1st IEEE/IFIP International Workshop on Knowledge Management for Future Services and Networks (KMFSAN)

Harnessing the Representation and Management of Knowledge for Future Networks and Services
Co-located with IEEE/IFIP NOMS 2010, Osaka, Japan, April 23

CALL FOR PAPERS

The first IEEE International Workshop on Knowledge Management for Future Networks and Services (KMFSAN 2010) will be held in conjunction with the NOMS 2010 conference on April 23 in Osaka, Japan. The workshop is sponsored by the IEEE Communications Society, Technical Committee on Network Operations and Management (CNOM), the POSTECH WCU, and the Autonomic Communications Forum (all pending).

Multi-national efforts exist that are focused on ushering in the emergence of a new economy in which brainpower, not machine power, is the critical resource. The move from an industrially-based economy to a knowledge- or information-based one demands the formalization of Knowledge Management (KM) systems in order to ensure that the organization can learn and modify knowledge dynamically as well as to secure a competitive edge in the market.

Organizations as well as devices, networks, and systems need to assimilate diverse sources of data from heterogeneous sources. In both cases, information can exist at different levels of abstraction. Fusion of such knowledge is complicated by varying data formats and data generation techniques; the use of different concepts and terminologies exacerbates this problem.

For organizations, part of the challenge in managing knowledge is in examining the different ways that knowledge is produced and consumed within an organization, and eliminating the gaps in knowledge between different parts of the organization. Organizational culture often presents resistance to new, virtual communities, which change the power structure and influence framework within the enterprise. These challenges must be effectively addressed for successful KM deployment and transformational change to take place within the organization.

For devices, networks, and systems, part of the challenge is to understand how different entities contribute to the overall context of the system being managed. This enables the services and resources provided to adapt to changing user needs, business objectives, and environmental conditions.

It is becoming increasingly important that businesses be able to directly control the sets of services and resources that they offer. Such *business-driven* resources and services are complicated by the inability to translate the semantics of different terms between these two constituencies. For example, how are devices reconfigured to maximize revenue? This will only become more complex, as most of the digital universe will remain unstructured, while most of the business world will strive for a tight, cohesive structure of knowledge.

This workshop will address these and other issues. Special attention will be given to cross-disciplinary approaches to improve search, discovery, management, security, and storage of knowledge, as well as transforming data into knowledge and correlating different types of knowledge to gain a better understanding of the context at hand. To keep the workshop very interactive and to foster discussions, the format of the workshop will combine original full paper presentations with quick hot topic presentations and a panel discussion.

Topics of interest for this workshop include, but are not limited, to the following:

- Knowledge management architectures and algorithms
- Effective deployment of Knowledge Management
- Communities of Practice and Comunities of Interest
- Development of mechanisms to promote knowledge sharing and reuse, and avoid the stovepiping of knowledge
- Development of collaborative knowledge bases
- Econometric methods to assess the value and effectiveness of Knowledge Management Architectures
- Improved techniques for knowledge mapping and matching
- Organizational challenges and solutions for KM deployment – “Need to Know vs Need to Share”

- Advances in finding, extracting, representing, interpreting, transforming, and maintaining knowledge in distributed environments
- Improvements in knowledge discovery, searching, and extraction through different interaction (e.g., natural language) and organizational (e.g., hypermedia or topic maps) mechanisms
- Improvements to existing semantic annotations and mark-ups, as well as development of new mechanisms, to better support semantics and semantic reasoning
- Development of metrics for measuring the quality, coherency, and added-value benefits of knowledge management
- Correlation between network conditions and business objectives (e.g., between device alarms and SLA agreements)
- Context-awareness, and how knowledge and functionality is managed as context changes
- Advances in modelling and meta-modelling applied to knowledge engineering
- Ontologies, semantic models, and inferencing applied to knowledge engineering
- Modelling the interaction between knowledge and society
- Case studies of successful KM activities

PAPER SUBMISSION

Paper submissions must present original, unpublished research or experiences. Late-breaking advances and work-in-progress reports from ongoing research are also encouraged. Only *original* papers that have not been published or submitted for publication elsewhere can be submitted. Each submission must be written in English, accompanied by a 75 to 200 word abstract that clearly outlines the scope and contributions of the paper, and a list of key words. There is a length limitation of 8 pages (including title, abstract, all figures, tables, and references) for regular conference papers, and 4 pages for short papers describing work in progress. Submissions *must* be in IEEE 2-column style. Papers exceeding these limits, multiple submissions, and self-plagiarized papers will be rejected without further review.

Authors should submit their papers (full or short) electronically (PDF, postscript, or Word) via JEMS (https://jems.sbc.org.br/kmfsan2010). Please use the stylesheet templates provided by IEEE to assure that your proposal is in line with our guidelines. IEEE Transactions templates can be found at:

http://www.ieee.org/portal/pages/pubs/transactions/stylesheets.html.

Further questions related to this workshop should be addressed to the workshop co-chairs.

PROCEEDINGS

Papers accepted for KMFSAN 2010 will be included in the conference Proceedings, IEEE XPlore, and EI Index, with the exception that IEEE reserves the right to exclude any paper from distribution after the conference (e.g., removal from IEEE Xplore) if the paper is not presented at the conference. Papers that are removed from IEEE Xplore will not be available through the EI Index.

Awards will be presented to the best paper and to the best student paper at the workshop. Furthermore, we plan to work with a leading journal, such as JNSM, to solicit extended versions of the best papers of KMFSAN 2010 to be submitted for review.

IMPORTANT DEADLINES

Registration:	January 4th, 2010
Submission:	January 4th, 2010
Notification:	February 8th, 2010
Camera ready:	February 19th, 2010
Workshop:	April 23, 2010