

Building a “Living” Platform

By PCCW

Many parents buy clothes for their children one or two sizes larger, so they have something “to grow into”. If the child grows up faster than he wears out his pants, it’s a terrific investment. If he doesn’t, the loss isn’t that great anyway.

For the telecommunications industry, which has investment that can run into hundreds of millions of dollars and technologies that advance in leaps and bounds, a similar strategy would be impractical. Thus, it is important to build a network that is scalable (able to grow quickly) and adapt to changes in technologies, environment, and growth; in other words, an evolving, living network.

now TV - Adapting Technologies

As any network planner will attest, predicting potential network usage is not just a science; it is an art. Predict too much, and you end up with heavy wastage. Predict too little, and you lose potential revenue, customers, and growth prospect. When **now** TV (PCCW Limited’s IPTV pay-tv) was first launched in 2003, it had only 23 channels. By August 2006, there were more than 110 channels and over 650,000 subscribers.

An advantage for PCCW’s endeavor in the pay TV market was that it already had a network in place with about 93% of Hong Kong covered by 6Mbps broadband lines. These lines enable TV and other VAS (Value Added Services) over ADSL.

In order to make **now** TV adaptable to changing technologies, different aspects of the system were designed to allow evolution and modification. From the very beginning, PCCW took the view that the proprietary Set Top Box (STB) would be superseded as its functionality was absorbed into networked Home Entertainment systems produced by the Consumer Electronics Industry. Therefore, the STB used is a modified DVD player.

建立一個「靈活自如」的平台

供稿：電訊盈科

許多父母替孩子買衣服時，總愛買大一點，這樣他們快高長大也不愁不合穿。如果孩子真的長得快，衣服不合穿時仍未破損，那麼這項「投資」倒算是很了不起；即使情況並非如此，也損失不了多少。

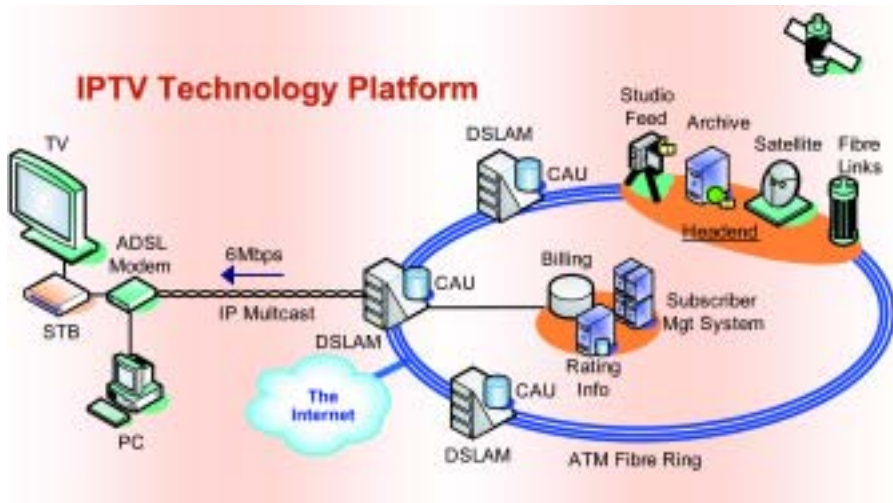
反觀電訊業，投資額往往數以億計，然而應用的技術一日千里，層出不窮，沿用前述的類似策略似乎不切實際。因此，建立一個既能容許靈活擴充，又可兼容技術提升、環境變遷和業務發展的網絡，是電訊業界的一個重要課題。換言之，市場需要一個不斷演變改進、靈活自如的網絡。

now寬頻電視 — 技術兼容性強的平台

任何一位網絡策劃師都會這樣說，預測網絡潛在使用量多少不只是一門科學，更是一門藝術。用量預測過高，容易浪費資源，得不償失；預測太低，又可能錯失機會，平白損失了獲取潛在收益、客戶，以及增長的前景。**now**寬頻電視(電訊盈科的IPTV收費電視)自2003年面世以來，只有23條頻道；及至2006年8月，頻道數目跳升至超過110條，客戶人數更高達65萬人以上。

電訊盈科致力發展收費電視市場，利用覆蓋全港百分之九十三以上地區的寬頻網絡優勢，通過非對稱數碼用戶線路(「ADSL」)，以每秒6兆比特的速度為客戶提供電視及其他增值服務。

now寬頻電視所設計的系統，在各範疇上都能夠不斷發展演變，務求可容納日新月異的技術。很早之前，電訊盈科就認為，機頂盒的功能最終將融合到電子消費品行業所生產的網絡式家居娛樂系統裏，專利機頂盒的市場壽命不會很長，因為所採用的機頂盒都是經改良的DVD播放機。後來，我們的工程師發現，機頂盒內DVD晶片組的處理容量可兼容額外裝置，如網頁瀏覽器，



As an added bonus, engineers discovered that the latent processing capacity of the DVD chipset in the box enabled additional facilities, such as a web browser and a dynamic key encryption capability for digital copyright protection. It also provides room for software upgrades as **now** TV develops additional interactive components.

The TV signals are broadcast to the customer's home through the DSLAM (Digital Subscriber Line Access Multiplexer). The DSLAM treats the broadband TV signal as it would other telecommunications or telephony calls, so only the channels paid for will be made available to the home. As the demand for **now** TV goes up, additional DSLAMs will be added.

Furthermore, the signals for **now** TV are transferred over an IP-Multicast fibre ring that has a capacity of 2.5 Gbit/s, plenty of headroom additional channels and alternative standards and future migration. Rather than building all the capacity first, **now** TV's scalable interactive network is open to innovation and evolution.

Adapting to the Environment

A common problem for the pay TV industry is piracy through illegal STBs.

以及用於保護數碼版權的動態加密性能。隨着**now**寬頻電視增添更多互動元素，機頂盒更可提供軟件升級的空間。

電視訊號是透過數碼用戶線路接入多路調制器(DSLAM)播送至客戶家中。DSLAM對寬頻電視訊號的處理方法，與其他電訊或電話的處理手法無異，所以客戶只能收看已繳費的頻道。隨着**now**寬頻電視的需求與日俱增，DSLAM的需求亦隨之上升。

此外，**now**寬頻電視的訊號經由容量達每秒2.5千兆比特的互聯網廣播光纖環路傳送。這個容量能提供大量的空間，足以滿足額外頻道及其他標準的要求，以及應付日後的變化。**now**寬頻電視的首要任務並不是純粹建立容量，而是要建設可快速擴充的互動網絡，應用於不斷創新、不斷改革的服務上。

適應環境

收費電視業界面對一個普遍的難題，就是如何解決有關通過盜版機頂盒非法盜看節目的問題。

由於「收看權」是以DSLAM方式控制，因此接入服務僅限於IPTV服務及**now**寬頻電視的網頁瀏覽器服務，藉以提供有關節目指引及客戶管理服務。所以，假設你並無申請收看特定頻道，即使有盜版機頂盒亦不能令你如願。

「錄影權」則採用動態密匙數碼加密(Dynamic Key Digital Encryption)技術保護。由於**now**寬頻電視走在IPTV業的尖端，市場上仍有許多標準尚未完全確立。憑着可靈活擴充的網絡及機頂盒的互動元素，一旦業界普遍採用嶄新的機頂盒數碼版權管理及媒體播放器標準，**now**寬頻電視便可立刻作出相應轉變。

透過這套系統的互動元素，客戶可享有更高的靈活度，而**now**寬頻電視可增

As the “Right to View” is controlled in the DSLAM, access is limited to the IPTV service and **now** TV’s web browser services for the programming guide and subscriber management. So if you do not subscribe to a particular channel, a pirated set top box will not be able to help you to obtain it.

The “Right to Copy” is protected through Dynamic Key Digital Encryption. As **now** TV is in the forefront of the IPTV industry, many standards are still yet to be put in place. With a scalable network and the STB’s interactive elements, **now** TV can migrate to new STB Digital Rights Management and media player standards once commonly adopted by the industry.

Interactive elements of the system allow greater flexibility for the customer as well as additional features (on demand programs) and advertising. At the same time, an “a la carte” strategy (buy only the channels you want to watch) presented a low barrier for customers and attracts them with the freedom of choice.

Ready for Growth

While the above technological developments prepared **now** TV for its subsequent explosive growth (the number of channels nearly quadrupled within three years and a peak of over 2,000 customers installed per day), technology alone is insufficient. As in any business, communication and interaction with the customer are crucial to gaining and maintaining customers. **now** TV tapped PCCW’s extensive distribution and sales channels to introduce and sell the new service and excellent call center services that sells and explain the innovations to the customers.

While **now** TV’s success is the work of numerous parties, its scalable and evolvable network gives the company the flexibility to utilize new technologies, adjust to customer or industry demands, and explore new markets in a frontier only just being breached by interactive television.

Now, if only our children’s clothes could grow with them!

添額外節目(自選節目)及廣告。同時，通過「按頻道收費」策略，客戶可更靈活自如選擇其喜愛的頻道，從而吸引更多觀眾收看**now**寬頻電視的節目。

準備就緒迎接新發展

憑藉上述的技術發展，**now**寬頻電視急速冒起，成為收費電視的新潮流，短短三年內，頻道數目激增至差不多是初期的四倍，在高峰期時，每日為超過2,000名新客戶安裝服務；但是，單靠技術上的發展並不足夠。正如其他業務一樣，與客戶保持溝通及互動關係，對招攬及保留客戶極為重要。**now**寬頻電視開闢了電訊盈科廣闊的分銷及銷售渠道，有助介紹及推銷新服務，以及運用卓越的電話中心服務，向客戶推銷及解釋我們的新穎產品及服務。

now寬頻電視的成功是集各方努力的成果，有賴其可靈活擴充及可革新的網絡，公司可靈活使用新技術之餘，亦能作出相應調整以滿足客戶或行業需求，更可開拓新市場。唯有互動電視，方能衝破舊有的框框，帶來真正無拘無束的新領域。

——只有能跟孩子同步成長的衣服，才可永遠令他稱「身」滿意。