5G⨯Crosshaul

Crosshaul (Xhaul) – The fusion of Fronthaul and Backhaul in 5G!

Looking at various research and standardization forums leading the development of 5G, such as 5G-PPP, NGMN, 3GPP, IEEE, ITU, IETF, ETSI, etc., all seem to align on the vision that the fronthaul and backhaul will converge or fuse in 5G into what is now popularly referred to as *Crosshaul or Xhaul*. So what requirements are driving such a fusion in 5G? Which enabling technologies could make it happen? Where are the remaining gaps and what is the industry doing to make it happen? And when are we going to see it? Featuring leading experts in the industry, this panel aims at discussing the Crosshaul (Xhaul) topic from the various angles of requirements, architecture, enabling technologies, standardization, and market deployment.

Mobile World Congress 2017
Tuesday 28 February 2017 - 11:00 to 12:00
Hall 7 Stand 7C61

Moderator	Alan Carlton *Vice-President International Labs*	InterDigital	UK
Panelists	Antonella Sanguineti *Head of Opto & Fronthaul products*	Ericsson	Italy
	Arturo Azcorra *Vice-President 5TONIC and 5G-Crosshaul Project Coordinator*	IMDEA Networks	Spain
	Diego Lopez *Senior Technology Expert*	Telefonica	Spain
	Li Fung Chang *Chief Architect*	5G Office	Taiwan
	Theodore Sizer *Head of Mobile Radio Research*	Nokia Bell Labs	USA

Bios

Alan Carlton

**Vice-President International Labs at InterDigital (UK)**

Alan Carlton is Vice President, InterDigital and Head of InterDigital International Labs Organization spanning Europe and Asia. In these regions Alan is responsible for R&D activities in the areas of 5G and IoT. Alan has led his organization to over a dozen major collaborative project wins. He founded and currently leads the oneTRANSPORT initiative, one of the largest Smart City projects in the UK. In the area of 5G Alan's research interests include next generation internet and advanced applications of NFV/SDN technologies. Alan has over 25 years wireless industry experience spanning every generation of wireless. Prior to InterDigital, he held senior positions at Nortel, Siemens and several wireless startups both in Europe and United States. Alan is an EEE graduate of the University of Strathclyde, Glasgow and also holds a MSc. in Communications & Signal Processing from Imperial College, London. Alan holds over 25 patents covering a diverse range of wireless technology areas. He is a regular invited speaker at wireless industry events and is also author of a wireless futures blog on the IDG network.

Antonella Sanguineti

Head of Opto & Fronthaul products at Ericsson (Italy)

Antonella Sanguineti is Head of Optical and Fronthaul in Ericsson. In this role she leads the development of optical and Fronthaul solutions for RAN access transport in the context of 4G, 5G and Cloud RAN environment. Her background is in the Optical telecommunications business. She graduated in Electronic Engineering in 1996 and worked in Italtel R&D with the main focus on OXC modelling and management and then Pirelli Optical Systems/Cisco as SW developer for the optical transport equipment. She has then worked in Marconi in the System and Technology department with responsibility of optical and packet transport products and then moved to Product Management in Ericsson for POTP and WDM products. Antonella attended many international events and panels on optical and transport topics and she is owner of patents in the same optical area.
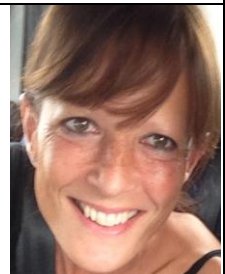
Arturo Azcorra

Vice-President 5TONIC and 5G-Crosshaul Project Coordinator (Spain)

Arturo Azcorra is the founder of the international research center IMDEA Networks, and currently is the Director of IMDEA Networks, with a double affiliation as Full Professor at University Carlos III of Madrid (UC3M). Professor Azcorra is also the Vice-president of the 5TONIC Laboratory for the development of 5G Technologies, and the Project Coordinator of the 5G-PPP flagship project 5G-Crosshaul. He is also the Chairman of the Expert Advisory Board of NetWorld 2020 European Technology Platform. He has been a visiting researcher at MIT and UC Berkeley, among other research institutions. He has participated in and directed 53 research and technological development projects, including European ESPRIT, RACE, ACTS and IST programs. Professor Azcorra has coordinated the CONTENT and E-NEXT European Networks of Excellence, and the CARMEN, TRILOGY-2 and 5G-Crosshaul EU projects. He has served as a Program Committee Member in many international conferences, including several editions of IEEE PROMS, IDMS, QofIS, ACM CoNEXT and IEEE INFOCOM. He is the founder of the ACM CoNEXT conference series and was the general chair of its first eddition. He has published over 100 scientific papers in books, international magazines and conferences. In addition to his scientific achievements, Prof. Azcorra has a relevant track record of research management. He was deputy Vice-rector of Academic Infrastructures at U. Carlos III from 2000 to 2007. He served as Director General for Technology Transfer and Corporate Development at the Spanish Ministry of Science and Innovation from 2009 to 2010, and then appointed Director General of CDTI (Spanish

agency for industrial research from 2010 to 2012. He received his M.Sc. degree in Telecommunications Engineering from the Universidad Politécnica de Madrid (UPM) in 1986 and his PhD from the same university in 1989. In 1993, he obtained an MBA with honors from Instituto de Empresa.

Diego Lopez
Senior Technology Expert at Telefonica (Spain)

Dr Diego R. Lopez joined Telefonica I+D in 2011 as a Senior Technology Expert on network middleware and services. He is currently in charge of the Technology Exploration activities within the GCTO Unit of Telefónica I+D. Before joining Telefónica he spent some years in the academic sector, dedicated to research on network service abstractions and the development of APIs based on them. During this period, he was appointed as member of the High Level Expert Group on Scientific Data Infrastructures by the European Commission. Diego is currently focused on identifying and evaluating new opportunities in technologies applicable to network infrastructures, and the coordination of national and international collaboration activities. His current interests are related to network virtualization, infrastructural services, network management, new network architectures, and network security. Diego chairs the ETSI ISG on Network Function Virtualization, and is co-chair of the NFVRG within the IRTF. Apart from this, Diego is a more than acceptable Iberian ham carver, and extremely fond of seeking and enjoying comics and wines.

Li Fung Chang
Chief Architect at 5G Office (Taiwan)

Dr. Li Fung Chang is the Chief Architect (2015-present) of the national 5G program funded by the DoIT/MoEA in Taiwan since Sept. 2015. In this role, she is responsible for setting up 5G master plan, strategic direction for this program as well as providing technical consultation and guidance to the engineering teams working under this project. Prior to this position, she was a Senior Director of Engineering at Broadcom Corp, - Mobile and Wireless Group. Dr. Chang is a veteran of AT&T research Labs and Telcordia. In 2001, she joined Mobilink Telecom (acquired by Broadcom in 2002) to start her career in cellular SOC design/implementation and commercialization for multi-mode modem. She led the baseband designs and managed system groups across multiple sites (San Diego, Irvine, Sunnyvale, New Jersey, Hsin-Chu Taiwan and Shanghai). Dr. Chang holds over 85 US patents and many international patents in the area of wireless communications. She is a Chair Professor with NCTU (National Chiao Tung University, HsinChu, Taiwan), fellow of the IEEE.

Theodore Sizer
Head of Mobile Radio Research at Nokia Bell Labs (USA)

Dr. Theodore(Tod) Sizer is Head of Mobile Radio Research in Nokia Bell Labs. In this role he leads teams innovating in all aspects of Mobile Radio systems, technology and software. Tod graduated from Amherst College, Magna Cum Laude and received his Masters and Doctorate from the Institute of Optics at the University of Rochester and is a Fellow of Bell Labs, WWRF, and IEEE. He serves on the Advisory Board to the US National Institute of Standards and Technology and was awarded the 2012 Popular Science Breakthrough Innovation award for the lightRadio invention.