Small Cell SIG

'Small Cells and the Enterprise'

21st January 2014

This event is kindly hosted by PwC

*This SIG is championed by Zahid Ghadialy of **eXplanoTech,** Simon Saunders of **Real Wireless**, Simon Fletcher of **NEC Telcom MODUS**, David Chambers of **ThinkSmallCell** and Paul Kenworthy of **Ranplan***

Venue: PwC, 7 More, London, SE1 2RT

AGENDA

12:00	**Registration & Networking over Refreshments/Lunch**
13:00	Introduction to the Small Cell SIG by **Zahid Ghadialy** of **eXplanoTech**
13:10	Welcome from our host, **Colin Brereton**, Global Leader Communications, **PwC**
13:15	Welcome from our Joint Sponsor, **Chris Trim**, Northern Europe Sales Manager, **Agilent**
Sessions chaired by **Zahid Ghadialy** of **eXplanoTech**	
13:25	**"Market Status of Enterprise Small Cells"** **David Chambers,** Founder and Senior Analyst, **ThinkSmallCell** • What exactly is an Enterprise Small Cell • Alternative/competing technologies such as DAS and Wi-Fi • Delivering coverage from indoor vs outdoor • Round-up of vendor products, solutions and deployments • Online resources
13:45	Q&A
13:50	**"The Business Case for Small Cells in the Enterprise"** **Prof. Simon Saunders**, Director, **Real Wireless** This presentation will outline the detailed business case analysis for enterprise small cells conducted by Real Wireless. The work was commissioned by Small Cell Forum but conducted independently and highlights the opportunities from both operator and enterprise perspectives in a wide range of "enterprise" environments. These include offices of all sizes, hospitals, hotel/conference centres and retail chains.
14:10	Q&A
14:15	**"Enterprise Small Cells – Ten Years to become an Overnight Sensation"** **Nick Johnson,** CTO, **ip.access** People are asking, "are enterprise small cells on the same hype cycle as residential femto?" What a strange question that is to us. We've been selling enterprise class cellular solutions since 2002 and is now deployed in over a hundred networks worldwide, in 2G, 3G and LTE. This presentation draws on that unparalleled real-world experience to show the reality of enterprise deployments and the value they bring. By focussing on a range of case studies, including a full range of classic office applications, as well as an unexpectedly large range of other deployments, we show how small cells have brought value to mobile operators and their enterprise customers across the globe.
14:35	Q&A
14:40	**Coffee/Tea & Networking**

Sessions chaired by **Simon Fletcher** of **NEC Telecom MODUS**

15:10	**Case Study** **Art King,** Director of Enterprise Services & Technologies, **SpiderCloud Wireless** A large financial customer with 2,000 valuable subscribers in a challenging, "green building" RF environment, where seamless mobility, capacity and performance are "must deliver" requirements. The solution is to use scalable indoor small cell system made for targeted deployments for medium-to-large enterprise and venue customers using up to 100 Radio Nodes with just one Services Node connection to the mobile core network.
15:30	Q&A
15:35	**"Small Cells and Wi-Fi in the Enterprise"** **Mark Grayson,** Distinguished Engineer, Office of the Mobility CTO, **Cisco** As an industry, we are starting to see a convergence of small cells and Wi-Fi to help solve coverage, capacity, and spectrum issues in our increasingly connected, mobile-dominated world. Small cells and Wi-Fi are bringing corporate networks and mobile networks closer to each other, how can they work together to build the future of mobility-enabled enterprises?
15:55	Q&A
16:00	Panel Session with all speakers chaired by **Simon Fletcher** of **NEC Telecom MODUS**
16:40	**Closing remarks and fill in evaluation forms**
16:45	**Event Closes**

With the permission of the speakers, presentations will be loaded to the Cambridge Wireless website on the day following the event

Profile of Organiser

About Cambridge Wireless (CW)

CW is the leading international community for companies involved in the research, development and application of wireless & mobile, internet, semiconductor and software technologies. With 400 members from major network operators and device manufacturers to innovative start-ups and universities, CW stimulates debate and collaboration, harnesses and shares knowledge, and helps to build connections between academia and industry.

CW's 18 Special Interest Groups (SIGs) provide its members with a dynamic forum where they can network with their peers, track the latest technology trends and business developments and position their organisations in key market sectors. CW also organises the annual Future of Wireless International Conference and Discovering Start-ups competition along with other high-quality industry networking events and dinners. With headquarters at the heart of Cambridge, UK, CW partners with other international industry clusters and organisations to extend its reach and remain at the forefront of global developments and business opportunities. For more information, please visit www.**cambridgewireless**.co.uk

Profile of Sponsors

Agilent Technologies

Agilent Technologies, the world's premier measurement company offers a full range of the latest wireless test equipment that spans the entire lifecycle from early design and development through to volume manufacturing, network deployment and service assurance. For more information, please visit: www.**agilent**.co.uk

Microlease

Microlease is the expert in Test Equipment Management. We have over 30 years of experience offering the best test equipment with a range of financing options. With over 4,000 instruments to choose from covering a range of manufacturers and industries, Microlease can help deliver your projects on time and on budget. Whether you need equipment for short or long periods, we can help you easily acquire what you need, when you need it, with options that are ideal for your situation. Our portfolio of services includes rental, leasing and finance, buying new or used equipment, calibration, asset management and auditing and even a programme to buy back your unused equipment. Microlease is also Agilent's Authorised Technology Partner in the UK, Ireland and Italy. Our strong partnership with Agilent gives you access to the best Agilent equipment supported by an unbeatable range of Microlease financial solutions. For more information please visit: www.**microlease**.com.

Profile of Host

PWC

PwC is founded on a culture of partnership with a strong commercial focus. This is reflected in our vision: "One firm - a powerhouse of a commercial enterprise that does the right thing for our clients, our people and our communities." Our goal is to build the iconic professional services firm, always front of mind, because we aim to be the best. We set the standard and we drive the agenda for our profession. For more information visit: www.**pwc**.co.uk

Profile of SIG Champions

David Chambers, ThinkSmallCell

David Chambers is Founder and Senior Analyst at ThinkSmallCell.com, an independent website which has tracked the evolution of small cells from their early femtocell origins. With both an engineering and marketing background, and a career spanning product management and marketing for several large telecom vendors, he has gained insight and experience by meeting with mobile operators worldwide. Well known throughout the small cell industry, David writes articles, white papers and presents at conferences on all aspects of the subject. Based in a firm belief that the only technical solution to meet strong data demand is rapid deployment of large numbers of small cells, David continues to be a strong advocate of their adoption whilst pointing out their technical and commercial constraints. For more information please visit: www.**thinksmallcell**.com

Simon Fletcher, NEC Telcom MODUS

Simon Fletcher has working in the communication industry for over 10 years, having represented NEC in Global joint venture enterprises developing 3G and 4G radio access products; working in various Systems and Project Management roles. Recently he has completed a spell as the Steering Board representative for NEC Corporation in LSTI (LTE SAE Trials Initiative) and is engaged in the management of 3GPP RAN1 standards development and early stage product innovation processes. Simon is a member of the Board of the Mobile Virtual Centre of Excellence (MVCE), Industrial Chairman for the EPSRC/MVCE Green Radio Programme, and on behalf of the MVCE Board leads discussions on new Open Innovation initiatives targeted to launch in 2012. For more information please visit: www.**t-modus.nec**.co.uk

Zahid Ghadialy, eXplanoTech Ltd.

Zahid has been working in the mobile industry since the dawn of 3G. He worked with the team responsible for the first 3G network rollout in Japan and Europe. Since then he has worked with several established and small companies in different areas of technology as an engineer, programmer, researcher, architect, trainer, project manager, product manager and even in PR and marketing functions. During his career spanning over 15 years, he has worked with chipset and handset manufacturers, network equipment vendors, research companies, small cells and wi-fi companies, analyst firms and even consulting companies. As a Co-Founder, Managing Director and CTO of eXplanoTech, Zahid is using his immense experience to help this young company become well established and successful. Along with an expertise in programming and 3G / 4G technologies, he is nowadays working on futuristic ideas and technologies, including 5G. He is a regular speaker at many small and international conferences and events. His 3G4G blog (http://blog.3g4g.co.uk/) is one of the most well-known independent mobile technology blog worldwide. You can also follow him on twitter @**zahidtg.** For more information please visit: www.**explanotech**.com

Paul Kenworthy, Ranplan

Paul Kenworthy is the sales & marketing manager for Ranplan Wireless Network Design who provide a wireless network design tool for indoor & and indoor-outdoor wireless networks. Peviously, Paul founded Apoideas, who developed an ultralow power wireless communications platform for telemetry applications. Prior to that, Paul was in management and engineering positions at Motorola, TTPCom and NEC. Paul has twenty years of experience in wireless communications and international business experience having lived & worked in Japan, Singapore, Australia & the United Kingdom. Paul holds an MBA from the University of Cambridge and bachelor degree in electrical engineering from Monash University (Australia). For more information please visit: www.**ranplan**.co.uk

Prof. Simon Saunders, Real Wireless

Simon is an independent specialist in the technology of wireless communications, with a technical and commercial background derived from senior appointments in both industry (including Philips and Motorola) and academia (University of Surrey). As co-founder of Real Wireless, he is responsible for overall technical capability and direction. He is an author of over 140 articles, books and book chapters. He has acted as a consultant to companies including BAA, BBC, O2, Ofcom, BT, ntl, Mitsubishi and British Land and was CTO of Red-M and CEO of Cellular Design Services Ltd. Simon speaks and chairs a wide range of international conferences and training courses and has invented over 15 patented wireless technologies. Particular expertise includes in-building wireless systems, radiowave propagation prediction, smart antenna design and mobile system analysis. He has served on technical advisory boards of several companies, Visiting Professor to the University of Surrey, member of the industrial advisory board at University College London and was founding chairman of Small Cell Forum (formerly Femto Forum), which he chaired from 2007-12. He is a member of the Ofcom Spectrum Advisory Board. For more information please visit: www.**realwireless**.biz.

Profile of Speakers

David Chambers, Founder and Senior Analyst, ThinkSmallCell

David Chambers is Founder and Senior Analyst at ThinkSmallCell.com, an independent website which has tracked the evolution of small cells from their early femtocell origins. With both an engineering and marketing background, and a career spanning product management and marketing for several large telecom vendors, he has gained insight and experience by meeting with mobile operators worldwide. Well known throughout the small cell industry, David writes articles, white papers and presents at conferences on all aspects of the subject. Based in a firm belief that the only technical solution to meet strong data demand is rapid deployment of large numbers of small cells, David continues to be a strong advocate of their adoption whilst pointing out their technical and commercial constraints. For more information please visit: www.**thinksmallcell**.com

Art King, Director of Enterprise Services & Technologies, SpiderCloud Wireless

As the Director of Enterprise Services & Technologies, Mr. King leads the development of enterprise services definitions and business case propositions for customers and partners. Mr. King was formerly the Mobility/Collaboration lead in Global Architecture for Nike Inc. where he was actively leading architectural engineering for global IT Infrastructure covering 4,000+ sites across 49 countries. Mr. King worked with Nike for over 10 years. Prior to Nike, Mr. King led the build out of two multinational engineering and consulting organizations for an IP Services network vendor for the service provider industry. Mr. King holds a BS in Computer Engineering from Portland State University. Forr more information please visit: www.**spidercloud**.com

Nick Johnson, CTO, ip.access

Nick founded ip.access in 1999. Having established ip.access' industry-defining GSM product line, he led its 3G technology into partnership with Cisco and the world's largest residential W-CDMA small-cell deployment with AT&T. Now leading ip.access' next generation technology vision, he has been behind its LTE small-cell success, and the drive towards WiFi-cellular convergence.

Also active at an industry level, he chairs the Radio and Physical Layer working group and leads the Release Programme Steering Group of the Small Cell Forum. Nick has a PhD in Microwave Scanned Imaging Techniques from University College, London, and an MA in Physics from the University of Cambridge. For more information please visit: www.**ipaccess**.com

Prof. Simon Saunders, Director, Real Wireless

Simon is an independent specialist in the technology of wireless communications, with a technical and commercial background derived from senior appointments in both industry (including Philips and Motorola) and academia (University of Surrey). As co-founder of Real Wireless, he is responsible for overall technical capability and direction. He is an author of over 140 articles, books and book chapters. He has acted as a consultant to companies including BAA, BBC, O2, Ofcom, BT, ntl, Mitsubishi and British Land and was CTO of Red-M and CEO of Cellular Design Services Ltd. Simon speaks and chairs a wide range of international conferences and training courses and has invented over 15 patented wireless technologies. Particular expertise includes in-building wireless systems, radiowave propagation prediction, smart antenna design and mobile system analysis. He has served on technical advisory boards of several companies, Visiting Professor to the University of Surrey, member of the industrial advisory board at University College London and was founding chairman of Small Cell Forum (formerly Femto Forum), which he chaired from 2007-12. He is a member of the Ofcom Spectrum Advisory Board. For more information please visit: www.**realwireless**.biz

Mark Grayson, Distinguished Engineer, Office of the Mobility, Cisco

Mark Grayson is a Distinguished Engineer in Cisco's Mobile Internet Technology Group CTO's Office, where he currently has broad responsibility for leading Cisco's small cell architecture strategy.

Mark has been involved in the small cell arena for over a decade, receiving early recognition from the GSMA for his work on defining Wi-Fi roaming, as well as leading Cisco's initial investment in Small Cell Technology in 2007, through to its latest acquisitions of Ubiquisys and Intucell in 2013.

He has over 20 years of experience in the wireless industry, ranging from the development of military HF systems, cellular handset RF/DSP design, the definition of mobile satellite communication architectures, the evolution of traditional cellular systems through to the creation of the latest small cell solutions.

He holds a first class Honors degree in Electronics and Communications Engineering from the University of Birmingham (England) together with a PhD in Radio Communications. Mark has been granted over 60 patents in the area of mobile communications, with another 40 pending, and is the co-author of IP Design for Mobile Networks (2009) and Building the Mobile Internet (2011), both published by Cisco Press. For more information please visit: www.**cisco**.com