

# INTERNATIONAL JOURNAL OF RESEARCH IN COMPUTER APPLICATION & MANAGEMENT

I  
J  
R  
C  
M



A Monthly Double-Blind Peer Reviewed Refereed Open Access International e-Journal - Included in the International Serial Directories

Indexed & Listed at:

[Ulrich's Periodicals Directory ©, ProQuest, U.S.A.](#), [EBSCO Publishing, U.S.A.](#), Index Copernicus Publishers Panel, Poland,

[Open J-Gate, India](#) [link of the same is duly available at [Inflibnet of University Grants Commission \(U.G.C.\)](#)]

as well as in [Cabell's Directories of Publishing Opportunities, U.S.A.](#)

Circulated all over the world & Google has verified that scholars of more than Hundred & Thirty Two countries/territories are visiting our journal on regular basis.

Ground Floor, Building No. 1041-C-1, Devi Bhawan Bazar, JAGADHRI – 135 003, Yamunanagar, Haryana, INDIA

[www.ijrcm.org.in](http://www.ijrcm.org.in)

# CONTENTS

Sr. No.	TITLE & NAME OF THE AUTHOR (S)	Page No.
1.	SOCIO-ECONOMIC INFLUENCE OF SHARI'AH ON CONSUMERS' MOTIVES AND PERCEPTION IN ZAMFARA STATE, NIGERIA <i>DR. HALIRU BALA</i>	1
2.	EFFECTIVENESS OF COMPUTER ASSISTED INSTRUCTION IN RELATION TO THE LEARNING OUTCOMES OF THE ENGINEERING MANAGEMENT STUDENTS OF UNIVERSITY X <i>MA. TEODORA E. GUTIERREZ</i>	4
3.	IDENTIFYING TECHNOLOGICAL PARAMETERS EFFECTIVE ON COMPETITIVENESS OF SMALL AND MEDIUM-SIZED RESIN COMPANIES ACCORDING TO UNIDO MODEL: CASE STUDY OF IRAN KEATON POLYESTER MANUFACTURING COMPANY <i>EHSAN GHASEMI, SEYED REZA HEJAZI, ABOLGHASEM ARABIOUN &amp; REZA ALIBAKHSHI</i>	6
4.	IMPACT OF ISLAMIC BUSINESS ETHICS ON FAMILY CONSUMPTION DECISION MAKING IN ZAMFARA STATE, NIGERIA <i>DR. HALIRU BALA</i>	12
5.	ETHICAL ISSUES AND CONSUMER PERCEPTION ABOUT BRANDED AND UNBRANDED MILK PRODUCTS: THE EMERGING SCENARIO <i>DR. ASHOK AIMA &amp; NARESH SHARMA</i>	15
6.	SOFTWARE PROJECT MANAGEMENT - BEST PRACTICES <i>DR. K. A. PARTHASARATHY</i>	19
7.	RECALLING ANCIENT WISDOM FOR A SUSTAINABLE DEVELOPMENT <i>DR. PADMA SHANKAR</i>	23
8.	RADIO FREQUENCY IDENTIFICATION (RFID) <i>TANAJI D. DABADE, DR. SHIVAJI U. GAWADE &amp; ALEKHA CHANDRA PANDA</i>	27
9.	SERVICE QUALITY MODELS IN HEALTHCARE - A REVIEW (1990-2010) <i>K. VIDHYA, DR. C. SAMUDHRA RAJKUMAR &amp; DR. K. TAMILIYOTHI</i>	34
10.	A I R E P: A NOVEL SCALED MULTIDIMENSIONAL QUANTITATIVE RULES GENERATION APPROACH <i>SAPNA JAIN, DR. M. AFSHAR ALAM &amp; DR. RANJT BISWAS</i>	45
11.	AN ANALYSIS OF ONLINE IDENTITY MANAGEMENT TECHNIQUES <i>APARAJITA PANDEY &amp; DR. JATINDERKUMAR R. SAINI</i>	53
12.	PAPR REDUCTION OF OFDM BASED ON ADAPTIVE ACTIVE CONSTELLATION EXTENSION <i>NEELAM DEWANGAN &amp; MANGAL SINGH</i>	56
13.	ANALYZING THE OUTPERFORMING SECTOR IN THE VOLATILE MARKET <i>DR. SANDEEP MALU, DR. UTTAM RAO JAGTAP &amp; RAHUL DEO</i>	60
14.	AN ANALYTICAL STUDY OF JOB STRESS AMONG SOFTWARE PROFESSIONALS IN INDIA <i>DR. SURENDRA KUMAR</i>	65
15.	PROCESS FRAMEWORK FOR BUSINESS VALUE ENHANCEMENT BY IMPROVING OPERATIONAL EFFICIENCY <i>RAMAKRISHNAN. N</i>	71
16.	AN OVERVIEW OF SUPPLY CHAIN MANAGEMENT PRACTICES IN INDIAN AUTOMOBILE SECTOR <i>R.VENKATESHWAR RAO</i>	75
17.	AN EMPIRICAL STUDY OF BRAND PREFERENCE OF MOBILE PHONES AMONG COLLEGE AND UNIVERSITY STUDENTS <i>DR. DINESH KUMAR</i>	81
18.	ICT IN BANKING SECTOR: DISASTER AND RECOVERY OF INFORMATION <i>GAGAN DEEP, SANJEEV KUMAR &amp; ROHIT KUMAR</i>	86
19.	CREDIT CARDS AND ITS IMPACT ON BUYING BEHAVIOUR: A STUDY WITH REFERENCE TO RURAL MARKET <i>P.MANIVANNAN</i>	89
20.	EMERGING APPLICATIONS AND SECURITY FOR VoIP: A STUDY <i>HEMA JANDSALAR &amp; DR. B. S. JANGRA</i>	93
21.	SUCCESSION PLANNING IN INDIAN BANKING SYSTEM: A STUDY CONDUCTED AMONG BANK OFFICERS OF COIMBATORE <i>DR. RUPA GUNASEELAN &amp; S.DHANA BAGIYAM</i>	96
22.	A CONCEPTUAL STRUCTURE FOR KNOWLEDGE MANAGEMENT MODEL IN HIERARCHICAL DISTRIBUTED ENVIRONMENT: CASE STUDY OF KNOWLEDGE SHARING AMONG DIFFERENT GOVERNMENT ORGANIZATION WORKING FOR PLANNING AND FACILITATING WATER RESOURCES IN UTTARAKHAND STATE <i>JATIN PANDEY &amp; DARSHANA PATHAK JOSHI</i>	99
23.	A DNA-BASED ALGORITHM FOR MINIMUM SPANNING TREE PROBLEM USING TEMPERATURE GRADIENT TECHNIQUE <i>B.S.E.ZORAIDA</i>	102
24.	MARKET BASKET ANALYSIS: A DATA MINING TOOL FOR MAXIMIZING SALES & CUSTOMER SUPPORT <i>KALPANA BABASO SALUNKHE, MURLIDHAR S. DHANAWADE &amp; SACHIN PATIL</i>	107
25.	FAULT DETECTION IN NETWORKS BASED ON DYNAMIC INTERVAL BASED ACTIVE PROBING <i>BANUMATHI R</i>	110
26.	ISSUES AND CHALLENGES IN ELECTRONIC WASTE <i>DR. KUNTAL PATEL &amp; NIRBHAY MEHTA</i>	113
27.	STUDY ON CSR OF WIPRO, TATA & RIL <i>SHWETA PATEL &amp; ZARNA PATEL</i>	116
28.	EMPOWERING RURAL WOMEN – ROLE OF MICROFINANCE <i>DR. NANU LUNAVATH</i>	119
29.	ROLE OF E-LEARNING IN EDUCATION: A STUDY OF UNIVERSITY OF JAMMU <i>ANJU THAPA</i>	126
30.	ADVERTISING: DO THEY HELP CONSUMERS IN MAKING SOUND PURCHASE DECISIONS? <i>PINKI</i>	130
	REQUEST FOR FEEDBACK	132

## CHIEF PATRON

**PROF. K. K. AGGARWAL**

Chancellor, Lingaya's University, Delhi  
Founder Vice-Chancellor, Guru Gobind Singh Indraprastha University, Delhi  
Ex. Pro Vice-Chancellor, Guru Jambheshwar University, Hisar

## PATRON

**SH. RAM BHAJAN AGGARWAL**

Ex. State Minister for Home & Tourism, Government of Haryana  
Vice-President, Dadri Education Society, Charkhi Dadri  
President, Chinar Syntex Ltd. (Textile Mills), Bhiwani

## CO-ORDINATOR

**MOHITA**

Faculty, Yamuna Institute of Engineering & Technology, Village Gadholi, P. O. Gadhola, Yamunanagar

## ADVISORS

**DR. PRIYA RANJAN TRIVEDI**

Chancellor, The Global Open University, Nagaland

**PROF. M. S. SENAM RAJU**

Director A. C. D., School of Management Studies, I.G.N.O.U., New Delhi

**PROF. S. L. MAHANDRU**

Principal (Retd.), Maharaja Agrasen College, Jagadhri

## EDITOR

**PROF. R. K. SHARMA**

Professor, Bharti Vidyapeeth University Institute of Management & Research, New Delhi

## CO-EDITOR

**MOHITA**

Faculty, Yamuna Institute of Engineering & Technology, Village Gadholi, P. O. Gadhola, Yamunanagar

## EDITORIAL ADVISORY BOARD

**DR. RAJESH MODI**

Faculty, Yanbu Industrial College, Kingdom of Saudi Arabia

**PROF. PARVEEN KUMAR**

Director, M.C.A., Meerut Institute of Engineering & Technology, Meerut, U. P.

**PROF. H. R. SHARMA**

Director, Chhatrapati Shivaji Institute of Technology, Durg, C.G.

**PROF. MANOHAR LAL**

Director & Chairman, School of Information & Computer Sciences, I.G.N.O.U., New Delhi

**PROF. ANIL K. SAINI**

Chairperson (CRC), Guru Gobind Singh I. P. University, Delhi

**PROF. R. K. CHOUDHARY**

Director, Asia Pacific Institute of Information Technology, Panipat

**DR. ASHWANI KUSH**

Head, Computer Science, University College, Kurukshetra University, Kurukshetra

**DR. BHARAT BHUSHAN**

Head, Department of Computer Science & Applications, Guru Nanak Khalsa College, Yamunanagar

**DR. VIJAYPAL SINGH DHAKA**

Dean (Academics), Rajasthan Institute of Engineering & Technology, Jaipur

**DR. SAMBHAVNA**

Faculty, I.I.T.M., Delhi

**DR. MOHINDER CHAND**

Associate Professor, Kurukshetra University, Kurukshetra

**DR. MOHENDER KUMAR GUPTA**

Associate Professor, P. J. L. N. Government College, Faridabad

**DR. SAMBHAV GARG**

Faculty, M. M. Institute of Management, Maharishi Markandeshwar University, Mullana

**DR. SHIVAKUMAR DEENE**

Asst. Professor, Dept. of Commerce, School of Business Studies, Central University of Karnataka, Gulbarga

**DR. BHAVET**

Faculty, M. M. Institute of Management, Maharishi Markandeshwar University, Mullana

***ASSOCIATE EDITORS***

**PROF. ABHAY BANSAL**

Head, Department of Information Technology, Amity School of Engineering & Technology, Amity University, Noida

**PROF. NAWAB ALI KHAN**

Department of Commerce, Aligarh Muslim University, Aligarh, U.P.

**DR. ASHOK KUMAR**

Head, Department of Electronics, D. A. V. College (Lahore), Ambala City

**ASHISH CHOPRA**

Sr. Lecturer, Doon Valley Institute of Engineering & Technology, Karnal

**SAKET BHARDWAJ**

Lecturer, Haryana Engineering College, Jagadhri

***TECHNICAL ADVISORS***

**AMITA**

Faculty, Government M. S., Mohali

**MOHITA**

Faculty, Yamuna Institute of Engineering & Technology, Village Gadholi, P. O. Gadholi, Yamunanagar

***FINANCIAL ADVISORS***

**DICKIN GOYAL**

Advocate & Tax Adviser, Panchkula

**NEENA**

Investment Consultant, Chambaghat, Solan, Himachal Pradesh

***LEGAL ADVISORS***

**JITENDER S. CHAHAL**

Advocate, Punjab & Haryana High Court, Chandigarh U.T.

**CHANDER BHUSHAN SHARMA**

Advocate & Consultant, District Courts, Yamunanagar at Jagadhri

***SUPERINTENDENT***

**SURENDER KUMAR POONIA**

## CALL FOR MANUSCRIPTS

We invite unpublished novel, original, empirical and high quality research work pertaining to recent developments & practices in the area of Computer, Business, Finance, Marketing, Human Resource Management, General Management, Banking, Insurance, Corporate Governance and emerging paradigms in allied subjects like Accounting Education; Accounting Information Systems; Accounting Theory & Practice; Auditing; Behavioral Accounting; Behavioral Economics; Corporate Finance; Cost Accounting; Econometrics; Economic Development; Economic History; Financial Institutions & Markets; Financial Services; Fiscal Policy; Government & Non Profit Accounting; Industrial Organization; International Economics & Trade; International Finance; Macro Economics; Micro Economics; Monetary Policy; Portfolio & Security Analysis; Public Policy Economics; Real Estate; Regional Economics; Tax Accounting; Advertising & Promotion Management; Business Education; Management Information Systems (MIS); Business Law, Public Responsibility & Ethics; Communication; Direct Marketing; E-Commerce; Global Business; Health Care Administration; Labor Relations & Human Resource Management; Marketing Research; Marketing Theory & Applications; Non-Profit Organizations; Office Administration/Management; Operations Research/Statistics; Organizational Behavior & Theory; Organizational Development; Production/Operations; Public Administration; Purchasing/Materials Management; Retailing; Sales/Selling; Services; Small Business Entrepreneurship; Strategic Management Policy; Technology/Innovation; Tourism, Hospitality & Leisure; Transportation/Physical Distribution; Algorithms; Artificial Intelligence; Compilers & Translation; Computer Aided Design (CAD); Computer Aided Manufacturing; Computer Graphics; Computer Organization & Architecture; Database Structures & Systems; Digital Logic; Discrete Structures; Internet; Management Information Systems; Modeling & Simulation; Multimedia; Neural Systems/Neural Networks; Numerical Analysis/Scientific Computing; Object Oriented Programming; Operating Systems; Programming Languages; Robotics; Symbolic & Formal Logic and Web Design. The above mentioned tracks are only indicative, and not exhaustive.

Anybody can submit the soft copy of his/her manuscript **anytime** in M.S. Word format after preparing the same as per our submission guidelines duly available on our website under the heading guidelines for submission, at the email addresses: [infoijrcm@gmail.com](mailto:infoijrcm@gmail.com) or [info@ijrcm.org.in](mailto:info@ijrcm.org.in).

## GUIDELINES FOR SUBMISSION OF MANUSCRIPT

### 1. **COVERING LETTER FOR SUBMISSION:**

DATED: \_\_\_\_\_

**THE EDITOR**  
IJRCM

**Subject:** SUBMISSION OF MANUSCRIPT IN THE AREA OF \_\_\_\_\_.

(e.g. Finance/Marketing/HRM/General Management/Economics/Psychology/Law/Computer/IT/Engineering/Mathematics/other, please specify)

**DEAR SIR/MADAM**

Please find my submission of manuscript entitled ' \_\_\_\_\_ ' for possible publication in your journals.

I hereby affirm that the contents of this manuscript are original. Furthermore, it has neither been published elsewhere in any language fully or partly, nor is it under review for publication elsewhere.

I affirm that all the author (s) have seen and agreed to the submitted version of the manuscript and their inclusion of name (s) as co-author (s).

Also, if my/our manuscript is accepted, I/We agree to comply with the formalities as given on the website of the journal & you are free to publish our contribution in any of your journals.

#### **NAME OF CORRESPONDING AUTHOR:**

Designation:

Affiliation with full address, contact numbers & Pin Code:

Residential address with Pin Code:

Mobile Number (s):

Landline Number (s):

E-mail Address:

Alternate E-mail Address:

#### **NOTES:**

- a) The whole manuscript is required to be in **ONE MS WORD FILE** only (pdf. version is liable to be rejected without any consideration), which will start from the covering letter, inside the manuscript.
- b) The sender is required to mention the following in the **SUBJECT COLUMN** of the mail:  
**New Manuscript for Review in the area of** (Finance/Marketing/HRM/General Management/Economics/Psychology/Law/Computer/IT/Engineering/Mathematics/other, please specify)
- c) There is no need to give any text in the body of mail, except the cases where the author wishes to give any specific message w.r.t. to the manuscript.
- d) The total size of the file containing the manuscript is required to be below **500 KB**.
- e) Abstract alone will not be considered for review, and the author is required to submit the complete manuscript in the first instance.
- f) The journal gives acknowledgement w.r.t. the receipt of every email and in case of non-receipt of acknowledgment from the journal, w.r.t. the submission of manuscript, within two days of submission, the corresponding author is required to demand for the same by sending separate mail to the journal.

2. **MANUSCRIPT TITLE:** The title of the paper should be in a 12 point Calibri Font. It should be bold typed, centered and fully capitalised.

3. **AUTHOR NAME (S) & AFFILIATIONS:** The author (s) **full name, designation, affiliation (s), address, mobile/landline numbers, and email/alternate email address** should be in italic & 11-point Calibri Font. It must be centered underneath the title.

4. **ABSTRACT:** Abstract should be in fully italicized text, not exceeding 250 words. The abstract must be informative and explain the background, aims, methods, results & conclusion in a single para. Abbreviations must be mentioned in full.

5. **KEYWORDS:** Abstract must be followed by a list of keywords, subject to the maximum of five. These should be arranged in alphabetic order separated by commas and full stops at the end.
6. **MANUSCRIPT:** Manuscript must be in **BRITISH ENGLISH** prepared on a standard A4 size **PORTRAIT SETTING PAPER**. It must be prepared on a single space and single column with 1" margin set for top, bottom, left and right. It should be typed in 8 point Calibri Font with page numbers at the bottom and centre of every page. It should be free from grammatical, spelling and punctuation errors and must be thoroughly edited.
7. **HEADINGS:** All the headings should be in a 10 point Calibri Font. These must be bold-faced, aligned left and fully capitalised. Leave a blank line before each heading.
8. **SUB-HEADINGS:** All the sub-headings should be in a 8 point Calibri Font. These must be bold-faced, aligned left and fully capitalised.
9. **MAIN TEXT:** The main text should follow the following sequence:

**INTRODUCTION****REVIEW OF LITERATURE****NEED/IMPORTANCE OF THE STUDY****STATEMENT OF THE PROBLEM****OBJECTIVES****HYPOTHESES****RESEARCH METHODOLOGY****RESULTS & DISCUSSION****FINDINGS****RECOMMENDATIONS/SUGGESTIONS****CONCLUSIONS****SCOPE FOR FURTHER RESEARCH****ACKNOWLEDGMENTS****REFERENCES****APPENDIX/ANNEXURE**

It should be in a 8 point Calibri Font, single spaced and justified. The manuscript should preferably not exceed **5000 WORDS**.

10. **FIGURES & TABLES:** These should be simple, centered, separately numbered & self explained, and **titles must be above the table/figure. Sources of data should be mentioned below the table/figure.** It should be ensured that the tables/figures are referred to from the main text.
11. **EQUATIONS:** These should be consecutively numbered in parentheses, horizontally centered with equation number placed at the right.
12. **REFERENCES:** The list of all references should be alphabetically arranged. The author (s) should mention only the actually utilised references in the preparation of manuscript and they are supposed to follow **Harvard Style of Referencing**. The author (s) are supposed to follow the references as per the following:
  - All works cited in the text (including sources for tables and figures) should be listed alphabetically.
  - Use **(ed.)** for one editor, and **(ed.s)** for multiple editors.
  - When listing two or more works by one author, use --- (20xx), such as after Kohl (1997), use --- (2001), etc, in chronologically ascending order.
  - Indicate (opening and closing) page numbers for articles in journals and for chapters in books.
  - The title of books and journals should be in italics. Double quotation marks are used for titles of journal articles, book chapters, dissertations, reports, working papers, unpublished material, etc.
  - For titles in a language other than English, provide an English translation in parentheses.
  - The location of endnotes within the text should be indicated by superscript numbers.

**PLEASE USE THE FOLLOWING FOR STYLE AND PUNCTUATION IN REFERENCES:****BOOKS**

- Bowersox, Donald J., Closs, David J., (1996), "Logistical Management." Tata McGraw, Hill, New Delhi.
- Hunker, H.L. and A.J. Wright (1963), "Factors of Industrial Location in Ohio" Ohio State University, Nigeria.

**CONTRIBUTIONS TO BOOKS**

- Sharma T., Kwatra, G. (2008) Effectiveness of Social Advertising: A Study of Selected Campaigns, Corporate Social Responsibility, Edited by David Crowther & Nicholas Capaldi, Ashgate Research Companion to Corporate Social Responsibility, Chapter 15, pp 287-303.

**JOURNAL AND OTHER ARTICLES**

- Schemenner, R.W., Huber, J.C. and Cook, R.L. (1987), "Geographic Differences and the Location of New Manufacturing Facilities," Journal of Urban Economics, Vol. 21, No. 1, pp. 83-104.

**CONFERENCE PAPERS**

- Garg, Sambhav (2011): "Business Ethics" Paper presented at the Annual International Conference for the All India Management Association, New Delhi, India, 19–22 June.

**UNPUBLISHED DISSERTATIONS AND THESES**

- Kumar S. (2011): "Customer Value: A Comparative Study of Rural and Urban Customers," Thesis, Kurukshetra University, Kurukshetra.

**ONLINE RESOURCES**

- Always indicate the date that the source was accessed, as online resources are frequently updated or removed.

**WEBSITE**

- Garg, Bhavet (2011): Towards a New Natural Gas Policy, Political Weekly, Viewed on January 01, 2012 <http://epw.in/user/viewabstract.jsp>

## EMERGING APPLICATIONS AND SECURITY FOR VoIP: A STUDY

**HEMA JANDSALAR**  
**RESEARCH SCHOLAR**  
**NIMS UNIVERSITY**  
**JAIPUR**

**DR. B. S. JANGRA**  
**ASSOCIATE PROFESSOR**  
**HARYANA INSTITUTE OF TECHNOLOGY**  
**BAHADURGARH**

**ABSTRACT**

In this paper we mentioned about voice over internet protocol and their emerging technologies for their applications security. Service providers and enterprises expect voice over Internet Protocol (VoIP) to enable third-party secure application development, which allowing them to network mix-and-match best-of-breed VoIP secures application from multiple vendors who providing such types of emerging technologies for secured network. By taking advantage of applicable techniques employed for Web-based services, service broker functionality deployed in the network will provide a framework for specifying VoIP application interaction rules. However, each unique VoIP deployment will require development of a complex, customized, domain-specific set of interaction rules for the service brokers. The complexity of VoIP application interaction rule development in a multi-vendor environment will provide Lucent with an opportunity to sell application integration services to enterprises and service providers.

**KEYWORDS**

VoIP, Broker, IETF.

**INTRODUCTION**

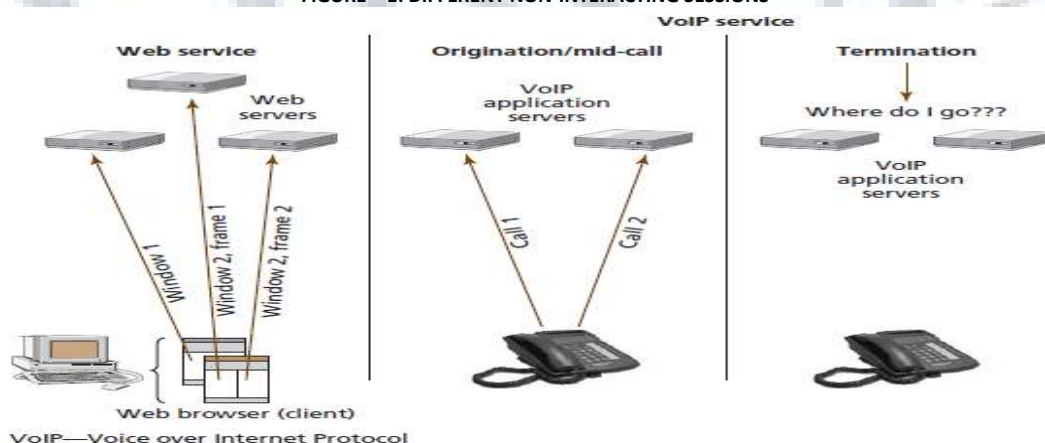
One of the most compelling drivers of voice over Internet Protocol (VoIP) is the potential it offers for third-party application development. Cost savings alone may not be compelling enough to drive VoIP deployment beyond niche markets, but VoIP service architectures also enable development and deployment of best-of-breed applications from multiple vendors, encouraging a greater degree of innovation by more competitors and driving down total cost of ownership. Just as with Web-based services, however, integration of applications from multiple vendors will require a significant, complex, unique effort to properly integrate the applications into a seamless user experience. Consider, for example, a case in which a user has subscribed to service with two separate application servers. If one application believes that all calls should be diverted to voice mail and another application believes that all calls should be forwarded to the user's wireless phone, which service gets its way and how is that determination managed? Will the applications be attempted serially, in which case the first one asked wins? Which should be asked first? Will the applications be attempted in parallel, in which case they may recommend different treatment? What are the criteria to determine which treatment to apply? The answer may be as simple as declaring that one application always takes precedence over another, or it may be a complex set of rules that relies on criteria like the time of day or what activity is indicated in the user's calendar.

**APPLYING WEB-BASED TECHNIQUE TO VoIP ENVIRONMENTS**

In order to understand how application integration can be accomplished for VoIP, it is helpful to examine the mechanisms used for Web-based services and their applicability to VoIP. There are, essentially, two models for managing content from multiple Web servers simultaneously: separate non-interacting sessions and custom-designed/configured software. They are discussed in the following subsections.

**DIFFERENT NON-INTERACTING SESSIONS**

Separate non-interacting sessions is a method of rendering content from multiple Web-based services in separate windows, frames, or channels. Typically, the service providing the content must be selected explicitly by the user; in the case of frames and channels, it may be implied by the user's explicit selection of a service in the parent window. To apply this method to VoIP, we would consider the phone as the client and the call as a session. This implies that, if this technique were to be used for VoIP, there would be only one application server per call and the user would have to specify which application server to use for each call. This approach, however, will not provide a service that meets subscribers' expectations. If a user is subscribed to abbreviated dialing and least-cost routing, the user will not want to have to explicitly choose between those services based upon the context of the call. The user will expect that the phone system will apply the appropriate routing service, based upon dialed digits. Users expect most terminating features, such as call waiting, call diversion, and distinctive alerting to be applied automatically, but with this model, there is no opportunity for the user to specify which service should handle any given call. It should be noted that the Internet Engineering Task Force (IETF) is defining a framework to facilitate user interfaces with multiple servers but that framework does not address application interaction management.

**FIGURE – 1: DIFFERENT NON-INTERACTING SESSIONS**

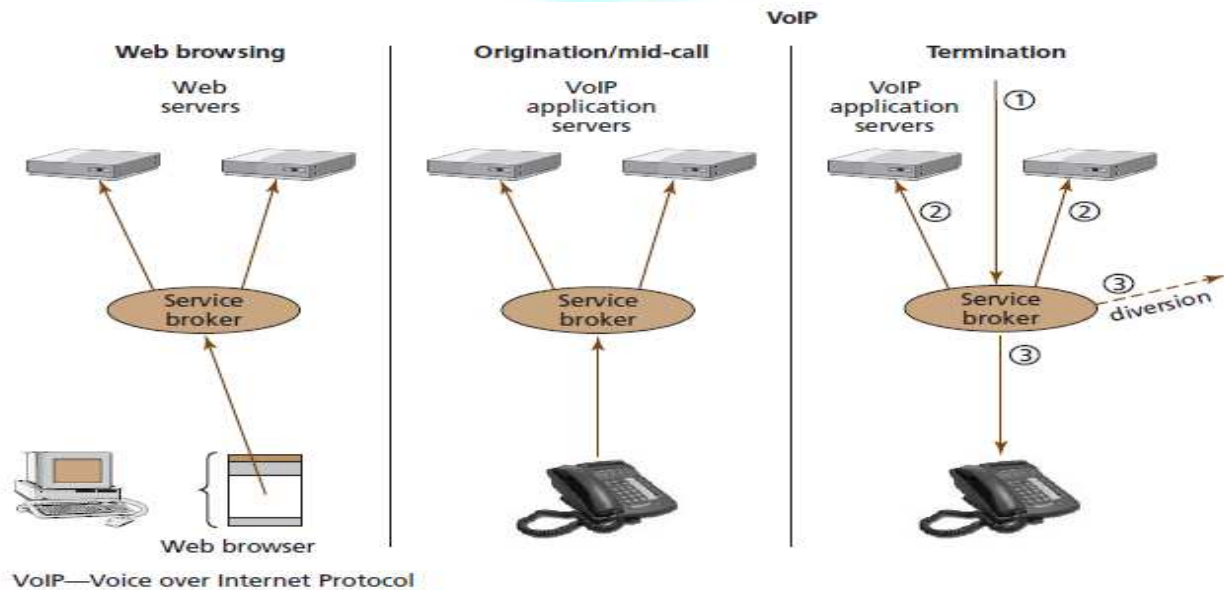
**CUSTOM DESIGN SOFTWARE**

The other method of rendering content from multiple Web-based services is to deploy intermediary software that embodies customized, domain-specific interaction rules. The software may reside within an endpoint, within an application server, or in an intermediary device, and it may be a custom-developed application or a customized configuration of an off the shelf product. Standards bodies, industry consortiums, and product vendors have developed—and are continuing to develop—frameworks for specification and communication of interaction rules, but each unique set of Web services requires a unique, creative effort to determine its interaction rules. To apply this model to VoIP, the intermediary software, referred to as a service broker, must contain a set of rules to determine which service should be invoked under which circumstances and how interactions should be managed. Origination and mid-call services would flow through the service broker, who would determine which additional services should be engaged in the network and manage the interactions between them. Termination attempts would initially be delivered to the service broker, which would engage the appropriate network services, based on the interaction rules, to determine if, where, and how the call should be delivered.

**APPLICATIONS SERVICE INTEGRATIONS**

A VoIP service broker may be custom-built to manage the interaction among a specific set of applications, or it may provide a framework in which to specify domain-specific interaction rules. For service brokers that provide a framework in which to specify interaction rules, each unique deployment requires a unique, creative effort to determine those rules. The rules for the telephony application interaction examples used above.

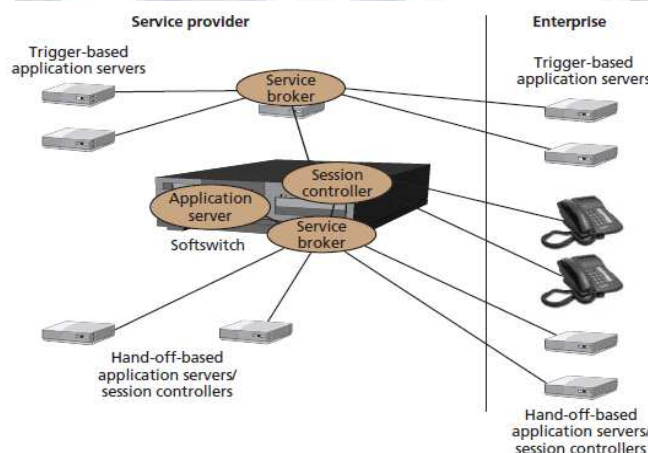
**FIGURE-2: CUSTOM DESIGNED SOFTWARE**



The complexity of the rule set grows exponentially. There is additional complexity, as well, in the fact that the service broker is a logical concept that may be broken into multiple tiers, residing on different physical boxes, accessed via multiple protocols, and owned and controlled by different business entities. A service broker function may reside in a session controller/soft switch platform, or it may reside in a separate application server that brokers between other application servers.

**Figure 3.** Shows a fairly complex environment that is more representative of real-life deployments. In this example, some applications reside in the soft switch and some reside in application servers. This soft switch makes it possible to specify complex rules for determining the termination point, so it can act as a service broker by handing off calls to multiple call-based application servers via interfaces such as Session Initiation Protocol. This soft switch also supports a trigger-based interface via JAIN, Parlay, or Transactional Capabilities Application Part (TCAP), but it assumes that all triggers are being delivered to one application server. That application server must act as the service broker for all other trigger-based application servers. The fact that, in an Internet Protocol Centrex environment, some application servers may be owned and operated by an enterprise, which implies that every enterprise served, may require unique engineering in the service provider's network. The expectation that every enterprise will have the same set of services available and that they will all be provided and managed by the service provider misses the point that enterprises want VoIP because it gives them the ability to rapidly deploy new services that integrate into their unique business operations environment.

**FIGURE-3: COMPLEX DEPLOYMENT ENVIRONMENT**





In all cases, however, it will require a unique solution design activity to identify the customer's functional requirements, ascertain the capabilities, interfaces, gaps, and overlaps within the target product set, and determine the most appropriate methods to manage interactions. The service offering could also take advantage of generic service broker frameworks currently being researched by Bell Labs.

## CONCLUSION AND FUTURE SCOPE

Service providers and enterprises chose to invest in VoIP because they believed that it would facilitate fast-to-market, cheap-to-develop, simple-to-integrate, best-of-breed applications from multiple vendors. Most, however, are still mired in get-started issues like equipment installation/configuration and network design/trouble-shooting, and they do not yet recognize the complexity of the interaction management that will be required to realize the end goal of their investment. Service brokers deployed in the network will provide a framework for managing interaction between multiple application servers, but they will require service providers and enterprises to develop domain specific interaction rules for each unique deployment. As VoIP deployments mature, Lucent will have an opportunity to address the third-party application expectation gap by providing a professional services portfolio to determine the set of application interaction rules and realizing those rules by deploying and engineering service broker functionality in the network.

## REFERENCES

1. J. Rosenberg, "A Framework for Application Interaction in the Session Initiation Protocol (SIP)," IETF Internet Draft, Feb. 2002, <<http://www.ietf.org/internet-rafts/draft-ietf-sipping-app-interaction-framework-01.txt>>.
2. International Telecommunication Union, Telecommunication Standardization Sector, "Packet-Based Multimedia Communications Systems," ITU-T Rec. H.323, July 2003, <<http://www.itu.int>>.
3. Session Initiation Protocol, <<http://www.ietf.org/html.charters/sipcharter.html>>.
4. *Radio Communications*, vol. 1, pp. 126–130, Boston, Mass, USA, September 1998.
5. R. Bird, *Introduction to Functional Programming using Haskell*, 2nd edn, Prentice-Hall Series in Computer Science, Prentice-Hall Europe, London, UK, 1998.
6. K. Birman, R. Constable, M. Hayden, C. Kreitz, O. Rodeh, R. van Renesse and W. Vogels, The Horus and Ensemble projects: Accomplishments and limitations, in: *Proceedings of the DARPA Information Survivability Conference & Exposition (DISCEX'00)*, 2000.
7. K. Claessen, A poor man's concurrency monad, *Journal of Functional Programming* 9(3) (1999), 313–323.
8. D. Espinosa, Semantic Lego, PhD thesis, Columbia University, 1995.
9. R. Giacobazzi and I. Mastroeni, Adjoining declassification and attack models by abstract interpretation, in: *European Symposium on Programming (ESOP'05)*, LNCS, Vol. 3444, Springer-Verlag, 2005, pp. 295–310.
10. D. Greve, R. Richards and M. Wilding, A summary of intrinsic partitioning verification, in: *Fifth International Workshop on the ACL2 Theorem Prover and Its Applications (ACL2-2004)*, November 2004.
11. Kindberg T et al (2002) People, places, things: web presence for the real world. Mobile networks and applications. Kluwer, Dordrecht, pp 365–376.
12. J. Al-Saraireh, S. Yousef, and M. Al Nabhan, "Analysis and enhancement of authentication algorithms in mobile networks," *Journal of Applied Sciences*, vol. 6, no. 4, pp. 872–877, 2006.
13. S. Putz, R. Schmitz, and F. Tonsing, "Authentication schemes for third generation mobile radio systems," in *Proceedings of the 9th IEEE International Symposium on Personal, Indoor and Mobile*

## **REQUEST FOR FEEDBACK**

**Dear Readers**

At the very outset, International Journal of Research in Computer Application and Management (IJRCM) acknowledges & appreciates your efforts in showing interest in our present issue under your kind perusal.

I would like to request you to supply your critical comments and suggestions about the material published in this issue as well as on the journal as a whole, on our E-mails i.e. [infoijrcm@gmail.com](mailto:infoijrcm@gmail.com) or [info@ijrcm.org.in](mailto:info@ijrcm.org.in) for further improvements in the interest of research.

If you have any queries please feel free to contact us on our E-mail [infoijrcm@gmail.com](mailto:infoijrcm@gmail.com).

I am sure that your feedback and deliberations would make future issues better – a result of our joint effort.

Looking forward an appropriate consideration.

With sincere regards

Thanking you profoundly

**Academically yours**

Sd/-

**Co-ordinator**

## ABOUT THE JOURNAL

In this age of Commerce, Economics, Computer, I.T. & Management and cut throat competition, a group of intellectuals felt the need to have some platform, where young and budding managers and academicians could express their views and discuss the problems among their peers. This journal was conceived with this noble intention in view. This journal has been introduced to give an opportunity for expressing refined and innovative ideas in this field. It is our humble endeavour to provide a springboard to the upcoming specialists and give a chance to know about the latest in the sphere of research and knowledge. We have taken a small step and we hope that with the active co-operation of like-minded scholars, we shall be able to serve the society with our humble efforts.

### *Our Other Journals*

