ISSN:2231-0711

G. Aparanjini et al | IJCSET(www.ijcset.net) | 2017 | Volume 7 Issue 8, 73-75

An Empirical and Secure Network Access Model in Cloud Computing

G. Aparanjini[1], Ch.Kodandaramu [2]

Final M.Tech Scholar [1], Associate Professor[2]

Department of Computer Science Engineering Avanthi Institute of Engineering & Technology

Abstract: Radio access network with cloud computing is one of the interesting research issues in the field of Mobile cloud computing. Even though various models proposed by various authors from years of research, every model has its own advantages and disadvantages. However, full-scale coordination in a large-scale C-RAN requires the processing of very large channel matrices, leading to high computational complexity and channel estimation overhead. We are proposed a new model with midpoint based clustering and cloud based proxy implementation to eliminate the additional overhead. Clustering implementation minimizes the computational complexity and Proxy server reduces the overhead over the main server and improves the response. A cryptographic vector model transmits the data securely, instead of traditional simple cipher text conversion. Our proposed model gives more efficient results than traditional approaches

I. INTRODUCTION

Many clustering estimations endeavor to gathered a course of action of data vectors X = (x1; :::; xn) by a more diminutive plan of models Y = (y1; :::; ym). The essential issue contains enlisting the amount of models and their ranges with a particular ultimate objective to gain the best fit, as demonstrated by an establishment [1][2].

In Previous researchers tends to dynamic clustering issues in which data is collected in the midst of a period break. Another educational accumulation is seen at each time minute, requiring a dynamic invigorate of the course of action comes to fruition. The slightest troublesome idea to convey this issue is to play out a speedy request of the data measured at each snapshot of time, overlooking the past data. The considerable clustering computations, constraining a wellbeing measure between the model and the data, could be used at each snapshot of time (e.g., c-suggests, LBG strategy). Lamentably this approach prompts prohibited results generally speaking, i.e., set up procedures can't adjust to dynamic clustering issues and they are not prepared to oversee exemptions [3].

The decision of a movement show related with the information clusters is a key issue. In a few issues, the movement of various clusters can be considered as free (e.g., on account of a video arrangement of moving items, with a cluster related to each protest). Be that as it may, in different issues there is a rational movement of the considerable number of clusters, agreeing toa worldwide model (e.g., a change of enlightenment in a static scene alters the RGB every pixel, and the shading centroids universally, e.g., by scaling the RGB parts by proper factors)[4]. For this situation, all centroids endure a similar change. Both components will be considered in the movement demonstrate received in this paper, in request to manage a vast class of issues in a bound together way.

Spatial point forms have been utilized as a part of many branches of science to display different ecological wonders. These ranges incorporate ranger service, innovation, geodesy, military applications and substantially more. Over more than one hundred years of broad research and applications, a great deal of procedures have been presented and examined in detail. These procedures likewise fill in as a skeleton for some propelled structures in stochastic geometry, e.g. stamped forms, scope forms, decorations, and so forth [5].

In the earlier decade spatial focuses forms begun to get extraordinary consideration from systems administration group in setting of demonstrating spatial hub dispersions in different versatile remote systems including impromptu, sensor and cell systems. Arbitrary appropriation of clients on the plane permits to display embellishments with network being a standout amongst the most essential. Since availability can be spoken to as a component of both separation amongst hubs and blurring condition between them, the enthusiasm for systems administration group is somewhat constrained and specialists are for the most part worried about different separation related measurements.

II. RELATED WORK

Despite the fact that different customary models proposed by different creators from years of research each model have its own advantages and disadvantages. Be that as it may, full-scale coordination in an extensive scale C-RAN requires the handling of huge channel lattices, prompting high computational multifaceted nature and channel estimation overhead. To handle this test, we set up a bound together hypothetical structure for dynamic clustering by misusing the close sparsity of extensive C-RAN channel grids Traditional model of marking of hubs is mind boggling as far as time if the base stations are inside the versatile terminal are increasingly and its complex to deal with for RRH if various solicitations gotten by the RRH is more [6].

"Dynamic Clustering" (DC) is a term particular to the Robocode world that consolidates a k-closest neighbor calculation with some bit thickness estimation. The term, authored by ABC, is a reference to k-implies clustering, however has significantly more in the same manner as k-closest neighbors. The center thought behind a DC framework is that for every choice you make, you analyze the present fight circumstance, contrast it with a log of past circumstances to discover those that are most comparative,

at that point utilize the information gathered from those past circumstances to choose what to do. This enables your bot to adjust to how much information it has gathered up until this point, and additionally to change how it arranges that information on-the-fly, since it's dependably reconsidering the first information metal. [7][8].

A data point is a location in an imaginary data space. It's not unlike a physical point in space, except that in code, we are not limited to three dimensions. The Robocode battlefield is a two-dimensional data space, filled with (x, y) coordinates which could represent a bot, a bullet, a wave, etc. We can calculate the distance between two bots using the Distance formula: \sqrt{(x_1-x_2)^2+(y_1-y_2)^2}. This is called the Euclidean distance between the bots, and it can be expanded to be used in higher-dimensional data spaces.

Afterward, when we've discovered our gathering of comparable circumstances (the closest neighbor information focuses), we can consider the Guess Factor that was delivered in every circumstance and effortlessly make an interpretation of it into a terminating edge. Critical note: Make beyond any doubt you utilize a similar question embed into your gathering of information focuses and the Hash Map. On the off chance that you create the information point twice, the focuses you pull from your inquiry won't fill in as keys into the hash delineate. In case you're not utilizing a kd-tree, you don't even truly require a different gathering — you can simply utilize the .keySet() from the Hash Map [9][10].

III. PROPOSED WORK

We propose an empirical model of CRAN with efficient processing along with security. Base stations can be maintained under mobile station or terminal and all mobile terminals can be connected to the data centers. Every base station have its own signal strength and channel capacity, it represents the cost. Multiple virtual proxies connected to mobile terminals virtually, so it minimizes the additional overload and data can be stored in data centers. Data can be securely transmitted between two mobile nodes through base stations securely through cryptographic vector model.

In radio access network, Base stations are the nodes which can receive and send data to or from other base stations through mobile terminal. Set of base stations can be connected to mobile terminal. All mobile terminals can be connected to data center or cloud. Data center or cloud data storage area can hold the data packets which are received from mobile terminals. Mobile or sender / receiver are the users can receive signal from base stations.

Proxy Implementation:

Multiple virtual proxies can be attached tomobile terminal to minimize additional overhead. In proposed CRAN, every request from basestation can be forwarded to mobile terminal, in turn it redirects the request to mobile proxy.It is not possible in traditional approach.

Clustering is an implementation which helps in grouping the similar type of objects or nodes. Instead of simple labeling of nodes, we cluster the nodes based on signal strength and channel capacity to group optimal cost based clusters. Initially centroids can be selected and cost can be computed and compared with node with respect to all centroids and place the node in optimal centroid or cluster ,repeat the same process until all nodes are processed and this process can be done iteratively up to nu number of iterations.

1: Select K points as initial centroids for initial iteration
2: until Termination condition is met (user specified maximum no of iterations)
3: Measure the cost interms of signal strength and channel cpacity
Cost :=signal strength + channel capacity
4: Assign each point to its closest centroid to form K clusters
5: select a new centroid from the cluster and start from step3
6: stop and return clusters

Secure Vector Model Data Transmission:

Data can be securely transmitted through data centers between nodes with vector model mod encoder technique. Instead of traditional model of cipher conversion, it converts the entire user data to quotient and reminder vectors with respect to delta value.

- *MOD-ENCODER Encoding Algorithm:*
  - Input : M $\in\sum$, Δ value
  - N=|M|, i.e length of M
  - Z=n * bit size, i.e bit size is the number of bits require to represent each character
  - For i=1 to n
    - Read m_i the i^{th}character from M
    - Find R
      $R[I]=I(m_i)\%\Delta$
    - Find Q
      $Q[I]=I(mi)/\Delta$
  - Representation of R
    - For I=1 to n
    - Represent R[I] in base Δ
  - Representation of Q
- *MOD-ENCODER Decoding Algorithm:*
  - Input : Bi-tuple <R,Q>, Δ value
  - Let QB=(q1,q2,….qn) be the representation in Base B
  - Interpret R as a vector of Base Δ number
  - For $1 \leq i \leq n$

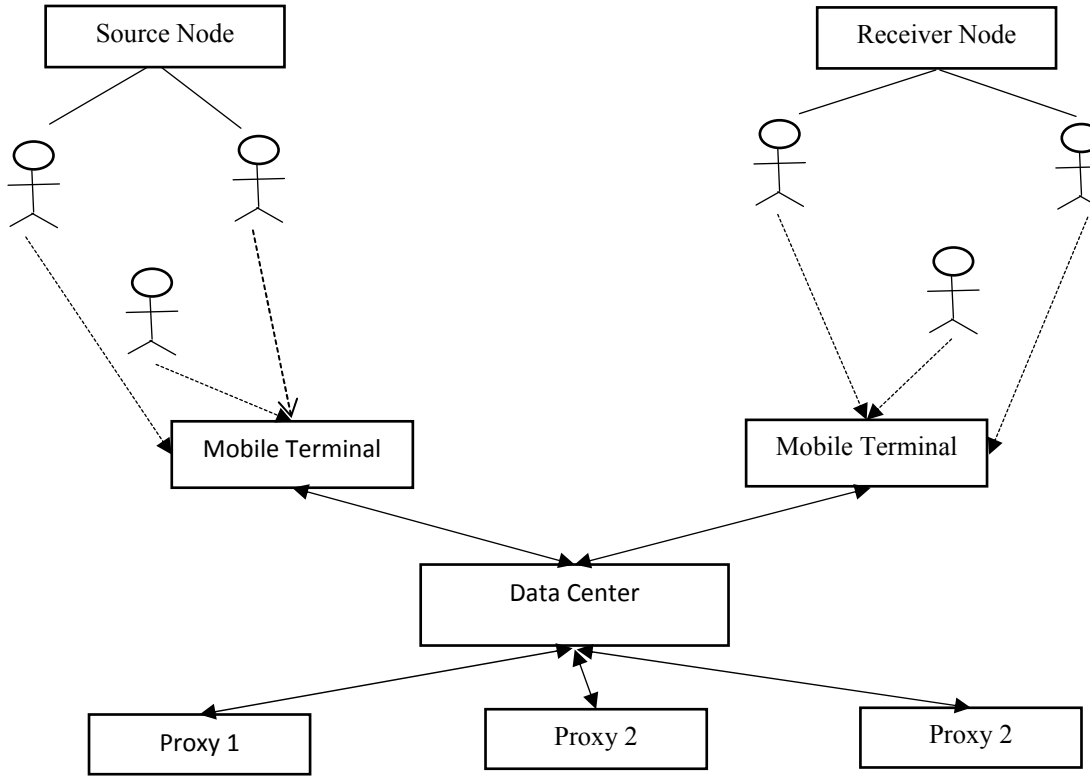
$I=qi \times \Delta + ri$

Where qi the ith digit of QB,ri the ith element of R.

Mi=I-1(i)

M=(m1,m2,….mn)

The encoded message is a bi-tuple of which, the first is a vector of quotients denoted as Qand the second is a representation of remainders denoted as Rwith respect to a modulus M. The secrecy of the message is retained by communicating Rover a secure channel using some standard encryption mechanism. The computation overhead is also reduced as the encryption is done only on one half of the encoded message.



Our simulation model implemented in C# language, we create a virtual node implementation of data center which acts as mediator which receives the data packets from mobile terminals and forwards to other terminals. We can send data to another receiver node after static set of clustering of nodes based on distance between the nodes. Mobile terminals can hold the set of nodes with specified capacity. These nodes are not real time mobile nodes but ale to send and receive data from other nodes

IV. CONCLUSION

We have been concluding our current research work with efficient integrated model of Cloud computing radio access network model,it reduces the additional overhead by minimizing the additional complexity and overhead. Every base station have its own signal strength and channel capacity, it represents the cost. Multiple virtual proxies connected to mobile terminals virtually, so it minimizes the additional overload and data can be stored in data centersOur proposed model gives more efficient results than traditional approaches.

REFERENCES

[1] J. Baliga et al., "Energy consumption in access networks," Proc. OFC, San Diego, US, 2008.
[2] China Mobile Research Institute, "C-RAN: The road towards green RAN," China Mobile Research Institute, 2011.
[3] P. Rost, et al., "Cloud technologies for flexible 5G radio access networks," IEEE Communications, vol. 52, no. 5, pp. 68-76, May 2014.
[4] M. Peng, et al., "System architecture and key technologies for 5G heterogeneous cloud radio access networks," IEEE Network, vol. 29, no. 2, pp. 6-14, April 2015.
[5] T. Pfeiffer, "Next Generation Mobile Fronthaul Architectures," Proc. OFC, Los Angeles, US, 2015.
[6] R. Zhang, "Cooperative multi-cell block diagonalization with per-basestation power constraints," IEEE J. Sel. Areas Commun, vol. 28, pp. 1435- 1445, Dec. 2010.
[7] J. Zhang, R. Chen, J. Andrews, A. Ghosh, and R. Heath, "Networked MIMO with clustered linear precoding," IEEE Trans. Wireless Commun., vol. 8, no. 4, pp. 1910-1921, 2009.
[8] A. Liu and V. Lau, "Joint power and antenna selection optimization in large cloud radio access networks," IEEE Trans. Signal Process., vol. 62, no. 5, pp. 1319-1328, Mar. 2014.
[9] M. Hong, Z. Xu, M. Razaviyayn, and Z.-Q. Luo, "Joint user grouping and linear virtual beamforming: Complexity, algorithms and approximation bounds," IEEE J. Sel. Areas Commun., vol.31, no. 10, pp. 2013-2027, 2013.
[10] A. Liu, and V. Lau, "Hierarchical interference mitigation for massive MIMO cellular networks," IEEE Trans. Signal Processing., vol. 62, no. 18, pp. 4786-4797, 2014.

BIOGRAPHIES

CH.Kodandaramu completed his M.tech , currently doing his Phd . he is currently working as *Associate* Professor in computer science department. Avanthi Institute of Engineering & Technology, A.P

G.Aparanjini studying M.Tech in computer science department. Avanthi Institute of Engineering & Technology, A.P. Research Interests are Network Security and data mining.