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## **Consumer technology trends in 2006 and the implications for your business**

The emerging technologies field is very broad and it is easy to become fascinated by cutting-edge technology that may never gain mass market acceptance. This article looks at four emergent technology trends that already have some popularity with consumers internationally, reviews their acceptance in Australia and considers the potential implications for your business. These are cell phones that do everything, internet phone calls for everyone, the digital home and an internet that is mobile, more connected and personalised.

### ***Trend 1 - Cell phones that do everything***

Heralded as the fastest growing tech sector, cell phones have developed from voice-centric to feature-centric (especially sms) followed by smart phones which can access emails and websites. More recently, there has been a drive towards multimedia phones (videos, music, photos) and we now see the merging of smart and multimedia phones. So instead of a separate PDA, mp3 player, camera and phone there is a trend to one multifunction type device.

For example, showcased at the 2006 Consumer Electronics Show in Las Vegas was the “multimedia masterpiece” MM-A940 by Samsung. It brings a 2 Mega pixel digital camera and camcorder with a 2x optical zoom, a full-motion streaming TV and MP3 player with almost broadband speed data access. In addition it responds to voice commands and can do speech-to-text dictation (for those who hate small keypads). It even has a small built-in speaker, all in a 1-inch thick packet.<sup>1</sup>

### **Australia**

In the November 2005 report “Telecommunication Services Availability in Australia 2004-2005” the ACMA reports that mobile phone service per head of

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<sup>1</sup> Source: informit.com Jan 2006

population is 90% (18.42 million mobile services in operation at the end of June 2005.)

Data rich services in Australia is in its infancy and given that growth in subscriber numbers are plateauing, value-added services are potentially being seen as a significant revenue stream. This is driving the 3G network rollout by Telstra, Optus, Hutchinson and Vodaphone as well as higher bandwidth on existing networks (GSM and CDMA). Each of these providers offers different content.

World wide there are 50 million 3G subscribers which is small in an overall market of 2 billion mobile users. Analysts from, ABI Research predict that by 2010, 3G will have 30% of total user market. Although Australian carriers will not reveal their 3G carrier numbers, telecoms industry researcher, Telsyte estimates there were about 800,000 3G subscribers in Australia, or about 5 per cent of the mobile user base<sup>2</sup>.

**Implications for your business** – According to telecommunications analyst Paul Budd, business in Australia is still not taking 3G applications seriously apart from upgrading their mobile phone fleets to the 3G platform.

#### What is 1G, 2G etc?

1G was the analogue mobile network, 2G was digital, and 3G is based on broadband technology that has the required bandwidth for downloading information-rich content. Although no one knows what 4G will be, 3.5G or High-Speed Downlink Packet Access technology (HSDPA) is about 10 times the speed of 3G and is already being demonstrated overseas. Telstra is currently investing more than \$1billion in HSDPA.

Companies need to look further than just 3G applications and consider opportunities that technologies like podcasting may offer (see trend 4).

## ***Trend 2 - Internet phone calls for everyone – Voice over internet protocol (VOIP)***

Transmitting data, voice, and video over a converged network is already well embraced by business; this year seems to be the year that consumers embrace internet phone calls. For call clarity, VOIP is best used over broadband technology. In September 2005, IDC estimated the Australian broadband penetration of households to be approximately 30% rising to 50% by year-end 2008.<sup>3</sup>

While it is difficult to get accurate data the most well known VOIP, Skype Technologies which launched in July 2004 claims it had 40 million active users by September 2005<sup>4</sup>.

<sup>2</sup> cnet.com.au, UMTS forum -10 Feb 2006, Australian IT 14 Feb 2006

<sup>3</sup> Australia Broadband Market 2004-2009 Forecast: Naked DSL to Become Lethal to PSTN, IDC Sept 2005

<sup>4</sup> answers.com; skype.com

## Australia

Engin and MyNetFone are the main Australian providers for equipment and services for VOIP calls over broadband cable for consumers. A comparative list Australian providers is available at [www.ozinternetphones.com](http://www.ozinternetphones.com).

IDC predicts that 2006 will be the trial year for wireless VOIP given the mass market availability of phones that can access both the new wireless networks (WiFi) and existing global system for mobiles (GSM)<sup>5</sup>. At the February 2006 3GSM World Congress 2006, Nokia launched its 6136 mobile, a mobile that switches seamlessly between GSM and WiFi networks. This effectively let users make free calls without using their network provider by letting them swap between their mobile operator and voice over the internet as they talk.

### **Implications for your business**

Both in Australia and internationally, technology standards are some way off where a customer's VOIP software can seamlessly integrate with a corporate VOIP thus removing any need for using landlines or mobile networks. An eventual shakeout of the market will see fewer VOIP providers and a standard interface develop.

Well architected IP networks are enabling contact centers to become an effective "face" of the business allowing customers to choose the communication channel of their choice as well enabling blended collaboration (e.g. use of voice, chat and web in one communication session)<sup>6</sup>.

Another growing opportunity for business is the use of VOIP to allow contact center agents to work from home for at least part of the time. Termed homeshoring, this removes the backlash against offshore outsourcing and takes advantage of agents familiar with local culture and the English language<sup>7</sup>.

### What is VOIP?

VOIP is basically a way to take the analogue signals from your phone and converting it to digital data that can be sent over the internet.

Basically there are 3 ways consumers can use it:

1. Computer to computer – this has been around for ages and requires both parties on either end to be using the same VOIP software as well as microphones and speakers. Calls are usually free.
2. Computer to phone – software is again installed on the computer side called a soft phone and then a provider like Skype or Engin passes on the landline or mobile access fee onto the call initiator.
3. Phone to phone – your phone is plugged into a digital phone adaptor which plugs into your broadband cable (termed interconnected VOIP) which in turn converts the analogue voice signal to digital data. Again the providers charge for the equipment and a small fee for accessing the landlines or mobiles at the other end.

<sup>5</sup> Australia Wireless VoIP – On Trial in 2006" – IDC

<sup>6</sup> Horizontal Integration White Paper - [Cisco](#)

<sup>7</sup> Number of at-home agents to skyrocket - 09 Jan 2006 | [SearchCRM.com](#)

### **Trend 3 - The digital home**

The digital home is now a reality for the average home owner in Australia. The devices that consumers initially purchase as they migrate to the digital home are a widescreen television, a set top box or home media center and a game box. Major players like Intel, however, have a goal for digital homes of enabling the access of compelling content at anytime, anywhere and on many devices<sup>9</sup>.

A record number of 600,000 widescreen television screens were sold in Australia in 2005. This compares to 440,000 in 2004. It is this growth in sales that is driving demand for HD (high definition) set top boxes (unless your widescreen has an integrated digital capability a set top box is required).

In the US, Media Center PC's sales have skyrocketed since July 2005; however distributors and retailers have reported a decline in Australian sales. They attribute this mainly to the lack of marketing by Microsoft and consumer education. Media Center PC's are also more expensive here, the average price in Australia is \$2500 compared to \$1200 in the US. The hype around the Foxtel IQ has also depressed sales. (Source: Smarthouse News Sept 2005)

High Definition (HD) content is still an issue both in Australia and overseas but growing.

Free to air digital broadcasting commenced in Australia in April 2001. Digital broadcasting is a far more efficient and flexible transmission system than the current analog system. For the viewer the key benefits are sharper pictures (including some programs in high definition), clearer sound (including some programs with Dolby Digital), widescreen programs and extra channels. An analog TV can receive digital signals by adding a set top box however there are limitations because digital widescreen is rapidly developing as a global standard for television programs. In a February 2006 the

#### What is a Home Media Center, set top box?

Home media centers are either standalone boxes or souped up PC's that act as fully fledged entertainment hubs that control everything from watching and recording live television, playing and recording digital music, to viewing and manipulating video, DVDs and pictures – using a remote control. Home media centres are not to be confused with the much hyped Foxtel IQ which is a timeshifting personal digital recorder, in which subscribers are able to record programs onto a hard drive inside the set-top box for later viewing.

Two key features of home media centers that will drive consumer buying is that it collapses several pieces of equipment into one neat box and its user interface is simpler to use. It uses wireless technology and enables customised entertainment available all over the house. Set top boxes convert an external signal from an ethernet cable, satellite dish, telephone line etc into an image that is displayed on a TV screen. A digital set top box is required for digital TV hence the recent canvassing of the Australian government to distribute set top boxes to all Australians in an effort to speed up the uptake of digital TV<sup>8</sup>.

<sup>8</sup> Fed Gov To Fund Free Digital TV? – 18 Nov 2005 [www.legendmemory.com](http://www.legendmemory.com)

<sup>9</sup> Intel Software Insight – The Intel vision for the digital home March 2006

House of Representatives Standing Committee on Communications, Information Technology and the Arts recommended switching off analogue television broadcasting nationwide on 1 January 2010.

The current home penetration of digital TV receivers, to December 2005 is close to 1.2 million or around 15.5% of Australia's 7.6 million homes<sup>10</sup>

IPTV is already widely available in the United States, United Kingdom and Europe. IPTV gained media attention when shows like Desperate Housewives and CSI were delivered over the internet to customers for a small fee. Foxtel which is 50% owned by Telstra is tipped to launch IPTV in Australia next year<sup>11</sup>.

Video on Demand (VOD) is available in Australia, in some cases to a limited market but is growing as video distributors like Video Ezy aim to have VOD services by the end of 2006.

### **Implications for your business**

The digitisation and multiplication of information delivery methods will provide businesses with a variety of ways to reach consumers. Currently it is the entertainment and gaming industry that are at the forefront of delivering content to homes digitally, however it won't be long before other industries use these mediums to market and service their products. For example, the much hyped Interactive TV of years ago is finally taking shape with companies like SKY launching their WTVML-based interactive TV portal<sup>12</sup>.

#### What is IPTV and VOD?

IPTV is the delivery of digital television over Internet Protocol. A broadband operator may offer what is called a triple play - IPTV, Video on Demand, Internet Services and VOIP, all using the same infrastructure. It promises less cost to suppliers and customers as it uses the internet to deliver services. The industry distinguishes between true VOD and near VOD (NVOD). NVOD is where multiple copies of a programme are broadcast at short time intervals (typically 10–20 minutes). Austar, Optus and Foxtel services are NVOD. True VOD is streamed or downloaded at the time the user requests it. TransACT in Canberra, Adam's Internet, Telstra Bigpond and SkyNetGlobal are true VOD.

Genevieve Bell, director of user experience at Intel, in her studies of user groups around the world notes that people want products and services in their homes that are tailored to local practices and experiences. Companies should focus on value and simplicity<sup>13</sup>.

<sup>10</sup> Digital Television – Who's Buying It? report Digital Broadcasting Australia Feb 2006

<sup>11</sup> IPTV Now Up To Integrators – May 2006 - smarthousenews.com.au

<sup>12</sup> Sky Launches New Interactive TV Portal, Sky Net – April 2006 – itvt Bloggit

<sup>13</sup> Intel Software Insight – The Intel vision for the digital home March 2006

## ***Trend 4 – an internet that is mobile, more connected and personalised***

Internet use is no longer restricted to the desktop computer but fragmented over many media-rich networked devices, gadgets and systems. In the past, companies wishing to disseminate information about their services and products were typically restricted to a hierarchical structure of web pages written in HTML and XHTML. Today a wider range of information delivery and interaction is available including:

- Blogs, short for weblog, is a web-based publication consisting primarily of periodic articles or commentary normally displayed in reverse chronological order, i.e., latest displayed first. Moblogs are content (photos, text, videos) that has been posted to the internet via a mobile phone. Examples of sophisticated company blogs can be found at: [Ford Motor Company blog](#), [Fortune 500 companies](#) .
- A vlog or video blog is a blog which has video as its primary content. [Rocketboom](#) is a popular example of citizen journalism that has 130,000 daily viewers and is now being distributed commercially in the US.
- Podcasting is a method of publishing audio files to the Internet that users can subscribe to as a feed. They receive new files automatically by subscription which can then be listened to at the user's leisure on their PC or hand-held device. Examples of corporate podcasts are [Purina](#), [Whirlpool](#).
- RSS is an acronym for Really Simple Syndication and is a way of publishing content through an XML feed which is then viewed by users using special software called "aggregators". Now so widely used as a standard for disseminating information that Internet Explorer (Ver. 7) will have it built in.
- Vodcasts is an emerging term used for the online delivery of video on demand content by attaching multimedia content to RSS feeds.
- Chat sites and web discussion forums allow users, usually registered, to post messages and comment on other people's messages using a table based format.
- Wiki's are websites that can be interactively edited and added to by website viewers, usually without registering first, enabling a collaborative approach to content creation. The most wellknown and popular wiki is [Wikipedia](#) and online encyclopedia that can be edited by all.

These technologies are creating sophisticated online users that require their information delivered in the format and on the device of their choice. In addition

they are no longer content to be passive consumers of information but actively want to be creators, contributors and producers of information.

## **Implications for your business**

Savvy companies can use online chat and web discussion forums to supplement their customer service and consider other delivery mediums like podcasting and blogging to create loyal consumer communities around their products and services. For example customers may be far happier to listen to a podcast describing the merits of your product at their leisure than read a lengthy text document on the web. These technologies are inexpensive to procure and implement.

Companies who are hesitant to use these technologies with their customers can trial their effectiveness with own staff. For example, the proliferation of email communications have resulted in important company communications being lost in the clutter, push technologies such as RSS feeds can be used as a more effective way to ensure important company communications are received. A wiki could be used to build content for the corporate intranet, e.g., developing procedures for claims handling collaboratively involving the people who actually do the work?

## **Conclusion**

Consumers are now able to access compelling content anytime, anywhere and on many devices. Demand up to now has been supply driven (e.g. special Bigpond offers) in Australia, however the increasing availability of affordable broadband both in the home and on personal devices will see customers becoming more demanding of how and where information is presented. The ease with which customers can now publish and contribute information means that they will no longer be content to be talked at but will seek out companies who use the technology to collaboratively service their needs.

### *About Doman Vaughan Consulting*

Doman Vaughan Consulting is a specialist, Sydney based, management consultancy focusing on:

- Breakthrough business and operating model design to help organisations reap synergies from mergers or joint ventures, respond to disruptive industry changes, transform costs or exceed customer's expectations.
- Rapid program setup and launch to facilitate the launch of large complex business critical projects rapidly whilst minimising risk and building internal capability.
- Farsighted IT portfolio investment and sourcing strategy to ensure that organisations invest effectively, in the context of a dynamic business environment.