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Review of web service technologies: Soap vs XML

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ABSTRACT

In this paper, Web services Technology We are discussed about SOAP and XML technologies. The reason for using XML technology is easy to transmit data. SOAP technology in web pages is used for broadcasting a message. The information between systems are also for application of existing commutative structure in SOAP. WSDL technologies are investigated uniquely in web service technologies. WSDL is a standard based on XML. The searchable address giving for web service is available in UDDI technology. The advantages of using it are explained for programmers easily.

Keywords: XML, SOAP, WSDL, UDDI, OOP, Reliability.

ABBREVATIONS

- **E**xtensible **M**arkup **L**anguage (**XML**)
- **S**imple **O**bject **A**ccess **P**rotocol (**SOAP**)
- **W**eb **S**ervices **D**escription **L**anguage (**WSDL**)
- **U**niversal **D**escription, **D**iscovery and **I**ntegration (**UDDI**)

INTRODUCTION

People who are familiar with IT Over 66% have heard the name web server for sure. A web service is a standard based language- agnostic software entity, which accepts specially formatted requests from other software. Neutral communication protocols, producing application specific responses. The web world and XML increased free technology data and the information between systems. To simplify commercial processing, programs one shall connect to each other and use common data of each other. Web services is the software using XML to transfer data between the software. This is the Program to launched in a computer sends data to other computer. The program in second computer does the actions and returns results based on internet structures for the first program [1, 2].

WEB SERVICES

Web services can use numerous protocols in internet. However they use HTTP, which is the most important one in web service. Web services can do anything. Web service has the properties of making it different from other technologies and computer models. Paul Flessner, vice-president of Microsoft has mentioned several characteristics for a web service in dot NET Enterprise Server. First is that web services are programmable. A web service keeps secret what it does. When a program gave data to it, web service would process it and would return that data for the main program as respond. Second, web services are made base on XML and the XMLs based on SOAP or Simple Object Access Protocol are technologies provide web services with the possibility to connect to other programs even if those programs are written in different languages and are launched in different computers [3].

A web service is a collection of open protocols standards used for exchanging data between applications and systems. A Software applications written in the various languages and running on various platforms can be used for web services to exchange the data over computer networks like

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internet in a manner similar to interposes communication on a single computer.

These explain what they do and their usage method. These are called Web Services Description Language (WSDL). WSDL is a standard based on XML. Besides, web services are detectable. It's the program writer can search for desired web service in directories such as Universal Description, Discovery and Integration (UDDI). UDDI is another standard for web service. UDDI is speed interoperability and adoption for web services.

WEB TECHNOLOGY

The main reasons for separating web service from other existing technologies is use of XML and some other technical standards such as SOAP, WSDL and UDDI. These technologies provide the field for connection between programs in a way independent from program writing language, operating system and hardware.

SOAP creates a communication mechanism between software and web service. SOAP is one of the most prevalent standards used for communications.

WSDL is a unique method for describing web service provides a machine-readable description of how service can be called what parameters it accepts and what data structure it returns. UDDI is speed interoperability and adoption for web services. Standards-based specifications for service description and discovery .When they get together in a place, of these technologies provide program writer with the possibility to prepare the programs as service and launch them on internet [3].

XML

Extensible Markup Language (XML) is the technology vastly supported language .It is a text – based Markup Language derived from standard generalized Markup Language. It works behind the scene to simplify the creation of HTML documents for large websites. First time in World Wide Web consortium or W3Cand is available as an open standard in 1996, it was created for simplifying data transmission. By expansion of using web in 90s, little by little the limitations HTML revealed. W3C added to a series of facilities on it along developing HTML that provided the possibility to change structure of texts in HTML. This is called Cascade Style Sheet (CSS). Development of CSS is a just temporary solution. A standard, extensible method with strong structure should has been created. As a result, W3C made XML. XML has the power and extensibility of Standard Generalized Markup Language (SGML) and the simplicity that web service required [4].

Independence of the data or separation of content from appearance is assumed is a characteristic for XML. XML texts just describe the data and the program familiar to XML can make any change to the data inside XML file regardless of language and operating system. XML texts are consistent of the data without a special form. Therefore, display form of a XML file can be different in a PC, PDA and the Cell Phone.

When a program confronts a XML text, it will be ensure that contains its subjective data. This assurance is gained by the programs such as XML Parser .The analyzers investigate the orders of XML text. Also, they help program to interpret XML texts. Each XML text can voluntarily refer to the another text containing structure of the main XML file. The second XML text is called Document Type Definition (DTD).

XML does not qualify for a programming language as it does not perform any computation or algorithms. When XML file refers to a DTD, the analyzer program investigates the main file with DTD to find out whether it is formed by the same structure described in DTD or not. If a XML analyzer can correctly process a text, the XML text is also a formatted appropriately. When most software increases their web facilities and it seems that XML will be chosen as a global technology to transmit data between programs. The programs using XML will be able understand the XML of each other. XML is able to store and arrange the data, which can customize your data handling needs. XML is easily merged with style sheets.

SOAP

Simple Object Access Protocol (SOAP) is one of the most prevalent standards it used in web services. According to evident, first time it was made by Developer Mentor, User Land Company and Microsoft in 1998 and its first version was presented in 1999. The version 1.2 is indicative of hard work and high eagerness of IT to use SOAP and web services.

It is an object oriented technology that defines a standard protocols it used for exchanging XML- based messages.

The main objective of SOAP is a program running in one operating system to communicate with a program running in either the same or different operating systems using HTTP and XML. SOAP is to create a method to send data between system distributed on net. When a program starts to communicate with web services, SOAP messages are used for connection and data transmission between a different operating systems. This means that this message has a requested web service to do something. Web service uses SOAP message to a start its operation. At the end, sends the results for the main program with a SOAP messages.

SOAP is an XML-based protocol for accessing web services over HTTP for exchange the information in the implementation of Web Services in computer networks.

SOAP protocol is a XML- based protocol is composed of an series of XML schemas. The XML schemas specify the shape of messages which are transmitted on the net, like as the data and the information of that facilitate text's interpretation for the third party. In fact, SOAP is a designed for transmission of the data on internet via HTTP protocol; however it can be also used in other models such as LAN. When web services use HTTP, they can be easily pass through Firewall.

It consists of three important parts: Envelope, Header and Body. Envelope is used for construct defines an overall framework for expressing what is in a message and who should deal with it. The envelop is always the root element of a SOAP message The envelop elements contains an optional header element followed by a mandatory body element. The next part of the SOAP messages is its Header, which is an optional part and explains issues such as security and routing. It may contain the number of elements from any namespace. The Header blocks should contain the information that influences payload processing. Body is a part of the SOAP message in which subjective data are placed. Data is based on the XML and they follow a specific model that explains schemas. These XML schemas help the receiver to correctly interpret the text. SOAP messages are taken by SOAP servers and they are interpreted so that is a result of that web servers become active and so their function.

In order to use web services in SOAP, a large number of protocols are in use. For example , XML-RPC is a technology which was providing the same facility. Though, most of great software producers prefer SOAP than other technologies. There are a lot of reasons for choosing SOAP that is most of them are about these protocol which is beyond this text.

SOAP parsers to the process for the requests received by the limited process power of a mobile devices. Major priority of SOAP compared to other technologies is extensibility, simplicity and internal functionality.

CONCLUSION

While working with classes, one may work in different applications with different classes. this reduce eligibility and makes extensibility difficult. In using web service each time we work with a special web service and we work base on those specific web service methods no matter where and in which application weare.

Web services are one of the key elements they are extremely versatile software elements. One may work in different classes and in different applications.

Provides a coherent framework that allows Specific technologies to be considered in a logical context and facilities the work of Specification writers and architects. Identifies gaps and inconsistencies in existing Web Services specifications. Web service are able to expose there resource in the generally accessible way because there are adhere to recognized standards. A web service policy describes its own functionality through a WSDL file. Communicate with other applications via XML message, often formatted with SOAP

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