

Cloud computing and requirement of cloud analytics system: an overview

Prantosh Kumar Paul¹, R. Senthamarai², K.L. Dangwal³, Bhaskar Karn⁴ D. Chatterjee⁵

¹*FBAS, Indian Institute of Engineering Science and Technology [IIST], Shibpur, West Bengal, India,*

²*HOD, Department of Computer Application, AVIT, VM University, Chennai, T.N*

²*University of Lucknow, UP, India*

⁴*Department of Computer Engineering, BIT Mesra, Jharkhand*

⁵*Institute of Engineering and Management, Saltlake, West Bengal*

Corresponding author: prantoshkpaul@gmail.com

Abstract

Cloud Computing is actually a large scale Information Technology solution and able to customize and deliver a new type of environment basing on Information Technology to the common uses especially to the user of IT and Computing system. Cloud Computing is comes with so many features and facet with internet back up. It comes with just in time delivery of standardize storage process, management and infrastructure, as a measurable services, on a 'Pay-as-you-go' type and hence widely accessible in variety of organization and institutions. Cloud Computing and its load balancing is one of the important features which is essential to take care for healthy Information Management. This paper is talks about so many aspects related to such topic in brief manner.

Keywords: Cloud Computing, Virtualization, Information Management, System Science, Digitalization, Load Balancing, Knowledge Management, Cloud Analytics

Cloud Analytics is one of the important aspects in Cloud Computing and virtualization platform; this is ultimately helps in the counseling domain and helps to provide better results; as newer type of optimization is helpful with Cloud Computing Analytics. More clearly, it is help to apply analytics principle and analyses the different business consequences [01, 06, 19]. The analytical approach towards Cloud Computing is provides us so many services such as better planning and forecasting and higher level of accuracy to the services. Business is one of the tough activities and each day is deals with so many complex solution and hence Cloud Analytics with the newer software platform and will lead towards the predictable business situation out of every business insight. Acquisition, optimization and prediction are mainly deals with Cloud Analytics [22, 26].

Objectives

This paper is talk about Cloud Computing and following aim and objectives—

- ◆ To know basic about Cloud Computing and its features;
- ◆ To learn about the need and value of Cloud Computing and similar virtualization techniques;
- ◆ To know about the need and value of Cloud Computing and its need in several organization;
- ◆ To know about the Cloud Computing and its Cloud Analytics approach;
- ◆ To know about the Cloud Business Analytics competencies;
- ◆ To know about the general activities of the Cloud Analytics.

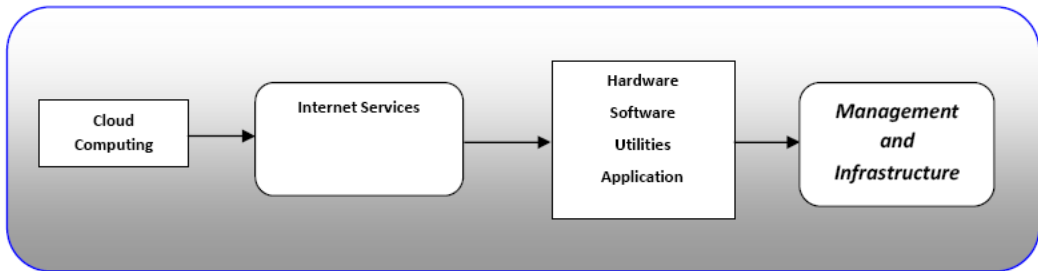


Fig: 1. Depicted Cloud Computing and its role towards healthy Management of IT

Virtualization Elements and Services

Cloud Computing is actually a virtualization technology which allow IT providers such as hardware, software, application and packages with round o clock availability and with remote based services. more clearly, Cloud Computing or Virtualization services is uses the internet and content remote server to maintain data and applications[26, 29]. Ultimately Cloud Computing is comes with low cost implementation for infrastructure and some higher business units. It is comes with public, private or hybrid in nature. Cloud Computing is comes with so many services platform such as—

Software-as-Services [SaaS];

Infrastructure-as-Services [IaaS];

System-as-Services [SaaS];

Desktop-as-Services [DaaS];

Platform-as-Service [PaaS]

Application-as-Services [AaaS]

Thus, Cloud Computing is comes with flexibility as well as efficiency in the avail all Information Technology infrastructure for easy technology transfer and easy transfer of software, even technologies through online media. Cloud Computing and virtualization is also deals with hassle free engagement and maintenance of IT and services [15, 19]. It is provides a standardize scalable and secure physical infrastructure with broader data space, multiple value added services, advance processing technique and much more accessibility and to the sophisticated capable network.

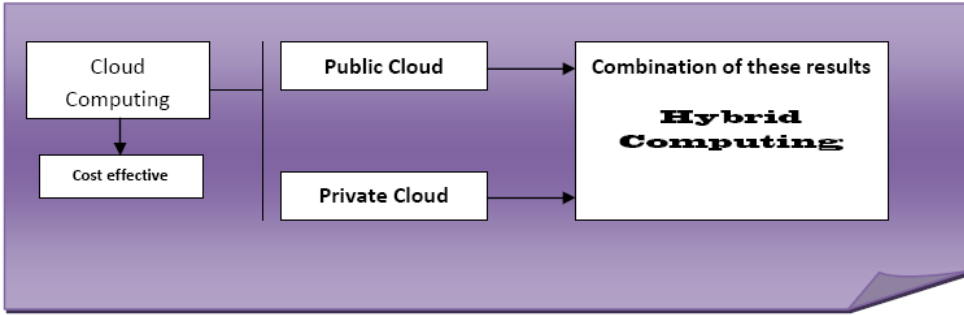


Fig: 2-Depicted Cloud Computing platform and services

Cloud Analytics

Cloud Analytics is one of the important and valuable aspects in cloud based Information Management. It is mainly deals with forecasting, predicting future and alters system and powered by Business Intelligence reporting and visualization system. Though, Cloud Computing is deals with so many competency areas and out of which cloud business analytics strategy is most important and valuable which helps in client archive their system much more speedy with higher gain and lower cost in terms of improving new information is treated as most valuable in all the organization perspective. Business Intelligence is the next step which helps in licensing performance by doing accurate and on time data repeating. Next competence level is several analytical modeling such as—

- ◆ Text Analysis;
- ◆ Statistical Analysis;
- ◆ Decision Model;
- ◆ Data Mining;
- ◆ System Dynamic Simulation;
- ◆ Optimization and so on

Virtually, the other competency is enterprise information management which let you apply several platforms and architecture related to data extraction, archival, retrieval, movement and integration and so on [22].

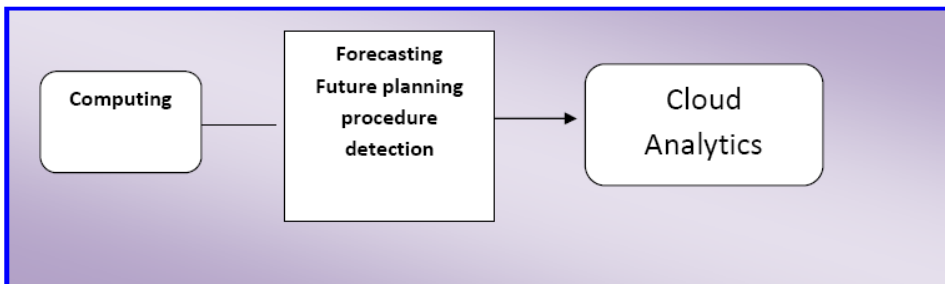


Fig: 3-Depicted Cloud based analytics and its basic features

Practically for better and healthy content management, proper content system is very much essential and important and thus it needs and deals with some features such as architecture, technology, architecture and process related to capturing, storing, delivering and managing the data and more clearly such system will be depends on several internal and external data sources such as—

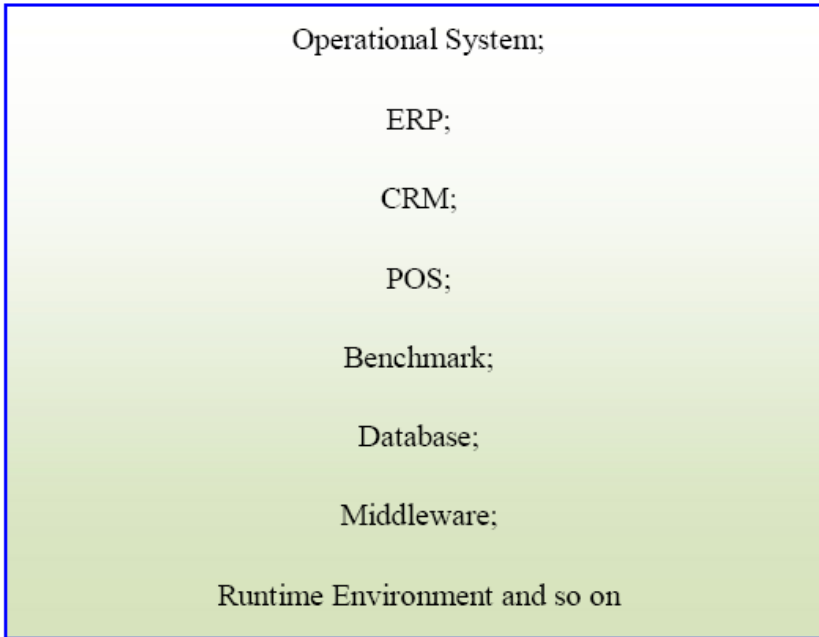


Fig. 4: Showing Cloud Computing and Analytics depends on showing parameters

Ultimately, Cloud Analytics is works with so many service combinations such as hardware, software and services and middleware. More clearly, delivering business analytics and Information Software resources a seamless flow of all from with several type of format and platform and obviously location. The core and inside of Cloud Analytics is includes physical computer such as- Network, Storage, Server, Hyper vision, Virtualized Management Software, and operating systems and out of these Database, Middleware and runtime environment is most important and valuable[25, 29].

Cloud Analytics ultimately includes several characteristics and platform and this is ultimately provides data reporting, analysis of text, business intelligence dashboard and so on. Most importantly, Cloud Analytics helps in right information and content depending upon need and requirement. Hence most of the organization which uses cloud services provides are acknowledged about the Cloud Analytics. They also invest time in Cloud Implementation and cloud performance, policy making on Cloud Analysis and so on. Virtually, Cloud Computing in today’s environment is helps through which the organization can increase the profitability and also minimizing time [28, 33].

Findings

- ◆ Cloud Analytics is helpful in consulting domain and well ensure better results;
- ◆ Cloud Analytics, directly and indirectly supported by the different types of competency areas;

- ♦ Cloud Services is provided by the organization and institutions such as Data Centre and pick by the several organization and during service utilization load balancing is essential to check [14, 18];
- ♦ Ultimately, Cloud Analytics helps in complex analysis with the newer software platform and will lead towards a predictable solution at the time a depending upon need.

Conclusion

Cloud Computing has been one of the most booming technologies among the other Information Technology weapon in today's Information age. The wider bandwidth, storage, money and processing system empower IT and system many ways. Today we are moving towards energy management several ways and Cloud Computing is one of the best alternative in this stage. Cloud Analytics is increasing rapidly for its healthy benefit and comes with better forecasting technique to analysis and optimize the services lines and provide a higher level of accuracy.

References

- Cohen, E.B. 2004. Applying the Informing Science Framework to Higher Education: Knowledge Development, Management, and Dissemination. Konferencja Pozyskiwanie wiedzy i zarządzanie wiedzą (Proceedings of the Knowledge Acquisition and Management Conference) May 13-15, 2004 Kule, Poland.
- Cohen, Eli, B. and Nycz Malgorzata 2006. Learning Objects and E-Learning: an Informing Science Perspective. *Interdisciplinary Journal of Knowledge and Learning Objects* **2**: 2006
- Martin, S.B. 1998. Information technology, employment, and the information sector: Trends in information employment 1970–1995. *Journal of the American Society for Information Science* **49**(12): 1053–1069.
- Michael Buckland and Ziming liu 1995. History of information science. *Annual Review of Information Science and Technology* **30**: 385-416.
- Paul, P.K., Sarangi, B.B. and Chaterjee, D. “Cloud Computing and its strategic and technical application in Information Networks in Indian Scenario in IEEE sponsored proceedings of National Conference on Information and Software Engineering [NCISE-12],AVIT ,VM University, 9-10/03/12, Chennai, Page 146-149,ISBN-978-93-81361-99-3, Excel India Publication, New Delhi
- Paul, P.K., Chaterjee, D. and Karn, B. “Cloud Computing: Issues and challenges with probable solution in Indian Perspectives” *IJIDT International Journal of Information Dissemination & Technology*, MMU, Ambala **2**: (1) Jan-March, 2012,Page- 31-33 , ISSN-2229-5984 [*Indexed in DOAJ,EISRJC, J-GATE, Ulrich Directory, Google Scholar, Proquest, Index copernicus and other major databaseS*]
- Paul, P.K., Sridevi, K.V., Minakshi Ghosh, Ashwina Lama “Education Technology: The Transparent Knowledge Delivery through QPN and Cloud Computing” *IJSD-An International Journal* **12**(2): December-2012, Page-455-462 , ISSN-0972-3692, SR, NewDelhi, EIC-Vijay Kumar S, Bangalore
- Paul, P.K., Kumar, A., M, Ghosh. “Cloud Computing: the 21st Century Friend for Virtualization” in Proceedings of International Conference of Computer Applications and Software Engineering, CASE-2012, 22-21 Dec.2012, Mewar University, Rajasthan, Page-37-40, ISBN- 978-93-81583-77-7, Excel India Publication, New Delhi
- Paul, P.K., Ghose, M.K. “Cloud Computing: Possibilities, Challenges, and opportunities with special reference to its emerging need in the academic and working area of Information Science”, ICMOC, Procedia

- Engineering, 38 [2012], Page-2222-2227, DOI-10.1016/j.proeng.2012.6.267, 1877-7058 C- Published by- Elsevier, USA,
- Paul, P.K., Chatterjee, D., K, Ashok. "E Learning: New Age Knowledge Model Delivery through Advance Information Technology and Cloud Computing: An Overview" *BRICS International Journal of Educational Research* 3(1): 2231-5829, Page-22-25, MM University, Ambala, Haryana, India [Indexed in Index Copernicus, and others]
- Paul, P.K., Govindarajan, S., Chatterjee, D. "Cloud Computing: Emphasizing Hybrid Cloud Computing on Android Computing Platform-An Overview" *International Journal of Applied Science and Engineering* 1(1): ISSN-2321-0745, Page- 21-28 New Delhi-Publishers, New-Delhi
- Paul, P.K., Ghosh, M. "Cloud Computing and its possible utilization in Health and Hospital Administration" *Journal of Business Management [JBM]- An International Journal* 5(2) December 2013, pp.147-152
- Paul, P.K., "Cloud Computing: Its Opportunities and Advantages with Special Reference to Its Disadvantages- A Study" in *International Journal of Neural Network Application - IJNNA* 6(2): July-December 2013, pp.84-88, International Science Press
- Paul, P.K., Ghosh, M., Chatterjee, D. "Cloud Computing Utilization in Food and Nutrition Sector- Empowering Information Transfer: Challenges and Opportunities" 4(2): July-December 2013, pp.90-95, *International Journal of Soft Computing Bio Informatics- IJSCB*, International Science Press
- Paul, P.K., "Cloud Computing Based Green Information Infrastructure: *The Future of Eco Friendly Information Science Practice*" *PARIPEX Indian Journal of Research* 2(11): Novemver, 2013, ISSN-2250-1991, Page-122-124. IF-0.3
- Paul, P.K., Ganguly, J. "Green Information Infrastructure: Stakeholders-A Study" *International Journal of Pharmaceutical and Biological Research (IJPBR)* 4(4) Aug-Sep, 2013, ISSN: 0976- 285X, Page-159-164, [Indexed in DOAJ; 2. Ulrich's Periodical Directory, USA; 3. EBSCO Publishing's Electronic Databases, USA; 4. Indian Science Abstracts, India; 5. Index Copernicus, Poland. 6. NewJour, USA, 7. Google Scholar 8. Citeseerx]
- Paul, P.K., Ganguly, J. "Green Computing: The Emerging tool of Interdisciplinary Environmental Sciences- Problems and Prospects in Indian scenario" *International Journal of Pharmaceutical and Biological Research (IJPBR)*, 4 (5): Oct-Nov 2013, ISSN : 0976- 285X, Page- 210-214 [Indexed in DOAJ; 2. Ulrich's Periodical Directory, USA; 3. EBSCO Publishing's Electronic Databases, USA; 4. Indian Science Abstracts, India; 5. Index Copernicus, Poland. 6. NewJour, USA, 7. Google Scholar 8. Citeseerx]
- Paul, P.K., Ganguly, J. Dipak Chatterjee "Green Information Science [GISc]: Journey towards Environmentally Friendly Information and Technological World" in *The Sci-Tech International Journal of Engineering Sciences*, Vol. 1, Issue-1, December-2013, Page-80-87, ISSN- ISSN- 2347 – 9221(Print) ISSN :2347 – 923X(Online) [http://www.thescitechpub.com/journals/IJES/ijes_index.aspx]
- Paul, P.K., "Cloud platform and the Virtualised World: Take a look" *International Monthly Refereed Journal of Research in Management & Technology* 2 Sep-13, ISSN – 2320-0073, Page-112-119, Impact Factor- 0.0812(2012)
- Paul, P.K., "Distance Education and Online Education empowered by Cloud Computing: the Proper Information Infrastructure" *Abhinav National Journal of Arts and Education* Sep, 2013 2(9): ISSN-2277-1182, Page-1-8, Impact Factor 0.1013(2011), 0.2212(2012)
- Paul, P.K., "Digital Repositories: some Tools, Technique and Technologies and Social issue" *International Monthly Refereed Journal of Research in Management & Technology* 2 Oct-13, ISSN – 2320-0073, Page-63-68, Impact Factor- 0.0812(2012)

- Paul, P.K. "Virtual World: Empowered by Cloud Computing- A Conceptual Study" *International Monthly Refereed Journal of Research in Management & Technology* 2: Nov-13, ISSN – 2320-0073, Page-82-89, Impact Factor- 0.0812(2012)
- Paul, P.K., "Education 2.0: Promoting Technological Knowledge Delivery" *Abhinav National Journal of Arts and Education*, December, 2013 2(12): ISSN-2277-1182, Page-43-49, Impact Factor 0.1013(2011), 0.2212 (2012)
- Paul, P.K. "BSc-Information Science: Need, Value with Special Reference to a Proposed Curriculum with Multi Entry and Multi Exit System" *Abhinav National Journal of Science and Technology*, December, 2013 2(12): ISSN-2277-1174, Page-01-11, Impact Factor - 0.1210(2011), 0.2807(2012), GSI
- Paul, Prantosh Kumar, "Green Computing and Informatics: Way to Green and Energy Consumed World" *International Monthly Refereed Journal of Research in Management & Technology*, Vol.2, Dec-13, ISSN – 2320-0073, Page-70-77, Impact Factor- 0.0812(2012)
- Paul, Prantosh Kumar, "Digitization: Establishment and Some Requirement in Cloud Age" *Scholars Journal of Engineering and Technology (SJET)*2013; 1(4):257-260, ISSN 2321-435X, [Indexed in Google Scholar, Index Copernicus, EyeSource (International Society for Universal Research in Sciences), Indian Citation Index, Advanced Science Index, Review of Medical and Veterinary Mycology – CAB, ible, Getcited, UCSF Library, Virtual Library, Library Directories, Science Central, Scholarly Open Access, Directory of Research Journal Indexing(DRJI)]
- Paul, Prantosh Kumar. Green information science: Information science and its interaction with greencomputing and technology for eco friendly information infrastructure. *International Journal of Information Dissemination and Technology*, 3(4), Dec-2013, Page- 292-296 [Indexed in DOAJ, EISRJC, J-GATE, Ulrich Directory, Google Scholar, Proquest, Index copernicus and other major databases]
- Prantosh Kr. Paul, K L Dangwal "Cloud Computing Based Educational Systems and its challenges and opportunities and issues" *Turkish Online Journal of Distance Education-TOJDE* January 2014 ISSN 1302-6488 Volume: 15 Number: 1 Article 6, Page-89-98
- Prantosh Kr. Paul, K Kumar, D Chatterjee, R Rajesh "Usability engineering and user interface design for electronic information systems and its subsystems: Overview" 2014, Volume : 20, Issue : 1, Page-23-32 Print ISSN : 0971-6726. Online ISSN : 0976-1934
- Reichman, F. (1961). Notched Cards. In R. Shaw (Ed.), *The state of the library* art04(01), pp. 11–55). New Brunswick, NJ: Rutgers, The State University, Graduate School of Library Service.
- Saracevic, T. (1996). Relevance reconsidered. Information science: Integration in perspectives. In *Proceedings of the Second Conference on Conceptions of Library and Information Science* (pp. 201–218), Copenhagen, Denmark: Royal School of Library and Information Science.
- Saracevic, T. (1975). Relevance: A review of and a framework for the thinking on the notion in information science. *Journal of the American Society of Information Science*, 26(6), 321–343.
- Saracevic, T. (1979a). An essay on the past and future of information science education. I. Historical overview. *Information Processing & Management*, 15(1), 1–15.
- Saracevic, T. (1979b). An essay on the past and future of information science education. II. Unresolved problems of 'externalities' of education *Information Processing & Management*, 15(4), 291–301.
- Vickery, B.C., & Vickery, A. (1987). *Information science in theory and practice*. London: Butterworths.
- Wersig, G., & Neveling, U. (1975). The phenomena of interest to information science. *Information Scientist*, 9, 127–140.

White, H.D., & McCain, K.W. (1997). Visualization of literatures. *Annual Review of Information Science and Technology*, 32, 99–168.

www.en.wikipedia.org

www.ischools.org