# CARMA VRM (Centralized Accounts and Requests Management Platform)

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# CARMA VRM (Centralized Accounts and Requests Management Platform)

**Major Project** 

Submitted in partial fulfillment of the requirements

For the degree of

Master of Technology in Computer Science and Engineering

PREPARED BY : Ravi Khandelwal 12MCEC15

Internal Guide PROF. VIPUL CHUDASAMA Nirma University External Guide Mr. Areesh Wali Khan STMicroelectronics



DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING INSTITUTE OF TECHNOLOGY NIRMA UNIVERSITY AHMEDABAD This is to certify that,

I, Ravi Khandelwal, 12MCEC15, a student of semester IV Master of Technology in Computer Science Engineering, Nirma University, Ahmedabad, hereby declare that the project work CARMA VRM (Centralized Accounts and Requests Management Platform has been carried out by me under the guidance of Mr. Areesh Wali Khan, STMicroelectronics, Noida and Prof. Vipul Chudasama, Department of Computer Science and Engineering, Nirma University, Ahmedabad. This Project has been submitted in the partial fulfillment of the requirements for the award of degree Master of Technology (M.Tech.) in Computer Science and Engineering, Nirma University, Ahmedabad during the year 2013 - 2014.

I have not submitted this work in full or part to any other University or Institution for the award of any other degree.

Ravi Khandelwal(12MCEC15)

# CERTIFICATE

This is to certify that the Major Project entitled **CARMA VRM (Centralized Accounts and Requests Management Platform** submitted by **Ravi Khandelwal 12MCEC15**, towards the partial fulfillment of the requirements for the degree of Master of Technology in Computer Science Engineering of Nirma University of Science and Technology, Ahmedabad is the record of work carried out by him under my supervision and guidance. In my opinion, the submitted work has reached a level required for being accepted for examination. The results embodied in this major project, to the best of my knowledge, have not been submitted to any other university or institution for award of any degree or diploma.

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## Abstract

CARMA VRM Centralized accounts and request management platform management system tracks the usage of a public building or site. By gathering increasing amounts of information, a visitor management system can record the usage of the facilities by specific visitors and provide documentation of visitors information. Because a visitor management system provides a record of building use, these systems are frequently used to complement building security systems and access control systems. As electronic visitor management systems become more common and more powerful, these systems are taking over many of the functions of building security and access control.

An overall characterized visitor management system can supplant antiquated paper logbooks, streamline gathering region and give proficient identifications to guests. CARMA VRM (Centralized accounts and request management platform) is a progressed guest administration and following framework that gives the most extensive proficiencies of any guest administration result accessible today. It permits associations to track and manage visitors.

The administration of guests to field and legacy destinations has tested site supervisors for a long time. There is currently recharged enthusiasm toward a more precise methodology to visitor management, determined by new bearings in field and access strategy, expanding open desires, and the more extensive supportability motivation. The investigation additionally incorporated an evaluation of the profits of a more orderly approach to guest administration, and the imperatives to its reception.

# Introduction to CARMA VRM(Centralized accounts and request management platform)

## 1.1 CARMA Overview

CARMA VRM (Centralized accounts and request management platform) is generally utilized inplaces where an expansive number of guests go back and forth. It gets troublesome to keep a track of every last one of visitants by few workers. This is put away in the database to keep up the records of all the individuals who have gone by the building. At that point print the Photo ID for one-time or proceeding utilization to speed the security screening methodology. Present day Centralized records and appeal administration frameworks empowers the administrator to know the aggregate number of guests inside the premises. It likewise gives the office of limiting troublesome guests by sounding a caution at the time of their visit. It might be joined together with a right to gain entrance control for security. Visitor Management System is uncommonly intended to stay informed concerning guest nearing and going out of the premises. With this framework you will have the capacity to deal with the guest enrollment procedure, figure out who is still within your premises and advise the framework clients once the banned guest means to sign in or sign out.

The Centralized accounts and request management system is a platform which tracks

the utilization of an open building or site. It is a venture in front of the manual guest administration framework as it gives inventive answer for guest administration. Guest can log into the requisition of the association by including his or her photo of the guest for acquiring the errand. This framework uses the most recent innovation which improves the security in the association.[1] Workers and guests will feel more secure and ensured and it will make an extraordinary first impact on the corporate picture.

The resulting Sustainable Centralized accounts and requestadministration framework is a cyclical, iterative arranging furthermore administration process. It is exhibited as a menu of processes, procedures and devices that could be utilized at a reach of guest locales as indicated by their administration needs. The diagram organizes simultaneously are:

- Defining the boundaries of the site
- Preparing a long-term vision for public enjoyment of the site
- Developing specific visitor standards and management objectives
- Identifying management prescriptions to achieve these standards and objectives
- Preparing an action plan to deliver the management prescriptions
- Monitoring the key necessity of the site, its guests and their experience
- Evaluating the checking information and updating future administration in like manner.

The Centralized accounts and request management system provides search engine for all the visitors visited till date. Useful steps to be taken to prevent authenticity infringement. Visitors to be distributed in types. User Interface. Archives to be maintained. Visitors will have their unique ID with barcode printed on it and the Id will have it's expiry date. Secure login for Employees so that spammers/illegal users can be defied. Expired visitors badges not to be entertained. Registered Employees and Administrators are allowed to change meeting schedules. Visitors information can be downloaded in the various formats only by Administrator, employees, registered visitors and administrator will have their own profile, where they can edit their personal information for the entire management to see. On rejection, he will have to provide a reason for the same, which will be forwarded to the concerned visitor. Automated mails to be sent of rejection/acceptance to visitors. Visitation report of visitors and employees will be available to her/him. He can schedule or reject meeting which will be visible to the concerned users. Regular updates is to be provided of the Security about the visitations. Admini person can access all the information regarding meetings of the employees to be visited.

# 1.2 Benefits of Centralized accounts and request management system

Essential machine or electronic guest administration frameworks utilize a workstation system to record guest data and screen. As machine preparing force, data gathering innovation and advanced feature have enhanced electronic guest administration frameworks have database seeking, programmed entryway access and other functions. An electronic guest administration framework enhances burdens of a pen and paper manual framework. Guest ID might be checked against neighborhood databases for potential security issues.

- Numerous Centralized records and appeal administration framework characteristic gives guest data databases. Personal ID cards could be uniquely printed for one-time just or proceeding utilization. Acess cards speed the security screening methodology.
- By using of Centralized accounts and request management system the manual effort is reduce and admin can see the number of visitors(persons) is present in company premises at any time.

# Centralized accounts and request management system architecture

Centralized accounts and request management systemis an on-line, electronic guest administration framework offered as an administration.[6] The preference of utilizing a product as an administration vs. a desktop-based provision is prompt sending and full get to through the web from any workstation. This result is ideal for multiinhabitant structures with occupants on unique systems, and additionally Enterprise organizations with worldwide areas. Since there's no on location programming to introduce, the framework is exceedingly versatile and quickly sent.

# 2.1 Visit Request Management Application Provides features

- Manage the Visit Request approval workflow for the site.
- Log / Report details of all Visitors arriving at the site.
- Print Visitor Badges.
- Hosted on servers in Worldwide Data Centre.
- User Authentication via eDirectory (LDAP) login.

## 2.2 Modules in CARMA

### • Request Creation

- Visit Request
- Badge Request
- Live Visit

### • Manage Requests

- Request Approval
- Request Treatment/ Print Badge
- Auto Close Visits

### • Reports

- My Requests
- View Requests Status/Details
- Remedy Integration for Support Requests

## 2.3 User Profiles and their roles

### • Requester to visit

- Log a Visit Request
- Log a Badge Request
- View the Status of Requests initiated by him/her

### • Manager

- Approve the visit requests
- Approve the Badge Request
- Log a visit request
- Log a Badge Request



Figure 2.1: Technical architecture [1]

- View the status of requests initiated by him/her

### • Reception

- Treat the visit requests
- Treat the Badge Request
- Log a Visit Request
- Log a Live visit request
- Log a Badge Request
- View the Status of Requests initiated by him/her

### • Administrator

- Setup the Blacklist for the site
- Setup the CC list for site



Figure 2.2: Work flow architecture [2]

- Setup the profiles for the site
- Treat the visit requests
- Treat the Badge Request
- Log a Visit Request
- Log a Live visit request
- View the Status of Requests initiated by him/her



Figure 2.3: Proposed Architecture
[3]



Figure 2.4: Functional Hierarchy Diagram [4]

## **Oracle Migration**

## 3.1 Overview of Oracle database

In recent years, Oracle has made major, globally acclaimed advances in the performance, reliability, security and availability of its flagship database technology. The latest version of our database Oracle Database 11g, provides many new features in the areas of availability, scalability, manageability, security and performance. Oracle Database 11g options and features can bring dramatic improvements to the costs associated with managing and securing your database environments.

Prophet Database 11g empowers IT experts to convey more data with higher nature of administration while making more proficient utilization of IT plan and lessening the hazard that changes in the IT environment will disturb the generation database. As a rule, the servers and capacity frameworks running Oracle Database 10g (or prior adaptations) are likewise nearing end of life, making now a perfect time to redesign the database as well as the server and capacity framework Oracle's upgraded stockpiling stages have been designed to cooperate with Oracle Database and related provisions to diminish sets back the ol' finances and advance general framework and provision execution. Aggressive capacity frameworks need mix with the database and requisition programming, so they don't have the proficience to convey the execution and expense investment funds that could be attained with a streamlined environment from Oracle.[2]

# • Oracle storage solutions can increase the benefits of Oracle Database 11g by:-

- Increasing performance through Oracle's optimized hardware and software

stack

- Reducing complexity, resulting in improved operations and lower operating costs
- Reducing storage costs with a smaller storage footprint made possible by 6-15x greater storage efficiency

## 3.2 Why Upgrade to Oracle Database 11g?

The capacity environment picked for Oracle Database 11g organizations can likewise have a huge effect on operational proficiency and expense funds [3].

# 3.3 progressed characteristics are key to conveying these profits

### • Oracle In-Memory Database Cache

Prophet In-Memory Database Cache permits information to be stored and transformed in the memory of the requisitions themselves, offloading the information transforming to center level assets. This not just exploits underutilized assets that may be accessible in the provision (or center) level additionally uproots any system latency between the center level and the back-end database. Subsequently, distinct transactions can frequently be executed up to 10 times quicker.

#### • Oracle Direct NFS

Oracle Direct NFS (dNFS) is an integrated, high-performance NFS client for Oracle Database 11g. dNFS optimizes NFS for database performance and includes load balancing technology that makes it easier for administrators to get maximum performance out of multiple I/O ports that connect storage systems to Oracle Database. It also simplifies management by eliminating the need for complex NFS and TCP tuning. In addition, dNFS dramatically increases CPU efficiency for transferring data with the NFS protocol. The result is shorter I/O response time, higher I/O throughput, less CPU consumption, and less management effort.

### • Oracle Advanced Compression Option

Oracle Advanced Compression Option (ACO) includes multiple compression technologies and is specifically designed to address performance and space requirements for both transactional data (OLTP) and data warehousing environments. ACO typically provides a 2x to 4x reduction in structured and unstructured data storage across all environments such as production, standby, test, development, disaster recovery, or backup. Both Oracle and third party storage platforms can take advantage of Oracle Advanced Compression Option.



Figure 3.1: Cache performance Architecture [5]

#### • Oracle Advanced Security

Oracle Advanced Security provides a comprehensive, easy-to-deploy solution for protecting all communication to and from an Oracle Database. It can be used to transparently encrypt data at all levels: data in transit on the network, data at rest on physical storage, and data contained in backups. A new security feature in Oracle Database 11g is tablespace encryption. Tablespace encryption is integrated with Hybrid Columnar Compression and Oracle Advanced Compression Option so that database tables can be both compressed and encrypted, enabling secure in-database archiving. Compression is applied before the encryption so that encryption does not negatively impact the compression ratio. Both native network encryption and SSL-based encryption are supported.

#### • Enhance Query Performance Without DBA Tuning

One of the essential profits of utilizing Oracle stockpiling stages with Oracle Database 11g is that they give more effective treatment of I/O and speedier execution in light of Oracle's advanced equipment and programming stack. Less information is constantly moved to and from the stockpiling stage throughout inquiry asks for, so reaction time is much speedier. Speedier inquiry execution implies that Dbas can concentrate on other critical errands instead of investing time tuning and advancing question execution. Oracle Advanced Compression Option and Hybrid Columnar Compression are database aware compression technologies that allow the data to be transferred between the storage and server in the native compressed format. The data remains compressed not only on disk but also in the Database Smart Flash Cache, on the network, and in the database server buffer cache. Compressed data is even transferred during Oracle Recovery Manager (Oracle RMAN) backups and log shipping with oracle active data guard.



Figure 3.2: Performance Architecture [6]

In some cases, performance improvements can be so dramatic that completely new ways of using enterprise applications and data are enabled. Hybrid Columnar Compression can typically provide significantly higher performance, making it possible to use much larger data sets or add reports that would have been impractical at yesterdays performance and cost levels. Some examples of incremental revenue opportunities include the following:

- The extra capacity for reports means that businesses can consider offering new services such as customized reports at premium rates
- The ability to get real-time responses to complex queries on large data sets can change the way that marketing promotions are done, allowing them to be more targeted and/or more accurate
- Faster performance improves user productivity and enables better, faster decision making for demand generation activities. The results of an initial query often lead to more questions, so fast query performance can allow for additional investigation that helps provide the right evidence to support good decision-making in real-time.

# 3.4 Rearrange File System Management with Oracle Automatic Storage Management

Oracle Automatic Storage Management is an integrated, high-performance database file system and disk manager that simplifies management of block-based storage such as database tables. It is based on the principle that the database, rather than an administrator, should manage the database storage area. Oracle Automatic Storage Management eliminates the need for administrators to directly manage potentially thousands of Oracle Database files. Automatic Storage Management is a very compelling solution for a volume manager, enabling organizations to save thousands of dollars in software license costs for third party volume managers while taking advantage of many features in Automatic Storage Management that simplify management to help reduce costs. Some of the key features in Oracle Automatic Storage Management that help simplify management for DBAs and storage administrators include:

### • Automated striping, mirroring and load balancing

As information volumes build, more circles might be included and Automatic Stor-

age Management will

consequently restripe and rebalance the information crosswise over accessible circles to help guarantee ideal

execution.

### • File system encryption

Oracle ACFS security supports encryption to protect the contents of realm-secured files stored in file systems based on Oracle ACFS.



Figure 3.3: performance graph [7]

By this performance graph we can see that when we use Oracle 10g on euxd30 machine then the time consuption by schedules is much more compare then Oracle 11g on eup1314 machine.

# Total Cash Universe for Human Resource Data Warehouse(HR-DWH)

## 4.1 Objective and Scope of the Project

Purpose of this development is to create a new universe dedicated to computation of Cost of employees and give costs control opportunities to HR community. All datas are populated directly from various payroll systems for all countries each month. Some data could be sent back to PeopleSoft if needed. Goal is also to allow reconciliation of figures with finance and bring reporting flexibility as per various local needs.[6]

#### • Product Segments and Served Markets

The Company has specific qualities in Multimedia, Power, Connectivity and Sensing innovations and its deals. Association is generally adjusted among the business' significant parts: Telecom, Automotive, consumer, Computer, Industrial and Distribution.any association has a solid concentrate on conveying results that help improve individuals' lives, bring about a significant improvement. The Company's reality class items and innovations serve to:

- Enable the joining of media and correspondence in savvy customer gadgets that help individuals communicate anyplace, whenever
- Increment vitality productivity up and down the vitality chain, from force era

to circulation and utilization

 Contribute to helping individuals live more and better by empowering rising health awareness and wellbeing requisitions.

## 4.2 About Data warehouse

Information warehouses are intended to help you dissect information. For instance, to take in more about your organization's deals information, you can manufacture a warehouse that focuses on deals. This capacity to characterize an information warehouse by topic, deals for this situation, makes the information warehouse subject arranged [4].

### • Integrated

Coordination is nearly identified with subject introduction. Information warehouses must put information from dissimilar sources into a predictable configuration.

They must resolution such issues as naming clashes and inconsistencies among units of measure. When they accomplish this, they are said to be incorporated.

#### • Nonvolatile

Nonvolatile implies that, once entered into the warehouse, information ought not change. This is sensible on the grounds that the motivation behind a warehouse is to empower you to break down what has happened.

#### • Time Variant

Keeping in mind the end goal to uncover slants good to go, examiners require a lot of information. This is really as opposed to online transaction handling (OLTP) frameworks, where execution prerequisites request that chronicled information be moved to a chronicle. An information warehouse's concentrate on change about whether is what is implied by the term time variant.

## 4.3 Overview of ETL process

You have to load your information warehouse consistently so it can serve its motivation of encouraging business investigation. To do this, information from one or more operational frameworks needs to be concentrated and duplicated into the warehouse. The procedure of concentrating information from source frameworks and bringing it into the information warehouse is generally called ETL, which remains for extraction, conversion, and stacking. The acronym ETL is maybe excessively oversimplified, on the grounds that it overlooks the transportation stage and intimates that each of alternate periods of the procedure is different. Throughout extraction, the wanted information is recognized and concentrated from numerous distinctive sources, including database frameworks and requisitions. Frequently, it is not conceivable to distinguish the particular subset of investment, hence more information than should be expected must be concentrated, so the recognizable proof of the important information will be carried out at a later point in time. Contingent upon the source framework's abilities (for instance, working framework assets), a few changes may happen throughout this extraction process.



Figure 4.1: Data warehouse Architecture [7]

- Extraction
- Transformation
- Loading



Figure 4.2: ETL work flow [7]

## 4.4 Extraction

Extracting data from source operational or archive systems which are the primary source of data for the data warehouse.

## 4.5 Transformation

Transforming the data which may involve cleaning, filtering, validating and applying business rules.

In Transformation there are data quality paradigm :-

- Correct
- Unambiguous
- Consistent
- Complete



Figure 4.3: Extraction process [7]

## 4.6 Loading

Loading the data into a data warehouse or any other database or application that houses data.

## 4.7 Total cash Universe Designer

The part of an universe is to give a simple to utilize and comprehend interface for non specialized Web Intelligence clients to run inquiries against a database to make reports and perform information investigation. As the universe creator, you utilize Designer to make questions that speak to database structures, for instance segments and database works, that clients need to get to and question, to get the data important to meet their business prerequisites. The questions that you make in the universe must be pertinent to the end client business environment and vocabulary. Their part is to present a business focussed front end to the SQL structures in the database [7].

A universe contains the following structures:



Figure 4.4: Transformation work flow [7]

### • Classes

A class is an intelligent gathering of items inside an universe. It speaks to a class of items. The name of a class ought to demonstrate the classification of the protests that it holds. A class might be partitioned progressively into subclasses.

### • Objects

An article is a named segment that maps to information or a determination of information in the database. The name of an article ought to be drawn from the business vocabulary of the focused on client bunch. For case, items utilized as a part of an universe utilized by an item supervisor could be Product, Life Cycle, or Release Date.

A schema is shown below for the sample universe TotalCash universe:







Figure 4.6: Total cash Universe Designer [7]

# Literature Survey

Explore the Liotro-x 5.2.0, the biggest advantages of Liotro-x are:

- Code Completion, as opposed to burrowing through documentation you ought to have the capacity to tab your route through routines and spare yourself a considerable measure of composing.
- Refactoring, Global Find and Replace is no swap for great refactoring help, that begins with renaming capacities, variables, classes, and closes with a portion of the usefulness that you can discover in present Java IDE.
- Sentence structure Checking, bailing you out with composing right code while you write.

By Oracle migration 10G to 11G there are increase performance ,Reducing complexity, resulting in improved operations and lower operating costs and Reducing storage costs with a smaller storage footprint made possible by 6-15x greater storage efficiency.

Toad drastically streamlines Oracle, SQL Server, and Db2 execution administration. It approves code execution and mechanizes SQL advancement. You can rapidly recognize potential issues and create semantically proportionate SQL options, promptly execute those choices go into your system for a moment execution change.

Toad products give you deep expertise no matter which database platform you use, and theyre built with your role and productivity in mind. You get dramatically simplified database administration that makes you more proactive by automating maintenance, ensuring optimal performance, and mitigating the risk of change making your job easier than you ever imagined.

By the Total cash Universe dedicated to computation of Cost of employees and give costs control opportunities to HR community. All datas are populated directly from various payroll systems for all countries each month. Goal is also to allow reconciliation of figures with finance and bring reporting flexibility as per various local needs.

# **Features Implemented**

Following are the features implemented in CARMA VRM(Centralized accounts and request management platform)

### • Completed Requester to visit module

- Log a Visit Request
- Log a Badge Request
- View the Status of Requests initiated by him/her

### • Completed management module

- Approve the visit requests
- Log a visit request
- View the status of requests initiated by him/her

### • Completed Administration module

- Treat the visit requests
- Treat the Badge Request
- Setup the Blacklist for the site
- View the Status of Requests initiated by him/her
- Following are the features implemented in Oracle migration, Totalcash Universe

- Automate the reporting of data according to country and other parameter
- Automate the scheduling of database
- Automate the discrepancy report whenever data is not correct or complete
- Increase Performance Tuning of data
- Automated all the manual process which were time consuming.

## Scope of the Project

## 7.1 Scope of CARMA VRM

- The goal is to replace the paper request.
- Reduce Manual efforts .
- Increase security perspective.

## 7.2 Scope Oracle migration

- Increasing performance through Oracle's optimized software stack
- Reducing complexity, resulting in improved operations and lower operating costs
- Reducing storage costs with a smaller storage footprint made possible by 6-15x greater storage efficiency

## 7.3 Scope Totalcash Universe

Total cash Universe dedicated to computation of Cost of employees and give costs control opportunities to HR community. All datas are populated directly from various payroll systems for all countries each month. Goal is also to allow reconciliation of figures with finance and bring reporting flexibility as per various local needs.

# Technology of CARMA VRM,Oracle migration and Total cash Universe

## 8.1 Frameworks

- Liotro-x 5.2
- $\bullet~\mathrm{Jboss}$  7.1.1
- Java 1.7
- Tode
- Putty
- Citrix
- Boxi SAP
- Desky (Desktop intelligent )
- SAP BO Designer



Figure 8.1: CARMA VRM Technology



Figure 8.2: Tode(Database Tool)

# Conclusion

This report includes overview of CARMA VRM, for Centralized accounts and request management platform.

By using Liotro-x framework extral efforts can be reduced. The goal is to replace the paper request and increase security perspective.

In Oracle migration, there are achievements by Reducing complexity, resulting in improved operations and lower operating costs and Reducing storage costs with a smaller storage footprint made possible by 6-15x greater storage efficiency.

In Total cash Universe, computation of Cost of employees and give costs control opportunities to HR community. In this reconciliation of figures with finance and bring reporting flexibility as per various local needs.

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