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Fibre optic speeds are needed for future internet use

Doubts about whether the federal government's National Broadband Network is worth the investment were countered by Mike Quigley, CEO of NBNCo, at a recent conference in Sydney.

At Broadband and Beyond 2010, Quigley said if technology trends continue, the speeds of 100Mb/s promised by the network would only just be adequate for the complex data forms that Australians would be regularly using by then, such as streaming video and television and online gaming.

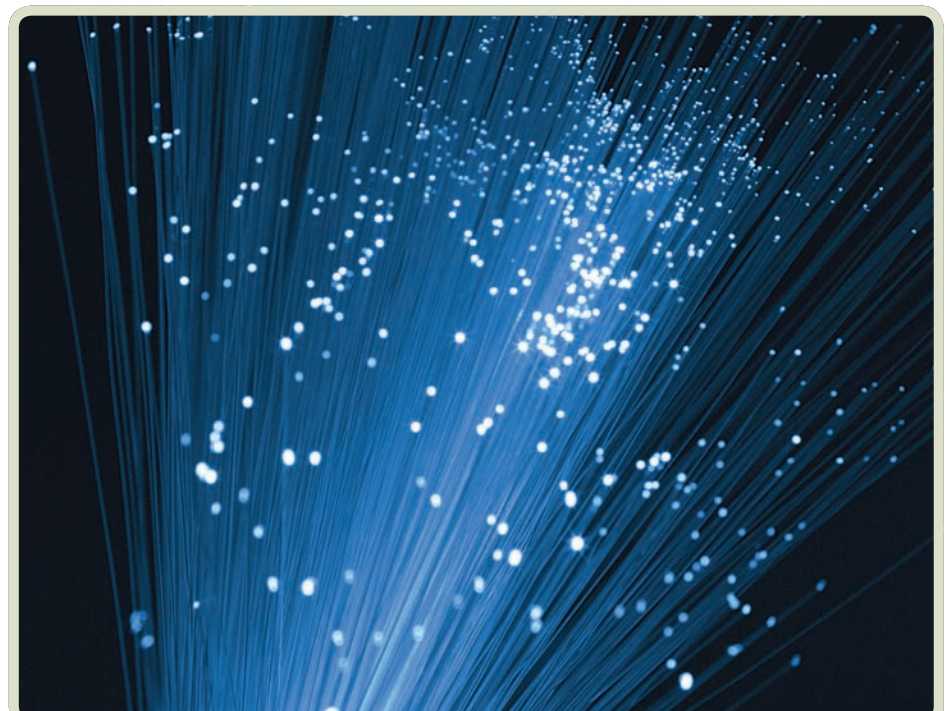
"A quarter of a billion 10-year-olds today will be entering university in 2018 – I do not doubt they will be demanding higher internet bandwidth by then," he said.

In an hour-long presentation, Quigley discussed the progress of the network. He defended the company's decision to occupy Levels 1 and 2 of the broadband architecture which stand for the physical fibres of the network and the Ethernet protocol. The company has not ventured into Level 3 in which the internet protocol and services operate because, according to Quigley, it wishes to leave that level to private companies so that they may innovate. The idea is that the NBNCo will provide the underlying infrastructure which is difficult for telecommunications companies to build because of capital cost, uncertainty in how many customers will use the network once it is built, and the complex regulations surrounding network ownership.

"We are deciding to occupy only the first two levels because these are difficult to do in private industry. Many are urging us towards Level 3 – not least people trying to sell us Level 3 gear," he said.

Redundancy will be built in using ring architecture as much as possible. Analog telephony adapters will be provided to allow an analog phone to plug into a passive optical network (PON).

Quigley also defended the choice of PONs as opposed to point to point. He said



The federal government's proposed national fibre optic network is needed to keep up with the increasing complexity of internet data, according to Mike Quigley, CEO of NBNCo.

point to point would be significantly more expensive due to the number of physical fibres required. Each PON can split into 32 fibres – replicating that with point to point connections would require a massive amount of fibre, Quigley said.

Moreover, in terms of megabits per watt, PONs had the lowest power consumption. "A significant issue in a network of this size," he said.

He said GPON was chosen over EPON because of technical strengths and worldwide trends.

McKinsey and KPMG are carrying out an implementation study of the network which will be released in the middle of the year.

The NBNCo will provide fibre until a point of interconnect (POI) at which point private companies will build their own networks to bridge the gap to the customers' premises. POIs will only be built where there is "contestable backhaul", meaning where private companies are likely to make money from installing their services there. In areas where network services are not competitive for private companies or if a POI becomes uncompetitive because of residents moving out, the NBNCo will build a fibre transit network which will connect these uncontested areas into an aggregator node site where they are linked to a POI. These areas will typically be in regional Australia.

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http://www.engineersaustralia.org.au/colleges/itee/itee_home.cfm

The national broadband tender was “confusing, wasteful and expensive”

The request for proposal (RFP) process to build a national fibre to the node (FTTN) network, to be called the National Broadband Network (NBN), was complex, lacked clear objectives and has come at a “significant cost” to the federal government in excess at \$30 million.

Furthermore, while the federal government was advised of risks in the tender process such as potential compensation to Telstra, technological superiority of FTTP and reduced competition through regulatory changes, it did not assess these risks until late in the RFP process.

These conclusions came from a recent report by the Australian National Audit Office called “The National Broadband Network Request for Proposal Process”.

The report examined the RFP process

required to approach particular proponents more than once affected the tight timeline envisaged for the assessment process. Moreover, the federal government chose to design the RFP to be flexible with few mandatory requirements, the report said.

According to the report, this resulted in a lack of guidance given to proponents which made it difficult for them to submit competitive proposals.

“Proponents found the bilateral meetings with the department and its specialist advisers of limited value.”

By late October 2008, a month before the RFP deadline, the report said it had become clear to the department that the global economic downturn was hampering proponents from attracting funding for their investment in the NBN.

Proponents for the national broadband tender found the bilateral meetings with the department and its specialist advisers to be of limited value.

issued in early 2008 by the Department of Broadband, Communications and the Digital Economy to build a national broadband network.

In response to that request, six proposals were received by November 2008 which generally suggested fibre to the node as the technology used in a national broadband network.

All were deemed to either not meet the minimum requirements for participation (including Telstra's proposal) or not offering value for money.

Following this, Stephen Conroy, the minister for broadband, communications and the digital economy terminated the request for proposal process in April 2009. The federal government then announced that it would set up a new company to operate a fibre to the premises network.

The report described the one-stage tender process as unconventional given the size and risk.

According to the report, proponents had said a two-stage process – consisting of an expression of interest and the dialogue between the bidder and client which results from that – would have kept the proponents better informed and increased the likelihood of a successful bid.

However, the federal government believed the main disadvantage of multi stage tendering being the additional time

The report said that by this time, “non-Telstra proponents were unlikely to propose a national technical solution that would not require Telstra's equipment, or submit a viable business model that took into account potential compensation to Telstra of some billions of dollars for the compulsory acquisition of the right to use its equipment.

“Providing the clarity and guidance proponents sought would most likely have necessitated an extension to the government's timetable for the RFP process,” it said.

It was not until after the RFP process was over and the bids were being assessed by the evaluation panel, that hidden costs were realised.

These included potential compensation to Telstra, risk of obsolescence and reduced competition through regulatory changes, which prompted the federal government to consider a fibre to the premises network instead of fibre to the node.

The panel found “proposals lacked committed private sector funding, none of the national proposals was sufficiently well developed to present a value for money outcome, no proposal submitted a business case that supported the roll out in five years of a NBN to 98% of Australian homes and businesses with a Government contribution of \$4.7 billion.”



The completed recycling facility in Victoria, designed using computer aided design software.

Software used to design concrete recycling plant

Australian engineering firm ideas* has been named the Autodesk Inventor of the Month for January.

The company used Autodesk Inventor software to design and develop a concrete recycling plant in Laverton, Victoria. Owned by the Alex Fraser Group, the plant will be capable of recycling 1Mt/a of demolition materials.

The size of four football fields, the new facility uses the most modern technology to more efficiently recycle unprecedented volumes of discarded construction and demolition materials. Since product made from recycled concrete has 65% of the carbon of products made from quarried stone, the recycling plant promises to significantly reduce the environmental impact of construction projects throughout Australia.

Design work on the project was subcontracted to 14 different fabricators. Autodesk Inventor software provided a flexible, central management point for the different teams, facilitating important design revisions across the entire project.

Michael Percy, managing director of ideas*, said, "A design project of this scale would have been impossible without Inventor. All team members used the software to create digital prototypes, enabling faster design decisions and improvements throughout the design process.

"The result was less costly rework and modifications during installation and commissioning."

One of the plant features designed with Inventor software was the dual jaw crusher which breaks down construction materials into smaller chunks.

Other features are a multi-layered separation system and a

"pug mill" for grinding and mixing materials to form high-quality road base materials.

The collaborative approach taken by the company and its extended team enabled the entire project to be installed within 10 months of the first designs.



Plant features were designed using the software.

Engineering student wins broadcasting scholarship

RMIT student Tseada Zekarias is the 2009 recipient of the ABC Women in Broadcast Technology Scholarship, which was given out by national broadcaster ABC this month.

The scholarship was presented to Zekarias in Melbourne by ABC's Victoria director Randal Mathieson and ABC's Victorian manager of technical services Donato Morgarella.

The scholarship – which recently changed its name from Women in Engineering to better represent the broadcasting element of the award's work experience component – is part of the ABC's efforts to increase the number of women in technical roles.

"There are few women entering the engineering and technology disciplines, in particular broadcasting," Morgarella said.

Zekarias has been studying for an advanced diploma of electrical engineering since 2008 and is now in her final year where she has obtained first class results. Her strongest subjects are programming and circuit design. She is thinking about taking up an electrical engineering degree or an electronics-focused course such as the diploma in electronics.

Each year the ABC provides up to eight scholarships, awarded to women



Engineering student Tseada Zekarias (centre) posing with her scholarship award with (l-r) ABC's Victoria director Randal Mathieson and ABC's Victorian manager of technical services Donato Morgarella.

undertaking a technical discipline at a TAFE institution and committed to a career in broadcasting.

The scholarship includes four weeks paid training in the technical areas of the ABC, and a \$1000 book allowance.

Views sought on proposal to trial mobile phone jammers

The Australian Communications and Media Authority is well advanced in its review of the regulation of mobile phone jammers in Australia. As part of that review, the ACMA is also seeking views on a proposal to trial mobile phone jammers at the Lithgow Correctional Centre in NSW.

The ACMA has released a public discussion paper reviewing the scope and application of the Mobile Phone Jammer Prohibition and the regulation of mobile phone jammers in general. The paper also provides background on the trial of mobile phone jammers at the Lithgow Correctional Centre that has been proposed by the NSW government.

"It is often not appreciated, but there are important issues involved in weighing up the benefits and disadvantages of allowing jamming of mobile telephone networks," said Chris Chapman, chairman of the ACMA.

"There are obvious circumstances where there would be clear public benefit in inhibiting the use of mobile phones to prevent criminal and potentially life-threatening activities. At the same time, the use of jammers may have implications for the

integrity of mobile networks, including the use of the triple zero emergency call and associated safety-of-life issues.

"In light of the substantial issues raised in the discussion paper, the period of consultation will be three months. It is important to provide sufficient time for all interested parties to consider and respond to the issues raised in the discussion paper," Chapman said. The review is a 'first prin-

ciples' examination of the need for regulation of mobile phone jammers to safeguard access to legal radiocommunications and telecommunications, in light of a range of emerging uses of mobile phone jammers in the public interest by responsible bodies.

Submissions should be sent to lands@acma.gov.au by 30 April. Copies of the discussion paper are available on the ACMA website at www.acma.gov.au.

Intelligent tolling arrives in Brisbane

Queensland Motorways, an operator of toll roads and bridge infrastructure in Australia, has installed an intelligent tolling system in Brisbane.

Queensland Motorways hired IBM to deliver the tolling central system. Thales, partnering with Vitronic, provided the roadside equipment on 16 new gantries across the road network.

The 18-month implementation project linked sensor and imaging technology on the roadside to the back office central systems.

The software allows motorway operators to know who is traveling on its motorways, how often and at what times. In the future, the application will make it possible to create customised services for customers, resulting in improved traffic management.

Seven months after the completion of the free-flow tolling project, there has been a noticeable improvement in congestion and safety as motorists no longer need to slow, merge or stop at toll points to pay their toll.

Computer to solve complex problems for physicists

University of Queensland's (UQ) physicists and Harvard University's chemists are building a quantum computer which could be used to tackle complex problems in physics, chemistry and biology.

"Physicists have a problem," said Professor Andrew White, who is working on the project with colleagues from UQ's School of Mathematics and Physics and researchers from Harvard University, led by Professor Alán Aspuru-Guzik.

"They have an outstandingly successful theory of nature at the small scale – quantum mechanics – but have been unable to apply it exactly to situations more complicated than, say, four or five atoms.

"But now we have done exactly that by building a small quantum computer and used it to calculate the precise energy of molecular hydrogen," White said.

The work, published recently in *Nature Chemistry*, saw White's team assemble the physical computer and run the experiments, while Aspuru-Guzik's team coordinated experimental design and performed key calculations.

"We were the software guys and they were the hardware guys," Aspuru-Guzik said.

While modern supercomputers can perform approximate simulations, increasing the complexity of these systems results in an exponential increase in computational time.

"Quantum computers promise highly precise calculations while using a fraction the resources of conventional computing,"

he said.

"This computational power derives from the way quantum computers manipulate information. In classical computers, information is encoded in bits, that have only two values: zero and one.

Quantum computers use quantum bits – qubits – that can have an infinite different number of values such as zero, or one, or zero plus one, and so on.

White said it would be a while before quantum computers would leave the lab

and appear on desktops.

"Quantum computer demonstrations have been limited to a handful of qubits. But the team at Harvard has shown that when we can build circuits of just a few hundred qubits, this will surpass the combined computing power of all the traditional computers in the world, each of which uses many billions of bits."

"It took standard computing 50 years to get to this point, I'm sure we can do it in much less time than that," he said.

New documentation standard published

The International Standards Organisation (ISO) has published a new standard to help testers and reviewers of software user documentation in their work.

The standard, ISO/IEC 26513:2009, Systems and software engineering – Requirements for testers and reviewers of user documentation, describes the process through which user documentation products are tested.

It provides the minimum requirements for the testing and reviewing of user documents. These include the printed and on-screen documents that come with software. It applies to printed user manuals, online help, tutorials, and user reference documentation. It is designed to assist in planning the structure and format of products in a documentation set. The standard deals with the evaluation of documentation only

and not with the evaluation of the software it supports.

The standard also contains two annexes including informative checklists useful at each phase of the verifying process of the documentation quality that allow testers and reviewers to highlight any defects or non-conformances.

Other standards for software user documentation in development are ISO/IEC 26511, Systems and software engineering – Requirements for managers of user documentation and ISO/IEC 26512, Systems and software engineering – Requirements for acquirers and suppliers of user documentation.

Another standard, ISO/IEC 26515, Systems and software engineering – Developing user documentation in an Agile environment has recently passed its initial approval ballot and will compliment the series.

Dedicated unwired internet network to open in Perth next month

Vividwireless, a 4G unwired internet network, will be launched in Perth in March.

Speaking at the Broadband and Beyond 2010 in Sydney recently, Seven Network director Ryan Stokes insisted that the company's decision to build an internet network was not part of a plan to become an integrated media company. He pointed to the emergence of mobile computing and the company's belief that consumers would soon demand faster networks to view high-bandwidth content such as Youtube videos on their smart phones and netbooks. "We believe this is an attractive investment," he said.

The network will be owned by the Seven Network with Chinese company Huawei as a partner supplying network equipment.

The network will not support television or voice services. As to why Perth was chosen, Stokes said it has a strong television network compared to other capital cities

and an unmet need for broadband services compared to Sydney or Melbourne. He also pointed to the company's part ownership of West Australian Newspaper Holdings.

After Perth, the company will create metro extension networks in the capital

cities of Sydney, Melbourne, Brisbane, Adelaide and Canberra.

The company is committing \$50 million to build the network and said customers using the service on a laptop will have average speeds of 4Mb/s.

Another supercomputer to be built

Melbourne University and IBM will build one of the world's most powerful supercomputers dedicated to life sciences research at the university.

Called the Victorian Life Sciences Computational Initiative (VLSCI), the \$100 million project has been given \$50 million by the Victorian government.

When completed, the computer will enable researchers to process genes

to identify risk of cancer and treatment, model brain functions to treat brain disorders and disease, and model and predict the threats of infectious disease.

The supercomputer will be established in stages, with the aim of building a system of over 800 teraflops by 2012. One teraflop capacity enables a computer to make one trillion calculations per second.

College should develop links with other engineering disciplines

by Peter Hitchiner

Engineers Australia (EA) has a new Strategic Plan and the ITEE College Board is reviewing its operational plan for 2010/11 which forms the focus for the college activities and its performance measurement for that period. It allows us to identify priorities for the coming year.

The year ahead will present many opportunities for EA to contribute to the foundations of our digital economy, a priority in my mind for the college. This coincides with EA's Year of Engineering Leadership and I am hoping that the college can weave the Year of Engineering Leadership into the Digital Economy.

To that end, three contributions have been promoted by the College Board to the Centre for Engineering Leadership and Management (CELM)/Young Engineers Australia Conference coming up in May. We need to use conferences such as CELM to promote the essential role of ITEE across all engineering disciplines.

In particular, I believe that the ITEE College should develop strong links with the transport engineering discipline (in particular as it relates to intelligent transport systems), the biomedical engineering discipline in particular in relation to electronic health matters and the environmental engineering where ICT has a role in modelling for rapid innovation and facilitating sustainable solutions.

This is a part of our communication challenge and I feel that the college needs a communications plan. A second priority for 2010 therefore is to produce such a plan with particular focus on electronic communication among the members (eNews, *Monitor*, blogs and wikis etc).

We also need to develop our body of knowledge, not as a single repository but as a portal to the plethora of information in the "cloud".

We also need to grow our engagement with industry and academia. We need to engage the new social media for networking.

Public policy engagement is also an important part of the college's leadership role. The new Infrastructure Report Card will be published during the year including sections on telecommunications in which members of the College Board should be taking a facilitation role.

In due course, I am hoping that high performance computing will become recognised as an important component of national infrastructure together with associated data centre infrastructure.



Peter Hitchiner

The college is in the process of preparing a submission in response to the Department of Broadband, Communications and the Digital Economy's Digital Dividend Green Paper and I am sure other opportunities will occur during the year. We have already engaged in the National Broadband Network policy debate and can expect further activity during 2010.

Over the past few years we have taken opportunities to work with EA divisions in the promotion of ITEE among high school students and others.

The College Board needs to continue and increase its efforts in this area, including promotion of the IREE Neville Thiele Award winner and the 2010 entries for the award later this year.

I would also encourage entries in Division Engineering Excellence Awards of ICT projects.

Peter Hitchiner is the chair of Engineers Australia's ITEE College.

Agile software development to be discussed at conference

The program for the 21st Australian Software Engineering Conference (ASWEC) is now available. It can be downloaded as a pdf file at aswec2010.massey.ac.nz/aswec2010programme.pdf.

The conference will be held 6-9 April 2010 in Auckland, New Zealand. The opening keynote presentation, called "Is agility a passing fad?", will be given by Philippe Kruchten, a professor of software engineering at the University of British Columbia.

Kruchten will also be running the pre-conference tutorials "Software architecture and agile software development: an oxymoron?" and "The delicate art of release planning".

Tutorials by other presenters include "Components of effective process definitions" and "The "physics" of notations: A scientific approach to designing visual notations in software engineering".

Some of the presentations include "Experiences in measuring code cover-

age from GUI driven tests" and "Application of artificial bee colony Algorithm to software testing".

There will also be a Poster Session and tools demonstration session.

The conference will be held in the Central Business District of Auckland, New Zealand from the 6-9 of April.

Established in 1986, ASWEC is a technical forum for the exchange of peer-reviewed research outcomes and industry best-practice in software engineering.

It is aimed at attracting a wide range of attendees including software engineering researchers, practitioners and educators from Australia and overseas.

The overall programme will provide numerous opportunities for academic and industry participants to interact with and learn from each other.

To register interest or for email inquiries, please contact aswec@eventcorp.com.au or visit the website at aswec2010.massey.ac.nz.

For a more comprehensive list of engineering events, visit Engineers Australia's online events calendar at www.engineersaustralia.org.au/events

Courses: Basic communications principles (2 days) 4 May, 17 Aug; **Modern communication systems** (2 days) Canberra 7 May; **Satellite communications - overview** (1 day) Canberra 15 Jun; **Satellite communications - intermediate** (2 days) Canberra 15 Jun; **Satellite communications - advanced** (4 days) Canberra 15 Jun; **Digital television: Digital television: Advanced systems** (3 days) Canberra 22 Jun; **Introduction to project management** (3 days) Canberra 3 Aug; **Software project management** (3 days) Canberra 28 Sep; **Complex project management** (3 days) Canberra 24 Aug; **Managing integration projects** (2 days) Canberra 17 Aug; **Requirements engineering** (2 days) Canberra 29 Jun; **Systems thinking and modelling** (3 days) Canberra 13 May, 28 Sep; **Introduction to enterprise architecture** (2 days) Canberra 11 May. *Inquiries:* Yvonna Gruszka, Business Services Unit, UNSW@ADFA 02 6268 8421, fax 02 6268 8690, email business.office@adfa.edu.au

Courses: Demystifying information security management systems (1 day) Melbourne 14 Jul, 13 Oct, Sydney 13 Jul, 12 Oct; **Building a business case**

for IT governance and information security (1 day) Melbourne 21 May, 25 Sep, 23 Nov, Sydney 2 Jun, 9 Oct, 2 Nov; **Understanding and implementing a business continuity management system** (3 days) Melbourne 3 Jun, 24 Aug, Sydney 25 May, 25 Nov; **Understanding and implementing information security management** (3 days) Melbourne 18 May, 14 Sep, 14 Dec, Sydney 11 May, 27 Jul, 6 Oct; **Auditing information security management systems** (2 days) Melbourne 15 Jun, 26 Oct, Sydney 22 Jun, 10 Aug, 19 Oct. *Inquiries:* 1300 727 444, email training@saiglobal.com, web www.saiglobal.com/training

Courses: Practical fundamentals of telecommunications and wireless communications (2 days) Perth 11 May, Sydney 14 May, Brisbane 21 May; **Practical hazops for engineers and technicians** (2 days) Melbourne 5 May, Brisbane 11 May, Perth 18 May, Sydney 25 May. *Inquiries:* IDC Technologies 1300 138 522, fax 1300 138 533, web www.idc-online.com

Conference: Cebit 2009 (3 days) Sydney 12 May. *Inquiries:* web www.cebit.com.au

Conference: 18th annual

PACRIM IT service management and help desk support conference 2009 (4 days) Sydney 1 Jun. *Inquiries:* Stephanie Catto 02 9021 8849, fax 02 9281 5517, email Stephanie.Catto@terrapinn.com web www.terrapinn.com/2009/pacrim

Conference: Digital technologies summit (2 days) Sydney 10 Jun. *Inquiries:* 02 8908 8555, web www.acevents.com.au/dts2009

Conference: Simulation, concepts, capability and technology 2009 (4 days) Adelaide 15 Jun. *Inquiries:* 02 6251 0675, fax 02 6251 0672, www.siaa.asn.au/simtect/2009/2009.htm

Conference: E-government 2009 (3 days) Canberra 15 Jun. *Inquiries:* [www.iqpc.com.au/ShowEvent.aspx?id=167488](http://www.iqpc.com.au>ShowEvent.aspx?id=167488)

Conference: 6th international conference on autonomic and trusted computing (4 days) Brisbane 7 Jul. *Inquiries:* web www.itee.uq.edu.au/~atc09

Conference: Kernel conference Australia 2009 (3 days) Brisbane 15 Jul. *Inquiries:* Claire Operie 02 9844 5275, email Claire.Operie@sun.com, web au.sun.com/sunnews/events/2009/kernel/index.jsp

Conference: Data centre management 2009 (2 days) Sydney 28 Jul. *Inquiries:* web www.iqpc.com.au/ShowEvent.aspx?id=175574

Conference: Spatially enabled government summit (3 days) Canberra 31 Aug. *Inquiries:* web www.iqpc.com.au/ShowEvent.aspx?id=178068

Conference: Software testing Australia/New Zealand conference (2 days) Wellington 24 Aug, Sydney 27 Aug. *Inquiries:* web www.softed.com/stanz

Conference: Power industry conference: Convergence of IT, automation, control and communication technologies (2 days) Melbourne 2 Sep. *Inquiries:* Jasmin Hazelton 08 9321 1702, email jasmin.hazelton@idc-online.com, web www.idc-online.com/newsletters/images/0909_IT_CFP.pdf

Conference: 18th international conference on plastic optical fibres (5 days) Sydney 7 Sep. *Inquiries:* 02 9524 1799, email pof2009@mtci.com.au, web pof2009.mtci.com.au

Conference: 6th annual wireless world 2009 (2 days) Sydney 9 Sep. *Inquiries:* 02 8908 8555, web wirelessworld2009.com

Conference: International global navigation satellite systems society symposium on GPS/GNSS (3 days) Gold Coast 1 Dec. *Inquiries:* 07 5520 4288, fax 07 5508 2175, email krys@ignss.org, web www.ignss.org

Conference: Asia-Pacific digital economy summit (4 days) Melbourne 14 Dec. *Inquiries:* web www.aiaa.com.au/pages/apacdigitaleconomysummit.aspx

The Complete Project Management Office Handbook

Gerard M. Hill
2009 9781420046809 714pp

\$118.18 + GST = \$130.00



This book identifies the PMO as the essential business integrator of the people, processes, and tools that manage or influence project performance. This book details how the PMO applies professional project management practices and successfully integrates business interests with project goals - regardless of whether the scope of the PMO is limited to managing a handful of specific projects or expanded to oversee the total practice of project management within the organization. Providing project and business managers with a starting point that enables them to achieve desired results from project management, this book is an important resource for everyone involved in project management.

The Business Value of IT: Managing Risks, Optimizing Performance and Measuring Results

Michael Harris, David Herron, Stasia Iwanicki \$100.00 + GST = \$110.00
2009 9781420064746 266pp



How can the significant and growing cost of IT be expressed in terms that business managers can relate to and come to understand? This book identifies organisational and cultural obstacles you need to address to get started on a metrics program. It focuses on techniques, methods and processes that will transform the organisation, and change mindsets so decision-makers see IT in terms of an investment in performance and value, rather than a growing overhead.

Computer tablet for viewing photos, browsing the internet

Apple has released the iPad, a computer tablet that can be used to browse the internet, read e-books and view photos, video clips and listen to music. It will be available for purchase online in March.

The 9.7-inch multitouch display lets users control applications by touching the glass display. The unit is 13.4mm thick and weighs 0.68kg.

The tablet comes in two versions—one with Wi-Fi and the other with both Wi-Fi and 3G. It has 12 new applications which have been designed specifically for it. Among them is the iBooks application which allows users to access the company's iBookstore to browse, buy and read books on a mobile device.

iPad will be available in late March with international pricing to be announced at a later date.

It can automatically switch between a portrait or landscape view as the user rotates the tablet.

The company has released a new version of iWork for the tablet. With Pages, Keynote and Numbers, users can use their tablet to create documents, presentations with animations and transitions, and spreadsheets with charts, functions and



The tablet will be available in late March.

formulas.

The tablet can sync with iTunes using the company's 30-pin to USB cable. It is powered by the company's A4 chip and

has a battery life of up to 10 hours.

There are 16GB, 32GB and 64GB models available.

www.apple.com.

Australian search engine now has spelling suggestions

Funnelback has announced the release of version 9 of its search engine software. Funnelback 9 has a reports dashboard, accessible through the administration interface which has a selection of new reports to monitor trends in queries, user behaviour and search results.

Reports available include popular queries, top searches by location, query trends over time and click behaviour.

These reports can be easily exported into various formats and subscriptions can be set up to automatically email reports to administrators.

The new pattern detection and alerting system provides information on the topics that might interest users. The system automatically groups related search queries and monitors the number of queries for each group.

Pattern changes are detected and reported alongside information on dates, locations and related news stories.

This provides information on the probable reasons which caused the spike to occur and insight into patterns and events which may have positive, or negative, impact.

Interface improvements include faster contextual navigation which presents a

navigational list relative to the context of the search query, allowing users to drill down into more refined content.

There are improved spelling suggestions which can make suggestions in mul-

tilingual environments and will not make suggestions which do not have any search results and learns and improves according to user behaviour.

funnelback.com.

Panel mount assembly

Bivar, distributed in Australia by M Rutty & Co, has announced its PM5-3 Series, a 3-lead common cathode, bi-colour 5 mm panel mount LED assembly.

Features of the panel mount assembly include a white diffused lens that offers a wide viewing angle and uniform indication, industrial panel mount package that

fits 0.047 inch or thicker panels with 0.250 inch mounting holes, and a 94V-0 rated engineering plastic holder.

The PM5-3 series range is suited for medical devices, automotive applications, equipment digital security and transportation communication.

www.mrutty.com.au.

Mac version released for CAD tool

Product Lifecycle Management Australasia, distributor for the Siemens PLM products, has announced the full computer-aided design and manufacturing (CAD/CAM) functionality of Siemens PLM NX now has native support for Mac OS X on 64-bit Intel-based Macs.

The software also supports Windows, Unix and Linux.

The Mac version also has support for Siemens PLM Software's Teamcenter platform and a thin client based on Apple's Safari web browser.

www.plma.com.au.

Automotive optocoupler for hybrid electronic vehicles

Avago Technologies (distributed in Australia by Newark) has released a compact extended temperature automotive grade optocoupler for use in hybrid electronic vehicles.

The ACPL-36JV 2.5A optocoupler has a desaturation detection and fault status feedback system that can operate in a temperature range between -40°C to 105°C. The optocoupler can be used with isolated insulated gate bipolar transistor /power metal-oxide semiconductor field-effect transistor gate drives, industrial inverters, AC and brushless DC motor drives and uninterruptable power supplies.

According to the company, the optocoupler provides reinforced insulation and reliability that delivers safe signal isolation for automotive and high temperature industrial applications.

The optocoupler has been designed with under voltage lock-out (UVLO) protection, high common mode rejection (CMR) performance and high speed response to improve efficiency.

Additionally, the ACPL-36JV has been qualified to automotive AEC-Q100 Grade 2 semiconductor requirements. The ACPL-36JV optocoupler is available in a 16-lead small outline (SO-16) surface mount package and is compliant to industrial safety standards IEC/EN/DIN EN 60747-5-5, UL 1577 and CSA.

www.avagotech.com.

Updated development board

Last September, Altium announced a new approach to rapid prototyping with the NanoBoard 3000 development board. The company has now expanded this concept, announcing a new NanoBoard 3000 hosting the Altera Cyclone III field-programmable gate array (FPGA).

The new board continues to provide electronics designers with the same hardware, software and ready-to-use, royalty-free IP of the NanoBoard 3000, but with the power of Altera's Cyclone III FPGA at its core.

With the board, electronics designers have everything they need to design and deploy FPGA-based designs. Complete with hardware and software, the unit eliminates the need to search the web for drivers, peripherals or other software. It is aimed at electronics designers looking to move beyond the constraints of fixed hardware.

Electronics designers without any prior FPGA skills can use the unit to construct soft processor-based systems inside the FPGA.

Using their existing board layout skills and the included graphical interface, electronics designers can construct, test and implement entire FPGA-based embedded systems. Two versions of the board are available –the 3000AL and 3000XN.

www.altium.com/nanoboard3000.

Wireless transmitters

Honeywell has added universal input/output (I/O) transmitters to its range of XYR 6000 wireless products.

The transmitters allow manufacturers to wirelessly monitor more plant points with fewer devices. By transmitting signals from up to three different types of inputs – including measurement devices with a high-level analogue, temperature or millivolt, or contact-closure switch input – the XYR 6000 universal I/O transmitters can help plants save up to 30% in costs over similar devices that can transmit signals from only two inputs.

This range of transmitters, which includes a version that can transmit up to two inputs and provide a local discrete output, can be

used in applications such as wirelessly monitoring level switches, pump status and system alarms.

The devices also carry intrinsically safe approvals from FM Global and the Canadian Standards Association for use in hazardous areas.

www.honeywell.com/ps/wireless.



The computer has a full HD 1920x1080 resolution.

Computer can be used as a second monitor

Pioneer Computers Australia has announced the release of DreamVision All In One LCD PC D-G41.

The computer has a full HD 1920x1080 resolution with a 16:9 ratio and optional Blu-ray playback and a TV tuner.

It has multitouch controls and turning wheels for sound and brightness adjustment. It can be used as a second monitor. It has Video Electronics Standards Association mount capability and supports Windows 7 + Multi Touch Solution. It has a power saving rating of Energy Star 5.0. and a Kensington lock is available.

Other features include an Intel Core 2 Duo processor Centrino 2, Intel GMA X4500HD graphics chip with up to 256MB RAM, a small card 3-in-1 (MMC/SD/MS Pro) card reader, 1.3 megapixel webcam and two 5W speakers.

Its dimensions are 536mm (W) x 45mm (D) x 375mm(H) and it weighs 10kg. It can support up to 4GB of DDR3 RAM.

www.pioneercomputers.com.au.

New range of laptop bags

Targus has released its A7 range of laptop bags which are sewn together from weather-resistant materials.

The bags have been abrasion-tested for durability and each has the company's Tri-Cell cushion system that keeps the computer inside ventilated and cool.

The A7 Netbook Messenger can hold netbook computers with screens up to 12.1 inches wide. Velcro pulls and clips keep bags securely closed while an adjustable shoulder strap offers a variety of carrying options. The interior is protected with non scratch lining and numerous pockets allow for accessory storage.

Designed to fit laptops up to 16 inches wide, the A7 Notebook Slipcase has exterior pockets with pen loops, card holders and internal storage compartments. The bag also offers a reinforced base, soft grip leather handles and micro-suede lined accessory pockets.

The A7 Messenger fits wide screen laptops up to 16 inches wide. The strap can be adjusted so the bag can be worn different ways.

The bag also has a water-and-wear resistant base, which protects laptops against bumps and spills.

Other features include durable buckle closures, a front accessory pocket and a hidden key holder in the strap.



This bag fits laptops with screens up to 16 inches wide.

The A7 Backpack fits laptop screens up to 16 inches wide. The backpack has four quick-access pockets, a hidden side

utility pocket and water bottle holder. The shoulder straps are adjustable.

www.targus.com.au

Chips for low power situations

Mindspeed Technologies, distributed in Australia by Caelera, has released the first in its range of application-specific system-on-a-chip (SoC) products targeting the low-power requirements and heavy processing demands of mobile broadband basestation platforms, from enterprise femtocells to macrocells.

The Transcede family of SoCs are designed for the heavy processing requirements of mobile broadband basestation platforms and integrate 26 programmable processors into a single device. These include two ARM Cortex A9 multicore symmetric multiprocessing, reduced instruction set computer processors, 10 CEVA digital signal processors (DSPs), and 10 DSP accelerators.

According to the company, its SoCs reduce system latency as compared to solutions that split processing between discrete network processors, DSPs and/or FPGAs. Transcede devices also include built-in hardware accelerators for fixed functions, as well as integrate other key system features to further reduce system

costs. Built-in power management capabilities clock down processing operations to reduce power consumption during low-traffic periods.

The release of the Transcede range coincides with the release of the T4000,

whose processor cores run at 600MHz, with less than 12W power consumption, typical, and the T4020, with 750MHz processor cores and typical power consumption less than 15W.

www.caelera.com

Graphics expansion module

Matrox Graphics has released multiple DualHead2Go and TripleHead2Go Graphics eXpansion Module (GXM) support to allow four or six monitors to be plugged into a single computer desktop system.

A second GXM can now be connected to the secondary output of a supported dual monitor graphics card so two DualHead2Go GXMs can power up to four outputs in 2 x 2 or 4 x 1 modes, while two TripleHead2Go units can be combined to connect six displays to produce either a 3 x 2 or 6 x 1 set up.

Matrox currently offers multi-GXM support with the 2.06 (or above) GXM software suite.

A maximum of two GXMs – of the same make and model – can be connected to a supported graphics card with two available outputs of the required type.

Multi-GXM stretched desktop mode is available with Matrox M-Series cards, while independent desktop support is available with supported M-Series, ATI, and NVIDIA graphics cards.

www.matrox.com/multiple_gxms