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Large-Scale Multimedia Communication on a Cloud Computing Platform-A Review Paper

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I. INTRODUCTION

The identity of multimedia needs to include two layers of meaning and according to the research four forms. Two layers of meaning: one is mainly use for sound, text, picture, and images in information and communication. Secondly, there are four layers of forms of interaction: image, sound, text and human computer interaction. Similarly, we should call it as four elements of multimedia. Multimedia can be used in many applications in a business. The multimedia technology along with communication technology has opened the door for information of global wok groups. Today the team members may be working anywhere and can work for various companies. Thus the work place will become global.

In the future, multimedia companies will use cloud computing first, who started looking to move their storage requirements into cloud computing. The cost and the investment return for these kinds of services have accelerated the growth of cloud computing services market.

By adopting cloud computing services to manage the STB, IPTV provides customers with services and applications which are not available in STB, and also provides applications that are more resource intensive than the latest STBs. Figure 1 shows the platform framework of cloud computing, according to a study by the International Data Group, 69% of businesses are already using cloud technology in one capacity or another, and 18% say they plan to implement cloud-computing solutions at some point. At the same time, Dell reports that companies that invest in big data, cloud, mobility, and security enjoy up to 53% faster revenue growth than their competitors.

As this data shows, an increasing number of tech-savvy businesses and industry leaders are recognizing the many benefits of the cloud-computing trend. But more than that, they are using this technology to more efficiently run their organizations, better serve their customers, and dramatically increase their overall profit margins.

Many operators started to invest in the concept of private cloud for rendering media services. They now need community cloud architecture to make use of these media market opportunities and can render services to a greater number of customers. Exposing media cloud capabilities does not require major investment. Using cloud computing services, this can be achieved cost effectively. An example is the Alcatel-Lucent Cloud Application Enabler.

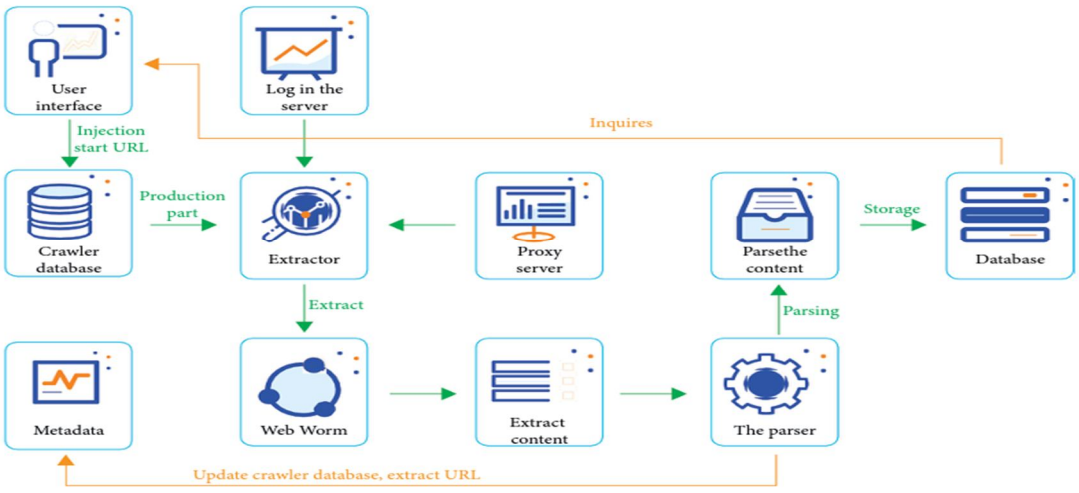


FIGURE 1: Cloud computing platform framework.

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II. METHOD ANALYSIS

The communication of a broad range of information has emerged as the primary purpose of the modern forms of multimedia communication, which have switched their emphasis to center on this objective. The information revolution is credited with making tremendous contributions, one of which being the development of cloud computing. Cloud computing and cloud storage make it feasible to collaborate on the management and scheduling of massive quantities of data stored in the cloud. Cloud computing also makes it possible to do computational tasks remotely. Cloud computing information systems are currently used in a considerable number of companies to manage the scheduling and distribution of vast volumes of data and information resources. These systems are used in a variety of business settings. The primary aim of this research is to broaden the scope of multimedia communication by conducting an in-depth analysis of the design of a cloud computing (CC) platform, which is based on the design of a multimedia communication platform. The research will be conducted in order to accomplish this purpose. The extraction of high-quality information, the rise of revenue streams from multimedia,and an increase in copyright awareness are the three pillars around which its technique for conducting research is based. The objective of the big data diversion system that is built on top of the cloud computing platform is to maximize the efficiency with which data clustering and pattern recognition may be carried out. The bulk of today's massive data shunting systems make use of the open-source embedded system design that operates on the cloud computing platform. As a direct result of the fact that the connecting coil of the shunting system is linked to the switch of the cloud computing platform, a significant number of data points that should not exist have been created as a direct result of this. Using this strategy, we may arrive to the conclusion that the cloud computing platform is unable to accomplish optimal allocation in terms of the percentage of service level agreement (SLA) violations, the amount of resources that are exhausted, and the quantity of power that is concluded. Experiments and research have proven that the pattern of development of modern media deviates from the one that is described by this event. The expansion of the media business as a whole,which is sometimes referred to as the media's acknowledgment of its own worth, is becoming an increasingly main objective of media development. A platform design that is capable of dynamic expansion, quick processing, and clear resource allocation for cloud computing is required in order for large-scale transmission of multimedia material. This is a prerequisite for the usage of cloud computing.

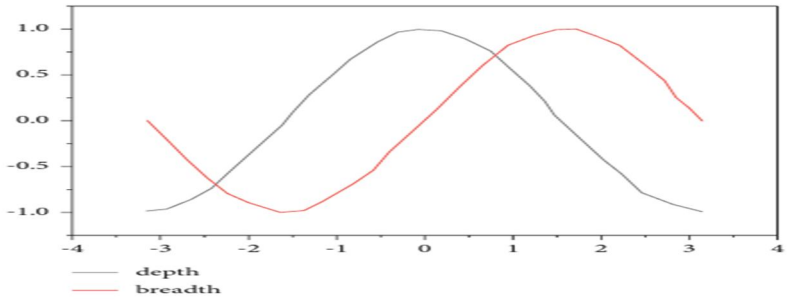


FIGURE 2: Depth and breadth curve of multimedia communication.

III. PROBLEM IDENTIFICATION

Since many years, we have studied various method and plans. Based on literature and experience, we shorted some research issue, challenges.

Problem Identification From Paper

1) Design of Cloud Computing Platform for Large-Scale Multimedia Communication by Wu, X., 2022
2) Resource scheduling strategy for multimedia cloud platform based on security enhanced virtual migration by Ma, T., Xu, C., Zhou, Z., Kuang, X. and Zhong, L., 2019, June.
3) *Problem #1:* Data clustering and pattern recognition: As per many studied research paper and their algorithm there are lots of problem in data clustering which are
4) *Brich Algorithm:*

a) unable to detect arbitrary shape cluster.
b) Inappropriate to high dimensional datasets.

5) *K-Means Algorithm*

a) Does not guarantee to reach global optimization often only to a local optimization.
b) Unable to detect arbitrary shape cluster only detect spherical shape cluster.

c) Difficult to produce different size cluster.
d) Sensitive to centroid initialization.
e) Sensitive to outliers.
6) Cure Algorithm
a) Time complexity is very high i.e.(n^2.logn).
7) Problem #2: Open-source embedded system design method : Embedded software must be immune to changes in its operating environment – processors, sensors, and hardware components may change over time. Other challenging requirements to embedded software are portability and autonomy. Other challenges in embedded system design are stability, safety, connectivity, limited design etc.
8) Problem #3: large-scale multimedia communication platform: Security breach is the main issue with the large-scale multimedia communication platform as MFA and two factor authentication must be there in each platform and copyright awareness is also needs to increase. PSO algorithm needs to be implemented in order to increase the monitor on load and to provide optimized solutions.

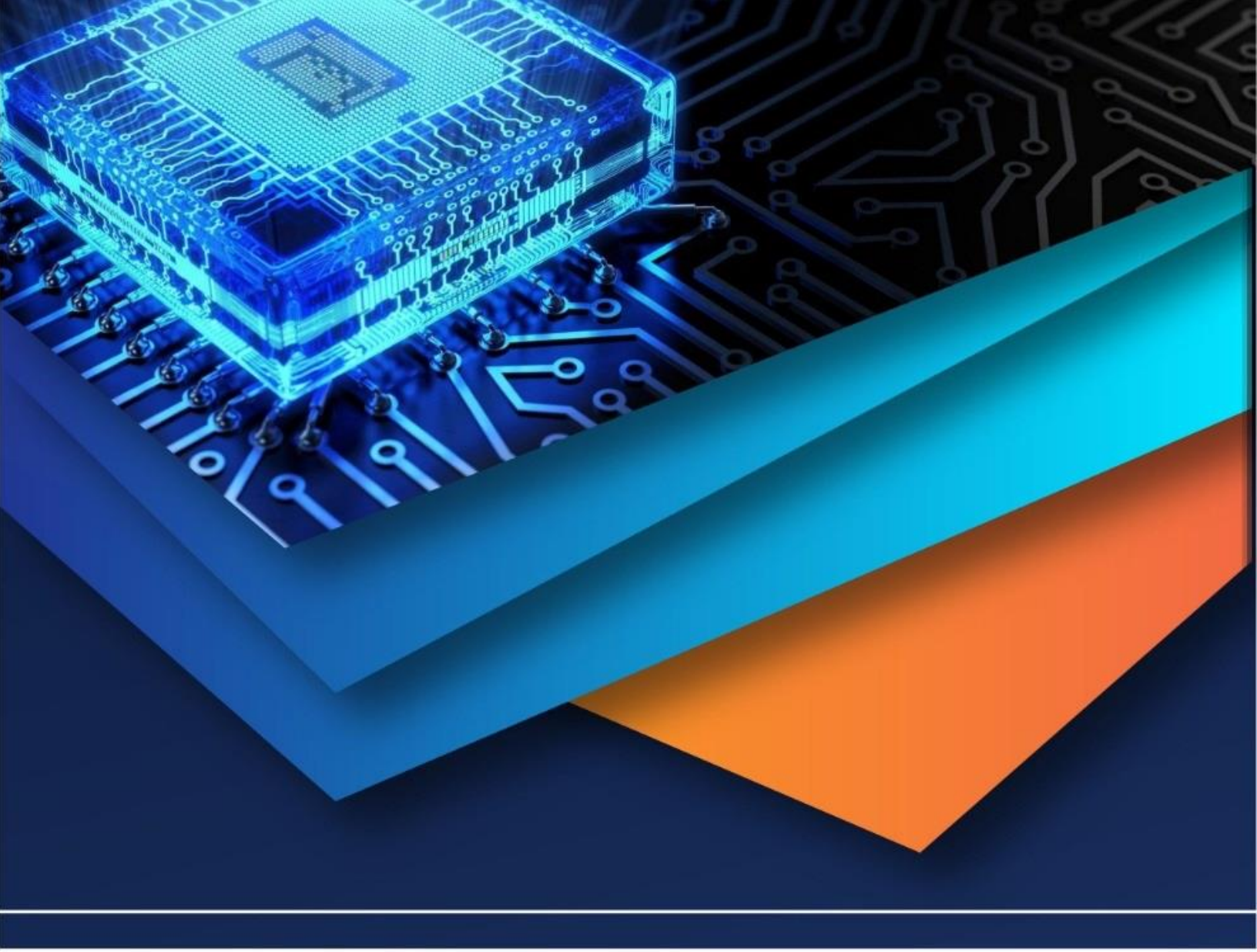
IV. CONCLUSION

1) To design optimized data clustering and pattern recognition using the big data diversion system.
2) To analyze the open-source embedded system design method based on the big data shunting system under CC platform.
3) To design a large-scale multimedia communication platform with the help of extraction of high-quality content, broadening of multimedia profit channels, and enhancement copyright awareness.

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