



**National Seminar**  
On  
**Cloud Computing - Opportunities and  
Challenges**

**22<sup>nd</sup> November 2012**

**Organized by**

**Faculty of Science and Technology  
ICFAI University Jharkhand  
Panchwati Tower, Harmu Road  
Ranchi – 834001  
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# Vice Chancellor's Message



Cloud Computing is the internet based enabler for sharing of technological infrastructural resources, software and digital content, allowing them ( Infrastructure, Platforms, Software) to be offered on pay-for-use basis, like any utility service. Exponential growth in Computer capabilities, extra-ordinary rate of growth in digital content consumption, followed by explosive growth of applications have spawned the genesis of Cloud Computing. It is expected to herald a new wave of Computing and is expected to wield enormous influence on how IT services will be consumed in future.

Cloud Computing brings down dramatically the cost of IT use , in addition to providing flexibility in terms of large capacity-on-demand coupled with higher reliability. As it does not call for large capital expenditure and need for highly skilled IT professionals to build and manage the infrastructure , range and scale of Cloud applications are bound to grow enormously , even as resource intensive applications can be within the reach of a number of Small and Medium Sized Businesses , Educational and Research organisations.

As per IDC, during 2011, Cloud based services was estimated to have generated revenues of US\$ 600 billion ,which is expected to scale up to US\$1.1 Trillion by 2015 . About 1.5 million new jobs were estimated to have been created around Cloud Technologies in 2011, which is expected to jump to 14 million by 2015. As all major IT product and services vendors join the band wagon of Cloud to reap the business opportunity, it is a huge opportunity for students to skill up themselves and get ready to leverage the career opportunities, Cloud Computing beckons.

In this context, I compliment Faculty of Science and Technology for organising the seminar on “Cloud Computing – Opportunities and Challenges”.

I wish the seminar all success.

(Prof O R S Rao)

Vice Chancellor

# **About the Organization**

The Institute of Chartered Financial Analysts of India (ICFAI) University, Jharkhand is the first private university in the state of Jharkhand. It was established under the provisions of the Institute of Chartered Financial Analysts of India University Act, 2006 (Jharkhand Act No. 08 of 2007), vide Notification dated June 17, 2008 of the Government of Jharkhand. The University is sponsored by the Institute of Chartered Financial Analysts of India (ICFAI), a not-for-profit educational society established in 1984. The ICFAI University, Jharkhand is approved by UGC under Section 2 (f) of the UGC Act, 1956 to award degrees for various programs. It currently offers a range of UG and PG campus programs in Engineering, IT and Management, which include BBA, BCA, B.Tech, MBA and Ph.D. (part time) in management. . All the graduated students of the University were well placed in responsible roles in reputed organizations across the country. The University also conducts customized training programs for the executives and managers in different levels in various functional areas of management & offers unique program to suit the business & developmental needs of the organizations.

# About the Seminar

Cloud computing is the bleeding-edge technology in IT industry, today. It joins the ranks of Virtualization, grid computing and clustering, among others, in the IT industry. The problem is that, depending on your point of view, the definition of cloud computing can be quite different. Depending on your perspective, you could look at it from a business point of view or an application point of view, as well as others. This has created confusion on the definition and a fuzzy view as to what cloud computing is or even does.

Leveraging third-party computing capability over the network is a good way to cut costs, increase scale, and improve agility. The concept of cloud computing involves a data center somewhere in the world, or even multiple data centers scattered around the world. This is a paradigm shift from the historical client-server architecture where the network users owned, maintained, and operated their own network infrastructure, server rooms, data servers, and applications.

## **SEMINAR OBJECTIVES**

This Seminar will provide a unique opportunity for the academic and industry professionals to understand the concepts, applications and challenges, and discuss prospects for future implementation.

The scope of the seminar will include:

- ❖ What is the Cloud? What is the difference between Cloud and Virtualization?
- ❖ Why should we move to the Cloud?
- ❖ Datacenter and Cloud Computing.
- ❖ Opportunities and Applications over the Cloud.
- ❖ Understanding the business value of the Cloud.
- ❖ Challenges, in particular, Security Issues.
- ❖ Future outlook for the Cloud Computing
- ❖ Career Opportunities for Cloud Professionals

## **Advisory Committee**

Prof. O. R. S. Rao, Vice Chancellor  
Dr. K. K. Nag, Sr. Academic Advisor, FEDUNI

## **Organizing Committee**

Dr. B. M. Singh  
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Prof. Ekbal Rashid  
Prof. Rakesh Pathak  
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Mr. Amar Gupta  
Prof. Md. Amir Khusru Akhtar

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Prof. Md. Amir Khusru Akhtar

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Dr. Bijoya Ganguly  
Prof. Pratik Biswas  
Prof. Kanchan Kumar Sinha  
Prof. Aditya Kumar Singh  
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Prof. Abhay Sinha  
Mr. D. P. Chaudhari  
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Mr. Pravin Kumar  
Mr. Sharik Rehman  
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## **Student Volunteers**

Roma Srivastava  
Amrit Kumar Sharma  
Ganesh Kumar  
Kaushal Kumar Singh  
Apurwa

Anushanila Mahendran  
Ashutosh Kumar  
Saddam Hussain  
Shubham  
Chandan Kumar

**National Seminar on  
“Cloud Computing - Opportunities and Challenges”  
(22<sup>nd</sup> November 2012)**

**PROGRAMME**

**Venue**

**Faculty of Science and Technology, ICFAI University Jharkhand  
Seminar Hall, 2nd floor Panchwati Tower, Harmu Road,  
Ranchi-834001, Jharkhand**

<b>12.00 noon – 2.00 pm</b>	<b>:</b>	<b>Registration</b>
<b>Session I (Inaugural Session):</b>	<b>:</b>	<b>2.00 pm – 3.25 pm</b>
In Chair	:	Prof. O. R. S Rao, Vice-Chancellor ICFAI University, Jharkhand
Chief Guest	:	Prof. (Dr.) L.N. Bhagat, Vice-Chancellor, Ranchi University, Ranchi
Guest of Honor & Key-note Speaker	:	Mr. S. Torka, Director (Engg.), MECON
Guest of Honor	:	Mr. Rishi Pandey, Sigma e Solution Pvt. Ltd., Ranchi
03: 25 p.m – 03:45 p.m	:	Tea Break
<b>Session II (Technical Session) :</b>	<b>:</b>	<b>3.45 pm – 6.25 pm</b>
Chairman	:	Prof. Kuntal Mukherjee, BIT, Mesra, Ranchi
06: 25 p.m	:	High Tea

## Cloud Computing: Concepts, Technologies and Business Implications

Syed Jaffar Abbas

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Raju Manjhi

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**Abstract:** Cloud computing technology has been a new buzzword in the IT industry and expecting a new horizon for coming world. It is a style of computing which is having dynamically scalable virtualized resources provided as a service over the Internet. It reduces the time required to procure heavy resources and boot new server instances in minutes, allowing one to quickly scale capacity, both up and down, as ones requirement changes. With the rise of a ubiquitous provision of computing resources over the past years, cloud computing has been established as a prominent research topic. Many researchers, however, focus exclusively on the technical aspects of cloud computing, thereby neglecting the business opportunities and potentials cloud computing can offer. Enabled through this technology, new market players and business value networks arise and break up the traditional value chain of service provision. The focus of this paper lies on the real business aspects of cloud computing.

**Keywords:** Cloud computing, Business Model, Internet Computing, Cloud Programming Model, Sales Force Technology

## Cloud Computing Applications in the Modern HR Workplace

Nafisa Shahin

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**Abstract:** Cloud computing is not a new technology, but rather a natural evolution of efficient using and combining several modern technologies. Computing power, data storage and internetworking resources have all been put into a novel context and consequently, transformed into services (either separately or taken together). HR teams are often not all based in the same place. Additionally many people now work remotely, a perk often given by companies to appeal to those wishing to avoid a long commute, or who don't want to place young children in daycare. Having employees work from home is also environmentally friendly, since it reduces the number of cars on the road; however, it can be very costly for businesses to set these employees up with their own hardware and software licenses and it can also be logistically difficult to service both hardware and software when an employee is not situated in an office, with an in-house IT support team available. This, of course, leads to one of the main benefits of using cloud computing applications.

The paradigm in cloud computing is based on an old commercial approach – on-demand pay per use – in which you better rent a service for a specific period of time instead of buying the support infrastructure (utilities included), building a solution and administering it all by yourself. The cloud service providers (CSPs) promise reliable and configurable resources, made available promptly to consumers with a minimum effort and involvement on their behalf.

**Keywords:** Remote, software, logistic, technology, reliable, consumers, evolution, infrastructure, SME, guidelines, cloud computing

## The Cost Factor: A Challenge to Universal Cloud Computing

Mohan Prakash

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**Abstract:** It is beyond any doubt that one of the latest developments of computer science, namely cloud computing has excellent prospects. On the one hand, it has great market potential, and on the other hand, it can usher in an era where abstraction and encapsulation principles can reach new heights. The constant worry of hardware and software development, their upgrade will become a matter of the past. The constant vigil and expenses incurred to safeguard against virus and other forms of malware and spyware will fade away. The large staff and worries for the maintenance of hardware and software from physical and other sorts of wear and tear, the costs included will be largely minimized. And there will be an era wherein the developers will be concentrating on pure development work, leaving aside other trivial matters. Business houses and government concerns will no longer have to get very much involved in matters that directly do not relate to their business. The cloud will be providing them with both hardware and software solutions.

**Keywords:** Cost Factor, Cloud Computing

## Challenges in Cloud Computing

Abhay Kumar Sinha

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**Abstract:** Today we cannot think the world without internet. Tomorrow we cannot think the world without the Cloud Computing. The Cloud Computing is going to change the way the computing power is used for our day to day activities that we are unable to think today. With these changes, a number of challenges are coming in the way of its implementations. Some cloud providers started providing cloud services. However, these are at very initial stage as compared to the potential of the cloud computing. Understanding and addressing these challenges is very important for us. In this article, we try to understand the challenges that came in the way of cloud computing.

**Keywords:** Cloud Computing, Cloud Providers

## Cloud Computing Opportunities & Challenges

Subir Chakraborty

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**Abstract:** Cloud computing is the means of accessing a shared pool of configurable computing resources (including hardware, software, networks, servers, storage applications and services) that can be rapidly provided, used and released with minimal effort on the part of users or service providers. The name "Cloud" comes from the use of a cloud-shaped symbol as an abstraction for the complex infrastructure it contains in system diagrams. Cloud computing is the web based processing where the data, application and infrastructure are provided to computers and other devices on demand over the network. This paper presents the major challenge on Security & Privacy related with Cloud Computing.

**Keywords:** Cloud computing, Security, Privacy



## Cloud Computing – Opportunities and Challenges

Rizwana Khatoon

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**Abstract:** With the disruptive wave of cloud computing entering the IT world, the scepticism of dark clouds over its adoption and implementation has also made its way .The cloud has taken a front seat, but the challenges and threats posed by its implementation cannot be ignored. The challenges are Security in with the database hosted on the vendor cloud security of critical data is uncertain. The Privacy implies that the organizations today are trying to maintain a great deal of balance with its customers by protecting their data and maintaining a level of privacy. With the cloud implementation, the privacy of the data is not assured as the data lies with the third-party cloud service provider. Finally, the Compliance describes that every IT servers and infrastructure have to follow certain compliance standards like PCI DSS, SOX, Web Trust, etc. With the shared resources, it becomes difficult for the cloud service.

**Keywords:** Cloud computing, Web Trust

## Cloud Computing: A Survey

Kanchan Bala

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**Abstract:** Recent years, the concept of “clouds” is not new. Both technology and business models around cloud computing. A business built on aggregating clouds from public and private networks then delivering capacity and services in an automated, on-demand fashion to companies will emerge. Tech industry will have to build some tools: cloud bursting. Cloud bursting refers to moving data and applications instantly from one cloud to another. The main technological challenges identified are commonly associated with cloud systems are: Virtualization, Multi-tenancy, Security, Privacy and Data Management. The cloud concept is strongly related to future Internet. Most available cloud systems these days are provided as closed source or internalized open source. Half of the user said that using the cloud saves them money and/or IT effort. This means that almost fifty percent do not think it will save them money/effort. Due to the strong similarity between the business incentives of Grid vendors and Cloud providers, as well as similar requirements towards the infrastructure, it is comparatively easy for current grid vendors to move towards cloud computing.

**Keywords:** Cloud computing, Cloud bursting

## Multi-Tenancy and Security

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**Abstract:** Cloud computing is a way of using the computing resources that are available and accessible over the network. It is estimated that 58% of organizations in India already have cloud initiatives in place, and another 15% are planning cloud deployments in the next 6 months. As more and more companies realize the potential about the cloud and benefit from the new cloud architecture, these companies have given different sets of requirement, which must be fulfilled for a successful cloud implementation. Most prominent issues are security and multi tenancy. Multi tenancy is a way for multiple tenants or customers to share the same infrastructure and software.

Cloud computing is an emerging field which is evolving and giving new ways to build, manage and scale the enterprise ready infrastructure and application. The cloud works as a virtual environment to deploy and maintain enterprise application. Virtualization is achieved by having a unified infrastructure & platform as a service (IAAS & PAAS) or having software as a service SAAS offering. The cloud environment resources are scalable and allocation of these resources is defined by actual usage.

**Keywords:** Multi-Tenancy, Cloud Security

## Cloud Computing – Challenges in Business Data Security

Rakesh Kumar Pathak

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**Abstract:** Cloud computing is the way of computing in which IT Users share the resources and services that are distributed over different organizations or sites. As cloud computing share distributed resources through the network in the open environment, therefore the security problems important for the development of cloud computing application. In traditional Models an individual has full control on data and processes in his/her computer. Whereas, On the other hand, in the cloud computing environment, the service and data maintenance is provided by some provider in which the client/customer is unaware of where the processes are running or where the data is stored. So the client has no control over it. The cloud computing uses the internet as the communication media. The provider has to give some assurance for security of data in the cloud computing. Organizations that use cloud computing as a service infrastructure would certainly like to examine the security and confidentiality issues for their business critical insensitive applications. Yet, guaranteeing the security of corporate data in the "cloud" is difficult, if not impossible, as they provide different services like Software as a service (SaaS), Platform as a service (PaaS), and Infrastructure as a service (IaaS). Each service has their own security issues. Business Data Protection Application, Security and Privacy are important security issues must be incorporated in cloud computing. Here, apart from addressing various security issues a model system has been proposed in which a hybrid cloud computing suitable for for high risk data transaction environment.

**Keywords:** Cloud Computing, Encryption, Hybrid Cloud

## Cloud Computing Opportunity and its Challenges

Rahul Deo Sah

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**Abstract:** Cloud computing technology has been a new word in the IT industry and expecting a new horizon for coming world. It is a style of computing which is having dynamically scalable virtualized resources provided as a service over the Internet. It reduces the time required to procure heavy resources. Cloud computing is emerging at the convergence of three major trends—service orientation, virtualization and standardization of computing through the Internet. Cloud computing enables users and developers to utilize services without knowledge of, expertise with, nor control over the technology infrastructure that supports them. This article provides brief details about the cloud computing with an overview of key features to give a glimpse about the new focused technology.

**Keywords:** Cloud computing

## Cloud Computing – Application and Services

Dr. Birendra Goswami

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&

Dr. S.N.Singh

XISS, Ranchi

**Abstract:** Cloud computing is an growing technology which could change traditional IT systems. Cloud computing makes it feasible for an organizations IT to be more flexible, save costs and process information and data faster than with traditional IT. The problem though lies in the riskiness of this new technology. It is important to know whether value can be added for organizations through using cloud computing.

Cloud computing has recently emerged as a new paradigm for hosting and delivering services over the Internet. Cloud computing is attractive to business owners as it eliminates the requirement for users to plan ahead for provisioning, and allows enterprises to start from the small and increase resources only when there is a rise in service demand. However, despite the fact that cloud computing offers huge opportunities to the IT industry, the development of cloud computing technology is currently at its infancy, with many issues still to be addressed.

Cloud computing has gained a lot of publicity in the current world of I.T. Cloud computing is said to be the next big thing in the computer world after the internet. Cloud computing is the use of the Internet for the tasks performed on the computer and it is visualized as the next generation architecture of IT Enterprise. The 'Cloud' represents the internet and it related to several technologies and the convergence of various technologies has emerged to be called cloud computing. In comparison to conventional ways Cloud Computing moves application software and databases to the large data centers, where the data and services will not be fully trustworthy. Cloud computing is set of resources and services offered through the Internet. Cloud services are delivered from data centers located throughout the world.

**Key words:** Cloud computing, Cloud application, Cloud services

## **Technical Session (3.45 pm to 6.00 pm)**

### **Venue: Seminar Hall**

1. Cloud Computing in Geospatial Information Science, Ms Swagata Ghosh, MCA Faculty, University Department of Mathematics, Ranchi University, Ranchi.
2. Cloud Computing in MANET: CCMANET, Mr. Md. Amir Khusru Akhtar, ICFAI University Jharkhand & Dr. G. Sahoo, Birla Institute of Technology, Mesra, Ranchi.
3. The Cost Factor: A Challenge to Universal Cloud Computing, Mr. Mohan Prakash, Research Scholar
4. An algorithmic approach to implement security of storage in Clouds, Mr. Gurpreet Singh, St. Xavier's College, Ranchi, & Ms. Mamta Kumari, Doranda College, Ranchi
5. Multi-Tenancy and security, Mr. Surya Pratim Kesh, Research Scholar, ICFAI University Jharkhand.
6. Cloud Computing: A Survey, Mrs. Kanchan Bala, R.T.C Engineering College, Ranchi.
7. Cloud Computing Merging with Wireless Ad-hoc Network Routing Protocol for Future Application under Different Scenario, Mr. Shrikant Upadhyay & Ms. Aditi Upadhyay, Dehradun Institute of Technology, Uttarakhand.
8. Social Cloud, Mr. Raja Ram Dutta, Birla Institute of Technology, Deoghar.
9. Cloud computing – Application and Services, Dr. Birendra Goswami, Usha Martin Academy, Ranchi, Dr. S.N.Singh,, XISS, Ranchi
10. Cloud Computing applications in the Modern HR Workplace, Ms. Nafisa Shahin, MBA / MCA Dept., Marwari College, Ranchi.
11. Cloud Computing: Opportunity, Challenges and Future direction, Mr. Biresh Kumar, Nilai Educational Trust's Group of Institutions, Thakurgaon, Ranchi, Mr. Ritesh Kumar & Ms. Sunita gola, Department Of Computer science & Engg. C.I.T, Tatisilwai, Ranchi.
12. Cloud Computing-Opportunities and Challenges an Application and its benefit over Cloud, Mr. Binod Kumar & Mr. Shailendra Kumar Sinha, Cambridge Institute of Technology, Ranchi.
13. Cloud Computing: Concepts, Technologies and Business Implications, Mr. Syed Jaffar Abbas, Ranchi College, Ranchi & Mr. Raju Manjhi, PPK College, Bundu.
14. Cloud Computing Opportunity and its challenges, Mr. Rahul Deo Sah, Ranchi College, Ranchi.
15. Cloud Computing Opportunities & Challenges, Mr. Subir Chakraborty, Academic Counselor, IGNOU

# **SPEAKERS**

1. Ms Swagata Ghosh : Ranchi University, Ranchi.
2. Mr. Md. Amir Khusru Akhtar : ICFAI University Jharkhand
3. Mr. Mohan Prakash : Research Scholar, IGNOU
4. Mr. Gurpreet Singh : St. Xavier's College, Ranchi
5. Mr. Surya Pratim Kesh : Research Scholar, ICFAI University  
Jharkhand.
6. Mr. Raja Ram Dutta : Birla Institute of Technology, Deoghar.
7. Dr. Birendra Goswami : Usha Martin Academy
8. Ms. Nafisa Shahin : Marwari College, Ranchi.
9. Ms. Kanchan Bala : R.T.C Engineering College, Ranchi.
10. Mr. Shrikant Upadhyay : Dehradun Institute of Technology,  
Uttarakhand.
11. Mr. Ritesh Kumar : C.I.T, Tatisilwai, Ranchi.
12. Mr. Binod Kumar : C.I.T, Tatisilwai, Ranchi.
13. Mr. Syed Jaffar Abbas : Ranchi College, Ranchi.
14. Mr. Subir Chakraborty : Academic Counselor, IGNOU
15. Mr. Rahul Deo Sah : Ranchi College, Ranchi.

## Cloud computing – Opportunities and Challenges

Ekbal Rashid

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**Abstract:** Cloud computing is the web based processing where the data, application and infrastructure are provided to computers and other devices on demand over the network. It is a technique where in the service provider and the consumer both can suffice their business objective with maximum profits. It has emerged as an eternal solution for the IT majors, which could easily setup the cloud environment and provide services on pay-as-per-use basis through the internet. So what exactly is cloud computing and how did it evolve? Cloud computing technology has been a new buzzword in the IT industry and expecting a new horizon for coming world. It is a style of computing which is having dynamically scalable virtualized resources provided as a service over the Internet. It reduces the time required to procure heavy resources and boot new server instances in minutes, allowing one to quickly scale capacity, both up and down, as ones requirement changes. Nevertheless, the technology is hot in the market and is ready to cater to the small and medium business segment. As per one of the estimates from Gartner, by year 2012, 20% of enterprise market e-mail seats will be delivered via Cloud. As per another estimate from Gartner, Software as a Service is forecast to have a compound annual growth rate of 17% through 2011 for CRM, ERP and SCM markets in SMB segment. While the enterprises are exploring the possibilities of adopting this technology, it is imperative for these enterprises to critically evaluate the feasibility of this technology for their specific businesses.

**Keywords:** Cloud computing, forecast

## Social Cloud

Raja Ram Dutta

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**Abstract:** Social networking sites facebook, twitter, flicker and orkut etc has become an everyday part of many peoples and are a type of virtual community that grows tremendous popularity which support different language, group communication include people ,events ,photo uploading ,public message posting. Cloud computing is set of resource and services offered through internet. Cloud computing is a service style of computing that enable on demand network access to a share pool of resources. Social networking with Cloud computing –“Social Cloud” enable friends to share resources which create dynamic cloud infrastructure in a social network environment.

**Keywords:** Social networking with Cloud computing, Social Cloud

## Cloud Computing-Opportunities and Challenges an Application and its benefit over Cloud

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&

Shailendra Kumar Sinha

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**Abstract:** A cloud computing is emerging computer paradigm where data and services reside in massively scalable data centers in the cloud and can be accessed from any connected devices over the internet. Using cloud advantage with internet broadband connectivity, the information and communication technology will be beneficial to transform education in the future. Therefore, there is a need to redesign the educational system to meet the needs better. The advent of computers with sophisticated software has made it possible to solve many complex problems very fast and at a lower cost. This paper introduces the characteristics of the current E-Learning and then analyses the concept of cloud computing and describes the architecture of cloud computing platform by combining the features of E-Learning. We have tried to introduce cloud computing to e-learning, build an e-learning cloud, architecture and its benefits.

**Keywords —** Cloud Computing, E-learning, cloud Architecture

## Cloud Computing: Opportunity, Challenges and Future direction

Biresh Kumar

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&

Sunita Gola

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**Abstract:** A computer's operating system, applications and data are typically installed and stored in the 'traditional' computing environment. In a cloud-computing environment, individuals and businesses work with applications and data stored and/or maintained on shared machines in a web-based environment rather than physically located in the home of a user or a corporate environment. Cloud computing today has now been growing as new technologies and new business models. In distributed technology perspective, cloud computing most like client-server services like web-based or web-service but it used virtual resources to execute. This paper explains the various cloud architecture and usage models that exist and some of the benefits in using cloud services. This paper also explains the challenges and the future direction in cloud computing environment.

**Keywords:** Cloud computing, benefits, client-server

**Technical  
Assimilation  
(Papers accepted but not  
presented)**



## Cloud Computing in Geospatial Information Science

Swagata Ghosh

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**Abstract:** Geographic Information System or GIS is used to analyze the global issues like global warming, deforestation, endangered and threatened species, spread of epidemics, urban planning natural resource development etc. The geospatial science deals with the phenomenon across a wide variety of scale, spatial reasoning and scientific and computational models. The GIS software has been used in these areas of study by the geographers, geologists, meteorologists and in e-governance of the various government organizations. Highly expensive and sophisticated devices like spatiotemporal data gathering equipments, remote sensing devices, geographical positioning systems, high resolution scanners, etc are required to study, store and analyze the immense volume of spatial data produced in different data formats. The data formats may be structure specific in raster and vector based, vendor specific ESRI, MapInfo, Intergraph etc. The integration, sharing of data, visualization has been a difficult task

The recent work in distributed geo-processing include the 4D mapping to track dynamic flow modeling, data sharing and virtualization. The cloud computing is a boon in advanced GIS technologies. The cloud computing is capable of providing high level of technology which are maintained off premises and are delivered on demand as a service via internet. Cloud based GIS is offered as a service where relevant data can be accessed by the user on the cloud. Only the results of the application can be downloaded to the user's personal computer. The cloud based GIS contain online server, software as a service SaaS and mobile which is in the upcoming stage. The map services, task services and community maps are available online. The tools for Mapserver and Geoserver are available in the cloud as Arc GIS for servers. The Arc GIS for server can be deployed in the cloud via Amazon Elastic Compute Cloud (EC2). ArcLogistics, the web services Web Map Services, Web Feature Services are available as the GIS Software as a Service (SaaS).

In the present paper, an attempt has been made to study use of cloud computing in the GIS maps of Jharkhand state available in the official website.

**Keywords:** Mapserver, Geoserver

## An Algorithmic Approach to Implement Security of Storage In Clouds

Gurpreet Singh

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&

Mamta Kumari

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**Abstract:** When we observe the service agreements of Cloud Service providers, we can clearly see the absence of security related statements in most of them. In the situation, it becomes the responsibility of cloud service user/organization to store their information on clouds at their own risk, and the security requirements become utmost necessary in case of insightful data.

In this paper we propose a new algorithm which we have named as SOCC (Split on Character Choice) algorithm which is very nicely suited for storing text type information on cloud storages. The algorithm works on basic idea of availability of several storage areas on clouds. It focuses in splitting the text information on the choice of a character/series of characters in multiple parts. These parts are then stored in random or some logical selection of storages to achieve a secured and safe storeroom.

**Keywords:** Cloud Storages, SOCC

## Cloud Computing in Mobile Adhoc Network: CCMANET

Md. Amir Khusru Akhtar

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&

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**Abstract:** Together with an explosive demand of the mobile adhoc network and emerging of cloud computing concept, Cloud Computing in MANET (CCMANET) can be used as a solution for Mobile Adhoc Network. CCMANET integrates the cloud computing into the MANET to overcome obstacles related to the performance such as battery life, storage, and processing power and security such as reliability and privacy.

This paper describes a way to provide internet access for MANETs using a MANET gateway that can be used to access the cloud. CCMANET provides MANET users with the data processing and storage services in clouds. The mobile devices do not need a powerful configuration (e.g., CPU speed and memory capacity) since all the complicated computing modules can be processed in the clouds.

**Keywords:** MANET Gateway, Offloading, Mobile nodes.

## Cloud Computing Merging with Wireless Ad-hoc Network Routing Protocol for Future Application under Different Scenario

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**Abstract:** The booming technology that we are looking for future application is known as cloud computing. Cloud computing is the web based processing where the data, application and infrastructure are provided to computers and other devices on demand over the network. It is a technique where in the service provider and the consumer both can suffice their business objective with maximum profits. It has emerged as an eternal solution for the IT majors, which could easily setup the cloud environment and provide services on pay-as-per-use basis through the internet. In recent years, Cloud Computing has become an emerging technology that gains wide influence on IT systems. Cloud Computing is a distributed computing model for enabling service-oriented, on-demand network access to rapidly scalable resources. Such resources include infrastructure as a service (IaaS), development and runtime platforms as a service (PaaS), and software and business applications as a service (SaaS). Clients do not own the resources, yet applications and data are guaranteed to be available and ubiquitously accessible by means of Web services and Web APIs "in the Cloud". Several papers give only the survey how the cloud computing useful for us through literature review but analysis is not done under real scenario. So, with the help of this paper we try to implement the cloud computing with wireless ad-hoc network (MANET) using the reactive type protocol. As, reactive type protocol works on-demand feature so, it might be useful for future application under different scenario by merging cloud computing with the ad-hoc network. This work will be useful for ad-hoc network where data is needed on demand for different application like military application, natural disaster, traffic control etc.

**Keywords:** Cloud computing, MANET, Security