile devices. Others ask for applicants with knowledge of radio technology, or a certain type of enterprise server.

While the specific knowledge requirements of an Application Engineer will vary from position to position, it's certain that some hardware knowledge will come into play.

Understand client-base and make sales recommendations

One role of an Application Engineer involves regularly reassessing the needs of their clients. That means looking at their current software and hardware inventory and determining where improvements can be made.

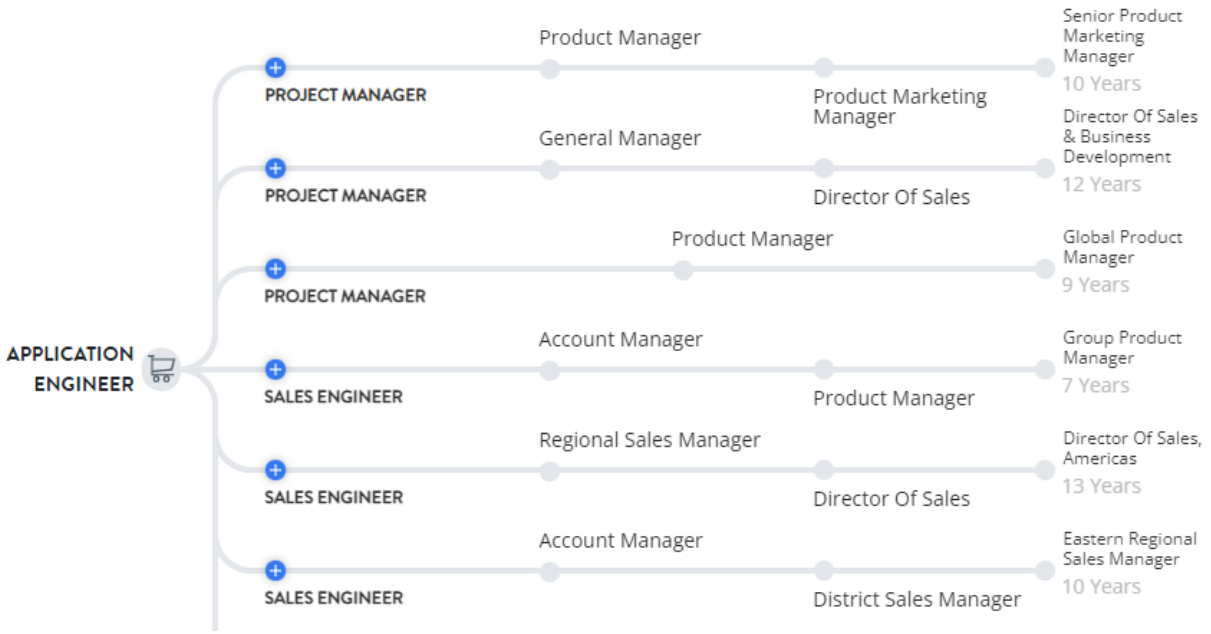
Application Engineers should be skilled at the art of up-selling. They will have many opportunities to do so during the initial consultation and follow-up tech support calls. During this process, they should be able to translate tech jargon into meaningful, relatable terms that make sense for their clients.

Documentation and inventory of all systems

Finally, Application Engineers must be detail-oriented since they are responsible for the documentation of service calls and inventory of all systems for their clients. This means keeping

detailed records of installations and hardware components in addition to logging all technical specifications required to keep systems at peak performance.

In many cases, inventory software and other office software suites will be used to complete the task of inventory and documentation. The Application Engineer should be familiar with all office software necessary to complete the job.



CHAPTER 2

TECHNICAL DESCRIPTION

Develop applications, built Data Base and improve existing software. The primary role of an Application Engineer is to design and improve software. They perform need evaluations with clients to understand the unique goals of each project and then implement after careful assessment.

This sometimes means they are tasked with the development of custom software. But Application Engineers should keep thinking one-step ahead as they are also in charge of planning and implementing expansion projects for the client's current software infrastructure.For example, an Applications Engineer might be tasked with building a whole new database platform for a client. Hit APi calls to adjust or fetch data using Postman or SoapUI application.Or they may recommend only a database upgrade that allows sales representatives to see more customer contact information from the database in another application they frequent, like Microsoft Outlook. It is up to the Applications Engineer to understand what the client is trying to accomplish and make the best recommendation for how to get there.

This means, first and foremost, Application Engineers must be comfortable with many coding languages, and particularly those that apply to enterprise solutions.

Some important tasks-

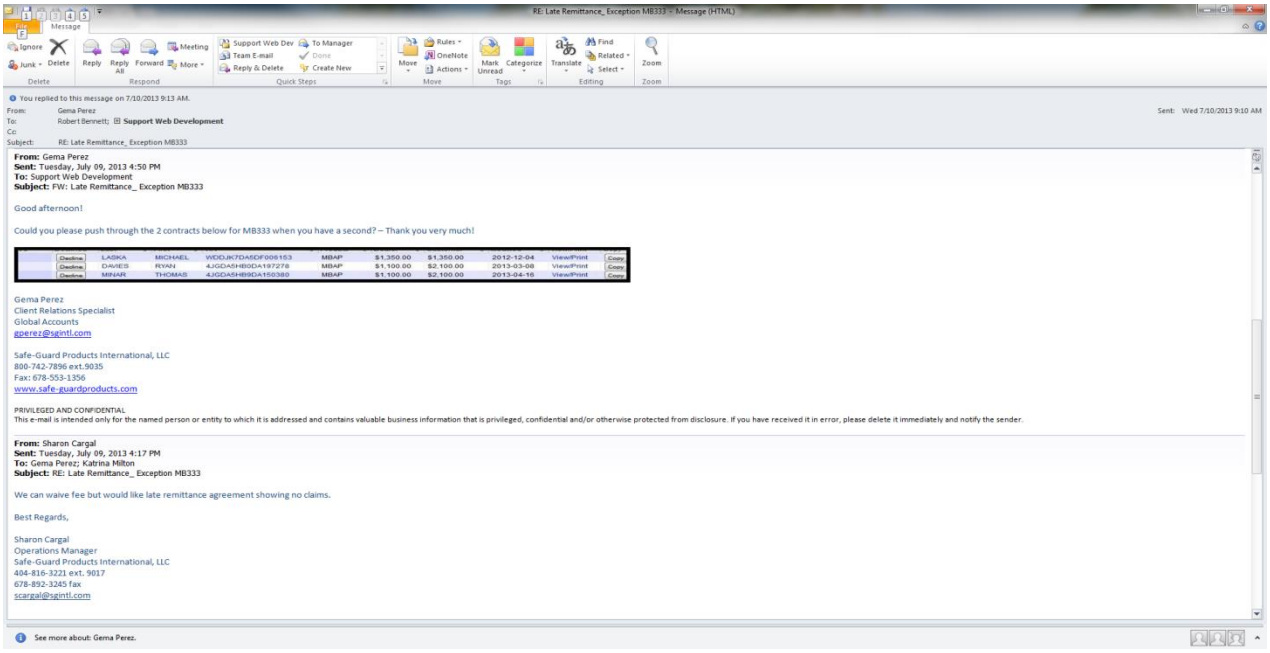
- Providing software application support under the supervision of the Senior Engineer.
- Creating Data Base on PostgreSQL/SQL for banking clients.
- Performing analyses on software application functionality and suggesting improvements.
- Ensuring effective front-end and back-end functionality of applications.

- Consulting with the software development team, internal users, and clients to improve application performance.
- Managing code migration across environments to ensure continued and synchronized functionality.
- Establishing the root causes of application errors, and escalating serious concerns to the Senior Engineer.
- Keeping a record of configuration changes and scheduling application updates.
- Documenting processes and monitoring application performance metrics.
- Providing front-end support to clients and colleagues in other departments.
- Hit APi calls to adjust or fetch data using Postman or SoapUI application

CHAPTER 3

SYSTEM DESIGN

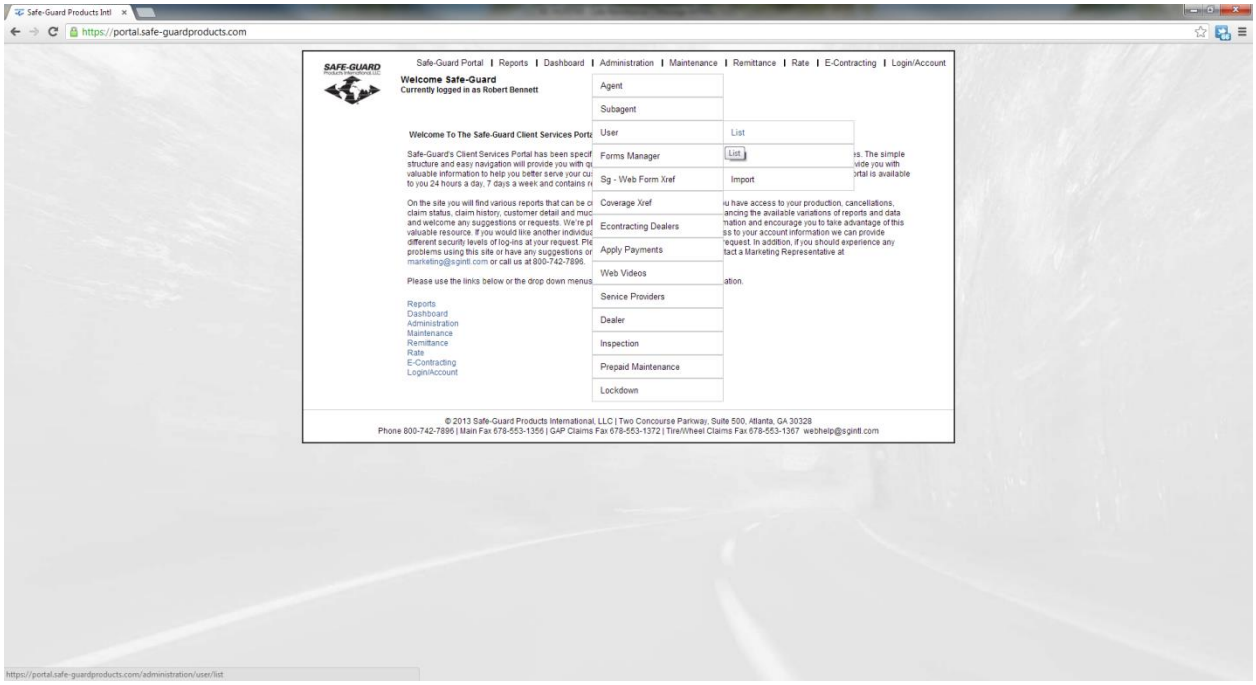
Our system works basically on two staging - EAS and Legacy on Sales force. We have divided different clients on different staging this is based on their requirements. EAS staging table have SQl quires and Legacy staging table have PostgreSQL.



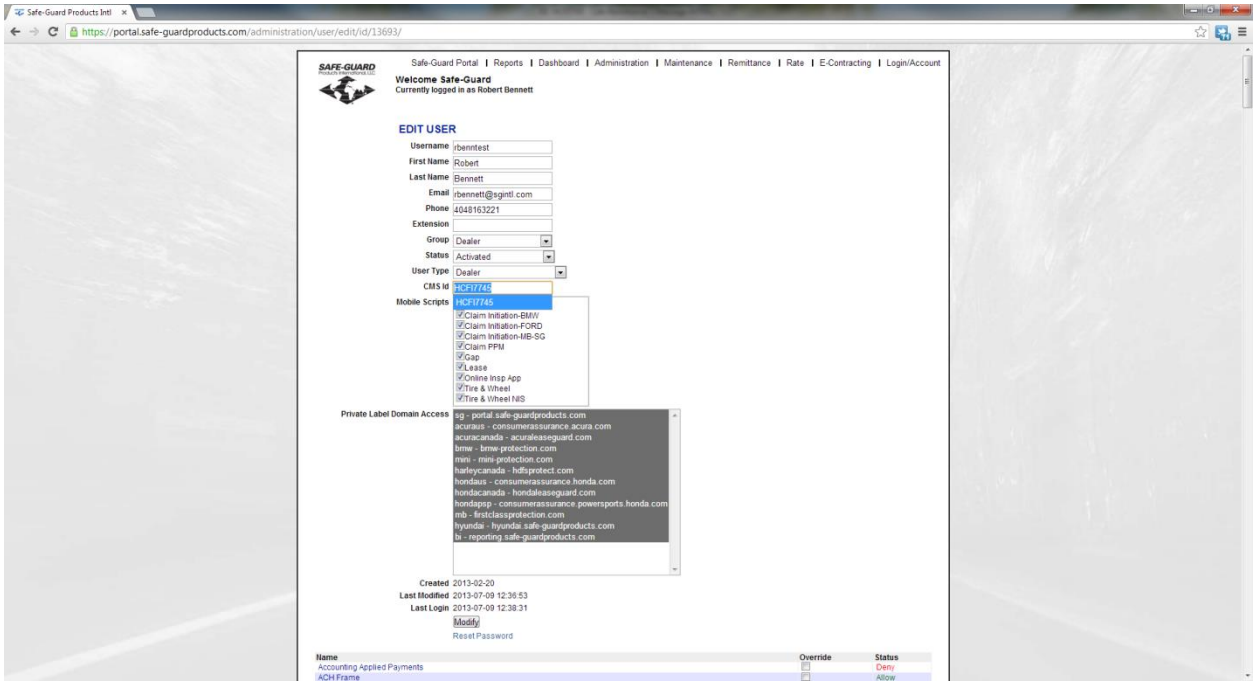
Steps: -

1. You will receive an email from the marketing department that typically looks like this.
2. This email is a request to push through old contracts that the dealer does not have access to push through (for whatever reason they did not remit with another batch). Typically this is because the contracts are passed the typical 90 day limit put on dealers. Following are the steps to remit the contracts.

3. First you must make your “test” login the dealer noted in the email. In this case it is 000MB333. To do this go to portal.safe-guardproducts.com, administration, user, list.



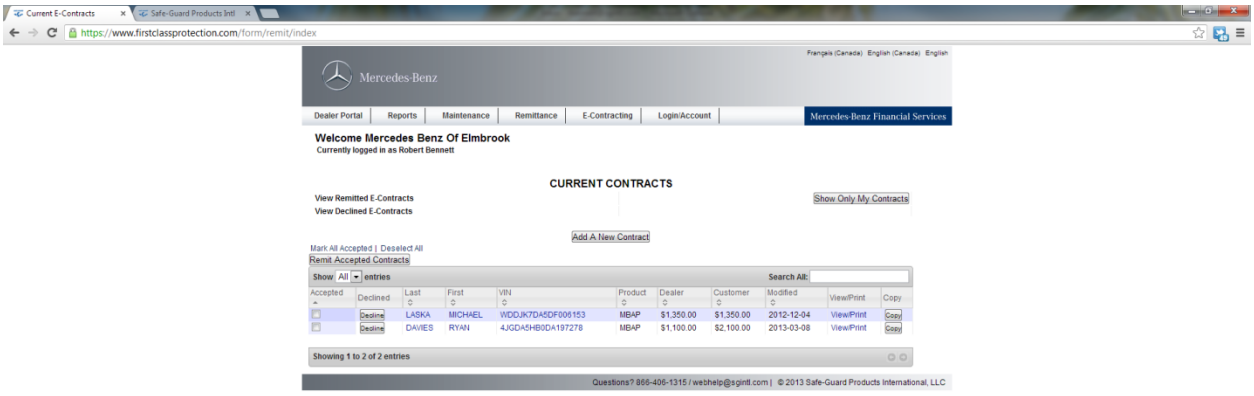
4. Search for your test ID (in my case it’s rbenntest) click the “Edit” option and modify your CMS ID to be the Dealer number noted in the email.



5. Next you must modify the dealers Remittance Window (days) from 90 to the necessary limit. If the requestor did not include the contract date go to the specific manufacturers e-

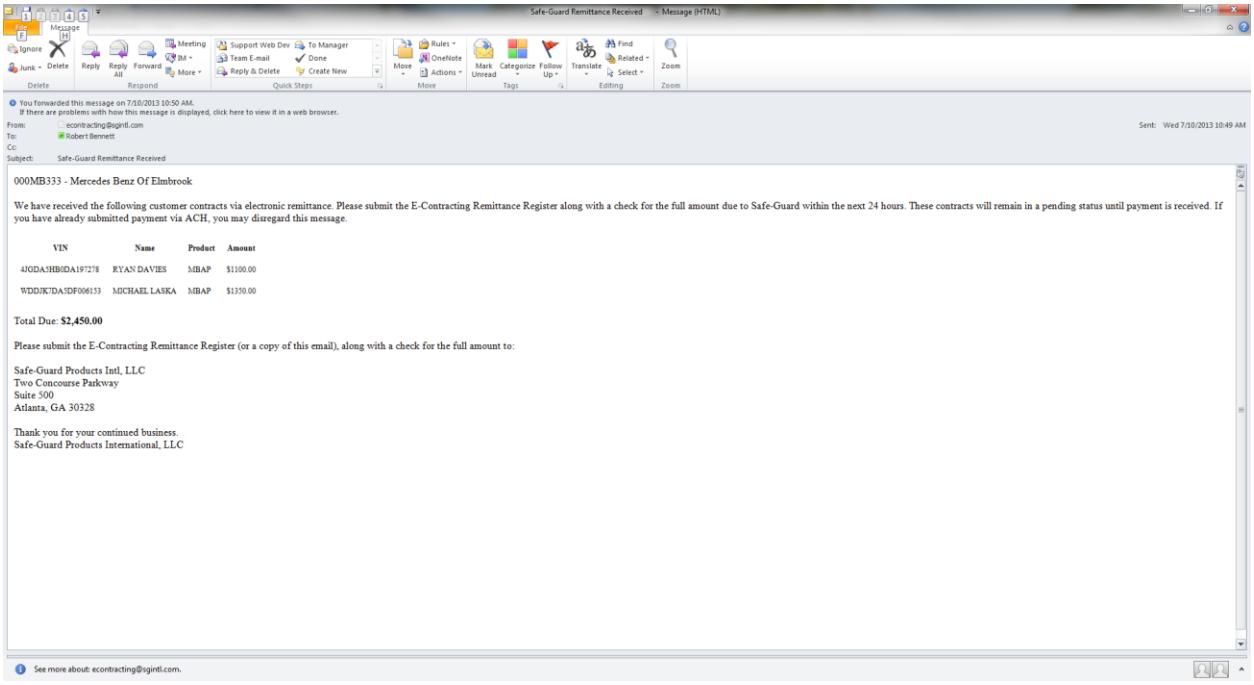
contracting website to find out how far back the window needs to be modified. In this case it is firstclassprotection.com. You can find this information on the user modification page in portal, see the gray area in the screen above.

6. The Mercedes Benz E-Contracting site is firstclassprotection.com, then go to "E-Contracting, View/Edit/Remit. Here you will see the contracts due for remittance. Click the check boxes under "Accepted" and select "Remit Accepted Contracts"



7. Go back to your admin ID and back the days up the appropriate amount. (Make sure after you remit the contracts you change this back to 90. Dealers aren't allowed to go back further than 90 days).

8. After this you will receive a confirmation email for the remitted contracts. Make sure you forward this to the requestor along with a note saying that the contracts have been remitted. Typically I respond "Done" or "The requested contracts have been remitted". Make sure to Reply all or CC Support Web Development on the reply email so that there is a record.



9. After you have sent the email return to your portal page and revert your test ID back to 000002 instead of the Dealer number.

Issues faced while remitting contracts and their solution:-

Issue- While trying to remit the contract in question for Willey, Tyson - KM8SR4HF9DU002015, sold on 6/5/13, we are getting the above error.
Since the Contract modified date is 06-05-2013 within 90 days, dealer remittance window is kept 90.
Please suggest why this error is coming.
Please also shed some light, that how to determine contract date in this case (So that we can accordingly modify the remittance window).

Jonathan reply-
If you pull the sale date and don't assume "modified" means "sale date" then you get this:

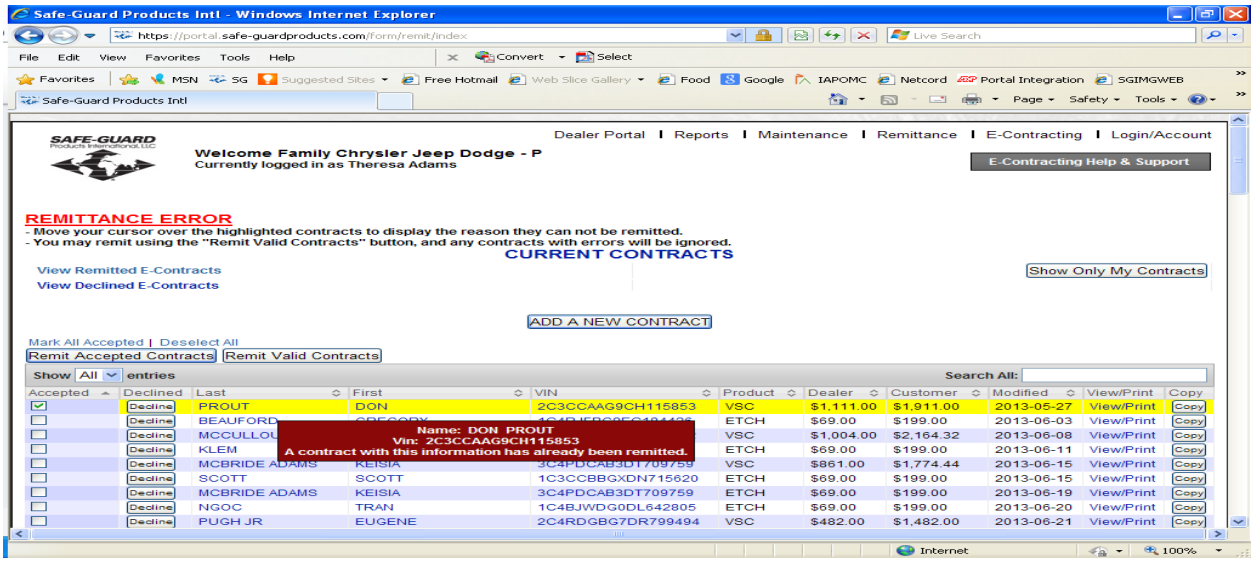
select web_con_saledate, * from web_con_m1 where web_con_vin = 'KM8SR4HF9DU002015';

= 2013-03-21.

Hence the remit window should be modified 120 days back.

Other issue, while remitting a contract:

If we get the error “A contract is already remitted” while remitting a contract then follow the below steps to resolve



We get this error because the contract is already in the dms_con_m1 and it not voided/cancelled automatically after the contract is expired which is bug in the system.

Please refer ITSUPPORT-962 and ITSUPPORT-963 for reference

Step 1

To check that there was already an existing contract in dms_con_m1 use

select * from dms_con_m1 where dms_con_vin = '2C3CCAAG9CH115853';

Step 2

To remove the contract which will allow for the real contract to be remitted use below query

delete from dms_con_m1 where dms_con_vin = '2C3CCAAG9CH115853' and dms_con_dealer = 'TESTDLR1' and dms_con_product = 'VSC'

Or

Instead of deletion we can slightly modify/change the name or any other field so that system will not consider it as a duplicate entry while we remit.
After modification in table you can easily remit the contract.

Sometimes, we faced issue like this:-

ISSUE:

Please check Support ticket http://10.10.1.144:8080/browse/ ITSUPPORT-937 for reference: Dealer

HYUFL091 contract.

CHAPTER 4

SYSTEM IMPLEMENTATION

The contract in our web services table… however, it is still in "draft" mode, meaning that our systems did not get a communication from Dealer Track to change it from "draft" to "submitted". Also, our date in our table is off by 1 day (which tells me it was probably entered on 5/30 and then remitted on 5/31, and we did not get the 5/31 communication from DT). I have a dealer who submitted a contract in May and has not been billed for it.

Ms. Pam at HYUFL091 Gettel Hyundai (941-567-1080 x2023) says her Dealer Track states the contract has been submitted on 5/31/13 with a reference number YC-VSC-20130-531-000074.

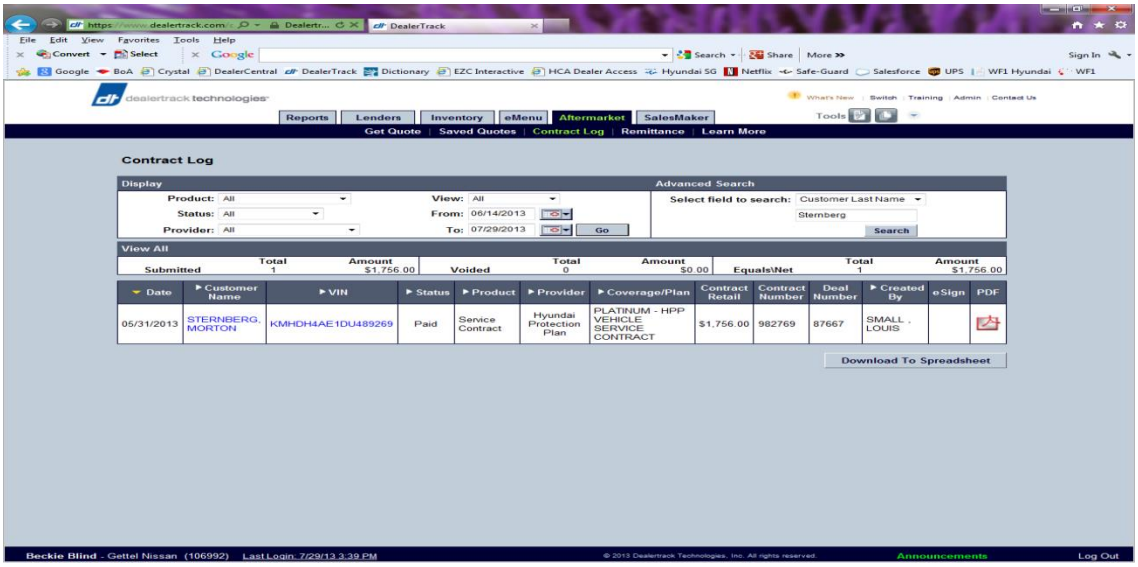
Customer Name: Morton Sternberg

Vin: U489269

I have no record of this vin in CMS or the Hyundai Database.

Could you advise me on how to handle this? I have no access to Dealer Track or knowledge of how to troubleshoot these issues**.**

ATTACHMENTS:



SOLUTION:

STEP 1-

Change the flag in web_con_m1 from status = 1 to status = 2 would make it flow from webconm1 to dmsconm1 to sgconm1.

STEP 2-

Reset the web_con_m1 status back to 1 then make a mock SOAP request and remit it.

select * from web_con_m1 where web_con_vin like '%U489269%';
update web_con_m1 set web_con_status = 1 where id = 982769;
select * from dms_con_m1 where dms_con_vin = 'KMHDH4AE1DU489269';

Sometimes we faced issue like this:
Contract not in CMS.Please push contract over.
ISSUE:
Please check Support ticket http://10.10.1.144:8080/browse/ ITSUPPORT-1220 for reference:

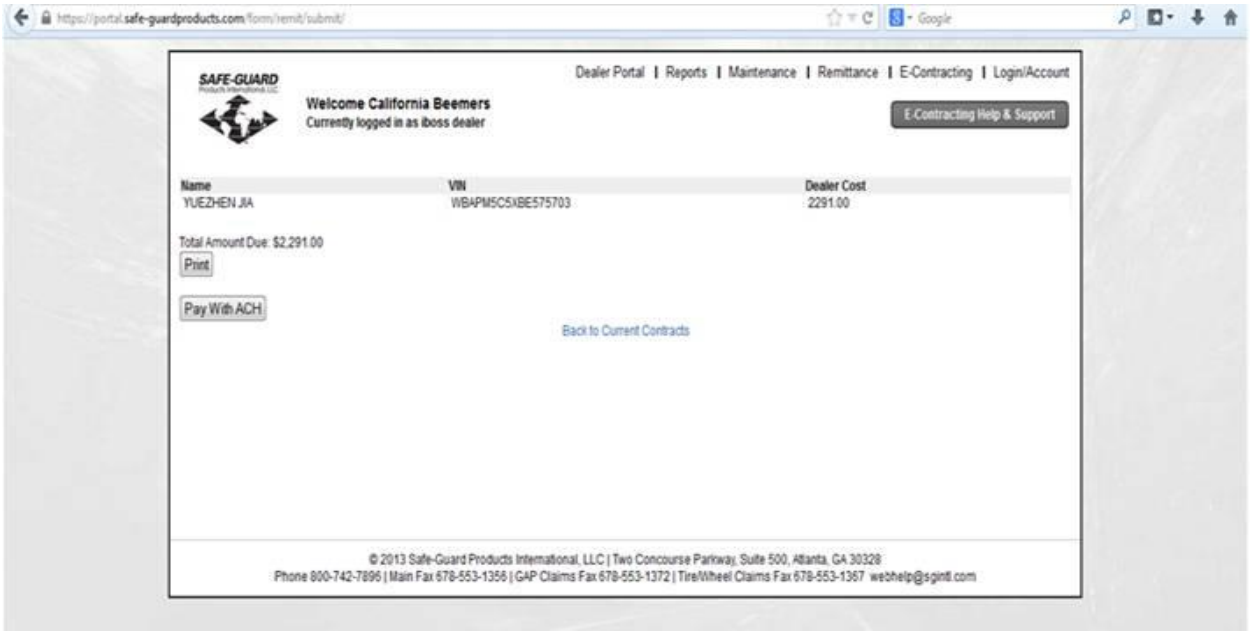
Contract not in CMS. Please push contract over.

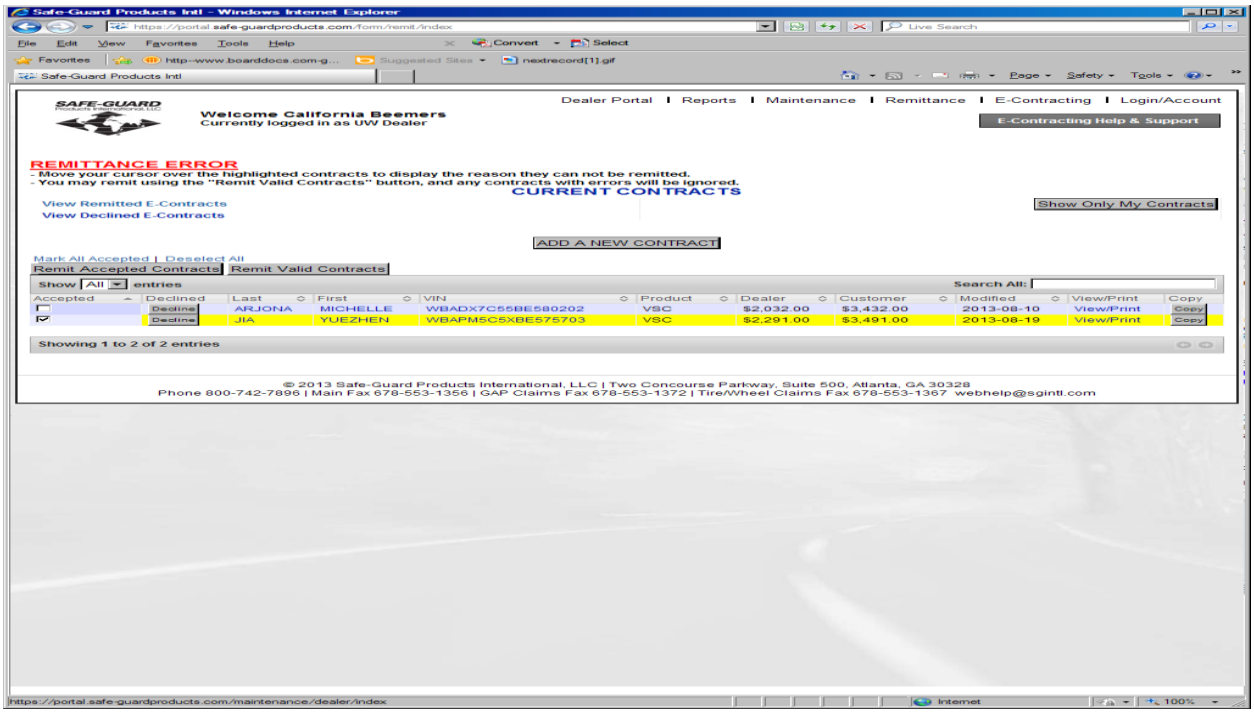
DESCRIPTIONS:

Can you please push over the highlighted contract for this dealer (S29262)? There is no contract in cms for this customer. We have received payment for this contract and need to apply the money received.

It states that the reason below:
Name: YUEZHEN JIA
Vin: WBAPM5C5XBE575703
A contract with this information has already been remitted.

ATTACHMENTS:





SOLUTION:

For this issue, follow the below queries which can be given as shown below.

STEP 1-

SELECT * FROM dms_con_m1 where dms_con_vin = 'WBAPM5C5XBE575703';
I found that there was already an existing contract in dms_con_m1, but under dealer TESTDLR1 .

STEP 2-

update dms_con_m1 set dms_con_lname = 'JI' where dms_con_vin = 'WBAPM5C5XBE575703' and dms_con_product = 'VSC'

STEP 3-

Updated the last name which will allow for the real contract to be remitted

CHAPTER 5

RESULTS AND DISCUSSIONS

Application Engineers should keep thinking one-step ahead as they are also in charge of planning and implementing expansion projects for the client's current software infrastructure.For example, an Applications Engineer might be tasked with building a whole new database platform for a client. Hit APi calls to adjust or fetch data using Postman or SoapUI application.Or they may recommend only a database upgrade that allows sales representatives to see more customer contact information from the database in another application they frequent, like Microsoft Outlook. It is up to the Applications Engineer to understand what the client is trying to accomplish and make the best recommendation for how to get there.

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- Consulting with the software development team, internal users, and clients to improve application performance.
- Managing code migration across environments to ensure continued and synchronized functionality.
- Establishing the root causes of application errors, and escalating serious concerns to the Senior Engineer.
- Keeping a record of configuration changes and scheduling application updates.
- Documenting processes and monitoring application performance metrics.
- Providing front-end support to clients and colleagues in other departments.
- Hit API calls to adjust or fetch data using Postman or SoapUI application

CHAPTER 6

CONCLUSION AND FUTURE WORK

Application Engineers set out to improve the overall functioning of their client's software. They do so by creating new software architecture, working within existing software and engineering hardware components that optimize certain technology. They are hired by application development firms with a number of clients toward the goal of meeting unique software needs.

These engineers are similar to Business Analysts because of their skillful extraction of information from clients to determine the project scope and design a solution. However, unlike Business Analysts, they typically work with external clients and not on internal projects.

In addition to developing applications and improving the functioning of existing software, an Application Engineer must also possess hardware knowledge and understand technical specifications of a broad range of software to address client concerns. They are the key customer-facing team member and are also expected to have the soft skills that come along with sales and customer service.Most companies require Application Engineers to complete a 4-year degree in computer science or a related field. More importantly, they must also have a great deal of knowledge and experience with programming languages, development and design of enterprise programs and hardware knowledge. Most companies are looking for 5+ years of experience in these and related modals.

Some of the skills employers seek when looking for the right person to maintain their software include:

- Developing and improving software applications
- Familiarity with hardware/web software
- Data base deep knowledge
- Cloud knowledge
- APIs functionality
- Superior troubleshooting skills
- An aggressive sales demeanor
- Soft skills

Entry level IT professionals who are looking to develop their career paths in the field of Application Engineering can seek credentialing through IEEE computer society. This group offers a Certified Software Development Associate (CSDA) certification to put new IT professionals on the right track.After gaining work experience in the field of software development, another credential is available through IEEE. This is Certified Software Development Professional (CSDP). Jobs in this field are desirable. In addition to competitive pay, careers in Application Engineering offer a high-level of job satisfaction. That's in part because companies hiring for Application Engineer are often highly-sought-after companies like software producers and computer design firms who need someone to service their external clients. Application Engineers work with clients across a wide variety of industries so the role requires someone with a broadly developed skill set.

CHAPTER 7

APPENDICES

Learning Experiences

Category	Weightage	Action Plan	Comment by Manager	Maximum Ratings
Training	20	Trainings attended		20
Work Coordination	20	Punctuality And Attendance	He is new and understanding bussiness punctaul, perform routine tasks on time.	3
		Helping team members		4
		Performs routine or scheduled maintenance		3
		Contributes as a team player to accomplish work applications		4
Business and Technical Accumen	20	Business Knowledge	He is new in support and taking understanding of bussiness	8
		Technical Certification Internal or external		10
Communication	20	Formal email communication	Interact with stakeholders and colleague but needs more effort to have clear vision and be more expressive. Effort needs to write deatailed documentation with accuracy.	3
		Routine interactions with client/vendors		8
		Documentation writing		7
Ownership and Flexibility	20	Act in accordance to business demands	Always ready to work as per bussiness demands. Business learning is still in progress.	9
		Continuous Improvement - 2 suggestions in a year		9
Total	100		Total	90

Total	100	
Top 3 areas of improvement - Objective for current year-2021-22	Weightage	Q1
Email Communication (written and oral)	Expert	Expert
Complete understading of EVAL/ RoadRunner Support	Moderate	Beginer
Web Support Understanding	Expert	Moderate

SWOT Analysis

Strength

Platform to Share and Reuse Software Engineering Knowledge The presence of software development teams at different geographical, virtual, and cultural locations led to the problem of sharing and reusing Software Engineering knowledge In this situation of distributed development environment, application engineer provide the platform to share Software Engineering knowledge. Once Software Engineering knowledge is represented by web application, it can be reused whenever required.

Availability of Software Engineering Knowledge in Human as well as in Machine Understandable Form As we know that web application formal specification, therefore, whatever information is represented by web application, it is available in human as well as in machine understandable form. When web application present the Software Engineering knowledge, it becomes available in both forms which further increase the visibility of Software Engineering knowledge over the web.

Weakness

A Standard Way to Generate web application for Software Engineering cannot be Defined One of the weaknesses of ODSE area is that there is no standard way to generate web application for Software Engineering, rather there are several different ways and the best way to generate the ontology depends on project to be developed.

An Ontology Generation May Take a Lot of Time Web application development is an iterative process which goes through many cycles of revisions and refinement before it is finally shaped and can be used.

Opportunities

To Create Intelligent Support Tools that Facilitate Communication and Information Sharing According to Dillon, in distributed development environments, communication and sharing becomes a problem between different development teams due to the following three reasons: (a)

different training and practices between diverse cities and countries. This means the staff members who are in remote locations will struggle to exchange information and share their ideas, experiences and knowledge; (b) Software Engineering discipline is not followed and shared between different development locations, which create inconsistencies in the collection and presentation of requirements, and other design documents; and (c) inconsistency in understanding the theories and applications of Software Engineering. In this case, different approaches and terminologies are applied to specify a same function, process or object, causing confusion and ambiguity. As a result, projects may result in a failure and consequently dissatisfaction to the end user12. Hence, in order to tackle the above problems, there is a need to develop intelligent support tools that can prevent errors in communication and information sharing

Threats

Social, Legal, and Ethical Issues As ODSE enables the sharing and reusing of Software Engineering knowledge, it possesses the threat of violation of intellectual property rights belonging to a person, group or organization. Also, any stakeholder related to the project can leak the critical information which may cause hindrance to the successful completion of project. Therefore, any violation of social, legal, and ethical rules and regulations possesses a great threat.

Client Specific Solution When there is specific demand from the client/vendors to supply software or product using specific technologies, it can cause disruption to developers to apply this emerging technology effectively in both research and practice. Finding vital contracts and partners who can actually provide support and promote this technology may turn out as a challenge as the promoters may have zero knowledge about this field.

CHAPTER 8

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