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A new framework for optimizing the cost of the service architecture AWS cloud computing

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Abstract

In the recent past Cloud computing and large scale data management has received considerable attention by the internet users. The small and medium scale enterprises are finding it as an attractive option due to reductions in overheads such as setting up and maintenance of on-site database systems and other reliable companies in maintaining their hardware. Though this technology is quiet advantageous but there are some privacy and security hurdles issues which is hindering the momentum of growth. The essential characteristics of cloud computing-based agents are based on cooperation and negotiation. Coordination protocols agents adopt the system to automate activities because pooling of resources for exchanging clouds. Prices remain with considerations to accommodate dynamically changing resource demands. Cloud resources are autonomously managed by software agents at the appropriate level. The fact that cloud computing is still in an infant age, but holding its strength and has great potential for growth in the future. User base Cloud Computing is growing steadily. More and larger players are attracted by the passage of time and are offering better and smoother and refined services and solutions.

Keywords: Cloud, Data Security, Cost, Data Migration, Resource Utilization, Optimization

Introduction

Cloud Computing is a technology increasingly famous and growth that has led to a new dawn in the field of information technology. It has created a drastic change in the trend of different digital devices. It is a technique where we have access to our data and applications worldwide, each and every part of the world that has an Internet connection. Data and applications are remotely through the central remote server. In other words, it is the methodology to provide online services. With Cloud Computing, we can reduce operating and capital costs and we can focus on the respective project rather than keep your eye on the operation of the data center. For example, remember the times when you have Microsoft Office installed on each of the computers in our organization. Or stop walking with an installation disk to install on all machines or had a configuration of our servers distributing software to install the application on machines. And when there is a service package issued by Microsoft, you will need to run and install the package or having to reconfigure our distribution servers to distribute software accordingly. The license in question is very costly.

The main advantage of the technology of cloud computing is that some other company is organizing our application, ie who are responsible for the entire cost of the servers, manage software upgrades and modifications, and pay-for-use authenticity.

Service providers simplify and greatly enjoy the installation and maintenance of software and facilitate centralized control of various topics. End users can access the "anytime, anywhere" service, share information and collaborate more easily

and securely store their data infrastructure. Cloud computing does not change these things, but gives more applications and service providers the freedom to provide their products without providing a data center as a service: as an increase in semiconductor foundries, chip design and allow companies sell chips. It is a myth From now on, we will focus on possible problems related to SaaS (cloud users) and cloud providers that receive less attention.

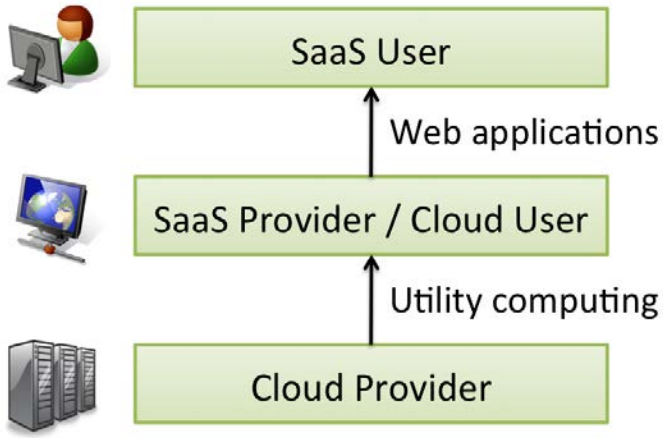

Figure1: users and providers of Cloud Computing

Both users of SaaS and SaaS providers are well documented and reported, so focus on cloud providers and cloud computing providers cloud / SaaS users. The upper level can be retroactive, and SaaS providers can be users of SaaS. For example, a provider of maps mashup for rent can be a user of Google Maps.

Cloud Computing

As a concept, cloud computing is a technology that helps users to use various information services while they are accessing the Internet. Cloud computing is taken before the techniques of grid computing and utility computing throughout the 1990s At present, network technologies and related services developed vigorously over time, in parallel to improve networking skills. Google proposed the concept of cloud computing in 2007, includes several related business as Infrastructure as a Service (or "IaaS"), platform as a service (or "FCA") and software as a service service (also known as " SaaS ").

The main advantage of cloud computing is cutting operating costs and capital and allows us to focus on the strategic project instead of keeping your eye on the operation of the data center. For example, think of a time when Microsoft Word installed on our machines in the organization. Therefore, if turning everywhere with your disk to install it on each and every individual machine, or has an option to make a software distribution server configuration necessary to install it on the respective machines. Whenever Microsoft releases new software service package, which reached each machine and install the update package, or else we have to modify or restore our software distribution servers for distribution. The cost of the license in question is very high. We can use the application of the word once or twice a week,

The advantage of the technology of cloud computing is that some other company hosting our application, so they handle calculating the cost of servers and look over software updates released and depending on the use of payment service for service.

Cloud computing includes applications that will service over the Internet and the hardware and software system residing in data centres that provide all these services and functions. These services have always been called software as a service or SaaS. The data centre software is also called "the cloud." Cloud computing is an example of vision, Leonard Klein rock, the creator of the Internet, had the services available on demand IT. Consumer (Computing Service user) can access the service related to the equipment if it is a software or hardware or infrastructure, and pay for the duration had access to services, i.e. "pay per use".

With this technology, consumers do not have to pay for all or who have difficulty configuring and maintaining complex system hardware and all the infrastructure. The name of the cloud, occurs due to the participation of Internet, which is a metaphor for the Internet. The benefit of cloud computing is eliminating the cost, complexity of the task and shopping, hectic billing, configuration and maintenance of software and hardware needed for different applications. Now anyone in the world who has an Internet connection can make applications and powerful and effective software to services provided by Cloud Computing. Technology cloud computing allows people to use IT hardware and software in a better way.

Clouds

A cloud is basically a collection of different teams anywhere in the world, with payment functionality for use only for the clouds are using. Different types of clouds in detail with its architecture are explained below.

Problem Statement

Once the consumer decides to raise a cloud, the next most important decision is to choose the provider of cloud computing from the number of existing service providers. This is the most complex area is in managing the cloud, as there are many service providers to choose from. The following figure shows the situation more clearly:

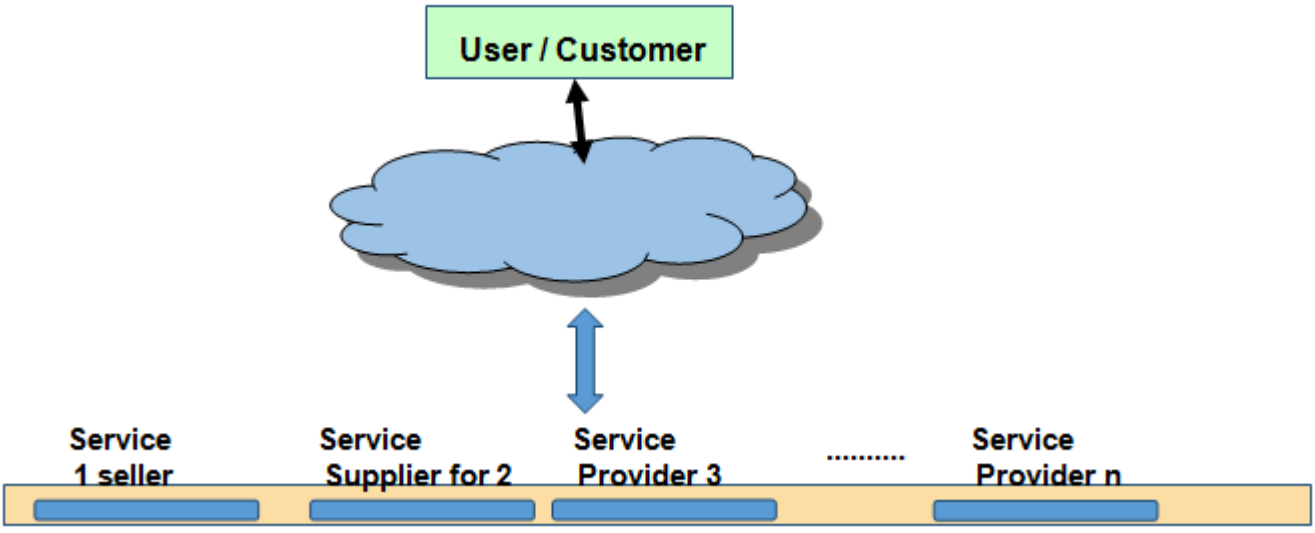

Figure 2: The cloud subscription service

In the figure above, n number of service providers that provide services IT (SaaS, PaaS, IaaS). Some of them offer the same services. With so many service providers providing the service requested by the new consumer, it is difficult for the

consumer to choose the service provider from which the consumer can obtain service. Therefore, the problem is to choose the most appropriate service (in terms of price or time) that the number of service providers that meet consumer needs.

Proposed solution

As mentioned, there are many services available in the cloud that is classified into 3 categories. And we have to find a platform where all services, regardless of the service provider and regardless of the category (three categories), which is the membership, which must have access to the services we have requested. For this problem, we can find a ready to use solution, an integrated platform that will help the user / client to get everything you want in a single integrated development environment (IDE). This IDE of ours, a user can find everything you need in one, so you do not have to look for different cloud services, or if you need help finding service providers. Everything has been done Suppose a customer / user has requested a service. There are many service providers who provide that particular service requested by the customer and all are working on their own set of rules. So first you have to think of a solution (process) running on a platform common / common interface. The next problem comes from the recovery of all service providers that offer that particular service requested. All these tedious tasks have been eliminated by our IDE forever.

When the links require a complex and dynamic engagement and are subject to rapid changes should be considered agents based approaches. We can think of an automated process, it is assigned an agent between the needs of users and service providers. The idea of using an agent has been discussed. Our agent all online service providers will recover, choose the services and optimize services according to time or cost of access.

Methodology

The idea of managing this research is the management of cloud computing with intelligent behaviour. We offer integrated multi-agent cloud, which translates into a more flexible, autonomous and high operating system. This system is a special software that allows users to work independently and without interference. The original of this system has two functions: service providers and customers. The goal is to create a system that allows the client to hide the complexity API and GUI, and allow customers to choose the best service provider for your needs. The system architecture has two levels: the application layer and the Internet layer.

The application tier includes all applications provided by the factor generating agent administration, data recovery organizations and all information on support for recovery and decision. The system provides all services to customers through a standard interface. Levels of Internet layer, where the necessary information is restored to meet the needs of users of the cloud.

Proposed Methodology

During the project have created a web-based interface that offers an integrated development environment to implement the functionality of the market by the basic support cloud server and its plugins to analyse in several languages, offering users and online functionality.

To this end, we have built a web based tool where users can register themselves and carry out their project work online without having to go through the installation task tedious languages and configurations servers on their computers. We

also charge users additional features and check your subscription time to time. Everything is based on the payment policy for use of the cloud.

Clone-able agents

When the user decides to take a cloud service, you have to think at all costs, subscription time, and related many other features. This is not a simple task for the everyday user. You want a simple solution to your problem, you do not have to go through this gruelling task for fulfilling their needs.

Here on our web tools, we have a readymade Platform integrated development agents operating on Cloneable. It provides a graphical user interface development platform rich that is easy to use and cheaper than any other software you pay for. Through clone-able agents, we can use it on multiple computers, and open multiple instances, which is exactly the number provided by our service provider. On the other hand, if the user tries to use an additional system, say the service is ten systems, and tries to use it in the system XI, then the threads of the clones will overflow, and the signing of the eleventh garbage device.

Implementation

As stated earlier, we have a web tool to simulate cloning agents. The following are the steps that will guide you through all the tools of the Web.

Step 1

Next picture shows the login screen of our web-tool, called "Codiad". Enter your username and password login and click Continue.

Step 2

Click "New Project" and start programming in any of the available languages, which are integrated into Codiad. There are a number of languages in which Codiad are integrated and can be compiled.

Step 3

The side panel on the right displays the additional options, including reserves, users, projects, markets, change settings, etc. this side panel is displayed when the mouse is passed to the right of the screen. In addition, the left side of the workspace shows your projects and directories.

Step 4

If you want, you can create multiple users for privacy and abstraction of work. Each user is authenticated based on user ID and password. you can also see different projects created by you, when you get into your space.

Step 5

You can download additional to integrate additional functions for Codiad plug-ins. This tool will be plug-ins on the market, which is linked to Github.

Step 6

You can also change the password or reset it. To do this you have to enter the password twice to confirm it.

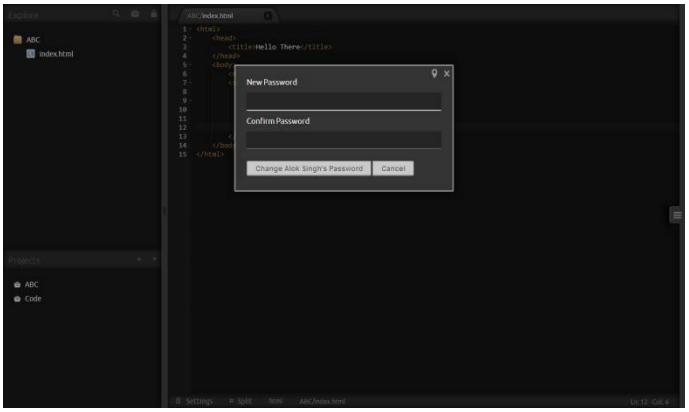

Figure 3: Change Password

Here you can find different files created by you. You can plan a search for them in their projects and ongoing projects in your workspace. It will search through the various files and various projects based on the search term you previously provided.

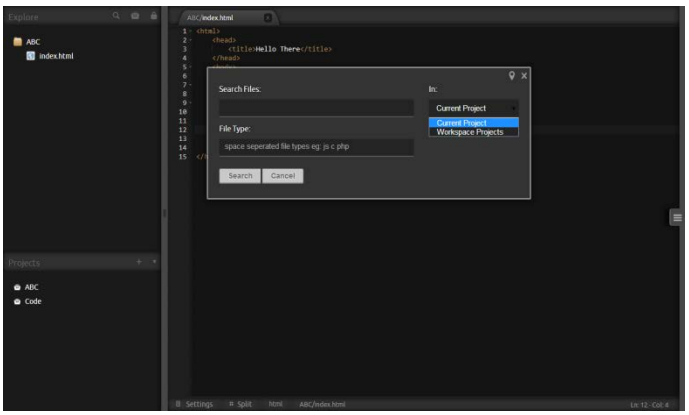

Figure 4: File Search

Comparison with existing tools

Codiad, as shown above, is a web-based IDE provides application development environment and shared distribution for the development of a wide variety of languages, namely: java, asp.net, PHP, Python, Pearl, C , C ++, C #, Android, JSP, HTML, XML, CSS, JavaScript, vb.net, XHTML, ruby-on-rails, J-query ,, CORBA, COBOL, ADA, SQL, PL / SQL basic, and many more.

When compared with another IDE on the market, as wix.com, godaddy.com, indiamart.com, based on parameters such as bandwidth, are some results that are visible in the following decision table:

Table 1: Comparison of different tools and Codiad

Internet-based IDE	bandwidth provided	SPACE PROVIDED	LANGUAGE SUPPORT	subscription COST	OTHER
Codiad	Unlimited (as per user)	Almost unlimited (expandable)	800+ (approx. Vivo)	It starts from Rs. 600 (used based cloud)	features unlimited user interface, frames, cheaper and faster

Wix	10 GB (with ads)	10 GB	Python, Ruby-on-Rails, Java (frames only)	Rs. 9083.16 PA for the premium package	Limited space and language support
see papi	Unlimited (up to 25 websites)	Limited to 25 websites	Many languages and tools	Rs. 8000 PA for the unlimited package	Privacy Issues
Indiamart	1 GB	As needed for your unique website	ASP (classic), ColdFusion	Rs. 14000 + (space) Rs 26,000 for marketing	Only internet marketing, buying and selling

Results

As we mentioned before, that Codiad is an integrated development environment that works through agents and cloning, and therefore reduces the overall cost normally spend on various commercial and academic versions of the decade of software available for purchase the market; Here are some results in support of our arguments. On the next page is a table showing the costs of the various software packages and their different versions in commercial and academic versions, in tabular form. These costs are compared with the costs we pay in Codiad, and its total comparative, in which it was found that by using Codiad, we just have to pay only 2-5% of the cost of other programs:

Table2: Price comparison

Sno	Software Specification(Commercial/Academic/Codiad)	Distribution		
		Commercial	Academic	Codiad
1	MS SQL Server Developer 2012 Lic ESD	2172	2172	65
2	MS SQL Server Standard Editn 2014 Licence OLP ESD	55311	55311	1599
3	MS SQL 2014 Standard Device CAL (Client Access License) OLP ESD	12405	12405	372
4	MS SQL 2014 Standard User CAL (Client Access License) OLP ESD	12405	12405	372
5	MS Visual Studio Pro with MSDN Lic/SA (2 years upgrades) 2013 OLP ESD	67612	67612	2019
6	MS Visual Studio with MSDN Lic/SA (2 years upgrades) 2013 OLP ESD	424518	424518	12758
7	MS Visual Studio Ultimate with MSDN Lic/SA (2 years upgrades) 2013 OLP ESD	926085	926085	27781
8	MS Visual Studio Team Foundation Server 2013 Sngl OLP ESD	23016	23016	690
9	MS Visual Studio Team Foundation Dvc CAL 2013 OLP ESD	23019	23019	691
10	MS Visual FoxPro 9.0 License OLP ESD	17508	17508	525
11	MS Windows Pro 8.1 Upgrade OLP Lic Only ESD (FQC-08190) Eligible for users of Windows P	11105	11105	333
12	MS Visual Studio Professional 2013 License Academic ESD (.net Technology)	0	4457	133
13	MS Visual Foxpro 9.0 Professional License Academic ESD	0	3019	91
14	MS Visio Standard 2013 Licence Academic ESD	0	2223	67
15	MS Visio Professional 2013 Licence Academic ESD	0	4296	129
16	MS Project 2013 Standard OLP Lic Academic ESD	0	5016	150
17	MS Project 2013 Professional (with Project Server CAL) OLP Lic Academic ESD	0	8362	251
18	MS Project 2013 Server Academic Sngl OLP Licence ESD	0	84144	2524
19	MS Exchange Server 2013 OLP Academic ESD	0	10510	315
20	MS Exchange Server 2013 Dvc Standard CAL Academic ESD	0	201	6
21	MS SQL Server Standard 2014 MOLP Licence Academic ESD	0	13328	400
22	MS SQL Server Standard 2014 OLP Dvc CAL Academic ESD	0	3102	93
23	MS SQL Server Standard 2014 Sngl (2 Core) OLP Academic ESD	0	53261	1598
24	MS SQL Server Enterprise 2014 Sngl (2 Core) OLP Academic ESD	0	204220	6127
25	Adobe Captivate 6 with 2 yr maintenance ESD	76438	76438	2293
26	ColdFusion 9.0 Standard - (2 CPU) ESD	108167	108167	3245
27	Adobe Flash Builder Standard 4.7 ESD	16986	16986	510
28	Adobe Flash Builder Premium 4.7 ESD	47674	47674	1430
29	Adobe Font Folio 11.1 ESD	32450	32450	974
30	Adobe Framemaker 11.0 Windows ESD	73713	73713	2211
31	Adobe Freehand 11.0 ESD	28764	28764	863
32	Adobe JRun 4.0 Windows/Unix/Linux (Per CPU) ESD	64827	64827	1945
33	Adobe Lightroom 5.0 ESD	10356	10356	310
34	Adobe Page maker Plus 7.02 ESD	38158	38158	1144
35	Adobe Page maker Plus 7.02 DVD	43322	43322	1300
36	Adobe Photoshop Elements 11 ESD	6409	6409	192
37	Adobe Robohelp Office 10 ESD	73713	73713	2211
38	Oracle 11g/12c Std ONE Edtn for Windows or Linux (5 User) Lic ESD	47767	47767	1433
39	Oracle 11g/12c Std ONE Edition for Windows/Linux Lic - Additional user Licence ESD	9387	9387	282
40	Oracle 11g/12c Std Edition for Windows or Linux (5 User) Lic ESD	94389	94389	2832
41	Oracle 11g/12c Standard Edition for Windows/Linux (Additional User) per user Lic ESD	18878	18878	566
42	Oracle Internet Application Server Std for Windows/Linux per user Lic (Min. 10 user) ESD	12211	12211	366
43	Oracle 11g/12c Enterprise Edition Windows or Linux (25 User) Licence ESD	1221943	1221943	36658
44	Oracle 11g/12c Enterprise Edition for Windows/Linux (Additional User) per user lic ESD	48877	48877	1466
45	Oracle 11g/12c Std ONE Edition for Win or Linux lic only (1 CPU) per CPU ESD	2989990	2989990	88810
46	Oracle 11g/12c Std ONE Edition Windows/Linux Licence only (1 CPU) rate per CPU ESD	9483879	9483879	28516
47	Oracle 11g/12c Enterprise Edition for Win/Linux Licence only (1 CPU) rate per CPU ESD	24438886	24438886	73317
48	Oracle Weblogic Standard license ((Minimum 5 user) (rate per user) ESD	10433	10433	313
49	Oracle 11g/12c Application Server Enterprise Licence only (1 CPU) rate per CPU ESD	18544351	18544351	55631
50	Oracle Internet Developer Suite Windows License only ESD (For Development user only)	3065544	3065544	91666
51	PL/SQL Developer for Oracle (Single User) License ESD	16070	16070	482
52	PL/SQL Developer for Oracle (5 User) License ESD	48211	48211	1446
53	PL/SQL Developer for Oracle (10 User) License ESD	80352	80352	2411
54	PL/SQL Developer for Oracle (20 User) License ESD	107156	107156	3214
55	PL/SQL Developer for Oracle (50 User) License ESD	187488	187488	5625
56	PL/SQL Developer for Oracle (100 User) License ESD	267840	267840	8035
57	PL/SQL Developer for Oracle (Unlimited User) License ESD	535680	535680	16070
58	Intel® VTune™ Amplifier XE 2013 for Linux* OS - Single Commercial (ESD)	58525	58525	1756
59	Intel® C++ Composer XE 2013 for Linux* OS - Single Commercial (ESD)	45905	45905	1365
60	Intel® Fortran Composer XE 2013 for Linux* OS - Single Commercial (ESD)	65085	65085	1951
61	Intel® Composer XE 2013 (C++/Fortran) for Linux* OS - Single Commercial (ESD)	94350	94350	2830
62	Intel® VTune™ Amplifier XE 2013 for Windows* OS - Single Commercial (ESD)	58525	58525	1756
63	Intel® C++ Composer XE 2013 for Windows* OS - Single Commercial (ESD)	45905	45905	1365
64	Intel® Visual Fortran Composer XE 2013 for Win* OS - Single Commercial (ESD)	55270	55270	1658
65	Intel® Visual Fortran Composer Professional with IMSL for Windows* (ESD)	133390	133390	4002
66	Intel® Math Kernel Library 11 for Windows* Commercial (ESD)	32485	0	975
67	Intel® Math Kernel Library 11 for Linux* Commercial (ESD)	32485	0	975
68	Intel® Visual Fortran Composer Professional with IMSL for Windows* AE (ESD)	61780	61780	1853
69	Intel® Math Kernel Library 11 for Windows* Academic (ESD)	0	16210	486
70	Intel® Math Kernel Library 11 for Linux* Academic (ESD)	0	16210	486
	For Codiad(Total price subscription) =	Rs. 3,98,965	Rs. 3,88,058	Rs. 4,00,915
	For Commercial(Total price subscription) =		Rs. 1,18,43,818	
	For Academic (Total price subscription) =		Rs. 1,14,15,279	

Conclusion and future scope

The essential characteristics of cloud computing is the exchange and pooling of resources; in other words, is a cloud computing platform resources to be shared by several consumers meet their individual needs. Applications and data can be shared by several companies, individuals and / or cross-platform users. Exchange and sharing of resources means:

- To use the resources by combining the resources of various cloud providers; risk that can enter through cooperation,
- To assign, schedule and coordinate resources to share and
- Establish contracts between service providers and users.

The essential characteristics of cloud computing-based agents is based on cooperation and negotiation. Coordination protocols agents adopt the system to automate activities because pooling of resources for exchanging clouds. The requirement for systems management cloud resources is to manage and conserve the process continuously by controlling the requirements of current service requests. To change to meet the demands of future services. To adjust schedules autonomously. Prices remain with considerations to accommodate dynamically changing resource demands. Cloud resources are autonomously managed by software agents at the appropriate level. Every coin has two sides, so is the cloud computing. However the advantages of using cloud computing with economic advantages of profitability is finding acceptance worldwide by corporate sectors as well as individuals and progresses at a faster pace. The fact that cloud computing is still in an infant age, but holding its strength and has great potential for growth in the future. User base Cloud Computing is growing steadily. More and larger players are attracted by the passage of time and is offering better and smoother and refined services and solutions.

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