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An Approach Using Rest to Solve VTU Server Problem during the Retrieval of Result

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Abstract: **Web service is one of the software applications, XML-based languages are used to access the web service. Representational State Transfer (REST) is an architectural style which brings several benefits for integrating services and applications. REST is simple, interoperable and flexible way of writing web services which is different from other techniques. It has been developed in parallel with HTTP protocol. REST consumes less bandwidth and it makes full use of Web features, and also has the advantage of simplicity, scalability. The implementation of REST over cloud is demonstrated by taking the example of the retrieving the results from the VTU website. This reduces the load on the server and helps in fast access, reliable and better maintenance.**

Keywords: **REST, XML, VTU, SOAP.**

I. INTRODUCTION

Cloud computing is a movement started sometime during the middle of the first decade of the new millennium. The movement is motivated by the idea that information processing can be done more efficiently on large farms of computing and storage systems accessible via the Internet. Cloud computing reinforces the idea that computing and communication are deeply intertwined. Advances in one field are critical for the other. Indeed, cloud computing could not emerge as a feasible alternative to the traditional paradigms for data-intensive applications before the Internet was able to support high-bandwidth, low-latency, reliable, low-cost communication; at the same time, modern networks could not function without powerful computing systems to manage them. High-performance switches are critical elements of both networks and computer clouds.

Representational State Transfer (REST) is used by many Web-based systems today. Originally REST was proposed as a software architectural style for distributed systems in Roy Fieldings' PhD dissertation. Roy Fieldings' uses a set of REST constraints, such as uniform interface, stateless, and client-server, these are design restrictions prescribed by the REST architectural style.

For distributed hypermedia systems Representational State Transfer (REST) is a style of software architecture. It uses GET, PUT, and DELETE to read, write, and delete the data. REST is very easy to use and alternative to *RPC*, *CORBA*, or Web Services such as *SOAP* or *WSDL*. Consider an example, , to retrieve the address of an individual from a database, a *REST* system sends a URL specifying the network address of the database, the name of the individual, and the specific attribute in the record the client application wants to retrieve – in this case, the address. If SOAP version is considered, such a request consists of ten lines or more of XML. Address of the individual is responded by the *REST* server. This confirms the statement that *REST* is a lightweight. As far as usability is concerned, *REST* is easier to build from scratch and to debug, but *SOAP* is supported by tools that use self-documentation (e.g., *WSDL* to generate the code to connect).

An emerging paradigm Cloud computing is gaining more attention by the day. Result retrieval is the activity of obtaining the result from a collection of results which is stored in the storage system like cloud. Visvesvaraya Technological University (VTU) conducts semester examination for graduates and post graduates technical courses. Students always become so curious to know their results once they complete their examination and they start wandering here and there to

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get any notification related to the results. Students are also curious and bit nervous about the result. The result of the student of the university is retrieved by using the USN which is assigned to the each student by the university.

When result is out all students try to check their results. Because of huge number of students accessing same server, server becomes very busy and server goes down. It is difficult for students to view their results because server is unavailable. To avoid this REST approach is used which provides solution to this problem.

II. EXISTING SYSTEM

When the results are announced, servers often go down and due to this, students face a lot of difficulty to retrieve results. Huge number of students appears in the examination. So those students are waiting for the result. Once the result is out, all the students who appear in the examination check the result from VTU website as shown in Fig 1.but VTU website is very busy because of huge number of request from the each students.

1. DRAWBACKS:

When result is out all students try to check their results. Because of huge number of students accessing same server at the same time, server becomes very busy and server goes down. It is difficult for students to view their results because server is unavailable.

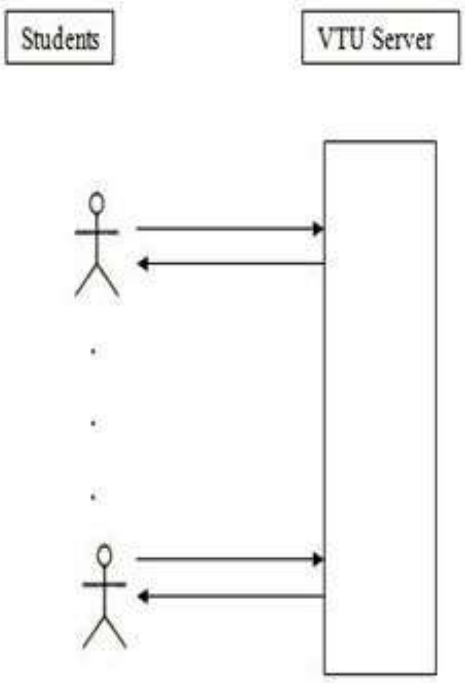

Fig. 1: Accessing result from VTU server

III. PROPOSED SYSTEM

Once the result is announced, servers often unavailable and because of this, for students it is difficult to retrieve results. Many students appear in the examination. All students try to check their result when the result is out but server is very busy because of huge number of request from the each student.

To avoid this An Approach Using REST to Solve VTU Server Problem during the Retrieval of Result is proposed which includes main cloud and campus cloud. REST make full use of Web features, and also has the advantage of simplicity. Main cloud contains results of all college students. If we consider one college and the campus cloud related to that college when the first student from that college sends the request to the campus cloud, the request is forwarded to the main cloud and all the results of that college is send back to the campus cloud. So now students of that college can access the result in faster manner as shown in the Fig 2.

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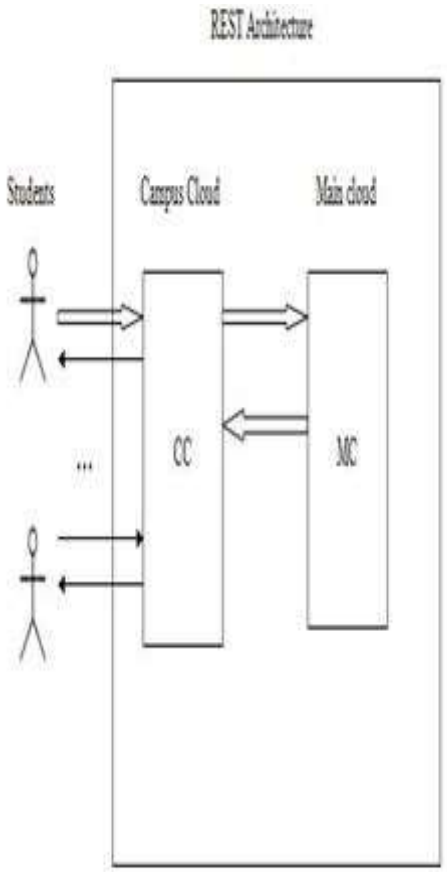

Fig. 2: Accessing result from the main cloud along with REST for one college

1. MOTIVATION:

University exams are itself a big deal for students and if there are some added diminishing aspects to it then it just piles on to some extra pressure. Once the VTU result is out all the students of different branch try to check their results by using their unique USN. The result retrieval process begins when student enters a USN which is provided by the university. Many people are trying to access the same VTU server at the same time because of this server goes down and results are unavailable. The problem faced by the VTU student to retrieve the result from VTU server is one of the motivations.

When result is out from VTU, students are eager to check their results. Students are always curious to see their result but the VTU result is not available because of very busy server.

2. PROBLEM STATEMENT:

Proposed model takes into account the problems of overloading the server by sending many request for retrieval of VTU result of student bearing unique USN. Server goes down if many requests arrive from many students at the same time which is also handled by the proposed model.

3. OBJECTIVES:

- Faster result access
- User friendly
- Reliable
- To improve the overall performance
- To reduce the overhead on the VTU server

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4. METHODOLOGY:

Huge number of students accessing same server at the same time, server becomes very busy and server goes down. It is difficult for students to view their results because server is unavailable. To avoid this An Approach Using REST Architecture to Solve VTU Server Problem during The Retrieval of Result is proposed which includes main cloud and campus cloud as shown in Fig 2.

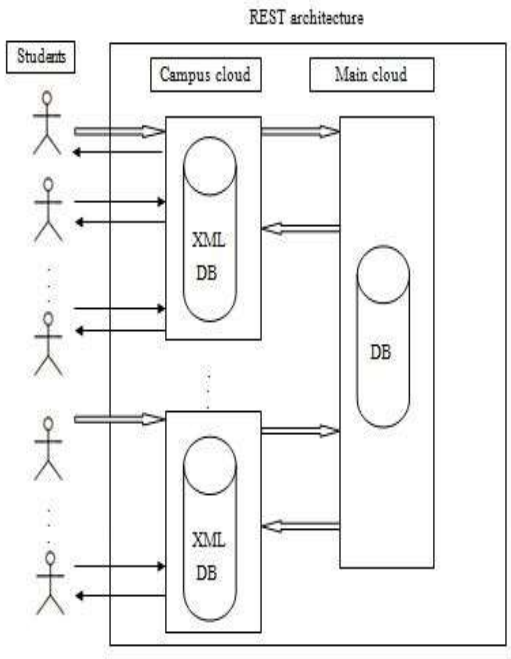

Fig. 3: Accessing result from main cloud along with REST

5. APPLICATIONS:

- Faster VTU result access
- Government official sites
- Data driven sites

IV. CONCLUSION

New mode of thought for service abstraction is REST. REST ensures to truly understand the original look of HTTP and fully utilize current Web features. A problem of overloading the server is taken into consideration by the proposed model by sending the bulk request for retrieval of result of student bearing unique USN. The benefits of using proposed method could be, faster result access, user friendly, reliable, improvement of overall performance and reduce the overhead on the server.

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