

Workshop #3 - Information Centric Networking (ICN) – (Nov 7, 4:00 – 5:30PM)

About the Workshop:

Internet architecture that was proposed in early 1960s is facing significant challenges due to the mismatch in its architectural philosophy and current content requirements. To overcome this difference, where the focus is more on the content in the network, a different architecture paradigm named Information/Content Centric Networking (ICN/CCN) has been proposed. ICN has also been discussed as one of the enabling technology for 5G along with mm Wave, SDN, CRAN etc. by Horizon 2020 (H2020) project. IRTF has dedicated research group (ICNRG) to evolve with ICN protocols and standards. ICNRG consists of many industrial giants such as the active contributors. This workshop aims to introduce ICN as a new paradigm of content sharing and accessing in a network. The workshop will also discuss the current state of art in ICN and highlight several open research challenges to be addressed to make ICN a reality. This workshop is relevant for everyone who is exposed to the Internet.

Speaker-1: Prof. Debabrata Das

Affiliation: Professor and Dean, IIIT Bangalore

Title of Talk: Information Centric Networking –
The way ahead



Abstract: Internet is now on crossroad because the classical Internet is slow and contains conservative protocols like TCP for various reasons. Information Centric Networking (ICN) is trying to reinvent the way Internet works and provide new hope to the users and Industry. The advent of SDN can help in rapid acceptability of new architectures like ICN and provide an opportunity to experiment with Internet. However, this will put significant challenges to SDN as well. This talk will present the challenges for ICN due to these changing requirements of the Internet.

Biography: Dr. Debabrata Das is serving as Dean – Academic and R&D as well as Professor and Hewlett Packard Chair at IIIT-Bangalore (IIIT-B). Before joining IIIT-B, he had served at G S Sanyal School of Telecommunication at IIT Kharagpur and later at Kirana Networks in New Jersey, USA. He is Principal Investigator (PI) of a project from Department of Electronics and Information Technology, Government of India on Green Broadband Wireless Network. He was PI of sponsored projects from Intel, Hewlett Packard, Microsoft, Motorola Research, Nokia, Govt. of India on areas of IMS and Broadband Wireless MAC/QoS/Energy-saving, TVWS. His main areas of research interest are Wireless Access Network's MAC, QoS, Power saving and IP Multimedia Subsystems. His areas of teaching interest are, Wireless Access Network, Mobile Computing with IMS, IoT and Internetworking. He has more than 80 peer reviewed papers in different journals and International conferences. His 7 patents are under review. He and his wireless network team had contributed three ideas to IEEE 802.16m Broadband Wireless Standard. Dr. Das received his Ph.D. degree from the Indian Institute of Technology Kharagpur.

He is Chairman of IT-Service Management Forum India (itsMF); Board Member of IIIT-Bhubaneswar; Technical and Empower Committee member of e-Governance, Govt. of Karnataka; Board member IT Dept. Govt. of Odisha. Dr. Das is Vice Chairman of IEEE Bangalore Section. He is Senior Member IEEE and Fellow of Institution of Electronics & Telecommunication Engineers (IETE). Dr. Das is recipient of Outstanding Volunteer Award-2008 IEEE Bangalore Section and Global IEEE MGA Achievement Award 2012.

Speaker-2: Mr. Anantha Simha

Affiliation: Principal Scientist and Head, Tata Consultancy Services (TCS).

Title of Talk: ICN – Enabling the future



Abstract: Information Centric Networking is a paradigm shift from the way the current Internet operates. Unlike current Internet which is host centric and transparent to the content, ICN advocates to provide intelligence with in the network and deal with the contents directly. This makes ICN an attractive choice for technologies like IoT and robotics. In this talk we will discuss about various aspects of using ICN for these technologies.

Biography: Anantha Simha, Senior Member IEEE, is a Post Graduate in Electrical Engineering from IIT Madras, India and BE in Digital Electronics from University of Bangalore, India. He has 30+ years of experience in industry in the areas of microprocessor based hardware design, embedded protocol software, enterprise network design, network optimization, performance analysis, data center network design, Software Defined Networks (SDN), Network Virtualization etc. For the last 20+ years he has been working with TCS. Currently he is heading the Networks Lab, Bangalore under CTO organization of TCS. His current research interests includes: QoS in Networks, Scheduling, Self-Optimization, Large Scale Network Design, Offloading in LET Networks, Cloud Computing, Software Defined Networks, ICN Architecture Design, Next Generation Networks, Network Virtualization etc. He has published many research papers in national and international conferences/seminars such as IEEE ICC, Globecom, NCC, ANTS, COMSNETS, PIMRC, CSNT, PIMRC, INDICON etc., and has filed several patents through TCS in the areas of communication networks. Anantha has presented in various technical events, and is actively involved in standardization activities through TSDSI and GSFI. Anantha was an invited talk speaker and a tutorial speaker in IEEE ANTS 2014.

Speaker-3: Mr. Sudhakara Rao P

Affiliation: Advisor – IP Core Planning, IP Solutions & IoT, Tata Tele Services Ltd. (TTSL)

Title of Talk: ICN – Telecom Operator Perspective



Abstract:

Internet architecture that was proposed in early 1960s is facing significant challenges due to the mismatch in its architectural philosophy and current content requirements. To overcome this difference, where the focus is more on the content in the network, a different architecture paradigm named Information/Content Centric Networking (ICN/CCN) has been proposed. ICN has also been discussed as one of the enabling technology for 5G along with mm Wave, SDN, CRAN etc. bringing out the current challenges and way forward through ICN on Telecom Operator Perspective.

Biography:

Mr. Sudhakara Rao P, Advisor – IP Core Planning, IP Solutions and IoT in Tata Teleservices Limited. He has worked in various fields of Telecom services – Network Operations, Transmission Planning, Network Rollouts, Network Planning, Budgeting and Strategy. Currently focusing on IPv6 services migration, M2M/IoT Planning.

Prior to this he has worked in the Telecom Manufacturing of various equipments like MARR, V/UHF/MW Radios, Multiplexers - R&D, Product testing, Evaluation, Manufacturing & Process automation etc.

He completed his Graduation in Electronics and Telecommunication Engineering from Mangalore University, Masters in Microwave & Radar Engineering from Osmania University.