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The New Media Network?



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mobile MEDIA

>> Equipped with 160Gb PVR and DVB-t tuner, the Video Ezy 'Home Media Centre' set-top box.



Video Ezy: the New Media Network?

By Phil Sandberg

VIDEO EZY is, without doubt, one of Australia's pioneers in home entertainment. The company opened its first store in Hurstville, Sydney, in 1983. It now boasts 560 stores nationwide and a further 156 in New Zealand, 128 in Thailand, 135 in Indonesia, 19 in Singapore, 9 in Malaysia, 1 in Fiji and 1 in the United Arab Emirates. Video Ezy was the first Australian home entertainment company to commit to DVD technology and, in 2003, was first to market a subscription model with DVD Unlimited.

Now the company is on the verge of a revolution in how it does business with a trial soon to begin of a new service – a hybrid between file downloads and video-on-demand. It is a service which has the potential to put the brick-and-mortar company on a competitive footing with the world of video-on-demand providers.

Launch of the service, following trials in Sydney, is scheduled for the last quarter of 2007 under as yet

to be announced consumer branding. The electronic rental service will involve the download of protected files onto a customer's portable storage device and be complemented by a set-top box known codenamed the Home Media Centre.

The HMC will feature a DVB-T tuner, 160Gb hard drive with PVR functionality and an assortment of trailers. A GUI will allow users to watch the trailers and select which content they want downloaded onto their portable storage device – whether it be an iPod or other memory device.

According to Andrew Gardiner Managing Director of VideoEzy, "The movies will be downloaded to your iPod at a transfer rate of about a minute a movie. Our research has found that the majority of our customers spend about 22 minutes in our stores at the moment choosing movies, so it's not uncommon for heavy users to be in our stores for that amount of time. So, we can give them a ticket,

they can wander store looking at the new releases we have on the walls as well as any of the retail stock we have. Not just the chips and peanuts and coke and that type of thing, but also the retail [DVD] stock that we turn every month. We've found that a lot of the heavy users don't just rent movies, they go and buy older movies that are sitting on the tables in our stores.

"When you've downloaded your movies onto to your iPod, take it home, plug it into your set-top box and then all those movies go onto your hard drive. The way we've split it up is about 80Gb will be for normal PVR, so recording from your television and the other 80Gb will be utilised for your movies from Video Ezy."

"To take part in the service, a customer will have to set up an account. Bear in mind that all of our customers currently have accounts with us. They all have a card. We've got their home address

information. With some of them, we have SMS, mobile phone numbers, and email addresses. We don't have credit card details so that is what we'd be looking for.

"So, give us the right to access that information, and you can choose as the customer what level you'd like to set your limits at. For example, if you're a heavy user of video and you want to have \$50 of video use per month, you set that amount and every time you reach your limit, we'll go and fill up your account again with credit, much like an E-Toll, so every time you go to press play on your box, there'll be credit there."

The Video Ezy set-top box is not Internet dependent. The on-board modem runs off a mobile phone-type chipset. When the user presses 'play', a message is sent to a central server which authenticates the customer and the box before sending the decryption key. The main advantage of this approach, says Gardiner, is that it is plug and play, and wireless.

"In the test unit I had at home, that was what worried me," he says. "I had this lovely box under the TV and had to run a blue cat 6 cable from my TV to my study where my Internet connection was – my wife was not too happy."

"We had to make it easy for the customer. There are so many devices in the home these days. You simply put the box under the TV, take one cord, plug it into your TV, press 'play' and it's as simple as that."

BROADBAND BLUES

While much has been made of new Broadband networks in Australia, part of the thinking behind Video Ezy's approach is that the network infrastructure is not there to handle high demand downloading of feature length video content over IP.

"Already the customers have the habit of going into the store," he says. "We know that on any given Saturday evening between 6pm-7pm we have over 100,000 customers that take movies from us. Part of the thinking here is if there is 100,000 trying to download movies over the Internet between 6pm-7pm on any given Saturday evening that would cause a certain amount of chaos. Probably, for a while to come, that is unlikely to change."



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>> >> **Andrew Gardiner,**
Managing Director of VideoEzy.

Gardiner also points out the Video Ezy approach also does not involve Internet connection fees or download charges. It also does away with late fees.

This whole model is very much based on usage. We believe customers will consume more movies because of the convenience of having multiple

movies in the home."

Video Ezy Customers will be able to obtain the set-top box for a deposit, followed by a monthly charge until it is paid off whereupon they will own the device. Andrew Gardiner says that while a price has not been fixed, the company is looking at a retail cost in the range of \$400-\$500.

"We know that for this to be a success we've got to look at a price range which is worthy of the device. There's no point in going out there with a device that is too expensive.

"Given that we have a 160Gb PVR in there, that's an important piece and we've got to remain competitive in terms of the market with that particular piece of equipment."

Over 18 months in development, the set-top box is being developed by MobileSoft and uses that company's 'tamper-proof' technology which was initially developed for poker machines. Manufacturing is taking place in China with an initial production run scheduled of 10,000 units.

"I suppose we're going softly in this space, for a few reasons," says Gardiner. "We're all aware of the fact that this is new technology. If you look at what has been happening in the video-on-demand space, uptake has been quite slow. Changing consumer habits and behaviours can take a long time. We know that, at some point in the future, this technology will make a lot of sense for a lot of customers."

THE HOME MEDIA CENTRE

When Video Ezy customers return home with their portable storage devices brimming with movies and other content they will plug them into the Home Media centre set-top box, upload the digital files and set about starting a chain reaction of world class security and business processes which, along with Video Ezy's market reach, helped convince Hollywood content owners to back the project.

The process involves two layers of encryption – a Hollywood approved DRM system and a secondary layer which ties the movie file from the download retail store to particular account and device at home.

When the viewer selects a movie from the HMC's navigation menu and clicks on 'play', the HMC will

COMmunications

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talk to a Master Content Server (MCS) via a GSM mobile phone 'modem'. The MCS will identify the movie, user account and linked HMC and forward details to a payment engine. Once payment is processed, a decryption key is sent to the HMC which then allows the content to be played in the same way as a DVD with functions such as 'play', 'pause', 'fast forward', etc. Once the 'rental period' for the movie has expired, the digital file is auto erased.

If the file, user account or set-top do not match up, the decryption key will not be sent. Likewise, if files are copied to another device, they will be unreadable.

Each title is digitally encoded for optimum playback using H.264 (MPEG-4) encoding in a customised Quicktime format. H.264 was chosen as using MPEG-2 encoding would mean a doubling of the storage size required. Another consideration was the uptake of H.264 by IPTV providers around the world.

Considering a 90-minute movie can be encoded to 1GB in size, customers with a 30Gb iPod could potentially take home 30 movies at a time.

Video Ezy's Master Content Server will hold all content encoded and encrypted. From there, content will be distributed to each of the distribution points in Video Ezy's network of stores. The initial method of transfer will piggyback off manual distribution of DVDs with direct digital connection to be considered in the future.

The distribution of content to stores does not require time critical processes and Video Ezy knows well in advance which titles will be launched for the rental market and when. This allows files to be trickle-fed to retail outlets.

As well as movie files, Video Ezy will have the ability to include a web page-based Catalogue which forms the basis of the HMC's navigation system and allows customers to select future titles for download via a 'shopping cart'. The catalogue can also include trailers and other media. Video Ezy will also be able to 'push' movie titles onto customers' storage devices to tie in with new release dates.

CONTENT FACTORY & MOBILESOFT

The Video Ezy Home Media Centre is being developed by Mobilesoft, an Australian-based, publicly-listed company which has been developing data communications products and solutions since 1993. Mobilesoft's operations include software development in wide area networks, data acquisition, professional services, mobile applications and direct consulting.

As well as the company's own technology, Mobilesoft has also licensed security technology from The Content Factory, a specialist company that advises clients and creates solutions in the area of convergence, digital media and content, IT and telecommunications.

Headed by Steve Hogben, a former CTO of Anytime TV in Singapore, who has also taken on the role of General Manager of IT and New



Media with Video Ezy, the Content Factory is the inventor and owner of certain patents relation to the protection and distribution of digital content and media. These have been approved for use by major motion picture studios and can be licensed to other corporations on a non-exclusive basis.

According to Rodney Pickup, Chief Operating Officer, Mobilesoft, his company was also able to bring its experience with the gaming industry to bear on the project. Mobilesoft has provided devices for poker/slot machines in NSW which monitor the use of individual machines, pay-outs made, and even when a machine has been opened.

This experience has gone into hardware and software anti-tamper measures for Video Ezy's Home Media Centre. In addition to content file protection, if an HMC is tampered with or opened, content files will be erased and the box rendered inoperative.

While the HMC device will play out standard definition content at its initial launch, the device and security have been approved by studio owners for HD content in future. HD is likely to involve watermarking.

VERIMATRIX

Content protection specialist Verimatrix has provided the encryption technology so that files downloaded at the Video Ezy outlet are in a secure state until they are loaded into the set-top box in the customer's home.

When the customer is ready to view a title, the keys to decrypt and allow the content to be viewed are sent to the set-top via an Internet or other network connection.

The Verimatrix Video Content Authority System (VCAS) answers the need for the low cost and card-less security required by Video Ezy's Electronic Video Store.

VCAS utilises the principles of Public Key Infrastructure (PKI), which uses X.509 digital

certificates to identify each component in the video system, as well as to securely encrypt data using public/private keys. Using the Verimatrix

Real Time Encryption Server (RTES) content is encrypted creating a database of keys with digital rights attached. Once the business and authorisation rules have been met, Video Ezy then releases the content and code to the consumer so that they can view the movie, without need for a smart card box.

According to Verimatrix's VP of Marketing, Stephen Christian, while the company is normally used to dealing with IPTV and cable network platforms, it was able to adapt its technology to suit Video Ezy's unusual method of content delivery.

"It's a novel delivery method. You could call it Sneakernet. The actual key management and authorisation and authentication of the boxes as well as the business rules of key delivery are pretty close to our standard offering.

"What is a bit different is the file format we were required to support which was a variation on the Quicktime format, MPEG-4 files. That was all to do with the fact there was a file-based delivery mechanism rather than an IP-based protocol delivery approach which is our usual situation.

"We did a fair amount of custom work on the file format and how to hide the stream identifier and metadata within that particular file format.

"There were a couple months of development time, but as with many of our installations, it's not necessarily the development time, but the integration and testing time. It's a pretty exacting process but you've got to prove that it works under all unusual circumstances."

See the following web sites:

www.videoezy.com.au

www.thecontentfactory.tv

www.mobilesoft.com.au

www.verimatrix.com