



International Journal of Research Publication and Reviews

Journal homepage: www.ijrpr.com ISSN 2582-7421

Internet and World Wide Web Technologies

Prof Bharane V.G.

Asst. Professor, S. B. Patil college of Engineering Indapur. bharanevaishali11@gmail.com

ABSTRACT

Moment, the Internet is a public, collaborative and tone- sustaining installation accessible to hundreds of millions of people worldwide. It's used by numerous as the primary source of information consumption, and fueled the creation and growth of its own social ecosystem through social media and content sharing. likewise, e-commerce, or online shopping, has come one of the largest uses of the Internet. The advance of the World Wide Web(WWW) technologies have driven the operation of network to new operations and at an unknown rate. originally, the new operations are in the areas of information reclamation, using Web cyber surfers to recoup information at the Web spots fleetly, other operations surfaced. With new tools similar as JAVA and MS- Internet Explorer coming on the network every many months, new operations of WWW technologies expand into traditional business operation areas similar as online sale processing(OLTP), data warehousing, and networked enterprise. It seems that Internet will spread over all the businesses and each over the world. With such a wide spread Internet and tremendous growth rate, Internet also has its problems. In this paper elaborates the technologies of the Internet and WWW and the openings for the assiduity, including software, tackle, and network outfit companies, to overcome these problems and to enable the network for critical business operations. Examples of such applications are also given in this paper.

I. INTRODUCTION

The Internet started in the 1960s as a way for government researchers to partake information. Computers in the'60s were large and immobile and in order to make use of information stored in any one computer, one had to either travel to the point of the computer or have glamorous computer tapes transferred through the conventional postal system. Another catalyst in the conformation of the Internet was the heating up of the Cold War. The Soviet Union's launch of the Sputnik satellite prodded the U.S. Defense Department to consider ways information could still be circulated indeed after a nuclear attack. This eventually led to the conformation of the ARPANET(Advanced Research Projects Agency Network), the network that ultimately evolved into what we now know as the Internet. ARPANET was a great success but class was limited to certain academic and disquisition associations who had contracts with the Defense Department. In response to this, other networks were created to give information sharing. January 1, 1983 is considered the sanctioned birthday of the Internet. Prior to this, the various computer networks did not have a standard way to communicate with each other. A new dispatches protocol was established called Transfer Control Protocol/ Internetwork Protocol(TCP/ IP). This allowed different kinds of computers on different networks to" talk" to each other. ARPANET and the Defense Data Network officially changed to the TCP/ IP standard on January 1, 1983, hence the birth of the Internet. All networks could now be connected by a universal language. This allowed different kinds of computers on different networks to" talk" to each other. ARPANET and the Defense Data Network officially changed to the TCP/ IP standard on January 1, 1983, hence the birth of the Internet. All networks could now be connected by a universal language. The image over is a scale model of the UNIVAC I(the name stood for Universal Automatic Computer) which was delivered to the Census Bureau in 1951. It counted some 16,000 pounds, used 5,000 vacuum tubes, and could perform about 1,000 calculations per second. It was the first American marketable computer, as well as the first computer designed for business use.(Business computers like the UNIVAC reused data more slowly than the IAS- type machines, but were designed for fast input and affair.) The first numerous deals were to government agencies, the A.C. Nielsen Company, and the Prudential Insurance Company. The first UNIVAC for business operations was installed at the General Electric Appliance Division, to do payroll, in 1954. By 1957 Remington- Rand(which had bought the Eckert- Computer Corporation in 1950) had sold forty- six machines. Section II elaborates the Internet problems which are basically the road blocks for business operations on Internet and the general areas of openings. Section III presents some specific technological and business openings for working these problems. Section IV specifies some operation samples. Section V concludes the paper.

II. PROBLEMS AND OPPORTUNITIES

In this section describes the problems, roadblocks, or inhibitors for doing business on Internet. These problems are divide Within each category, problems and opportunities for solving these problems are described.

A. Performance:

This is the problem of response time and through put on Internet and WWW. Most of problems are in the limited bandwidth of the network especially the access network and equipment. On the Web server side, though it is possible to add more machines or more powerful machines to improve performance, the maintenance cost will increase owing to more complex system architecture. Any Internet enabling products that have high performance, any product that can measure performance of Internet and WWW applications, and network management systems seem to be needed in the market. Any products that allows optimal distribution of functions, data, and trait load at design time and run time based on traffic pattern would be desirable.

B. Security:

The openness of the Internet comes with security risks. Downloading freeware or hastily tested software of vendors from the net present the risks of virus infection and creating security holes in a client system. Ear dropping, and hijacking valuable information by unintended parties and hacking by intruders are also potential risks in doing business on the net. Therefore, firewall products, authentication and authorization products, and security audit products seem to be in demand.

C. Lack of applications:

Although the WWW technologies has advanced at such a rapid rate, the applications on the Internet are still limited comparing to the universe of all business applications that are implemented in the traditional ways. Traditional business applications are: online transaction processing, data warehouse, enterprise networking (e.g., work groups), and electronic commerce. Some other applications that are more consumer oriented are entertainment and education online. Although, there are quite a few applications already on Internet that fall into these categories, there are still more opportunities in re-implementing traditional applications on the net and/or developing new applications. More examples of applications are discussed in Section IV.

D. Information overloaded:

When Internet and WWW are used as an information base, the vast majority of the information base may provide little benefit to a person at a certain time. On the other hand, one may miss the critical information because of the difficulty to get accurate search results from such a large information base. Search engines exist, but improvement can be made, for example, to personalize the information search and better content search and concept search.

E. Lack of appropriate policy and regulation:

Since there is no clear regulation and policy on how business must be conducted on the Internet, there will be business and legal issues that companies would have problems to deal with. For example, Internet can be used to by-pass regulated telecommunication services and could be misused to conduct unethical or even unlawful businesses. There are also issues about intellectual property and legal contracts in electronic forms. The opportunity in this area is to develop products to enforce the regulation and policy. Some of the security technologies used in providing security features on the net may be used in this area.

III. INTERNET/WWW TECHNOLOGIES AND OPPORTUNITIES

This section describes the technologies of Internet and WWW that can be used to solve the previously stated problems and capture the opportunities. These technologies are mostly components of an end to end solution. It would be a challenge to integrate these components into a solution and to develop a new application.

A. Protocols:

TCP/IP is the protocol for Internet. It consists of a suite of protocols that include connection oriented TCP, connectionless UDP, IP, and the TCP/IP standard applications protocols: FTP, Sh4TP, and TELNET. The P protocol has been evolved since its inception. The current version is Version 4 referred to as IPv4. Version 6 of IP, IPv6 will be the next generation of IP.

B. Development tool and Markup Language :

Perl is a language for writing CGI (Common Gateway Interface) scripts. However, other programming languages can also be used such C, and Visual Basic. JAVA [5] is a language for develop interactive applications that run on multiple platforms. JAVA also has been extended by Sun Microsystem to include an operating system, JAVA OS, that can be scaled to run on a range or hardware platforms including a telephone set and a set top box. JAVA Beam is an API that provides interface to COMA objects and other JAVA objects anywhere in the net. The mechanism underneath JAVA Beans is JAVA Object Everywhere (JOE) and JAVA Database Connectivity (JDBC). Other organizations start to develop standards and systems around JAVA. For example, the Object Database Management Group (ODMG) is producing a specification of object oriented database management for JAVA [6].

C. Access Devices:

A typical access devices for browsing Internet NW is a PC with a modem and a software browser program. To be efficient, the modem speed needs to be 28.8K baud, though a 14.4K baud modem provides marginal speed performance. There are a number of new products coming into the market as alternatives for accessing the Internet/WWW.

1. High Speed Modems:

Current POTS line modem technology provides modem speed up to 28.8K baud which may be adequate for regular text and some amount of multimedia information access. For video information, much higher speed is required. Recently, Diamond Multimedia Systems will upgrade its 28.8K baud modems to 33.6K baud. However, this speed is still not high enough for video information which would require 384K baud for good quality motion picture. An ISDN modem would provide such speed. However, ISDN is not generally available and is expensive to install. One example of the alternative high speed modems is the cable modem [8] that is used with a cable TV and has a speed around 10Mbaud. However, this requires cable companies to install cable to ensure two way data communication. Another example, is the so called ADSL modems [9] that will work with existing copper telephone wires.

2. Network Computer (NC)

NC is a device initiated by Oracle in an attempt to compete with Microsoft in the Internet/WWW market. A specification has been published on the Internet/WW [11], and there are a number of companies supporting the product such as Sun Microsystems and IBM. NC is specified as a low price (4500) device that has TCP/IP capability, and supports WWW standards such as HTML AND JAVA, MULTIMEDIA standards such as JPEG, GIF, WAV, and AU, and optional security standards such as ISO 7816 and VISA/Master card specifications.

3. Web TV

Web TV is a collection of technologies that allows a user to view TV or video programs on Internet. There are technologies that provide streaming video over regular copper wires. There are other technologies that integrate TV and Internet access functionality into one product using existing cable TV to deliver both. (Reader should not be confused with WebTV Networks which is a company that offers Internet services to TV viewers using set top boxes.) There are a number of consumer product companies developing the products of the latter type and aiming at market availability as early as 1996 [12].

IV. SAMPLE APPLICATIONS

With the above mentioned technologies, some of the problems of Internet can be solved and applications can be developed. However, the biggest problem remained is the performance. Nevertheless, in the areas that good performance can be achieved such as in a local enterprise network, or real time performance is not required such as some customer support functions, applications for these areas are useful. This section presents two examples of application in each of these two areas that the author has the experience in developing.

A. Group Ware

The application provides the capability of sharing, and exchanging information among group members. It works effectively in a LAN environment where members are connected via high speed network. For example, a Web site is set up for a department. The Web site stores information about each group, group members, projects, calendar, administration procedures, and FAQ. It also provides a chat and bulletin board function for members to communicate off line and on line. Project members in the department can perform project review and document review effectively.

B. Customer Care

The term customer care stands for high quality customer support service. This application provides the functions of online trouble reporting, viewing trouble status, billing inquiry, FAQ, bulletin board, and telephone contact with a live customer care agent. Since much of the information is proprietary, a firewall must be installed between the customer care Web server and the rest of the company database. Customer's privacy is also needed to be protected.

V. CONCLUSION

This paper presented an overview of the technologies and opportunities in the area of Internet and WWW. Current existing problems or road blocks of Internet/WWW for running business applications were first discussed and the enabling technologies that might be used to solve some of the problems were described. Sample applications were then presented. The most basic problem is still in the areas Of performance and security. To use Internet/WWW as a platform to conduct business, these problem areas must be resolved. They present, among others, opportunities for the industry for developing the needed technologies and generating new businesses.

REFERENCES

- [1] R. E. Kalm, "The Role of Government in the 37, No. 8, August 1994. Evolution of the Internet," Communication Of AcMr vol.
- [2] The Electronic Market Place 1995: Strategies For Connecting Buyers & Sellers, SIMJ3A Information Inc., 1995.
- [3] R. M. Hinden, "IP Next Generation Overview," Communication ofACM, Vol. 39, No. 6, June 1996.
- [4] T. Berners-Lee, R. Cailliau, A. Luotomen, H. F. Nielsen, and A. Secret, "The World Wide Web," Communication ofACiW, Vol. 37, No. 8, August 8, 1994.
- [5] K. Arnold, The Programming Language, AddisonWesley, 1996.
- [6] E. Mills, "Java Turns 1 Amid Flood of Products," .Infoworld June 10, 1996, pp. 53.
- [7] <http://Inferno.bell-labs.com/Inferno>.
- [8] J. Caruso, "High Speed Internet Access Getting Closer," Communication Week, May 1996, pp. 8.
- [9] S. Sdaone, "ISDN: Give Up And Go?,"Byte, February 1996, pp.75.
- [10] A. F. Lent And Miastkowski, "Talk Line: New Modems Handle Voice and Data At Once," PC World, September 1995, pp.84.
- [11] "mk Computer (Nc) Reference Profile, Oracle, [http://192.86.154.91/nc-ref~ro\\$le.htm/](http://192.86.154.91/nc-ref~ro$le.htm/)
- [12] J. Markoff, "Zenith To Market A TV With A Modem And Ethernet Lid," The New York Times, May 10, 1996.
- [13] J. Yoshida, "CES To See Low Cost Internet Box For Tv," Electronic Engineering Times, vol. 182, January 2, 1996.
- [14] J. Lane, fits Voice, Data On Any Net," IEEE Spectrum, 1994.
- [15] C. G. Omidyar And A. Aldridge, "Introduction To SDWSONET," IEEE Communications Magazine, September 1993, pp. 30-33.
- [16] W. R. Cheswick And S. M. Bellovin, FireWalls And Internet Security, Addison-Wesley, 1994