IEEE DySPAN-SC and IEEE 1900 Standards Working Groups: Update for IEEE TCCN Meeting at IEEE Globecom 2016

Oliver Holland, King's College London

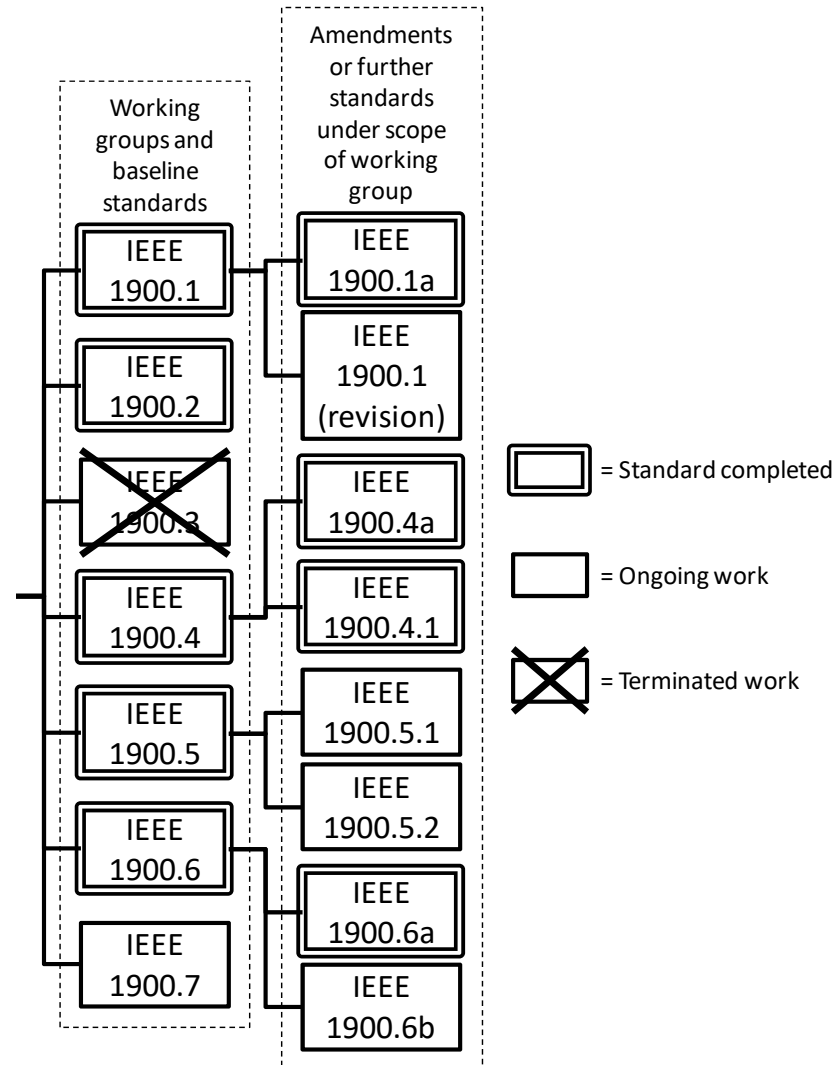5 December 2016

Washington, DC, USA

Introduction to DySPAN-SC

Sponsors IEEE 1900 working groups, covering the area of "Dynamic Spectrum Access Networks" and related technologies

Committee leadership comprises
- Chair: Hiroshi Harada, University of Kyoto and NICT
- Vice-Chair: Oliver Holland, King's College London
- IEEE 1900.1 Chair: Francesco Benedetto, University of Roma "Tre"
- IEEE 1900.2 Chair: Stephen Berger, TEM Consulting
- IEEE 1900.4 Chair: Masayuki Ariyoshi, NEC
- IEEE 1900.5 Chair: Mat Sherman, BAE Systems
- IEEE 1900.6 Chair: Oliver Holland, King's College London
- IEEE 1900.7 Chair (Acting): Apurva Mody, BAE Systems

Working groups and baseline standards

Amendments or further standards under scope of working group

Working groups and baseline standards	Amendments or further standards under scope of working group
IEEE 1900.1	IEEE 1900.1a
IEEE 1900.2	IEEE 1900.1 (revision)
IEEE 1900.3 (Terminated)	IEEE 1900.4a
IEEE 1900.4	IEEE 1900.4.1
IEEE 1900.5	IEEE 1900.5.1
IEEE 1900.6	IEEE 1900.5.2
IEEE 1900.7	IEEE 1900.6a
	IEEE 1900.6b

= Standard completed

= Ongoing work

= Terminated work

Introduction to DySPAN-SC

Working Groups
- IEEE 1900.1: "Terminology Relating to Emerging Wireless Networks, System Functionality, and Spectrum Management"
- IEEE 1900.2: "Recommended Practice for the Analysis of In-Band and Adjacent Band Interference and Coexistence Between Radio Systems" (in hibernation)
- IEEE 1900.3: "Recommended Practice for Conformance Evaluation of Software Defined Radio (SDR) Software Modules" (disbanded)
- IEEE 1900.4: "Architectural Building Blocks Enabling Network-Device Distributed Decision Making for Optimized Radio Resource Usage in Heterogeneous Wireless Access Networks" (in hibernation)
- IEEE 1900.5: "Policy Language and Policy Architectures for Managing Cognitive Radio for Dynamic Spectrum Access Applications"
- IEEE 1900.6: "Spectrum Sensing Interfaces and Data Structures for Dynamic Spectrum Access and other Advanced Radio Communication Systems"
- IEEE 1900.7: "Radio Interface for White Space Dynamic Spectrum Access Radio Systems Supporting Fixed and Mobile Operation"

Progress Since Last Report

IEEE 1900.1

- Continuing work on a revision of the IEEE 1900.1-2008 standard, considering all aspects: Updates (incl. new/deleted) terms/definitions, updates to supporting materials (e.g., explanatory material on the relationship between concepts), updates to structuring, etc
- Tentatively aiming for a first complete draft of the revised terms/definitions in early 2017

IEEE 1900.4

- Currently in hibernation pending new work items or revision of its currently publications IEEE 1900.4, 1900.4a (including integration into the former), and 1900.4.1 standards

IEEE 1900.5

- Work continues on 1900.5.1 standard, "Policy Language for Dynamic Spectrum Access Systems", started in December 2011. PAR expiration December 2017 (extended); aimed to complete though in mid-2017
- 1900.5.2 "Standard Method for Modeling Spectrum Consumption", started in March 2013. Completed and submitted for Sponsor Ballot. Recirculation ballot completion and submission for publication targeted for January 2017.

Progress Since Last Report

IEEE 1900.6

- Working on 1900.6b amendment standard on sensing support for spectrum databases (e.g., geolocation databases, as in the TV white space case). Achieved good understanding of use cases and scenarios, entities and presence of interfaces between the entities, the characteristics of any new entities that might be involved (e.g., the spectrum database), and the Reference Model (high level)
- Extensive work on Service Access Points (SAP) continuing
- Deep analysis and possible collaboration with WInnF SSC (US 3.5 GHz SAS/ESC); strong collaboration developing with IEEE 802.22.3 ("Spectrum Characterization and Occupancy Sensing") given very significant synergies with what they are doing

IEEE 1900.7

- 1900.7-2015 published in February 2016
- Considering and has internally approved (also approved at DySPAN-SC level) a new project (IEEE P1900.7a) as an amendment standard on advanced QoS considerations including MAC/PHY developments supporting those
- Has appointed new Acting Chair (Dr. Apurva Mody, BAE Systems); new project likely to be submitted soon

Upcoming Meetings and Links to Contribute

Participation is welcome to upcoming meetings!

Dates	Format	Location	Host
9-11 March 2017	DySPAN-SC and IEEE 1900 WGs	Baltimore, MD, USA	Collocation IEEE DySPAN 2017
July/August 2017	DySPAN-SC and IEEE 1900 WGs	Rome, Italy, or London, UK	University of Roma "Tre" or King's College London
March 2017	DySPAN-SC and IEEE 1900 WGs	Under consideration	Under consideration

Also numerous phone conferences of IEEE 1900 WGs

For further information, please visit: www.dyspan-sc.org, or contact:

- Hiroshi Harada, DySPAN-SC Chair/Secretary, hiroshi.harada@i.kyoto-u.ac.jp
- Oliver Holland, DySPAN-SC Vice-Chair and TCCN Liaison, oliver.holland@kcl.ac.uk
- …Or the associated working group Chair(s): 1900.1 – Francesco Benedetto, francesco.benedetto@uniroma3.it; 1900.4 – Masayuki Ariyoshi, m-ari@ieee.org; 1900.5 – Mat Sherman, matthew.sherman@baesystems.com; 1900.6 – Oliver Holland, oliver.holland@kcl.ac.uk; 1900.7 – Apurva Mody, apurva.mody@baesystems.com

Thank you!