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A Special Issue on Secure Knowledge Management in Big-data era

Information is increasingly becoming important in our daily lives. We have become information dependents of the twenty-first century, living in an on-command, on-demand Big-data world. To gain value from Big-data, researchers and industry professionals are continuously discovering alternate ways to capture, search, integrate, and process this data. Such Big-data analytics now drives almost every aspect of our modern society, including telecom, retail, manufacturing, and life sciences creating new challenges for Knowledge Management Systems (KMS). Knowledge management increases the value of an organization by identifying the assets and expertise available within the organization as well as efficiently managing the resources.

Security for knowledge management is essential since organizations need to protect their intellectual assets. Major security issues in Knowledge Management Systems (KMS) include insider threats; critical physical infrastructure protection; establishment, refinement, and enforcement of various security policies. Furthermore, KMS content is much more sensitive to privacy than raw data stored in databases. To handle these security issues, mechanisms like encryption, authentication, access control, digital signature, intrusion detection and prevention, etc. can be employed.

This special issue is intended for Knowledge management and Security researchers from academia, industry and government to disseminate cutting-edge research that addresses security challenges in today’s Big-data era.

Some indicative themes of this issue are:

- Secure Languages (Secure Knowledge Query Manipulation Language, Security Assertion Markup Language, B2B Circles of Trust)
- Return on Investment in Secure Knowledge Systems
- Digital Rights Management (Digital Policy Management)
- Secure Content Management (Secure Content Management in Authorized Domains, Secure Content Delivery, Content Trust Index)
- Knowledge Management for National Security
- Security in B2B marketplace
- Security and Privacy in Online Social Media
- Wireless security in the context of Knowledge Management
- Data Mining for Fraud Detection (Financial Fraud Detection, Network Intrusion Detection)
- Risk Assessment
- Secure Knowledge Management in Distributed Systems
- Trust and Privacy in Knowledge management systems
- Security, Privacy, and Trustworthiness in Semantic web
- Secure Knowledge management in Big-data applications like Healthcare, finance, cloud etc.
Forms of submission

The areas covered by this special issue were the themes of the International Conference on Secure Knowledge management, December 2014, Dubai, UAE. In the case of papers from the conference, the submission is required to be 50% revision beyond the conference paper and the authors will be required to submit a letter detailing the difference between their conference paper and the new version. All submitted papers will go through peer review, and if the paper does not receive a satisfactory review, it will not be considered for the special issue.

Submission Instructions

Manuscripts must be submitted to the ISF-Springer online submission system at: http://www.editorialmanager.com/isfi/.


Submissions should be approximately 32 pages, double-spaced, including references.

Guest Advisory Editor

Nasir Memon
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Important Dates

Paper submission deadline: 15th January 2015
Initial reviews: 15th April 2015
Final revised Manuscript: TBA
Publication: TBA

About the Guest Editors:

Nasir Memon: Nasir Memon is a professor in the Department of Computer Science and Engineering at NYU School of Engineering and director of the Information Systems and Internet Security (ISIS) laboratory. He is one of the founding members of the Center for Interdisciplinary Studies in Security and Privacy (CRISSP), a collaborative initiative of multiple schools within NYU including NYU-Steinhardt, NYU-Wagner, NYU-Stern and NYU-Courant. His research interests include digital forensics, biometrics, data compression, network security and human behavior. Memon earned a Bachelor of Engineering in Chemical Engineering and a Master of Science in Mathematics from Birla Institute of Technology and Science (BITS) Pilani, India. He received a Master of Science in Computer Science and a PhD in Computer Science from the
Shambhu J. Upadhyaya: Shambhu J. Upadhyaya is a professor of Computer Science and Engineering at the State University of New York at Buffalo where he also directs the Center of Excellence in Information Systems Assurance Research and Education (CEISARE), designated by the National Security Agency. His research interests are information assurance, computer security, fault diagnosis, fault tolerant computing, and VLSI Testing. He has authored or coauthored about 250 articles in refereed journals and conferences in these areas. His research has been supported by the National Science Foundation, Rome Laboratory, the U.S. Air Force Office of Scientific Research, DARPA, National Security Agency, IBM, Intel Corporation and Harris Corporation. He has been awarded IBM Faculty Partnership Fellowship, NRC Faculty Fellowships in past. He has held visiting research faculty positions at the Center for Reliable and High Performance Computing, University of Illinois, Urbana-Champaign, Intel Corporation, Folsom, CA, Air Force Research Laboratory, Rome, NY and the Naval Research Laboratory, Washington DC. He was an associate editor of IEEE Transactions on Computers from 2001 to 2006, is a member of the editorial board of the International Journal on Reliability, Quality, and Safety Engineering published by the World Scientific Publishers and the ICST Transactions on Security and Safety. He was a guest co-editor of the book series Interfaces in OR/CS on Mobile Computing: Implementing Pervasive Information and Communication Technologies, Kluwer Academic Publishers, 2001 and was a guest co-editor of a special issue on Secure Knowledge Management in IEEE Transactions on Systems, Man and Cybernetics, May 2006.

Jamal Al-Karaki: Jamal N. Al-Karaki is the Head of Information Security Engineering Technology at Abu Dhabi Polytechnic, United Arab Emirates. Jamal earned his PhD in Computer engineering from Iowa State University, USA. He has held various positions at The Hashemite University, Zarka, Jordan including the Dean, Faculty of Prince Hussein Bin Abdullah-II for Information Technology, Chair and Co-founder of Computer Engineering Department; and Director, Computer center. He has published extensively in reputed international journals and conferences in the areas of Wireless networking, Mobile computing, Network security, and Performance evaluation. He is recipient of research excellence award from Iowa State University, Ames, IA, USA; Her Majesty Queen Rania Award for entrepreneurs, Jordan; and Best Teacher Award, Delmon University, Bahrain. He is a member of Jordan Engineers Association, member of Tau Beta Pi (The Engineering Honor Society), USA, and member of IEEE.

Chittaranjan Hota: Chittaranjan Hota is currently an Associate Professor and Associate Dean at Birla Institute of Technology and Science, Pilani Hyderabad Campus, Hyderabad, India. He was the founding Head of Dept. of Computer Science at BITS, Hyderabad. Chittaranjan did his Ph.D. in Computer Science and Engineering from Birla Institute of Technology & Science, Pilani. He has been at BITS-Pilani since past 15 years, and overall since past twenty-five years at various Indian universities. He has been a visiting researcher and visiting professor at University of New South Wales, Sydney; University of Cagliari, Italy; Aalto University, Finland; City University, London; and University of Tartu, Estonia over past few years. His research work has been funded by University Grants Commission, New Delhi; Department of Information Technology, New Delhi; Intel, India; and Tata Consultancy Services, India. He has guided few PhD students and currently guiding few in the areas of Overlay networks, Information Security, and Distributed computing. He is recipient of Australian Vice Chancellors’ Committee award, recipient of Erasmus Mundus fellowship from European commission, and recipient of Certificate of Excellence from K.R. Faculty Excellence Award from BITS Pilani. He has published extensively in peer-reviewed journals and conferences. He has also edited LNCS volumes. He is a member of IEEE, ACM, IE, and ISTE.