

Global Healthcare Village Based on Mobile Cloud Computing

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Abstract : Cloud computing being the use of hardware and software that are delivered as a service over a network has its application in the area of health care. Due to the emergency cases reported in most of the medical centers, prompt for an efficient scheme to make health data available with less response time. To this end, we propose a mobile global healthcare village (MGHV) model that combines the components of three deployment model which include country, continent and global health cloud to help in solving the problem mentioned above. In the creation of continent model, two (2) data centers are created of which one is local and the other is global. The local replay the request of residence within the continent, whereas the global replay the requirements of others. With the methods adopted, there is an assurance of the availability of relevant medical data to patients, specialists, and emergency staffs regardless of locations and time. From our intensive experiment using the simulation approach, it was observed that, broker policy scheme with respect to optimized response time, yields a very good performance in terms of reduction in response time. Though, our results are comparable to others when there is an increase in the number of virtual machines (80-640 virtual machines). The proportionality in increase of response time is within 9%. The results gotten from our simulation experiments shows that utilizing MGHV leads to the reduction of health care expenditures and helps in solving the problems of unqualified medical staffs faced by both developed and developing countries.

Keywords : cloud computing (MCC), e-healthcare, availability, response time, service broker policy

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