

The newsletter of Engineers Australia's College of Information Telecommunications & Electronics Engineers



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from the chair

e-Health

by Peter Hitchiner



It is perhaps unsurprising that health features highly in the discussion supporting the implementation of broadband networks. Health represents 10% (and

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careers website
provides extensive
career information.



growing) of the national economy. Broadband (including wireless) networks are merely an enabler of health services and the costs are small in comparison with the costs of personnel and equipment which use those networks. Nevertheless, I would contend that eHealth enabled by broadband networks is mandatory for a sustainable health sector. At present it clearly will not be if costs continue to grow

in proportion to the economy. No-one would deny the need for nurses, doctors and hospital beds however continual increases are unsustainable. With 85% of Australian employment already in the services sector, further increases will be at the expense of other important parts of the economy.

The increased application of ICT in the health sector represents the best opportunity for sustainable health services across the entire population. eHealth initiatives inevitably involve change and this is a significant barrier to adoption. ITEE College Board members are faced with significant opportunities in the health sector and these need to be addressed with solutions which can be adopted readily by all stakeholders.

Through current initiatives of the Department of Health and Ageing and the National eHealth Transition Authority (NeHTA), including the roll out of Personally Controlled Electronic Health Record (PCEHR), we are gradually supporting more efficient processes and putting together the systems essential for supporting improving health outcomes through better information availability about individual patients. Much of the national health agenda focuses on hospital care, however primary health care is where the major benefits of eHealth can be achieved. By providing assistive technologies, which enable people to self-care or receive care in the home or in residential care, patients will be able to remain in a familiar environment during the course of their treatment. Pressure on high cost hospital beds will also diminish and, for those suffering chronic illness, the need for repeated hospital admission will be reduced. ICT systems are being implemented to help reduce clinical errors, manage medication and reduce over servicing. This will lead to savings that can be applied to improving overall healthcare. Much more needs to be done as these initiatives are often isolated.

The challenge we face is diverting short term resources to investment in systems and process change which will deliver long-term benefits. The opportunities for ITEE College members – whether in information systems, telecommunications or electronics – are significant, however we need a long-term view, not short-term stop gaps which rely on increasing recurring costs.

Engineers must lend their support to investment in long-term initiatives for implementing new systems and processes in the health sector otherwise the nation will be unable to sustain expectations for good health services for those who already have them and for those who don't yet have them. In this, the Year of Humanitarian Engineering, it is

worth noting that investment in technology for primary health care is likely to deliver far reaching benefits to all communities.

This column also appears in the ITEE College Board Chair [blog](#): please post your feedback.

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Software architecture or engineering?

by Peter Hitchiner

As I failed to deliver a column last edition of *eMonitor*, I am catching up with a second column in this issue. I need to acknowledge with thanks the contribution of Bill Maklin, who runs a Software Engineering & Architecture Joint Technical Program in South Australia, for initiating the thoughts expressed here.

If you talk about engineering in the community, many if not most will conjure visions of buildings, roads, bridges, hospitals, dams, railways and so on – generally physical infrastructure. Unfortunately, too few regard engineering as the discipline which creates this infrastructure and provides for its ongoing operation and maintenance. Engineering also creates IT infrastructure and its utilisation. When we talk of software engineering for instance, people are confused because they don't recognise non-physical manifestations as engineering. Rather than changing this perception, a change in terminology is evolving – reflecting software architecture in particular. Architecture is indeed a noble profession however it is not engineering. The skill of engineering required in software projects cannot be substituted by architecture. Engineering takes a holistic approach to implementing software projects, architecture being a component.

How can we change the perception of engineering to its rightful status as a professional discipline which must be followed in implementing IT and in particular software projects? Why is it that we seem unable to muster an organising committee for the Australasian (formally Australian) Software Engineering Conference 2012 (ASWEC 2012), a conference series which has hitherto been running for over 20 years.

We cannot continue to rely on just a few individuals, for whom we are extremely grateful, to participate on organising and program committees. Engineering is an inherently practical discipline, so where are all the industry participants to work on the committees and network with academics and others at conferences such as ASWEC.

Please post your feedback and ideas.

This column also appears in the ITEE College Board Chair [blog](#): please post your feedback.

Peter Hitchiner is the ITEE College Chair 2011.

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news

Nominations open for Neville Thiele Award

The ITEE College is searching for nominees for the Institution of Radio and Electronic Engineers (IREE Neville Thiele Award). It is named in honor of AN (Neville) Thiele, an Australian Electronics Engineer, former president of the IREE and a world-renowned expert on audio engineering standards and the design of loudspeakers.

The award also recognises the IREE, which represented the profession of radio and electronic engineering in Australia for many years.

The winner of the award will receive a cash award of \$10,000, a framed certificate and an engraved bronze medal.

The 2010 award was won by Robert Hodges for his leadership in the emerging field of Intelligent Transport Systems.

A recipient of the award must:

- be an Australia citizen or permanent Australian resident;
- be less than 41 years of age in the year in which the award is made;
- be eligible to be a member of Engineers Australia in the grade of engineer, technologist or associate/officer.

Nominations will remain open until 30 September. To revise the awards criteria or to apply, see the online [nomination form](#).

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Mobile Phone Base Station Code released for public comment

Industry and community committee Communications Alliance last month released for public comment a draft *Mobile Phone Base Station Deployment Industry Code* – a framework aimed at ensuring that communities are properly consulted on changes to mobile network infrastructure in their local areas.

This code is a revision of the *Deployment of Mobile Phone Network Infrastructure Industry Code*, and has been renamed to clarify its purpose.

It requires mobile carriers to consult with local councils and adopt a precautionary approach in planning, installing and operating mobile phone base stations. The code supplements the requirements already imposed on the industry under existing legislation.

It also amends these obligations by extending the required timeframes for consultation with the community and with local councils, to allow more time for local groups to consider the implications of any mobile base station deployments.

It has been developed over the past six months by the Communications Alliance – a working committee of industry representatives and prominent community and consumer representatives.

Communications Alliance CEO John Stanton said the code is a vital tool in ensuring that the ever-growing demand for mobile phone coverage and data capability – which requires ongoing network development – is properly balanced against legitimate community desire to have a say in how networks are deployed locally.

The draft *Mobile Phone Base Station Deployment Code* and an accompanying Explanatory Statement can be downloaded [here](#).

A new webpage bringing together information and links relevant to mobile phone towers is now [live](#).

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Australia to access \$1 billion second generation satellite network

Australia will soon receive access to a new satellite telecommunications service with international satellite communications firm Globalstar beginning the final launch phase of its 24 satellite second generation network. Australian mobile telecommunications company Pivotal will provide the service in Australia.

The entire satellite network is expected to cost Globalstar in excess of \$1 billion and, according to Pivotal managing director Peter Bolger, will finally allow rural Australians to access high quality satellite services that will rival other cellular networks.

“Australians utilising the Globalstar network will begin to see a dramatic improvement in service quality within months, with more to come,” he said. “Call quality will increase significantly and be more reliable than ever before which is great news for rural communities.”

The second generation network will equate to higher speed data transfer, with connection speeds will see an increase from the current 9.6kbps to 256kbps. The new network is expected to be available by 2013.

“The improved data speed will be possible once we have completed our extensive network upgrades and marks an incredibly exciting time for the Australian satellite telecommunications industry,” said Bolger.

“Effectively, rural Australians will have access to 3G-like mobile satellite services and the increased service offering will make for some brilliant

innovations in terms of handset functionality.”

The satellites will operate as a low earth orbit constellation and avoid the latency issues typical with the geostationary satellite services. The new satellites also have a lifespan of fifteen years – twice the lifespan of Globalstar’s first generation of satellites.

“These second generation satellites ensure that even if you are completely isolated, moving at high speed or in rocky and hilly terrain, the ability to reach a working satellite service will be tremendously improved.

“This is crucial for the safety of individuals and also plays a major part in the provision of satellite tracking services to ensure the safety of employees working for major industries in remote areas,” he said.

Globalstar’s president of global operations Tony Navarra said the remaining 12 satellites were set for launch before the end of the year.

Pivotal has provided Globalstar satellite services in Australia since 2003.

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Tech23 2011 prize winners announced

\$150,000 in cash prize was awarded to five early-stage Australian technology companies as part of the Tech23 2011 event held in Sydney last month. Now in its third year, the NSW state government-sponsored event aims to foster young companies based in the tech sphere.

A \$50,000 Innovation Excellence Award was won by app developer [GoCatch](#), which devised a smartphone application to connect taxis with passengers. Through this feature, taxi drivers and passengers can locate each other in real time on a map on their smartphones.

The four winners to walk away with a cash prize of \$25,000 each were:

- [OrionVM](#) – providers of Australian elastic cloud computing solutions. After spending a year on its development, OrionVM recently put its integrated hardware/software stack design to production.
- [Centryc](#) – a Sydney-based company which specialises in the aggregation and management of guest data from multiple online and mobile inputs. One of their most recent innovations, the MeTag, assimilates customer information into one card-sized credential.
- [StageBitz](#) – a web technical firm which allows clients in the entertainment industry to design, create, acquire and manage sets and props via their online program.
- [Filter Squad](#) – designers of a smartphone and tablet application which enables customers to find applications to suit their interests.

The event was opened by NSW deputy premier Andrew Stoner. Over

400 industry representatives attended to hear the 23 preselected companies present their technology and business model in a five minute presentation. Rachel Slattery, director of SlatteryIT which organised the event, said the opportunity to showcase new technical innovations is the best part of Tech23.

"The prizes are great but there is so much more it," she said.

"Already, it is obvious how much the Tech23 companies get out of the event. Many have met potential clients, partners, investors, mentors – who knows what great things may happen as a result?"

For a full list of winners, click [here](#).

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Australian IT firm wins iAward for its home-grown security application

Australian information security consultancy Pure Hacking last month won the National iAward for its Australian-developed PureWAF managed web application firewall service. The National iAward win in the Security section came after the acquisition of the consultancy's NSW category iAward, which it won in July.

PureWAF is an alternative web application firewall solution to better manage the mitigation and monitoring of security breaches. PureWAF can be implemented as a virtual appliance or embedded within the web server on an internal network or externally in the cloud. The cloud-based PureWAF implementation allows clients to take advantage of the scalability and cost benefits of a flexible computing environment without compromising the security of their web application.

According to Pure Hacking, the rapid adoption of web application technologies within Australian organisations has meant traditionally deployed WAFs were no longer effectively able to identify and repel the increasing number of identified risks from hackers and cybercriminals.

PureWAF detects and blocks attacks targeting web applications, inspecting all inbound and outbound application traffic including encrypted traffic. It has been developed to replace traditional appliance-based WAFs with a tailored solution that can handle business logic attacks, distributed denial of service, zero-day vulnerabilities, brute force and other malicious attacks.

For a full list of the 2011 National iAward winners, visit the [website](#).

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NBN Co aims to provide clarity on pricing and regulatory approach

NBN Co has released two key documents aimed to give retail and wholesale service providers greater clarity and certainty in relation to its commercial terms and its future approach to pricing and costs.

NBN Co released the third edition of its *Wholesale Broadband Agreement (WBA)*, following two previous rounds of industry consultation, setting out its contract terms and conditions. The WBA sets out the arrangements for the delivery of commercial services over the NBN encompassing such matters as products and price, service levels, technical information, credit policies and future product development.

Also released was a discussion paper providing an overview of NBN Co's planned *Special Access Undertaking (SAU)*. The SAU outlines the longer-term approach to price setting and cost recovery. It sets out a 30-year role for the *Australian Competition and Consumer Commission (ACCC)* in regulating the NBN, including five-year review periods. It also sets out NBN Co's commitments to reporting to the ACCC at regular intervals to provide it with sufficient information to determine if NBN Co is meeting its SAU commitments.

"The SAU and WBA serve separate purposes but they are designed to be complementary," said NBN Co principal of regulatory affairs Caroline Lovell.

"The intention is that the SAU sets out binding commitments on key price and non-price matters, giving customers certainty in respect of these principles. The WBA then sets out the detailed terms and conditions in a way which is consistent with the SAU's principles."

The WBA has been released for retail service providers to consider prior to signing up to offer commercial high-speed broadband telephony services in NBN Co fibre serving areas when the NBN trial period finishes at the end of this month.

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New data centre to open in Sydney

Data centre operation firm Digital Realty has spent around \$11 million for a 3.5ha site in Western Sydney to establish its first data centre in Australia.

Two facilities will be built at the Erskine Park site that can support around 18,600m² of data centre development with over 11.5MW of IT energy usage.

The first phase of construction will commence this year spanning 9300m².

Digital Realty is part of the Macquarie Capital consortium bidding for the NSW government's data centre consolidation project.

"In the Sydney market, the availability of data centre space has long been the domain of co-location, managed services and regional telecommunications providers," said Digital Realty Asia-Pacific regional head Kris Kumar.

"We believe that our ability to deliver data centre solutions will be a significant benefit to customers that are expanding their IT operations in the region."

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Jobs boost for Victorian ICT company

Victorian minister for technology Gordon Rich-Phillips last month opened the new Melbourne head office for Australian information and communication technology (ICT) company DB Results and announced the company's commitment to creating 100 new jobs by 2015.

An independent IT consulting company, DB Results was formed as a two-person business in 2004, and today employs 80 staff and records an annual turnover of nearly \$14 million.

Rich-Phillips said DB Results delivers IT projects for clients locally and internationally, with local project teams based in Australia, New Zealand and throughout the Asia Pacific.

DB Results specialises in the delivery of transformational IT projects in services on strategy, customer management, revenue management, smart grid/metering and procurement for the utilities, financial services, aviation industries and the public sector.

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Tweeting a new tune

e-Monitor maintains an account with Twitter to provide readers with timely updates on news and developments in the IT, telecommunications and electronics industries and matters relating to the ITEE College.

The account will also be used as a medium for feedback, listening to readers' tips and ideas, and fostering debate on issues important to *e-Monitor* readers. Readers who do not use Twitter are still invited to submit their feedback, tips and ideas via email.

To join the conversation, follow [@iteemonitor](#) on Twitter.

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new products

McLean Thermoelectric Cooler

Electronic maintenance company Pentair has released the McLean Thermoelectric Cooler for cooling electronic components in small indoor or outdoor electronic enclosures. Operating on Peltier effect technology, the cooler delivers 60, 100 or 200W of cooling for applications including telecommunications, battery cabinets, industrial enclosures and security systems. The compact coolers feature no refrigerant, compressors or filters, providing an ideal solution for demanding or low-maintenance environments. The 24 VDC and 48 VDC Coolers are CE- and UL-recognized, and available in 13 different models.

The cooler minimises downtime and component loss by removing heat around critical components within an enclosure. The compact coolers can be mounted vertically or horizontally and multiple units may be used on an enclosure to increase the cooling capacity. The thermoelectric coolers only have fans with moving parts, requiring minimal maintenance; and they do not require replenishment of fluids—as do refrigerant-based coolers. A filterless design further reduces maintenance intervals.

<http://www.mcleancoolingtech.com/>



The McLean Thermoelectric Cooler minimises downtime and component loss by removing heat around critical components within an enclosure.

TEAC SR100i 'Aurb' iPod docking station

Consumer electronics company TEAC has released its SR100i 'Aurb' iPod Docking Station.

Not just a speaker dock, this docking station features an in-built CD player, USB port for mp3/play back, as well as a PLL FM tuner, In addition to a power output of 2x 50W amplifier and bass reflex speakers.

The TEAC SR100i iPod Docking Station is available with a 12 month warranty. For sales enquiries, call 1300 769 824.

www.teac.com.au



The SR100i iPod Docking Station features an in-built CD player, USB port for mp3/play back, as well as a PLL FM tuner.

Modicon M340

Schneider Electric has released its mid-range programmable automation controller, the Modicon M340. The controller is designed for industrial processes and infrastructure.

Key features of the Modicon M340 include:

- 4MB internal RAM, with up to 128 MB additional memory with FTP access.
- Application back-up in supplied SD memory card, no battery required
- High density 64 point I/O cards only 1.25" wide
- Rack expansion capability up to four 12-slot racks
- Integrated USB port and a choice of communication ports from: Ethernet, CANopen and Modbus.
- Choice of Power supply 24-48 Vdc, 100-150 Vdc, 100-240 Vac
- Extended temperature (-25°C +70°C) and conformal coating to withstand harsh environments
- RTU model supporting DNP 3.0 and IEC60870-5 serial or Modbus TCP/IP connections.

The Modicon M340 now complies with the International Electro-technical Commission (IEC) IECEx certification scheme for explosive atmospheres.

For further information contact Schneider Electric on 1300 369 233.

www.schneider-electric.com.au

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calendar

Engineers Australia conferences

The Eminent Speakers Program is hosting a series of presentations by Professor Sanjit Mitra, who is presenting on the theme of digital signal processing. Presentations will be hosted in Sydney, Melbourne, Canberra, Adelaide and Brisbane over the course of this month. For a full tour schedule, visit the Engineers Australia [events page](#).

The South Australia division of Engineers Australia has organised a year-long Software Engineering and Architecture Joint Technical Program, which is culminating in four final presentations spanning from this month to November. To peruse the upcoming presentations, click [here](#) or contact the convenor Bill Malkin at bill@malkin.com for more information.

Other events

The [Broadband World Forum](#) will be hosted in Paris on 27-29 September. The forum will host over 300 speakers and incorporate over 215 service provider case studies.

The International Electrotechnical Commission (IEC) and Standards Australia will host the 75th IEC [General Meeting](#) in Melbourne on 24-28 October. The meeting aims to discuss technical and management issues, exchange ideas and strengthen global cooperation among countries.

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