iJRASET
International Journal For Research in Applied Science and Engineering Technology



INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 9 **Issue:** XII **Month of publication:** December 2021

DOI: https://doi.org/10.22214/ijraset.2021.39704

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International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
Volume 9 Issue XII Dec 2021- Available at www.ijraset.com

Benefits and Challenges of SAAS CRM Over On-Premise CRM: A Review

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Abstract: ***No matter whatever that you may sell, managing your customers is important for the success of your business. This is where exactly choosing a CRM (Customer Relationship Management) comes into play. Choosing the best CRM system for your organization requires identifying your objectives and determining the main customer management problems that you need to resolve by adopting a CRM for your businesses. When looking for CRM (Customer Relationship Management) or ERP (Enterprise Resource Planning) software, you will find that there are different ways of implementation, including on-premise and SaaS aka software as a service. Both types can help take your business to new heights, but it is up to you to decide which type works best for you. So in this paper we are going to compare on-premise and SaaS CRM and will also look at the challenges faced by SaaS CRM.***

Keywords: CRM, On-Premise, SaaS, Cloud Computing, Cloud Services.

I. INTRODUCTION

CRM software has existed since the mid-1990s, but has become its own in the last decade. CRM platforms are powerful systems that connect all the data of our sales leads as well as customers in one place. A CRM is a technology for managing all our company's relationships and interactions with customers. CRM is a software that provides everything from marketing, sales, recruiting, business development , customer service to any other line of business [3].CRM is very important in enterprise information, but traditional / on-premise CRM limits development based on information from small and medium-sized enterprises due to cost and other issues. Traditional / on-premise CRM, on the other hand, does not adapt to ever-changing requirements for business information management. The evolution of SaaS based CRM has opened up up to the minute opportunities for information management for small and medium sized enterprises [1].

II. EVOLUTION

Year	CRM Iteration , Capability, or Feature
Before the 1950s	• Analog pens, notebooks, account folders in filing cabinets , personal organizers (such as Filofax)
1950s	• Rolodex launched
1960s	• Rolodex, Folders in filling cabinets, and personal organizers still reigned supreme
1970s	• CRM took on its present iteration as a software / digital tool • Customer databases were stored on standalone mainframe computers • Software-based lists and spreadsheets

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1980s	• Use of statistics to gather and analyze customer data • Database marketing became a trend • Customer evaluation & contact management system (aka digital rolodex)
1990s	• Siebel Systems launched as the first CRM-focused product in 1993 • Large scale use of sales automations • CRM Products began to include functions for marketing shipping, and enterprise resource planning (ERP) • Online CRM became a reality • First mobile CRM solution introduced by Siebel (acquired by Oracle) in 1999 • First cloud-based CRM SaaS (Software as a Service) by Salesforce in 1999.
2000s	• Microsoft Dynamics Launched in 2003 • SugarCRM developed first open-source CRM in 2004 • Cloud-based CRMs become dominant • Social media integration to CRM
2010s	• CRM integrations with business intelligence services • CRM integrations with communication systems • Robust CRM customization capabilities based on industry, line of business, sales process, or market focus • Visual, highly intuitive CRMs such as Pipedrive became a trend • Improvements in data analytics reporting • Improvements in mobile access • Increasing use of AL and machine learning (ML) for various purposes (such as Salesforce Einstein and virtual assistants)

[6]

III. ON-PREMISE CRM

On-premise CRM, aka licensed, on-site, or in-house CRM, is a CRM application that is housed at a client's location and maintained by their own employees. It's the responsibility of internal IT personnel for installing all hardware and software components, integrating the solution with existing systems, deploying it to end-users, and storing all related data. System administration, upgrades, and other routine maintenance are also performed by IT staff [7]. The term 'on premise CRM' refers to hosting CRM software on the company's own server. The opposite term is 'SaaS CRM' or 'on demand CRM'. There are some reasons why many companies opt for self hosted CRM, rather than going with the Cloud CRM.

Features of On-Premise CRM

1) On-premise CRM provides companies with complete control over the entire CRM environment, allowing them to put the appropriate mechanisms in place to ensure optimum performance and reliability. This allows them to streamline and automate important customer-facing operations across the business, while minimizing the risk of downtime, server overloads, system failures, and other technical issues [7].

2) With on-premise CRM, businesses receive a higher level of protection. It is secure and less likely to be compromised or breached since confidential customer information isn't managed by a third-party and is in complete control of company staff at all times [7].

3) On-premise CRM offers lower total cost of ownership and greater return on investment. While hosted CRM solutions and their pay-as-you-go pricing models may appear to deliver a faster "bang for the buck," they can be more expensive in the long run. Over the course of several years, those monthly fees in SaaS CRM could add up to more than the cost of an in-house solution [7].
4) On-premise CRM delivers value over an extended period of time, and has proven to be more cost-effective for companies that have long-term CRM strategies in place [7].

IV. CLOUD COMPUTING AND SERVICES

Cloud computing is an addition, use and delivery model of Internet-based related services. Generally speaking, cloud computing is dynamically scalable. And this technology often has virtualized resources over the Internet. What is widely accepted at this stage is the definition by the National Institute of Standards and Technology (NIST): Cloud computing is a pay-per-use model. This model provides easy, available, on-demand access to the network. This model can be a configurable computing resource sharing pool (resources including networks, servers, storage, applications, services). These resources can be provided quickly, and cost minimal management effort or little interaction with service providers [1].

The forms of cloud computing service

Cloud computing includes three forms of service: Infrastructure as a Service (IaaS), Platform as a Service (PaaS) and Software as a Service (SaaS).

1) *IaaS(Infrastructure-as-a-Service):* Consumers have access to a complete computer infrastructure for obtaining services over the Internet. For example: hardware server rental [1].
2) *PaaS(Platform-as-a-Service):* PaaS actually refers to the software development platform as a service. The SaaS model is submitted to the users. Therefore, PaaS is also an application of the SaaS model. However, the emergence of PaaS can speed up the development of SaaS, especially PaaS can speed up the development of SaaS applications. For example: custom software development [1].
3) *SaaS (Software-as-a-Service):* It's a model of providing software over the Internet. In this model, users need to rent Web Based software from providers. There is no need to purchase software. This approach can manage business activities easily. For example: Baidu cloud server, Ali cloud server [1].

V. SAAS (CLOUD-BASED) CRM

SaaS CRM aka Cloud-based CRM, Cloud CRM, Online CRM and Web CRM is cloud-based software, which gives permanent access to the CRM functionality and support with no need to invest in installing and maintaining it. SaaS-based CRM brings transparency in relationships with customers and helps businesses automate and personalize marketing, sales and customer service [10].

Features of SaaS CRM

1. Provide personalized user interface. The basic function modules of the SaaS-based CRM include customer management, time management case, contact management, the potential customer management, sales management, customer service, telemarketing, and so on. The software as a service usually faces a number of enterprises where the needs of each enterprise has its own characteristics. Some companies need the whole module functions while some enterprises may use only a few modules due to the limited operations. For the user interface of the same module, different users will have different requirements. Thus, SaaS-based/cloud-based CRM offers a variety of interfaces for customers to choice freely [1].
2. Provide customized features. Traditional CRM includes a number of functional modules. These modules have their own different business logic. But different enterprises have different requirements for the same functional module in the business logic. The possibility of differences in business logic is very huge. The SaaS-based CRM also provides the service that different business logic coexists and use in the same module, users can setup and modify the business logic in the client [1].
3. Provide an online development platform. The technology of online development platform is a natural extension of customized technology, often integrated into the SaaS-based CRM. The highest authority logging into the system will find some online development tools, for example, the "New Tab" and other choices. Each tab can have different functions. More than one tab completes a business management function. Users can define this newly-designed tab as an "application". Then they can share or sell the "application" to other users on this software platform, so that others can also use the new tab feature [1].

VI. CHALLENGES IN SAAS BASED CRM

A. Not Much Control

As it is provided at the users end in a ready to use format, the user has no say in the functionality of it. The capability of the software depends upon the capability of the vendor. Even not much customization can be done as it comes the way the vendor has designed it [11].

B. Slower Speed

It functions slower than most client/server apps because the data is remotely being accessed and not being taken from any local source, resulting in an increased latency [11].

C. Security Risks

As so much data is stored in the cloud, some users complain of security risks. The less secure model of cloud computing is the main reason behind this. When working with data, security risks are always a challenge for the users [11].

D. Identity Theft

SaaS providers always require payment through credit cards which can be done remotely. It's a quick and convenient method, but it opens up concerns about potential risks. The internet reveals an alarming number of cases of identity theft. So far, the year 2015 had the most cases, before it picked up again during the COVID-19 pandemic. You can, of course, acquire an identity management solution if you need one [12].

VII. COMPARISON OF ON-PREMISE AND SAAS BASED CRM

Function	On-Premise CRM	SaaS CRM
Software	Installed on your computer	Delivered via service over Web
Access	Through your computer	Through the Internet
Customization	Difficult	Simple
Affordability	Only big size organization	All size organization
Audit	Difficult	Simple
Upgrades	Manual and complex	Automatic and easy
Versions	Multiple versions to maintain	Single code base with no infrastructure maintain
Hardware	Purchase, Maintain and Manage	Pay for what you need
Security	High security	Have security issues
User Experience	Not personalized user interface	Personalized user interface
Cost	High cost	Cost effective

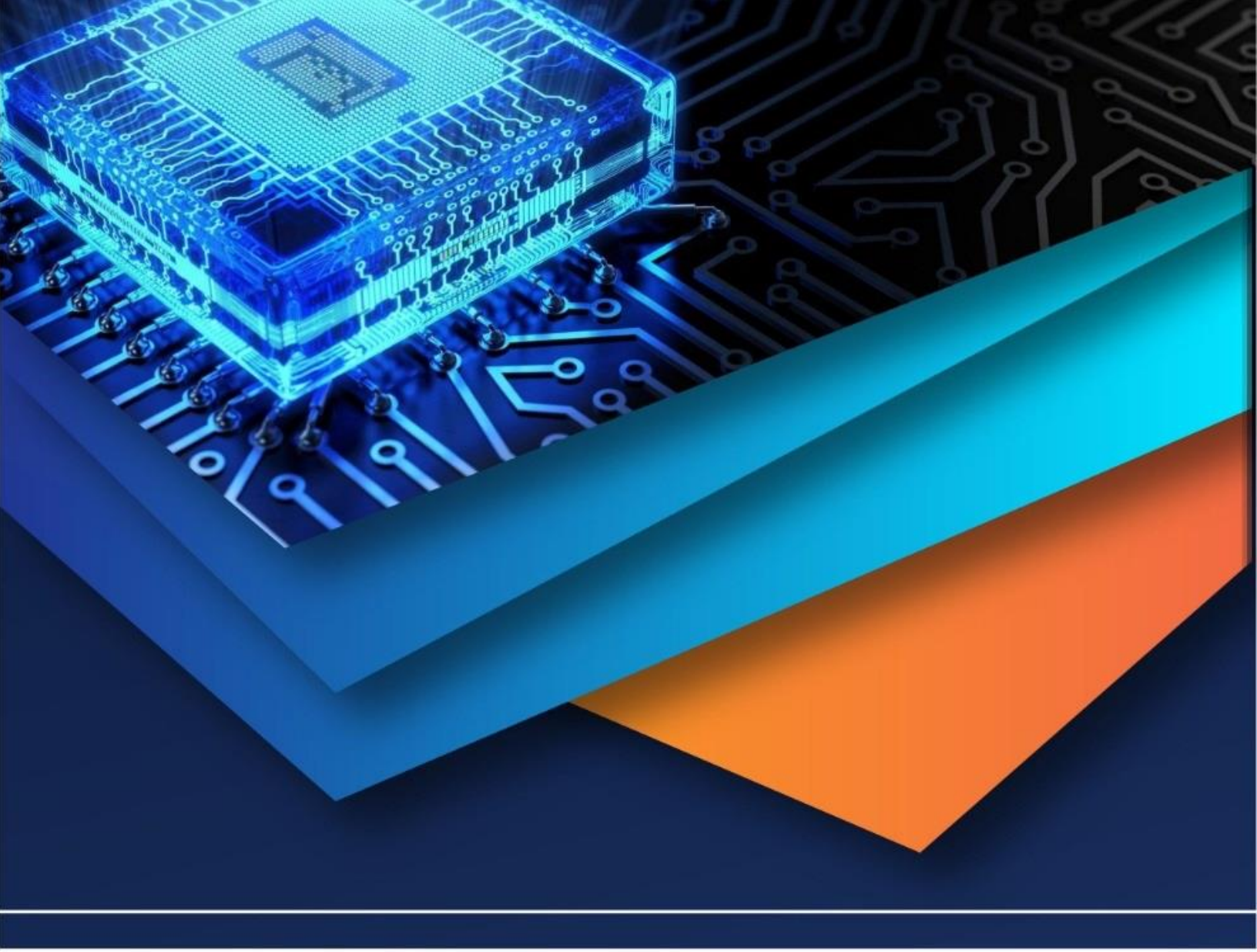
VIII. CONCLUSION

This paper aims at the comparison of On-Premise CRM and SaaS CRM. According to our research, using SaaS/Cloud-based CRM is good in every respect. The phenomenon of cloud is making huge engrossment everywhere due to its features like scalability, small workload for customers, quick and comfortable access of resources and cheaper cost. It provides various benefits to the user. SaaS service model is an application based computing concept that gives several benefits with less cost. This is the most popular service among all cloud services. The advancement of SaaS provides businesses with a more effective information mode. SaaS-based CRM as a new model of enterprise customer relationship management lowers the threshold of application for small and medium enterprises. It provides an easy and practical technology platform for small and medium enterprises to concentrate on sales, marketing, clients and service businesses. SaaS service model growth is moving ahead day by day but there are some challenges faced by the SaaS model of CRM. In this paper, we have discussed various challenges faced by SaaS CRM so that more work can be done on it.

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