

IEEE 5th World Forum on Internet of Things

15-18 April 2019 – Limerick, Ireland

Proposal for Special Session



Special Session Title: **"Standards - Birds of a Feather"**
An Informal meetup on **Harmonization Imperatives of Standards in the IoT Paradigm**

Length of the Session: Half Day

Names, main contact, and a short bio (200 words) of the organizers

N. Kishor Narang – Mentor & Principal Design Architect, **NARNIX TECHNOLOGIES, INDIA**
Technology Philanthropist, Innovation & Standardization Evangelist
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Kishor is currently leading the Smart Cities Standardization Globally as **"Convener of Reference Architecture Work Group in IEC Systems Committee on Smart Cities"** and Project Leader of IEC Standards - **IEC TS 63188 ED1 – Smart Cities Reference Architecture Methodology & IEC 63205 ED1 – Smart Cities Reference Architecture**; and also, as Co-editor of a few ISO Standards in ISO/IEC JTC1 Committees.

At the National level, he is leading the Smart Cities Standardization work in ICT & Electrotechnology domains as the **Chairman** of LITD 28 – Sectional Committee on Smart Infrastructure at BIS (Bureau of Indian Standards), where the main focus is on Standards development for **Unified & Secure ICT Architecture** for Smart Cities/ Infrastructure.

Professionally, Kishor is Technology Consultant, Mentor & Design Architect in Electrical, Electronics & ICT with over 40 years of professional experience in education, research, design and consulting. Over 30 years of hardcore Research and Design Development Experience in Solutions, Systems, Products, Hardware, Software & Firmware (Embedded Software) in fields of Industrial, Power, IT, Telecom, Medical, Energy and Environment, and over 10 years of Consultancy Experience to different segments of business & industry. He has over 200 Research & Design Mentees in the Electronics, ICT & STI Ecosystems. Professionally, he is an Electronics Design Engineer practicing design & development of a wide spectrum of Products, Systems & Solutions as an Independent Design House – NARNIX since 1981.

Beyond designing & developing some of the most innovative systems & solutions, kishor has developed some complex IPs in Design Architectures in the Fields of High Frequency Power Electronics, Neutral Access Network Operation, Last Mile Communication, Smart Utility Management & Smart Infrastructure.

For last 10 years, deeply involved in Standardization in the Electrical, Electronics, Communication and Information Technology Domains with focus on Identifying Gaps in Standards to address Interoperable Systems & Solutions Deployments and bring Harmonization by defining standardized interfaces to ensure End-to-End Interoperability.

Currently, Kishor is developing a Comprehensive "5G inclusive ICT Architecture for Critical Infrastructure" and leading the 5G Application Layer Standards development in India.



Brief description of the special session including abstract, scope and timeliness:

The IoT value chain is perhaps the most diverse and complicated value chain of any industry or consortium that exists in the world. In fact, the gold rush to IoT is so pervasive that if you combine much of the value chain of most industry trade associations, standards bodies, the ecosystem partners of trade associations and standards bodies, and then add in the different technology providers feeding those industries, you get close to understanding the scope of the task. In this absolutely heterogeneous scenario, coming up with common harmonized standards is a major hurdle.

Hence, in spite of so much hype and even genuine potential, the IoT paradigm has not proliferated in a true sense to its desired potential. Bringing the “Internet of Things” to life requires a comprehensive systems approach, inclusive of intelligent processing and sensing technology, connectivity, software and services, along with a leading ecosystem of partners. We need to see acceleration and a maturing of common standards, more cross-sector collaboration and creative approaches to business models....

Another school of thoughts feel that Standards are important but not the driving factor in IoT deployment. In their opinion, a 20% CAGR for IoT (as most analysts like IDC project) that’s a faster adoption rate than the growth of any economy means that things are not broken. They feel, IoT is also so broad a concept that one size approaches using monolithic standards are not likely to succeed. Major organizations such as The Industrial Internet Consortium and OneM2M have stepped back from that and are focusing on specific Verticals for Standards development.

However, it is high time we try to bring some semblance into this chaotic paradigm by bringing the systems approach to resolve this complex problem... There is still ample scope to harmonize quite a many aspects and bring interoperability amongst multiple competing and/or conflicting standards be it in the Syntactic & Semantic aspects, or at different layers’ Protocols like Network Layer & application Layer Protocols...

‘IEEE World Forum on Internet of Things’, where all the global Technology & Standards Experts and Researchers in the IoT domain congregate every year, is the most appropriate platform to deliberate and brainstorm the current trends, initiatives and challenges being faced by the stakeholders to evolve some comprehensive strategies to bring Harmonization in this highly heterogeneous & fragmented ecosystem.

Planned format of the special session, including projected number of referred papers, hot topic sessions, keynotes, and panel discussions

The Special Session is intended to be an Informal meetup on Harmonization Imperatives of Standards in the IoT Paradigm with following session flow:

- Opening Remarks & Setting the Context – 10 Minutes
- Keynote Talk on the Theme - 30 Minutes
- Invited Talks on diverse aspects and perspectives – 4 x 15 minutes
- Panel Discussion to discuss and develop the way forward & immediate next steps – 45 Minutes
- Open House – 30 Minutes
- Conclusion & Vote of Thanks – 5 Minutes



Potential participants including program committee members and invited speakers

- Adam Drobot OpenTechWorks
- Dr William Miller MaCT
- Adrian Scarse ETSI
- Dr Dorothy Stanley HPE
- Srikanth Chandrasekaran IEEE, India
- Ray Walsh DCU, Ireland
- Michael Mulquin UK Future Cities Catapult, UK
- Soumya Kanti Datta Eurecom, France
- N. Kishor Narang NARNIX TECHNOLOGIES, India
- Dr. Rajeev Shorey TCS Research & Innovation, India

Brief description of advertising plan:

- Weekly emails to the relevant IEEE mailing lists
- Weekly emails to institutions actively involved in IoT R&D related activities

Prior history of the special session (if any)

- Tutorial on “Designing Comprehensive & End to End IoT Solutions: Challenges, Opportunities and approaches to develop new IPs... “IEEE Winter Academy” during IEEE World Forum on Internet of Things (Milan, Italy, December 2015) – N. Kishor Narang.

Draft call for papers

Any other relevant information

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