

DYNAMIC VIRTUAL SERVER FOR OPTIMIZED WEB SERVICE INTERACTIONJayakumar Loganathan¹, S. Janakiraman², T.P.Latchoumi³, B. Shanthoshini⁴^{1,3,4} Department of Computer Science, VFSTR, Andhra Pradesh² Department of Banking Technology, Pondicherry University, Puducherry

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Abstract: This paper comes under the web services domain. In service discovery method using a decentralized service discovery approach Chord4S suffer from problems such as Space & Time Complexity, Replication. In this proposed Dynamic Virtual Server method, we address this problem with an efficient way of creating virtual server. In this, the temporary server will be created dynamically in which it minimizes the difficulty of Chord4S. Within this system when a client request for data, the request is passed through the application server. The application server holds the position of data so that the request is passed to the particular server which holds the requested data. Then the requested data is given to the associated client's dynamic virtual server from there the client gains the data. The data in the dynamic server will be in the format of XML.

Keywords: Web Services, Virtual Server, UDDI, SOAP, WSDL, XML.

1. Introduction

The Web service is at when a technology, a method, and a practice. By way of a technology, a set of rules that forms on the worldwide connectivity complete possible by SOAP and the interactions of both the formats XML and HTTP. While in method, an approach to software that find and linking over the Web. For instance, an industry-wide apprehension that they spread out, lightly joined, synergistic Web can't be ignored. Web services build in SOAP's ability for distributed, dispersed network communication through addition of new protocols and convention that depict commercial purposes of paying attention events in excess of the Internet as of some Web-connected device. It represents a business-wise reaction to the essential for a malleable and effective business cooperation background. In principle, a system toward the link insecurely fixed system by technology that doesn't fix them near a fussy programming language, section model, or platform. It signifies a discrete commercial method through underneath rules to function by relating them see-through itself toward employers of the Network,

actuality invoked in an isolated user, and frequent answer.

It contains: 1. Describing: It describes functionality and attributes of web services therefore other applications can make ready in what way to use it. Revealing: Registries of web services through a repository that contains white page asset of basic service-provider data, yellow page lists services through classification, and green page describes in what way to attach and practice the services.

Being invoked, at what time web service has been situated, a remote request can appeal to the service. Giving response: while a service has been invoked, the responses are returned back to the requesting service. Web services are the desired one to allow industries to use the network to publish, determine, and merge other web services through worldwide strengthening of SOAP. The information is that releasing of web services needs just the network income that inheritance code and information in addition to object system can plug interested in the web services framework. This potential is predictable to effect in innovative products, and value chains with global scope, delivery over wired or wireless networks. But the track record of the Web, XML, and now SOAP indicate that novel technology will quickly appear.

XML (Extensible Markup Language) is an information storage toolkit and information to webmasters through configurable tool. It captured the mind's eye technology of all industries. A list of XML features is listed below: It stores and arranges some kind of data based on user requirements. By using the open standard, it is not tied to the fortunes of some particular company, nor governed by any specific software. Through Unicode as its usual character set, it supports an overwhelming of writing scripts and symbols that is converted from Scandinavian runic font to Chinese Han ideographs.

It deals several methods to check the worth of a paper, through a system for grammar, interior connection testing, and evaluation of document prototypes. It is very

clear, simple grammar and unambiguous in structure. It remains simple to read via a human as well as program like. It is simply combining through style sheets and used to make arranged forms in some style that the user wants. The information clarity in construction does not become in the way of plan changes.

This paper deals have followed. In Section 2, we briefly described literature survey of web services. In section 3, we discuss about the existing system and its issues sensing. In section 4, we discussed the proposed system on dynamic virtual server for optimized web service interaction. In section 5, we described the results of experimentation. Finally, we summarize our work in Section 6.

2. Literature Survey

Web services are a software component that is designed to support interoperability in the network between machines to machine. A web provides the facilities via WWW and a Service that provided by some provider. A Web is an open standard protocol. This chapter describes about the survey of the project related papers. It also comprises of the merits and draw-backs of those papers. The problem statement in the existing system is provided and the feasibility study of the project is done.

Web services support distributed service-based on worldwide [1]. Still, the scale of the web has been expressively fewer initial expected. The poor uptake of this paper is isolation facilities and the absence of social associations. In this paper, they propose principles of the linked social service based on publishing facilities on the exposed Web. The issue in taken from this paper is quality in service discovery and time and success rate are very low.

While searching in web service the access point is not at all attached to registries of service for determining the Web services. In this paper [2], web services inter-faces can be conducted by analytical investigation. WSCE (Web Service Crawler Engine) is used to collect metadata information over UBRs. The issue in this paper is weak service retrieval process. In service composition, Service-oriented Computing (SOC) is the only goal or aim. The number of web ser-vices increases, so that SOC has been developed. To achieve the performance in complexity, composite ser-vices are constructed. However, in the web service net-work, we have two issues: poor connectivity and negative links. In this paper [3], two methods were proposed; one is enriching web service by valuable services. And other is to remove and identify the negative links based on user composite services.

This paper [4], introduces the issues in a particular location in the web service. Required web service is not getting in time, inaccurate and irksome. In this paper, distributed discovery web services are designed to be flexible, scalable and reliable. The architecture in this paper based on intelligent search and distributed space shared. Only issue in this paper is to improve the functionality of the proposed architecture.

This paper presents [5], P2P (peer-to-peer) indexing and storing that maintenances in large-scale, distributed, real-time examine abilities. The issue in this system supports difficult requests contains partial keywords and wild cards. Innovation in dimension reduces indexing. The specification in this paper defines a multicast discovery protocol for service location. The aim of this discovery is for searching the client in one or more targets. Target service is located by using a name, client's resolution request message and target service matches response directly to the client.

A model driven approach is used to validate the arrangements of web services. It checks the web service Message Sequence Charts (MSCs), and Finite State Process (FSP) algebra process [6]. BPEL4WS are automatically converted to FSP toward permitting an equivalence suggestion confirmation method. An early waterfall method provides web service arrangements can be improved understanding of the behavior of exhibit work.

3. Existing System

Service discovery approach in web services expertise is based on worldwide explanation, discovery and the combination of UDDI. Centralized service registers use UDDI may simply suffer from issues in an open SOC surroundings is shown in Fig. 1.

SOAS (Service-Of-A-Service) is a platform to build worldwide public service networks and also permits utilization of the network, provided that LSSaaS. First, the crawler distributed web services and provider sends the service, which just monitor the principles of service. Second, the isolated service receives by the translator based on metaphors because of OWL-S, WSDL, and translates into RDF based on the representation of SOAS. Third, the recommender facilities for inaccessible facilities are used by the recommendation algorithm. Fourth, the worldwide network of Social Service adds services by social links via the assembly procedure.

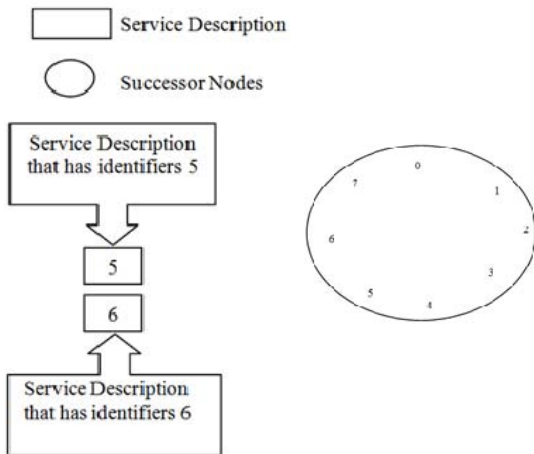


Fig. 1. Existing system

Even though the structured system can potentially get better service discovery scalability, applied directly a DHT system to distributed service finding feeble in assuring the easiness of use of available service depiction.

It takes the problem on:

- Waiting Time
- Bottleneck
- Quality in service discovery
- Low success rate
- Poor retrieval process

4. Proposed System

In this proposed system when a client request for data, it is passed through the application server. The application server holds the location of data so that the re-quest is passed to the particular server which holds the requested data. Then the requested data is given to the associated client's dynamic server from there the client obtains the data. The data in the dynamic Server will be in the format of XML.

In Fig. 2, first the client request is sent to the application server, the application server maintains the location of data. The request is now sent to the server. After the request reaches the server, the server initializes the request; it lists the available services and then the response to the client request.

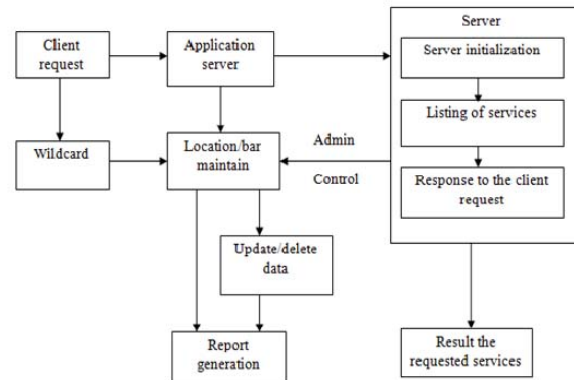


Fig. 2. Proposed architecture

Location bar maintains the report generation. If any updating available in the server or delete any data in the server can modify it. This is the way the proposed architecture works.

It is used to reduce the issues or problems in chord 4s like reducing the waiting time, reducing the Time Complexity. The main goal of planning chords are to improve the large accessibility of service described in unstable environments by allocating descriptions of functionality same services into dissimilar successor nodes. Suppose if one node fails, a service consumer is quiet talented to discover the functionality of same services that are kept at other successor nodes.

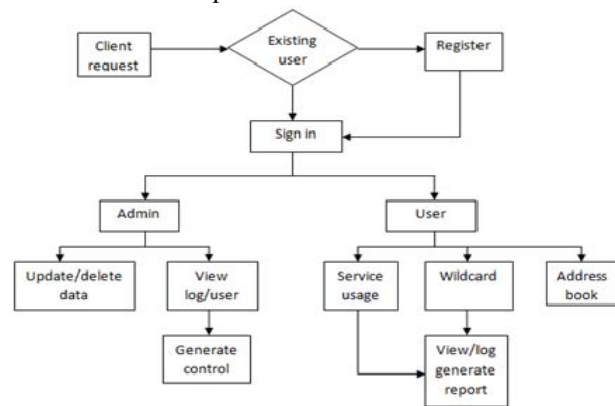


Fig. 3. Client request

The peer-to-peer network in Fig. 3, tasks (such as searching for files) are shared among multiple interconnected peers (such as processing power, storage or net-work bandwidth) directly available on extra network participants, lacking the need for centralized coordination by servers. The service computing process provides the distributed application for the authenticated users. It has a scalable, reliable, and a robust service

discovery mechanism. It is used to give the service oriented user authentication.

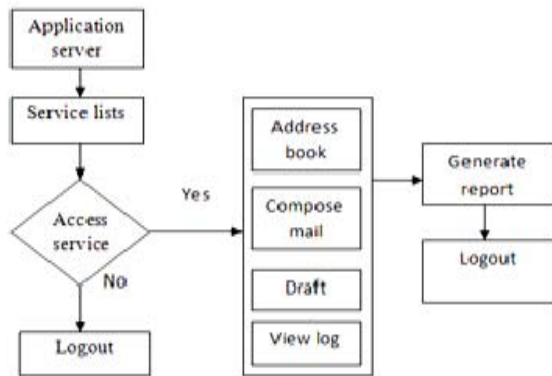


Fig. 4. Discovery of service

The service computing process provides the distributed application for the authenticated users. It has a scalable, reliable, and a robust service discovery mechanism is shown in Fig. 4. It is used to give the service oriented user authentication. The service provider provides efficient quality of service for query of the user requirements. Forward service query provides fast and reliable data service through peer to peer network.

In Fig. 5, forward the query to the wild card is same as forward service specific queries. As an alternative of all the function bits, only one bit is generated from the precise service information.

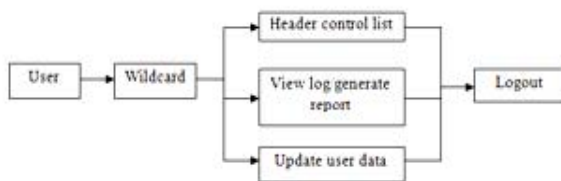


Fig. 5. Querying in the wild card

5. Experimental Results

We have created banking web application for performance analysis of our proposed virtual sever system. While executing this application, we simulated a virtual intermediate agent for accessing data from the database. Also we calculated time of each and every event in the webpage and data access from database. Fig.8 time chart of web page performance analysis shows that reduced amount of time of each and every access.

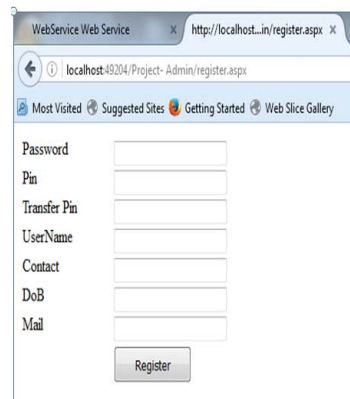
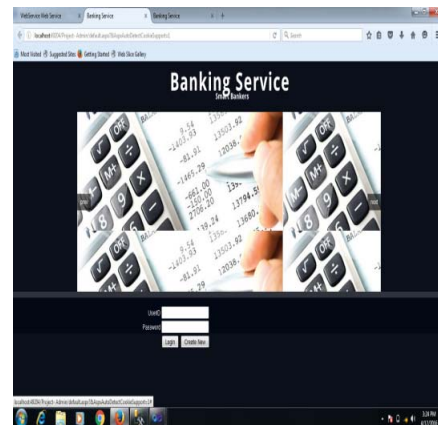


Fig. 6. Banking web application (login.aspx and reg.aspx)

The above Fig. 6 shows the login page of banking application using web service. This contains minimal set of stylish items and external data's. And following new user registration in banking service is designed with some classical model; it doesn't contain any stylish information. So the time to rollover, javascript validation only takes some time. We have used server controls in the page design and time calculation part of webpage done at c-sharp section. Some of the web pages accesses data from database with some conditional queries, specifically in that scenario, our virtual server out performs well. It reduces 10% of the overall time to access large set of data, for example In Fig.7. Here, displaying number of online banking users is the problem. It takes much time when numbers of customers are more.

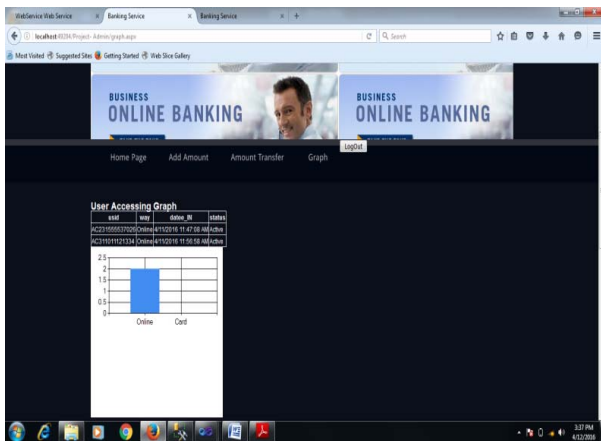


Fig. 7 webpage uses database operations (finding number of online users)

5.1 Stair-case Performance Analysis of Bank Application

Our bank application contains varieties of data contents, stylish contents such as GIF, JPG, JavaScript and other operations. The following time analysis shows the time (ms) for retrieving data from database and loading web page elements.

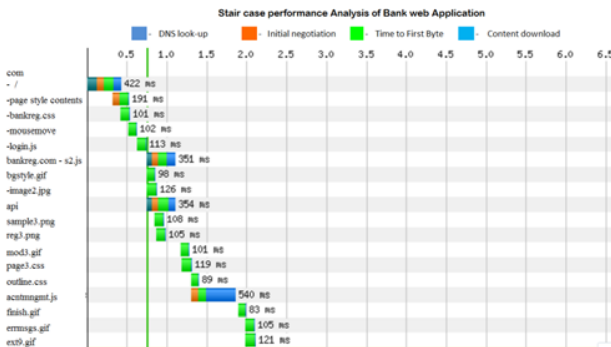


Fig. 8. Web page analysis with virtual server concept in web service

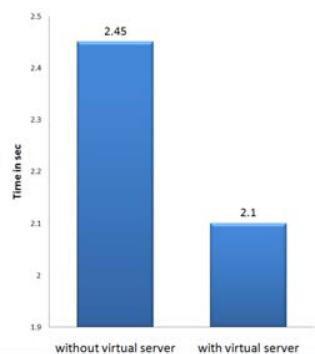


Fig. 9. Comparison of Overall Access time of Webpage After comparing the webpage access time between web service with virtual server and without server clearly shows that reduced time in our proposed scheme. In existing methods of accessing data in application server takes 2.45 sec in this example, but the same web page takes 2.1 sec for completing the same contents from application server and database server because of additional virtual server. Nearly 10% performance improvement in time of accessing the service has been verified as above.

6. Conclusion

Thus, our work using Dynamic virtual network framework, initiates indexing of data and to reduce the problem of waiting times and the problem of Bottleneck when compared to earlier techniques. When a client requests for a data, the request is passed through the application server. The application server holds the location of data so that the request is passed to the particular server which holds the requested data. Then the requested data is given to the associated client's dynamic virtual server from there the client obtains the data. The data in the dynamic server will be in the format of XML. And also it increases success rates and improve the quality of the retrieval process.

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