

Cambridge Wireless Connected Devices SIG
“Wireless Security and the Internet of Things”
18th April 2013

Kindly jointly sponsored by:



Agilent Technologies



microlease
The experts in Test Equipment management

This SIG is championed by **Nick Hunn** of **WiFore Consulting**, **Paul Green** of **Arkessa**, **Antony Rix** of **TTP** and **Tim Whittaker** of **Cambridge Consultants**.

Venue – Howard Building, Downing College, Regent Street, Cambridge, CB2 1DQ

AGENDA

13:30 Registration and Networking over coffee (*please note lunch is not provided at this event*)

14:15 Introduction to the Cambridge Wireless Connected Devices SIG by SIG Champion **Antony Rix** of **The Technology Partnership (TTP)**

14:25 Introduction to our joint sponsors from **George Acris** of **Microlease**

Session Chaired by Antony Rix of TTP

14:35 ‘**Security and the Internet of Things**’

Nick Hunn, CTO, **WiFore Consulting** / **Connected Devices SIG Champion**

Nick gives an introduction to security for the Internet of Things. As more and more connected devices come to market designers need to think carefully about how data is protected from its origin, through phones and gateways to a data store and back to monitoring and control devices. This talk looks at the overall data flow, the need to construct security models that cover the whole system and some of the pitfalls that lay in wait for Internet of Things designers.

14:55 Q&A

Sessions Chaired by Paul Green of Arkessa

15:00 ‘**Flatpacked Wireless Security**’

Daniel Ryan, Research and Development Engineer, **Nordic Semiconductor**

Daniel’s talk will cover the practical aspects of implementing a proprietary security solution for a low-power low-cost wireless chip. Using Nordic’s Gazell Pairing protocol as an example, Daniel will discuss the advantages and risks of using non-standards based security. Strong encryption and authentication is a good starting point, but what confidence can you have against attacks based on its physical implementation, unique to your device? This all has to be done with an eye on cost and power consumption, while making it as easy as possible for customers to pick it up and start using it.

15:20 Q&A

15:25 ‘**Weightless Security**’

Amyas Phillips, Chair, **Weightless SIG Security Group**

Weightless is a standard for wide-area machine to machine communications having very low total cost of ownership. Achieving this requires strictly minimising overheads due to network management and security on messaging sent over the air. This talk will briefly introduce Weightless 1.0 and describe how its security approach is designed to facilitate m2m applications.

15:45 Q&A

15:50 Refreshment Break

Sessions Chaired by Nick Hunn of WiFore Consulting

16:20 "Security for the Wireless Internet of Things"

Robin Heydon, Global Standards, **CSR**

The Internet of Things changes how we have to think of wireless security. Pairing and device to device bonding is no longer a viable technology for the billions of wireless sensors that will be scattered around. This talk will examine the problems and suggest some possible solutions that can provide islands of security, along with easy installation

16:40 Q&A

16:45 'RFID – the good, the bad and the ugly'

David Johnston, Senior Information Assurance Consultant, **Mass Consulting**

David will discuss the implementation of RFID technologies on the education sector, through integrating chips into our passports, and also focus on Disney Land's \$1 billion Magic + system to explore the good, the bad and the ugly of RFID technologies.

17:05 Q&A

17:10 Liz Fitzsimons, Legal Director, **Eversheds LLP**

17:30 Q&A

17:35 Panel Session with all speakers – Chaired by Tim Whittaker of Cambridge Consultants

18:15 Fill in evaluation forms / Event closes

Delegates are invited to attend the Founders' Dinner pre-dinner drinks, taking place at Downing College, Cambridge and kindly sponsored by Agilent Technologies and Microlease.

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

Profile of Organiser

Cambridge Wireless

Cambridge Wireless is a leading industry forum and vibrant community with a rapidly expanding network of companies actively involved in the development and application of wireless technologies. In addition to high level networking dinners, educational events and business development activities, Cambridge Wireless runs an annual Future of Wireless International Conference along with the Discovering Start-Ups initiative to support emerging, innovative wireless companies. Over 15 Special Interest Groups focused on specific technologies and market sectors, also provide opportunities for members to meet, form partnerships to exploit new commercial opportunities, and share knowledge and information about the latest industry trends and hot topics. Cambridge Wireless has partnerships with other leading industry clusters and organisations around the world to extend its international reach and to keep members up to date with the latest global developments and business opportunities. For more information, please visit www.cambridgewireless.co.uk

Profile of our joint 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

Profiles of SIG Champions

Paul Green, Arkessa

Paul originated Arkessa in 2006 – the business that provides remote internet services to multitudes of machines. He is currently creating the services Arkessa will offer in five year's time. His professional life combined engineering and science has taken him through a variety of roles, including design and production engineering, business planning, marketing and corporate sales, mainly in the telecommunications sector. Interestingly, the first product he introduced to manufacture is now in the Science Museum in London. A passionate and committed Christian, Paul is as excited about materials science and quantum physics as he is interested in railways, walking, skiing and the natural world. For more information please visit www.arkessa.com

Nick Hunn, WiFore Consulting

Nick Hunn is Development Director of Onzo, and the founder and CTO of WiFore Consulting. For the past twenty years he has been closely involved with short range wireless and communications, designing technology that helps to bring mobility to products, particularly in the areas of telematics, M2M smart energy and mobile health.

He has been closely involved with the Bluetooth SIG, the Continua Alliance and other medical and wireless standards bodies. He is the author of "The Essentials of Short Range Wireless" - a book attempting to explain the application of wireless technology to product developers. Nick can be contacted at nick@wifore.com

Dr. Antony Rix, TTP

Dr. Antony Rix is a Senior Consultant in the Communications and Wireless group at TTP, Europe's leading independent technology consultancy and product development company. He has led projects in areas including mobile TV, phone apps, network planning, and novel short-range and wide area wireless technologies. Antony is currently engaged in business development and programme management in wireless healthcare and in safety-related radio systems, where he focuses on developing breakthrough products and services for TTP's clients based on applications of technology.

Before he joined TTP in 2004, Antony worked at BT's Research Laboratories and then co-founded Psytechnics, a successful start-up company developing quality of service and network monitoring software.

Antony has a Ph.D. from the University of Edinburgh and a Masters in Engineering from the University of Cambridge. He is a member of the American Telemedicine Association, Institute of Engineering and Technology and Audio Engineering Society, and he co-chairs the Cambridge Wireless Special Interest Group on Connected Devices. For more information please visit www.ttp.com

Tim Whittaker, Cambridge Consultants

Cambridge Consultants was started in 1960 to pioneer the delivery of independent design and development services in electronic, mechanical and product engineering: we are one of the founder companies of the high-technology Cambridge phenomenon. Our history of world-class services is augmented by our development of intellectual property in telecommunications, software, silicon and medical devices, and by more than 20 successful spin-out ventures. Today Cambridge Consultants employs 350 engineers, scientists, project managers and technicians with offices in Cambridge, UK and Cambridge, MA in the USA; we provide the full range of services for excellent product design to a worldwide client base in the wireless, consumer, industrial and medical markets. Tim Whittaker is a System Architect in the Wireless business unit, where he has taken the technical lead in projects using radio standards like Bluetooth, ZigBee, DECT, and in the creation of specialist communications schemes for new applications, or to use new spectrum allocations. For more information please visit www.cambridgeconsultants.com

Profiles of Speakers

Liz Fitzsimons, Eversheds LLP

Liz Fitzsimons specialises in data protection and freedom of information, particularly in relation to international issues and transfers and novel uses of data. This includes advising on use of RFID technology, where and to the extent lawful to make use of location data, conversion of personal data into non personal data and how precise location data needs to be in order to become personal data. Liz has a great deal of experience with multi party and multi country compliance issues and programmes and works with a specialist team on such projects. Recent work has included a privacy compliance programme across 41 jurisdictions world-wide for one US multi-national and advice on global hub structured data consolidation and shared service programme for another.

Liz has worked with clients in relation to privacy issues on pan European and trans-Atlantic e-discovery in litigation, SOX, hotline and ethics compliance, data sharing agreements and protocols, introduction of new and centralized IT/HR systems, data warehousing and advice on customer relationship management systems. Liz has also assisted clients with advice on security breaches, security reporting obligations and helped them deal with enforcement action, including successfully defending a regulatory monetary penalty notice of several tens of thousands of pounds. Her experience includes advising on privacy issues on outsourcing, data and privacy policies, retention policies and protection of confidential material. Freedom of information work includes strategic advice, assistance with publication schemes and policies. For both areas, Liz has a great deal of experience dealing with sensitive or complex requests for information, appeals and complaints, including to the Information Commissioner's Office and helping with FOI consultations to ensure information can be disclosed or withheld as appropriate. Liz also regularly speaks at seminars and provides training and workshops for clients, including presenting the Advanced FOI Level 2 training as part of the ICO's approved FOI Practitioner's Certificate training course.

Liz has also contributed the chapters on absolute and qualified exemptions to the Law Society's FOI Practitioner's Handbook for the updated edition to be published this autumn. She has been noted individually for several years and with the firm in Chambers Data Protection 'Best of UK' category. For more information please visit www.eversheds.com

Robin Heydon, CSR

Robin was educated at Manchester University in England, obtaining an honours degree in Computer Science. He has worked for a number of companies in the UK, the USA as well as Canada, mainly in real time simulation software and complex networking systems. Robin started work at CSR in February 2000, working as a software engineer in the Bluetooth firmware group before moving into his current role as a Global Standards Architect for CSR as part of the R&I group. Robin has many years of experience in embedded systems development, networking systems, as well as wireless technology. He has held the position of Chair of the Bluetooth Architecture Review Board and the Chair of the Core Specification Working Group, as well as a number of other groups within the Bluetooth SIG.

Robin is a board member of the Weightless SIG. Robin regularly speaks at various events around the world including the Wireless Developers Forums and the Bluetooth SIG Analyst meetings. For more information, please visit www.CSR.com

Nick Hunn, WiFore Consulting

Nick Hunn is Development Director of Onzo, and the founder and CTO of WiFore Consulting. For the past twenty years he has been closely involved with short range wireless and communications, designing technology that helps to bring mobility to products, particularly in the areas of telematics, M2M smart energy and mobile health.

He has been closely involved with the Bluetooth SIG, the Continua Alliance and other medical and wireless standards bodies. He is the author of "The Essentials of Short Range Wireless" - a book attempting to explain the application of wireless technology to product developers. Nick can be contacted at nick@wifore.com

David Johnston, MASS Consulting

David spent over 20 years protecting military secure systems mainly for the defence intelligence community and from having completed a full military career, moved to commercial environment.

David is a dedicated Senior Information Assurance Consultant and CLAS Consultant that has amassed a wealth of experience and knowledge within the Information Assurance arena. David has worked closely for many years with a wide range of Government, MoD, HM Forces and public sector organisations, developing and reviewing

security documentation in accordance with HMG, CESG policy framework, performing risk assessments and advising on the design and implementation of secure ICT systems. He has a vast experience in incident investigation and reporting and proficient in security testing and scoping of all forms of system penetration testing. David is MASS's principal security consultant and heads of a team of IA specialists, providing line management, mentoring, skill development and help with the construction of individual training plans in order to provide a wide range of skills throughout the team. For more information, please visit www.mass.co.uk

Amyas Phillips, Weightless SIG Security Group

Amyas Phillips has chaired the Weightless SIG Security Group up to publication of version 1.0 of the standard. He is head of the Internet of Things Laboratory at ARM, which is a promoter member of the Weightless standard. For more information, please visit www.weightless.org

Daniel Ryan, Nordic Semiconductor

Daniel Ryan is a Research and Development Engineer at Nordic Semiconductor, and has been a lead developer of the proprietary 2.4GHz RF protocols for Nordic's new ARM-based nRF51 series devices. Daniel has a Ph.D. from The University of Sydney and has over 25 papers published in the leading journals and conferences in the field of wireless communications.

Nordic Semiconductor is a fabless semiconductor company based in Trondheim, Norway, that has pioneered the 2.4GHz ultra low power wireless sector. Nordic has shipped over 500 million wireless chips used in products including PC peripherals, smartphone accessories, and sports and fitness sensors. Today, Nordic produces integrated circuits employing Bluetooth Low Energy, ANT and Nordic's Proprietary RF protocols. For more information, please visit www.nordicsemi.com