Industry Views

Communications Review*

A journal for telecom, cable, satellite, and Internet executives

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Improving Performance

*connectedthinking

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Le cycle qui va de l'enregistrement de la commande au paiement de la facture par le client comporte de nombreux points de contact clés, comme l'installation, l'approvisionnement et la facturation, qui déterminent directement l'expérience et la perception du client vis-à-vis d'une entreprise de télécommunication. Une entreprise qui réussit à optimiser ce cycle est susceptible d'en retirer des avantages importants : elle peut augmenter ses revenus, minimiser ses coûts et maximiser ses marges.

par Kenny Fraser, Lisa Meeks, Mark Bergsma et Erik Klein Nagelvoort

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par Patrick Glasheen et Graeme Clark

26 Une défense solide

A mesure que les entreprises de télécommunication évoluent vers un environnement multi-produits, elles signent des contrats avec des propriétaires de contenus qui attendent et exigent en retour que ces contenus soient sécurisés lorsqu'ils sont en igne. Les contenus numériques offrent de nouvelles opportunités pour les opérateurs, mais impliquent également des risques et des responsabilités qui sortent du cadre traditionnel de leurs activités et capacités.

par Quentin Orr et Steve Woolley

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Il existe de grandes différences entre les pays et opérateurs de l'Asie-Pacifique, en ce qui concerne leur approche en matière de normes IFRS et l'état d'avancement de leurs projets d'adoption. Toutefois, ils peuvent tous saisir l'opportunité offerte par les normes IFRS de transformer leur processus de reporting financier, leurs contrôles et leur gouvernance afin de retirer des avantages non négligeables dans leur environnement concurrentiel et sur les marchés de capitaux.

par Chee Kheong Poh Lim, Kevin Stevenson et Andrew Parker

Perspectives

40 **Steve Burke, Comcast Cable**
Comcast Cable est le plus important fournisseur de services par câble aux Etats-Unis. Steve Burke, Directeur opérationnel (COO) et président, parle de la réalité de la concurrence avec les entreprises de télécommunication, de l'importance du service client et de la façon dont le contenu et les services de l'offre *triple-play* (Internet haut débit, télévision, téléphonie) seront les moteurs de la croissance de l'entreprise.

46 **Georg Hofer, Kabel BW**
Kabel BW est l'un des plus grands câblo-opérateurs en Allemagne et en Europe. Son directeur général, Georg Hofer livre son point de vue sur ce qu'un câblo-opérateur allemand doit faire pour être compétitif sur le marché des télécommunications et la façon dont la réglementation, la technologie et la concurrence influent sur la stratégie de survie de son entreprise.

50 **Michael Lee, Rogers Communications**
Rogers Communications est une entreprise canadienne de télécommunication et de media qui regroupe à elle seule beaucoup d'actifs. Michael Lee, directeur de la stratégie, parle des projets de valorisation des actifs de l'entreprise et des défis et opportunités qui en découlent.

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El proceso integrado de pedidos y pagos (*order-to-cash*) en una empresa de comunicaciones: instalación, aprovisionamiento, facturación, determinan su imagen frente al cliente. Si se logra optimizar el order-to-cash se pueden lograr importantes beneficios: mayores ingresos, menores costes y maximización de márgenes.

por Kenny Fraser, Lisa Meeks, Mark Bergsma y Erik Klein Nagelvoort

18 El siguiente paso

En el centro de la convergencia fijo-móvil está el concepto de red de próxima generación, que simplifica las redes para enriquecer la cartera de servicios, disminuir la necesidad de inversión en activo fijo y mejorar la eficiencia. Los operadores deben adoptar un enfoque pragmático antes de optar por transformación, dado que la tecnología nunca deja de avanzar.

por Patrick Glasheen y Graeme Clark

26 Una buena defensa

Mientras las empresas de comunicación avanzan hacia un entorno multiproducto, firman acuerdos con propietarios propietarios de contenidos, que a su vez, esperan y exigen que sus contenidos estén protegidos en la red. Los contenidos digitales ofrecen nuevas oportunidades para los operadores, pero también conllevan riesgos y responsabilidades que quedan fuera del alcance de sus negocios tradicionales.

por Quentin Orr y Steve Woolley

32 Las ventajas de la conformidad

En los países de la zona de Asia Pacífico hay variedad en cuanto al enfoque de las IFRS y al alcance que han querido da a su adopción. Sin embargo, las IFRS pueden ser una oportunidad para mejorar la forma en que publican su información financiera, en sus controles y en sus prácticas de buen gobierno. Todo ello para diferenciarse de la competencia y obtener ventaja en los mercados de capitales.

por Chee Kheong Poh Lim, Kevin Stevenson y Andrew Parker

Perspectivas

40 **Steve Burke, Comcast Cable**

Comcast Cable es el mayor proveedor de servicios por cable de los Estados Unidos. Steve Burke, presidente y director de operaciones, nos habla sobre la realidad de la competencia con las telcos, sobre la importancia del servicio al cliente y sobre cómo los servicios unificados de Internet+TV+teléfono y los contenidos alimentarán el crecimiento de la empresa.

46 **Georg Hofer, Kabel BW**

Kabel BW es uno de los mayores proveedores de cable de Alemania y de Europa. Su CEO, Georg Hofer, nos ofrece su punto de vista sobre lo que necesitan los operadores de cable alemanes para competir en el mercado y nos cuenta cómo la regulación, la tecnología y la competencia influyen en lo que su empresa hará para sobrevivir.

50 **Michael Lee, Rogers Communications**

Rogers Communications, la empresa canadiense de comunicación y medios, cuenta con muchos activos bajo un mismo techo. Michael Lee, máximo responsable de estrategia, nos introduce en sus planes para mejorar sus activos, y en los retos y las oportunidades que eso va a conllevar.

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Die Art und Weise, wie Telekommunikationsunternehmen ihre Aufträge abwickeln, sei es die Installation der Dienste, die Bereitstellung der Produkte und Services oder die Inrechnungstellung, wirkt direkt auf die Wahrnehmung und Einschätzung der Kunden gegenüber dem betreffenden Anbieter. Ein Unternehmen, das seine Auftragsabwicklung mit dem Kunden optimiert, kann davon erheblich profitieren—durch steigende Umsätze, geringere Kosten und damit erhöhte Gewinnmargen.

von Kenny Fraser, Lisa Meeks, Mark Bergsma und Erik Klein Nagelvoort

18 Der nächste Schritt

Im Zentrum der Konvergenz von Festnetz und Mobilfunk steht das Konzept der so genannten Next Generation Networks (NGN). Ziel ist es, die bestehenden, vielschichtigen Netze zu vereinfachen, um das Diensteangebot zu verbessern, die Investitionsausgaben zu senken und die Effektivität des Unternehmens insgesamt zu steigern. Da die Technologie noch nicht ausgereift ist, sollten Netzwerkbetreiber einen pragmatischen Ansatz einschlagen, bevor sie ihre Netze in Richtung NGN umstellen.

von Patrick Glasheen und Graeme Clark

26 Eine stabile Verteidigungsstrategie

Mit dem Wandel von Telekommunikationsunternehmen zu integrierten Diensteanbietern sind zunehmend Partnerschaften mit Inhalteanbietern zu beobachten. Diese wiederum erwarten und verlangen, dass ihre Inhalte geschützt werden, so lange sie auf dem Netz der Diensteanbieter abrufbar sind. Digitale Inhalte eröffnen vielfältige Chancen für Netzbetreiber—aber sie implizieren auch Risiken und Pflichten, die jenseits ihres traditionellen Geschäfts und ihrer angestammten Kompetenz liegen.

von Quentin Orr und Steve Woolley

32 Der Nutzen der Einheitlichkeit

Nicht nur die Länder, sondern auch Netzbetreiber aus dem Asien-Pazifik-Raum unterscheiden sich teils erheblich bei ihrer Annäherung an die Internationalen Rechnungslegungsstandards (IFRS) und deren Umsetzung. Eins ist jedoch allen gemeinsam: Sie können die IFRS als Chance nutzen und ihre Rechnungslegung, ihre Berichterstattung und ihre Kontrollsysteme internationalen Standards anpassen, um sich so im Wettbewerb und auf den globalen Kapitalmärkten gegenüber anderen Unternehmen abzuheben.

von Chee Kheong Poh Lim, Kevin Stevenson und Andrew Parker

Perspektiven

40 **Steve Burke, Comcast Cable**
Comcast Cable ist der größte Kabelnetzbetreiber in den USA. Steve Burke, COO und Präsident des Unternehmens, schildert uns seine Erfahrungen im Wettbewerb mit Telekommunikationsunternehmen, der Bedeutung von Kundenservice und wie Triple Play-Angebote und Inhalte das Wachstum des Unternehmens fördern werden.

46 **Georg Hofer, Kabel Baden-Württemberg**
Kabel Baden-Württemberg (Kabel BW) ist einer der größten Kabelnetzbetreiber in Deutschland und Europa. Ihr CEO, Georg Hofer, teilt mit uns seine Einschätzung darüber, wie deutsche Kabelnetzbetreiber im Wettbewerb mit Telekommunikations-unternehmen agieren müssen und wie Kabel BW auf die Herausforderungen von Regulierung, Technologie und Wettbewerb reagieren wird.

50 **Michael Lee, Rogers Communications**
Rogers Communications ist ein kanadisches Telekommunikations- und Medienunternehmen, das viele unterschiedliche Dienste aus einer Hand anbietet. Michael Lee, der Leiter der Strategieabteilung, spricht mit uns über die Pläne seines Unternehmens, um den Chancen und Risiken erfolgreich begegnen zu können.

Message from the Editor

In recent years, a constant theme of this journal has been that ongoing change is the only certainty in today's fast-evolving communications industry. Another is that today's communications market consists of a vast—and expanding—diversity of players. With this issue, we have responded to these fundamental shifts by completely revamping our journal.

Communications Review is the result. We feel that the journal is now better positioned to capture the whole of this dynamic marketplace and reflect the changing needs, interests, concerns, and aspirations of all the companies within it.

But not everything about the publication has changed. Key to delivering what our readers want is the fact that our content remains of the same quality and depth as ever to continue bringing you insights from within the industry as well as PricewaterhouseCoopers' point of view on the financial and operational challenges and opportunities the industry faces. We have expanded our interviews with industry leaders, enabling them to give us their valuable perspectives on what drives and defines leadership in this cutting-edge industry.

In short, we have moved this publication to a new level—thereby helping our readers in the industry to do the same. With this in mind, it is no coincidence that the theme running through all the articles in this first issue of *Communications Review* is "improving performance." Only by constantly seeking opportunities for improvement and incorporating the resulting benefits can communications businesses differentiate themselves in the eyes of today's elusive, demanding customers, whether they are consumers or corporations.

Improving performance is central to our first article. In "Synchronizing for Results," our authors Kenny Fraser, Lisa Meeks, Mark Bergsma, and Erik Klein Nagelvoort examine the order-to-cash cycle—the chain of processes that not only represents the financial lifeblood of a communications company, but also shapes the customer's experience of the business and its services. Optimizing the order-to-cash cycle can bring a wide range of benefits, from financial to reputational to competitive. But the shift toward increasingly complex bundled services is making optimization both more vital and more difficult than ever. In the authors' view, the key to successfully optimizing the cycle lies in an unyielding focus on the customer.

In our second article, "Contemplating the Next Move," Patrick Glasheen and Graeme Clark home in on the infrastructure that underpins the new bundled services—the next generation networks on which operators worldwide are spending vast amounts of money. Amid the hype concerning eye-catching convergent services, it may be all too easy for companies to take their eye off hard commercial reality. But if operators really are to improve their performance through this investment, they must first pose some searching questions about the commercial rationale and returns from the massive outlay involved. As the authors point out, the real objective is to be the lowest-cost provider of sophisticated services, and companies must take pains not to lose sight of that goal.

The third article, "A Solid Defense" by Quentin Orr and Steve Woolley, looks at what formerly voice- and data-transmission-based communications companies need to do in order to deliver improved performance in today's rapidly evolving marketplace. For many, the way forward lies in a new strategic thrust as multiproduct entertainment and communications companies. That strategy involves signing deals with content owners, who quite rightly expect their content to be fully safeguarded. So content security becomes critical to the business model—and, to achieve it, the authors believe operators need to look beyond technology and focus on the key processes involved.

Our fourth article is "The Benefits of Conformity," in which Chee Kheong Poh Lim, Kevin Stevenson, and Andrew Parker examine the issues for communications companies in Asia Pacific as they face up to the demands of adopting IFRS. Major challenges exist—not the least being those arising from differing interpretations and applications of IFRS in various markets in the region—as well as opportunities for players to leverage IFRS to improve performance. As the authors stress, substantial competitive benefits are available to Asia-Pacific operators that draw on IFRS experience in other geographies, go beyond compliance, and use IFRS as an opportunity for transforming their financial reporting, controls, and governance.

In our newly expanded interview section, we speak to three major communications industry leaders about their experiences in improving performance in their own businesses. In this issue, we focus on cable operators. First, Comcast Cable COO and President Steve Burke talks about the evolving competitive environment and explains why Comcast is now really in the communications and entertainment rather than the cable business. Then Kabel BW CEO Georg Hofer describes the experience of being the first German operator to launch triple-play services on a single platform, and how he sees the competitive dynamics of the future. And, finally, Michael Lee, chief strategy officer of the diversified Canadian communications and media company Rogers Communications, describes what it takes to drive convergent services and compete against incumbents in many segments.

In today's communications marketplace, the pressures to improve performance are greater than ever—as are the rewards for those that succeed in doing so. I believe this first issue of *Communications Review* contains thinking and insights that can help companies across the industry reap those rewards, no matter what their specific focus and business model. But, like your business, this publication is on a journey of continual improvement inspired by an unwavering focus on you, the customer. So please send me your feedback and suggestions by e-mail at paul.g.rees@uk.pwc.com or by phone at [44] 20 7213 4644.

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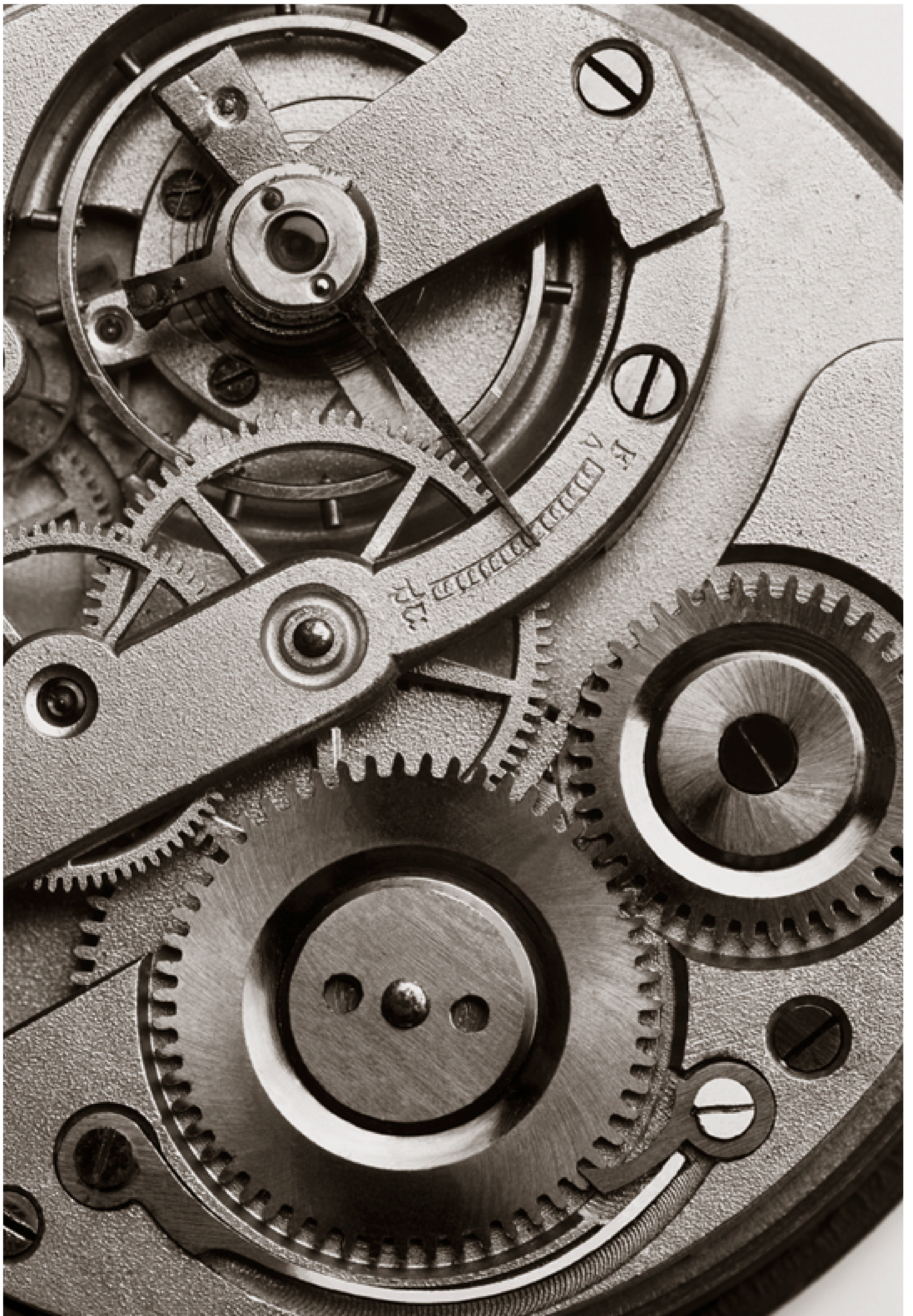


Synchronizing for Results

The sequence of steps from the arrival of a customer's order, up to and including the customer's cash reaching the operator's bank account, represents the financial lifeblood of any communications company's business. But the order-to-cash cycle also does more: It shapes many key touch points—installation, provisioning, billing, and so on—that directly determine the customer's own experience and perception of the operator. So an optimized order-to-cash cycle not only brings direct benefits in terms of cash flow, revenue, and cost, but also boosts an operator's reputation among customers and creates a clear competitive edge.

Today, amid rapid change in the technological and competitive environment, and with the shift toward increasingly complex bundled services, optimizing the order-to-cash cycle is more vital than ever for every operator. But an operator's ability to optimize depends crucially on maintaining an unyielding focus on the customer.

by Kenny Fraser, Lisa Meeks, Mark Bergsma, and Erik Klein Nagelvoort

In April 2006, the United Kingdom–based handset retailer and operator Carphone Warehouse sent shockwaves through the industry when it announced its TalkTalk phone service would include a "free" broadband connection starting in July. As rivals queued up to respond with lower-price offerings of their own, consumers queued up to buy the service.

However, while the new offering was a major coup for Carphone Warehouse in marketing terms, the rollout was hardly as smooth as the company would have liked. By late July, TalkTalk had signed up 476,000 customers for its free broadband service. But only 250,000 of them had actually been connected, and—with a two-month backlog—there were widespread anecdotal reports of consumers giving up waiting and deciding to go elsewhere.

In a trading update on July 27, 2006, Carphone Warehouse's Chief Executive Charles Dunstone admitted that the level of demand had been higher than the company had estimated. He commented: "We have expanded our customer service capacity substantially since June to meet this additional demand, and this is now having a noticeable effect. In turn, this has enabled us to increase significantly the rate at which we are provisioning customers onto broadband. We still have some way to go, however, to reach the leading service levels we target."

Lessons to learn

This sequence of events highlighted several key lessons for today's operators. In product design and consumer marketing terms, TalkTalk's free, bundled broadband was a groundbreaking innovation—one with a truly disruptive effect both on the industry and on consumers' expectations and demands. But by stimulating such heavy orders without the back-office processes in place to handle so many orders quickly and smoothly, Carphone Warehouse created a classic bottleneck in its order-to-cash cycle. The company moved quickly to expand its call center capacity and tackle the backlog, but, inevitably, some damage had already been done to its reputation and relationships with customers.

As this experience suggests, keeping the order-to-cash cycle in good shape is critical to today's communications companies. Figure 1 illustrates the way the cycle typically works. In analyzing the efficiency of this process, a key measure is how long it takes to go from the customer's desire to order the product or service, to the stage where the order has been fulfilled to the customer's satisfaction and the cash is in the provider's account. The interlinked nature of the process means that blockages can arise at any point, or even at multiple points, in the cycle.

When this happens, the impact can be far-reaching. Operators may be tempted to regard inefficiencies or capacity constraints in their end-to-end, order-to-cash cycle as essentially internal systems or resourcing issues. Given this viewpoint, the natural response would be to pinpoint the specific operational problem, address it through a point solution, and move on: problem solved. However, the reality is more complex. The interdependent and interlinked nature of the various elements in the process means that tackling a problem in one area often results in a new problem elsewhere.

A relatively simple and commonplace example of this can occur where fixes are applied at the switch level to optimize call handling. These fixes often can result in changes to the call detail record used as an input to the mediation, rating, and billing processes. In some cases, the changes to the call record mean the modules in one or more of these three customer-critical processes can no longer read it—a problem that emerges only when the operator finds that a series of records has been rejected.

A further key consideration is that operators must not underestimate the wider effect of an inefficient end-to-end, order-to-cash cycle. On the one hand, it can have a serious financial impact, negatively affecting revenues, cash flow, debt levels, and, ultimately, profitability. On the other, the fact that elements of the cycle such as billing and provisioning are so central to the customer experience means problems at any point in the cycle can have an unquantifiably negative impact on customer relationships. Such an impact can drag on long after the root-cause internal operational issue has been solved.

More than just a challenge for today

As the communications industry faces perhaps the greatest upheaval in its history, there is another important dimension to consider: digital convergence. Many operators are focused on the major business challenges convergence brings, including the death of their traditional voice business, a greater focus on content, and the new opportunities presented by advertising revenues. However, numerous communications companies we have spoken to also perceive a further vista of opportunity. This is because, whatever happens in the newly converged markets, the need will be clear for complete, accurate, real-time service provisioning and billing covering very high volumes of typically small transactions.

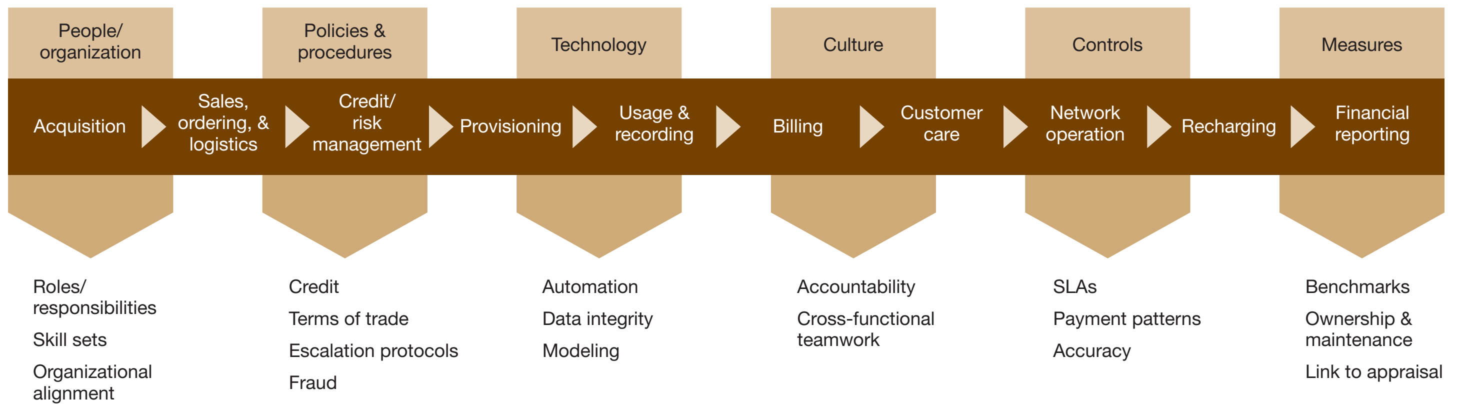
These provisioning and billing relationships will exist between providers and consumers but also, and increasingly, among the various parties in the value chain. Consider, for example, a UK-based customer viewing a clip of Wayne Rooney scoring a goal for Manchester United, an English soccer team, over his Vodafone connection on a Nokia handset. The customer may include the cost in his content subscription bundle. But how much—and what proportion—of this money is distributed to the football club, the broadcaster, the carrier, the shirt sponsor, and possibly even the player?

In this new environment, there will be a need for real expertise to handle the complex billing and payment mechanisms. We know from our industry conversations that many companies see this as an increasingly key capability in the telecommunications industry—and, consequently, as a major opportunity to build a new source of revenue in an uncertain world.

The importance of optimizing the cycle

The message is clear: Optimizing the order-to-cash cycle should be a key objective of every operator's board. Making the cycle as efficient and effective as possible will ensure that payments are processed quickly while also minimizing the time and maximizing the accuracy of provisioning and invoicing customers. This efficiency, in turn, will simultaneously improve customer satisfaction, increase

Figure 1: A typical order-to-cash cycle



Because a typical order-to-cash cycle is efficient when it satisfies customers' needs, an operator should optimize the cycle by first taking an end-to-end view of the interlinked steps from the customer's perspective.

cash flow and revenues, and minimize the costs of the back-office processes.

In addition, if operators are serious about the revenue opportunity from providing billing and collection services, their new customers certainly will expect them to be able to manage the services in a seamless, end-to-end fashion. Problems in the order-to-cash cycle that merely cause internal pain today will become major business and reputational issues when the operator is providing a service to hundreds of content rights holders.

But realizing these advantages is not easy and seldom is achieved in full. This is largely because true optimization of the order-to-cash cycle requires an end-to-end view of the entire process, and achieving such a view involves far more than simply tweaking a few systems and processes. In fact, moving to an end-to-end perspective throughout the business often involves significantly changing the culture, with substantial management input and support. Such change may be best approached as part of a wider change program, perhaps involving a series of targeted workshops—departmental, cross-departmental, senior management, middle management, and so on—to embed the new thinking throughout the business.

Having overcome the cultural and organizational silos, still more hurdles lie ahead. In our experience, operators all too often adopt a reactive attitude to problems in one element—provisioning, billing, collection, or some other subprocess—and get bogged down in addressing that particular segment of the cycle. The result is uncoordinated, limited actions that have relatively little impact on the performance of the cycle as a whole. A further hindrance to an end-to-end view is the rapid change under way in products, services, and bundling. This constant innovation, coupled with the severe pressures to reduce time to market, can lead to order-to-cash processes becoming fragmented and subject to bolting on elements to handle specific products—ultimately hampering the cycle's overall efficiency and effectiveness.

The key to achieving the necessary end-to-end perspective lies in remembering that the cycle is actually all about customers. At every stage are customer touch points that can have a profoundly positive or negative impact on the customer experience. Given the communications industry's generally poor reputation for customer service, it is probably fair to say that many players have been getting this element wrong for years. To an extent, this reputation reflects the industry's historical tendency to focus on a provisioning problem, for example, as a systems issue rather than a customer issue. However, if a hundred customers have their provisioning delayed as a result, their collective sense of dissatisfaction will not go away just because the systems problem has been fixed.

The industry's generally poor reputation for customer service represents a major opportunity for operators that get it right. By doing the simple and basic steps well throughout the order-to-cash cycle, an operator can differentiate itself from the competition in the eyes of the customer and can create a major source of competitive advantage. Ultimately, this is what optimizing the order-to-cash cycle will achieve.

Experience to date

So, what lessons should today's communications companies bring to bear as they seek to optimize their order-to-cash cycle? The best way to approach this question is through some real-world examples we have seen in the industry in recent years.

In 2004, one of the country operations of a major wireless operator discovered it had been overcharging customers in that territory over a period of several months. The overcharging was a result of a problem in its rating process, just one element of the cycle. While the amounts individual customers were overcharged were small, the fact that the total overcharge ran into millions of dollars meant the company attracted widespread negative press coverage and close scrutiny from regulators. Inevitably, the operator's reputation and level of trust among customers suffered. And although the damage was partially addressed by the company's public apology and its decision to compensate all affected customers, costs were high, both financial and in terms of overall reputation.

Another example is that of a publicly quoted European broadband provider that was producing sales and revenue forecasts based on reports by its sales force of completed sales. The board of this company thought the sales reports reflected signed orders, but the expected revenues from these reported sales were

taking more than six months to come in—indicating that the sales people were logging sales prematurely and even over-optimistically. Again, this isolated process problem within the order-to-cash cycle had a severe reputational and regulatory impact.

To tackle the issue, the board decreed that no element of provisioning for any customer should be processed until the sales person had submitted a signed order. However, this change created a blockage in customer provisioning, because some elements—such as contacting third-party installation companies—that usually would have happened in parallel were held back and done sequentially. This example illustrates how remedial action in one part of the cycle can have a negative effect elsewhere, underlining the need for an end-to-end view.

Finally, the recent experience of a global enterprise network provider presents a more positive example of the benefits that can be achieved through an overall perspective of the cycle. Historically, this company had approached the order-to-cash cycle in a relatively fragmented way, to the extent that each new product was set up with its own specific people, processes, supplier procurement, and billing. Largely as a result, it took an average of more than 140 days for a customer's order to reach the point where the business received the cash payment. By examining the order-to-cash cycle in its entirety, removing duplication, streamlining the individual steps, and improving linkages, the company was able to reduce the time by more than a third, to 90 days. As a result of the lower costs and improved cash flow, this heavily indebted company was able to stop paying interest on an amount equivalent to 15% of its turnover.

What to aim for

The experiences of these companies may be extreme in terms of the situation that needs to be addressed, but they do bring all players insights into possible approaches and the scale of the resulting benefits. However, it is not always that easy to gauge the size of the problem in the first place. For operators in many marketplaces, the true underlying order-to-cash efficiency levels are masked by the increasing use of pre-pay offerings, which effectively bring the cash in before the service is delivered. This shift to pre-payment, in combination with the wide diversity of operating environments and processes applied in various markets, makes it difficult to identify hard-and-fast metrics that can be applied across the world to underpin best practices. What may appear to be a rapid order-to-cash cycle in one territory may rank as relatively poor elsewhere. However, a best practice that does not change from market to market is that the best-performing operators start from the customer's perspective to examine the entire order-to-cash cycle on an end-to-end basis.

One approach for achieving an end-to-end view was adopted by a continental European fixed-line operator, which put all its product development under the ultimate control of a committee of individuals drawn from across the business. This product development group—which included representatives from product development, core networks, IT, billing, customer service, marketing, finance, and so on—was given responsibility for go-or-not-go decisions, both at the start of development work on a particular product and at the end, immediately before launch. The whole committee needed to agree before the product could go to market. If, for example, the billing function had a problem, then the product launch would be delayed until the issue was resolved. This approach ensured that the needs of every element of the process were met before any product went live.

As such approaches suggest, order-to-cash optimization is not a discrete project that can be completed and filed away. It is an iterative, ongoing process, as further improvements always can be made. As the communications industry continues to evolve and become more complex, and as companies roll out new services and bundles on a daily basis, it is all too easy to take the underlying order-to-cash cycle for granted. But unless an operator focuses specifically and continually on optimizing it, any gains made inevitably will start to ebb away.

Laying the groundwork

To create the right basis and environment for successful order-to-cash optimization, the first step should be to identify and exploit opportunities for organizational improvement. At root, this is about reducing or removing silos within the organization—the kinds of cultural and process barriers that result in the sales team not talking to the billing or network departments, making it more difficult to achieve seamless, efficient provisioning and billing once a product has been sold.

The key, once again, is to look at the end-to-end cycle as an integrated whole rather than as a collection of discrete steps. At every point throughout the organization's value stream, there needs to be an understanding not only of how the whole value stream fits together, but also of the importance of each specific step and of its impact on the others. So a sales person who closes a deal with a customer by including, possibly, an additional discount and a time commitment for when the service will go live should know precisely what those offers mean for provisioning, billing, customer care, and so on.

The way to embed an end-to-end awareness, and to ensure that it is reflected in behaviors and subprocesses throughout the cycle, is to set explicit responsibilities underpinned by the right incentives. A detailed but potentially significant example of this type of joined-up thinking might be found in the way network switches are configured. The switch essentially runs two pieces of software: the network availability software, which keeps the traffic flowing; and the accounting software, which monitors the traffic for billing and financial purposes. When the switch becomes overloaded to the extent that one of these routines has to shut down, then it should be the accounting software that does so.

Why? Because shutting down the accounting software will cost the operator some cash, while shutting down the network will cost it both cash and customers—and wreak far more damage on its end-to-end value chain and its business as a whole. The ability, culture, and awareness with which to apply a holistic view consistently depend on suitable incentives and responsibilities, plus a clear focus on the customer experience as the key factor in decision making.

Optimization techniques

So, with silos removed and an end-to-end view of the value chain increasingly embedded, how should the company go about optimizing the order-to-cash cycle? We have already stressed how a customer-centric focus should act as the guiding principle of an operator's optimization program, and have described several instances of this perspective being put into

effect. In terms of implementation throughout the order-to-cash cycle, a number of specific methodologies, techniques, and tools are available to help operators optimize the cycle while constantly keeping the customer fully in view.

Process improvement
One technique can be based on the relatively traditional process improvement, which consists of an iterative series of actions targeted to reduce costs and increase the overall effectiveness and coherence of the end-to-end cycle. The aim is usually to maximize two attributes at every phase of the cycle: automation and flexibility. Quick wins are likely to be available at various points by removing duplication and eliminating the need for human intervention.

For example, in recent years we have seen operators whose order input process involved every order being manually rekeyed up to four times, creating major inefficiencies and multiplying the potential for errors. Rationalizing, automating, and integrating such duplicate processes should be a priority. However, any specific improvements should be taken only after careful consideration of the possible effects on other parts of the cycle—a point illustrated by the experience of the broadband provider described above, whose attempt to improve the sales process had a negative effect on customer provisioning.

Automated tools
For use in a process improvement approach, several automated tools on the market are designed to optimize specific segments of the cycle. Some of these are very effective, so selecting the right tool and configuring it in the right way can deliver tremendous results in some areas. However, it is important not to regard these tools as an alternative to applying customer focus and an end-to-end view. The ultimate risk is that an operator might end up with an order-to-cash process consisting of a hodgepodge of disparate tools that do not integrate with one another especially well, thereby hampering end-to-end optimization and distracting attention from the root causes of any inefficiencies.

Lean Six Sigma
Perhaps the most sophisticated and highly disciplined approach to order-to-cash optimization is Lean Six Sigma, a methodology for driving continual improvement that focuses primarily on achieving higher speed and lower costs. Six Sigma was conceived as a way to optimize manufacturing processes, and its "lean" variant is currently widely regarded as being epitomized by the Japanese automobile manufacturer Toyota. However, Lean Six Sigma has become increasingly prevalent in service industries in recent years, initially in financial services and now in the communications industry.

In applying Lean Six Sigma to an operator's order-to-cash cycle, the starting point is again the customer. The process involves examining and assessing every segment within the cycle in terms of what it contributes to the customer experience. If it contributes nothing, it can be stripped out. Within this overall process, a useful approach to the Six Sigma program is encapsulated in the steps of the DMAIC model—define, measure, analyze, improve, and control:

- Define the goals of the improvement program and the metrics by which success will be judged.
- Measure the existing processes and their performance to develop a clear understanding of the current state.
- Analyze the outputs from this measurement process to identify the root causes of inefficiencies and bottlenecks.
- Improve the target processes through a continual, iterative cycle of improvement and measurement, tracking the performance of individual segments and the entire end-to-end process.
- Control the end-to-end cycle and the related improvement process to ensure that each initiative is fully integrated and contributes to the optimization.

Throughout, maintain a clear focus on customers' requirements and aspirations, ranging from their experience of network quality to the speed and usefulness of the response from call centers.

The benefits: Boosting business fundamentals

An operator that succeeds in optimizing its order-to-cash cycle stands to gain two major benefits that are fundamental to any business. First, it will increase its revenues. Second, it will simultaneously minimize its costs and maximize its margins.

Significantly, these wider and longer-term advantages may not necessarily represent the main drivers behind the optimization program. In many cases, the costs of the program itself can be fully justified by more immediate benefits such as lower interest costs and faster cash flow—the kinds of highly measurable improvements that lend themselves to a Six Sigma approach.

Beyond these is a range of customer-related benefits that are equally significant but more difficult to measure. As we have already pointed out, in an industry with a generally poor reputation for customer management and service, significant competitive advantage will flow from a strong reputation for dealing with customers. Furthermore, an optimized order-to-cash cycle provides a good basis for developing and promoting customer self-management, which in turn will free up resources and enable the operator to boost the standard of service to customers who actually need its help.

The order-to-cash cycle represents the core of a communications company's operations, containing all the shared touch points between its business and its customers. In an increasingly converged world—one where many traditional revenues are under threat—a sound and cost-effective order-to-cash cycle represents the key platform for fully exploiting new revenue possibilities. Clearly, optimizing the cycle creates the basis for financial outperformance and competitive edge with customers. But it also does much more: It positions the business for long-term survival and success in tomorrow's converged, services-led marketplace.

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Contemplating the Next Move

Operators around the globe are taking on major modernization programs that will mean a fundamental change to their networks and systems architectures. Before spending vast amounts on new technology, operators need to ask themselves some pretty fundamental questions about why they are embarking on these ventures. Despite all the razzmatazz around the demand for supposedly eye-catching new services built on convergence, the reality is that the rationale for these programs is large-scale cost extraction and the drive to be the lowest-cost provider.

by Patrick Glasheen and Graeme Clark

Anybody in the technology, media, and communications sectors who hasn't heard the term *convergence* day in and day out for the last year or so must have been living on the moon. It's the buzz of the moment, and nearly every week we hear about new convergence plays by providers wishing to extend their reach to begin the pillage of new markets.

But, what is convergence? If we assume it's about integrating computers, telephones, broadcast technologies, and content within all-digital environments, then the value generated from convergence comes from making innovative use of data from various technologies for faster, more flexible distribution.

The race to bundle

Convergence in the communications sector can be considered in terms of network, services, and application layers. These layers typically map onto the three planes that make up next generation network architecture: the transmission, control, and service planes.

Network. Transforming disparate, service-specific network platforms into a common and cost-effective IP-based platform. Running one uniform network enhances economies of scale and operational efficiency and puts even greater importance on traffic volume in the quest to be the lowest-cost producer.

Services. Delivering voice, video, data, messaging, and mobility services across a wide range of terminal devices via a multiservice platform over various networking media—mobile, wireless, cable, DSL, and Ethernet.

Application. Providing innovative services based on network-based applications and application-laden customer devices. Applications service providers can use network "hooks" to facilitate service provision and retail competition in areas such as interactive gaming, network-based personal video recorders, and other Web-based services.

In reality, operators are not currently offering converged services in the true sense. True convergence would lead to the integration of various technology platforms and support systems. Operators are bundling services together with some integration and calling it convergence. The "bundled" proposition, to date, has been more prevalent than have unique content and services.

Take, for example, the recent moves in the United Kingdom by Carphone Warehouse and Sky. These operators are entering markets to tap into new customers where regulatory and technical precedents are already well established. They are not providing new services based on groundbreaking technology innovation in which the services are provided over a converged platform.

We can see why operators are backing bundling, but are customers really crying out for it? There is a built-in assumption among many operators that customers inevitably will be attracted to the fundamentals of bundled packages, including:

- Simplicity and one-stop shopping.
- Discounts from bundling services (or, indeed, bundling services for free).
- Single bills.

"Build it and they will come" is something we've heard before in this industry (remember the 3G auctions?). This would be a mistaken mind-set. Bundling of services is not always in the interest of consumers and they know it. Far from enhancing customer loyalty and extending share of wallet, there is a risk that customer relationships may be undermined, and the brand damaged, if new services are perceived to be inferior to existing ones or those offered by competitors.

If not presented effectively, a single bill can destroy value from bundling, partially through "sticker shock." Also, it is a constant reminder to customers that they should be looking for rolling discounts, free services, etc., as a reward for what they spend.

Indeed, the faltering experience of many new entrant, specialist triple-play providers (e.g., Video Networks, Bulldog) suggests that bundling per se is not highest among customers' purchasing criteria … unless it is offered for free.

The rocky road to convergence

Many operators today view these apparent contradictions as nothing more than early frictions in the long-term move toward convergence as a central driver of customer behavior; and most have long-term plans in place that feature network convergence at their core. In effect, network convergence is simply viewed as the next, natural, and inevitable phase of network evolution.

Most major operators' plans involve nothing short of the complete transformation of their networks and IT infrastructures. Apart from cost reduction, they believe that this transformation has the potential to create value through the innovative use of data generated from a variety of fixed, mobile, and broadcast channels.

So, what plans are in place as operators rush ahead with new technology investment to provide true convergence? At the heart of fixed and mobile convergence plans, we find the concept of the next generation network (NGN). NGN is the real enabler of convergence at the network, services, and application levels.

What is NGN?

A quarter of a century ago, incumbent operators typically ran one network, the public switched telephone network (PSTN). The PSTN was designed to carry voice only. As demand for data communications developed, the incumbents were forced to adapt. Rather than replace the PSTN, they built new networks that ran in parallel—and the overlay network was born.

As network technology continued to evolve, so the number of networks multiplied to a point where today most incumbents run a very broad range of platforms, each with its own distinct characteristics and billing and support systems. The problem with this approach is that it has created a spider's web of complexity, resulting in huge operational inefficiencies, reducing economies of scale, and duplicating capital expenditures (capex).

NGN is about simplifying and delayering networks. The goal is to enrich the service portfolio, lower capex demands, and deliver efficiency improvements. This goal

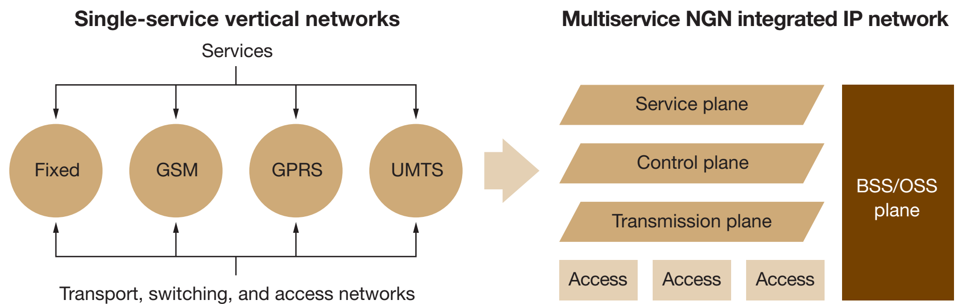
leads to a radically different view of how networks are structured. As BT puts it, the difference is like moving from a "bowl of spaghetti" to a "meager lasagne"—simplifying the network and streamlining the organizational structure. Operators are fed up with the inefficiencies of the single-service vertical network approach and see the deployment of multiservice integrated networks based on IP as a way to offer a variety of products to their customers over a variety of access mechanisms and customer premises equipment *(see Figure 1).*

The ITU Telecommunication Standardization Sector (ITU-T), which coordinates standards for telecommunications on behalf of the International Telecommunication Union (ITU), has specified a working definition of NGN. It defines NGN as a packet-based network able to provide services, including telecommunication services; able to make use of multiple broadband, quality-of-service-enabled transport technologies; and in which service-related functions are independent from underlying transport-related technologies. NGN offers users unrestricted access to various service providers and supports generalized mobility, which allows consistent and ubiquitous provision of services to users.

One problem with ITU-T's definition is that it leaves various interpretations open as to exactly what NGN is, as it is framed in a set of generic principles, and this can introduce commercial uncertainty of where NGN begins and ends. Often we find that the commercial function within an operator expects a solution that is a panacea for all an operator's problems, i.e., overnight NGN delivers a lower-cost network with a rich set of functionality that can be flexed quickly to provide a broad range of services. This, clearly, is not the case, and operators need to agree from the outset on consistent corporate-wide definitions of what NGN is, what services they wish it to provide, and over what time frames.

The key differences between a traditional incumbent's network and an NGN boil down to some fundamental characteristics *(see Figure 2).*

Figure 1: Vertical vs. integrated IP networks



A goal of next generation networks is simplification—replacing the complexity and inefficiency of single-service networks with multiservice networks and their varied means of access to customers.

At face value, therefore, NGN sounds like great news for operators—innovation drives improvements in the revenue yield per unit of traffic while technology drives down the fixed cost (both capex and opex, or operational expenditures) of the network.

Where from here?

Some incumbent operators are already undertaking NGN activities. BT aims to move the majority of its subscriber base to "broadband dial tone" by 2009 and is looking for annualized cost savings of GBP1 billion per annum (pa) from its "21st century network." The company believes that capex in the medium term is likely to be sustained below current levels of GBP3 billion pa once network migration is completed. Broadband dial tone will provide services at the click of a button, enabling customers to come online virtually instantaneously.

KPN is in its first phase of moving to an IP-everywhere environment for corporate customers. The company aims to move to an all-IP core backbone by 2007, with Ethernet in the access network by 2009. ATM (asynchronous transfer mode) and SDH (synchronous digital hierarchy) will be phased out of the network by 2010, completing the move to IP. KPN's head count is expected to fall by 8,000 full-time equivalents by 2009.

continues on next page

Figure 2: Traditional vs. next generation networks

Characteristics	Traditional	Next generation
Convergence	Absent	Inherent
Services	Single	Multiple
Network	Multiple	Single
Network access mechanisms	Single	Multiple
Network access speed	Primarily narrowband	Broadband capabilities
Network building blocks	Dedicated	Reusable
Network management	Less centralized	Centralized
Product development	Slower	Faster
Service delivery & assurance	Slower	Faster
Interfaces	Closed	Open
Customer experience	Complex to adjust & less personal	Less complex to adjust & more personal
Regulatory compliance	Rules clear	Rules a "work in progress"

Compared to traditional networks, the innovative characteristics of next generation networks appear likely to improve revenue yield per unit and to reduce fixed costs.

If we accept in principle that all incumbents have little choice but to follow the likes of BT and KPN and build NGNs, then the question is to what degree they do so and over what time frames. We believe operators need to ask themselves eight basic questions before embarking on the path to transformation.

1. How much can I extract in cost savings?
The migration of traffic from traditional networks to new networks (principally IP and mobile) is reducing utilization levels and creating operational and financial inefficiencies, which feed a vicious spiral of rising unit costs and reduced profitability. The fixed NGN business case is primarily about stripping out inefficiencies. Some commentators see incremental revenue growth opportunities as the icing on the cake while others see it as a distraction to the real driver for change—cost reduction.

If operators can streamline processes, reduce head count by rationalizing existing network assets, and efficiently introduce NGN technology to replace legacy assets, then migration to NGN may realize substantial cost savings. These are big ifs; however, the upsides are also big.

For most operators, capex falls in the range of 10% to 15% of revenue; opex is typically three times the level of capex, half of which is accounted for by staff costs. Working on operational staff costs alone, therefore, successful and complete conversion to NGN allows operators to effectively reduce the cost of the operational workforce by 25% to 40%, equivalent to around 4% to 9% of revenues. Given the negative trend in fixed voice revenues in particular, this opportunity is worth taking extremely seriously.

There are, however, transition costs. Nonetheless, the overall net present value is still significantly positive. Citigroup Investment Research illustrates this point well. For a typical EU incumbent, they estimate that in the migration phase, free cash flow margins could fall by three percentage points (two percentage points of increase in capex and one percentage point due to incremental opex). Citigroup's research does point out that post-transition, free cash flow margins could be enhanced by up to 16 percentage points, though this appears quite aggressive.

2. How do I manage my people to ensure that we push through transformation?

People and organizational structures are the main barriers to change. This is certainly the case in the communications industry, where each service platform is accompanied by its own support organization and power base. Simplifying and streamlining the network service platform (from many to one) represents a direct challenge to the established order. To get close to achieving the potential benefits of network rationalization requires dismantling long-established organizational structures and work practices, while at the same time building a new service organization.

A robust business case will need to factor in:

- The cost of redundancies.
- Retraining/recruitment of staff with hybrid legacy and IP skill sets.
- The costs of and time frames needed for the effective rebuilding of the organization.

3. How attractive is my regulatory environment for NGN?
Before embarking on any significant NGN investment, an incumbent needs an established regulatory framework. Embarking on NGN deployment without regulatory certainty is a risk that operators should seek to avoid. It is critical that the incumbent fixed operator reach agreement with the national regulatory authority, either on an NGN amnesty or at least on technically feasible points of access that do not destroy the business case for investment in NGN and ensure that the allowable cost of capital reflects the migration risk.

Incumbents also need to steer clear of onerous obligations relating to alternative operator migration costs but at the same time adhere to any regulatory principles that the national regulatory authority has established.

4. What kind of experience are my customers crying out for, and will NGN help me address their needs?
The benefits of convergence are clear for operators in terms of cost reduction. More elusive, however, is the question of how close operators are to using NGN to match the experiences customers demand. For instance, deploying NGN access gateways and controllers needs to do more than just offer the same functionality over IP. The operator must understand the customers' needs—for quality of service, service level agreements, etc.—that NGN can address, identify its target segments, align its product offerings, and develop an appropriate channel strategy. Otherwise, it will acquire the wrong customers, increase churn, allocate resources to developing the wrong offers, and fail with its distribution strategy.

Understanding the customer environment and taking a customer-centric rather than a network-centric approach to the services from which customers will derive value, and deliver loyalty to their provider, are key. The introduction by BT of the Home Hub and by France Telecom of the Livebox are interesting steps in this direction, providing, as they do, a beachhead from which incumbents can reach out to their customers.

The BT Home Hub is an asymmetric digital subscriber line (ADSL) router with wired Ethernet, USB, and wireless 802.11b/g computer connections. Customers can connect up to five DECT handsets and use them to make voice over Internet protocol (VoIP) calls. There is also one fixed VoIP socket for connecting the current telephone to the BT Home Hub to make VoIP calls.

The Livebox is a combined wireless router and modem with a socket to plug a phone into to make cheaper VoIP calls. In July 2006, France Telecom inaugurated its Livebox Lab, an innovation nursery for Livebox and all its partners to assist with the blossoming of an open Livebox "ecosystem," in line with France Telecom's convergence strategy.

5. How old is my existing network and how mature is the replacement technology?
The age of the operator's network is critical to the speed of migration. If the operator has a significant subscriber base on analog or semi-digital technology, then migration through legacy digital technology makes little sense.

Even if the operator is fully digitized, vendors may no longer support the software and hardware releases. And migration to more recent TDM (time-division multiplexing) or NGN technology could be required for meeting regulatory requirements, such as number portability or carrier preselection. On the other hand, if an operator has deployed a modern network recently, migrating to NGN too early will lead to stranded assets and a significant write-down of network value.

Fixed networks have become very complicated, with the overlay of useful and redundant architectures alike. NGNs are designed to strip back complexity. Nevertheless, operators need to proceed with caution. Carrier-class NGN technology is not yet as stable as many vendors would like to make out, particularly Class 5 equipment that handles retail customer services, residential gateways, and, of course, the IP Multimedia Subsystem (IMS) platforms, which are still evolving.

Indeed, how operators align their IMS implementations with "Web 2.0" applications, or second-generation Internet-based services, is still a conundrum. Operators need to ensure that they are deploying proven technology, executing exhaustive lab tests before piloting, and building in a clear migration path so they have wiggle room later.

6. What state are my business processes in and the systems that underpin those processes?
Both the business and the operational support systems are core to the NGN environment. Operators now wish to deploy systems functionality that supports multiple services, e.g., a common billing system for all services rather than individual billing platforms dedicated to specific services.

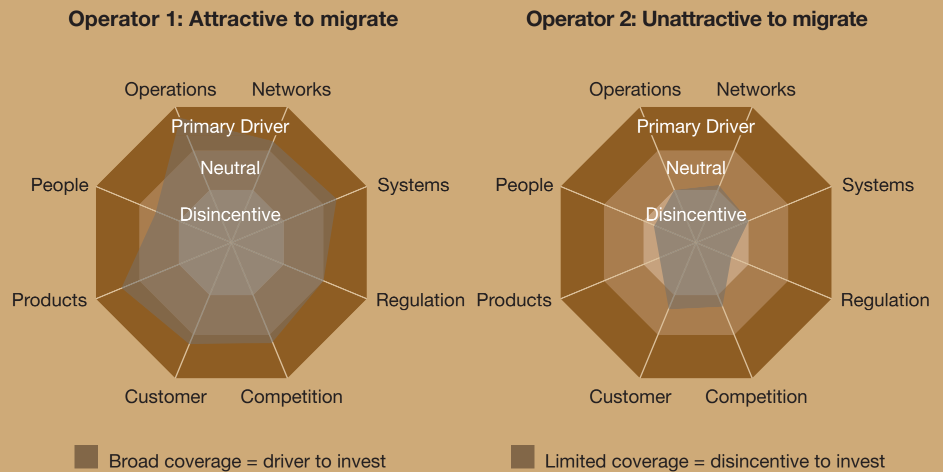
Along with the massive network and IT investment, operators face the daunting task of unpicking the crow's nest of overlapping, broken, or even nonexisting processes across product-based fiefdoms, in which each fiefdom has had its own way of doing things.

Realizing cost savings while enhancing the customer experience and ensuring a smooth transition requires a complete rethinking of the enterprise process model. Many operators are seeking to redefine enterprise processes along the lines of the Enhanced Telecom Operations Map, a business process framework developed by the TeleManagement Forum. If handled well, this approach could deliver:

- Better customer focus due to improved alignment of supporting processes and systems.
- Less requirement for opex due to slimming down of overlapping or broken processes.

PwC 8-dimensional NGN readiness model

PricewaterhouseCoopers has developed a model that tests an operator's readiness to embark on the deployment of NGN technologies. The two extreme cases below show the difference in the degree of urgency for two very different incumbent operators.



Operator 1: Attractive to migrate

- Balanced and clear regulatory environment
- Old network and systems technologies deployed from a broad variety of vendors
- Highly competitive market with many dissatisfied customers
- Inefficient operator: High ratio of employees to lines
- Clear product portfolio strategy and longer-term product road map
- Flexible organization and culture

Operator 2: Unattractive to migrate

- Unclear regulatory environment
- Relatively new technologies already deployed, based on solutions from a few vendors
- Low level of competition with limited customer expectations
- Efficient operator: Low ratio of employees to lines
- Unclear product portfolio strategy and limited product road map
- Rigid organization and culture

- A framework of key performance indicators that encourages continual improvement in performance.
- Agnostic business data on products and services that speeds up the deployment of new services.

The rate of change should be dictated by how fit for purpose the current systems architecture is and how costly it is to run.

7. Are my rivals driving me down the road to NGN transformation?
The degree of competitive rivalry drives how much additional functionality an operator needs to add to its infrastructure to grow ARPU (average revenue per user) and limit churn or how many costs it needs to strip out to sustain margins. For instance, if customers are migrating from fixed to cable, what attributes must the incumbent add to stop migration in its tracks? Based on current solutions, NGN as it stands in many cases may not be the answer unless an operator is able to extract enough costs that it can compete better on price.

8. What kinds of products can NGN really provide? Does it just offer more of the same, except over IP?
Operators need to be careful that NGN is not simply carrier-class voice delivered over a packet network. On the other hand, a lack of clarity remains around

services that operators will offer. Apart from the usual suspects, it is unclear where the additional revenue will come from. How many endless slide packs have we all seen that tout instant messaging, push-to-talk, and location-based services as the primary services?

Clarity concerning the shape and composition of the product portfolio, tailored for key market segments, can help operators get more from this network transition, spare capex, and provide a road map that guides the evolution of NGN.

Conclusion

Operators can use the benefits of NGN to reduce operating costs, decrease capital expenditures, and grow incremental revenue. Nevertheless, as the technology is still evolving, operators need to take a pragmatic approach to challenges:

- Focus on deploying technologies that can increase your scale while taking costs out of the business to become the lowest-cost provider. If you are unlikely to be able to attain the position of lowest-cost provider, then leverage yourself off the deployments of larger NGN players and seek to differentiate yourself through innovative services.
- Steer clear of the “half pregnant” approach to new technology deployment. Test new technologies in the lab, conduct pilot tests, and if they work, aggressively deploy them. If you don’t, you will just end up managing even more platforms than you did before.
- Clarify a common vision for NGN services across the business and then focus on exploiting any unique capability and specialist expertise the business has to offer to realize these services.
- Work through the impact of how massive transformation of the network affects the competitive environment and what the regulatory implications are.
- Make sure you have regulatory certainty before committing to huge investments that may end up serving less as your desired means of transformation than as a springboard for another operator to create value.

Failure to address these challenges before embarking on NGN transformation is equivalent to placing your shareholder’s money on red and just hoping for the best.

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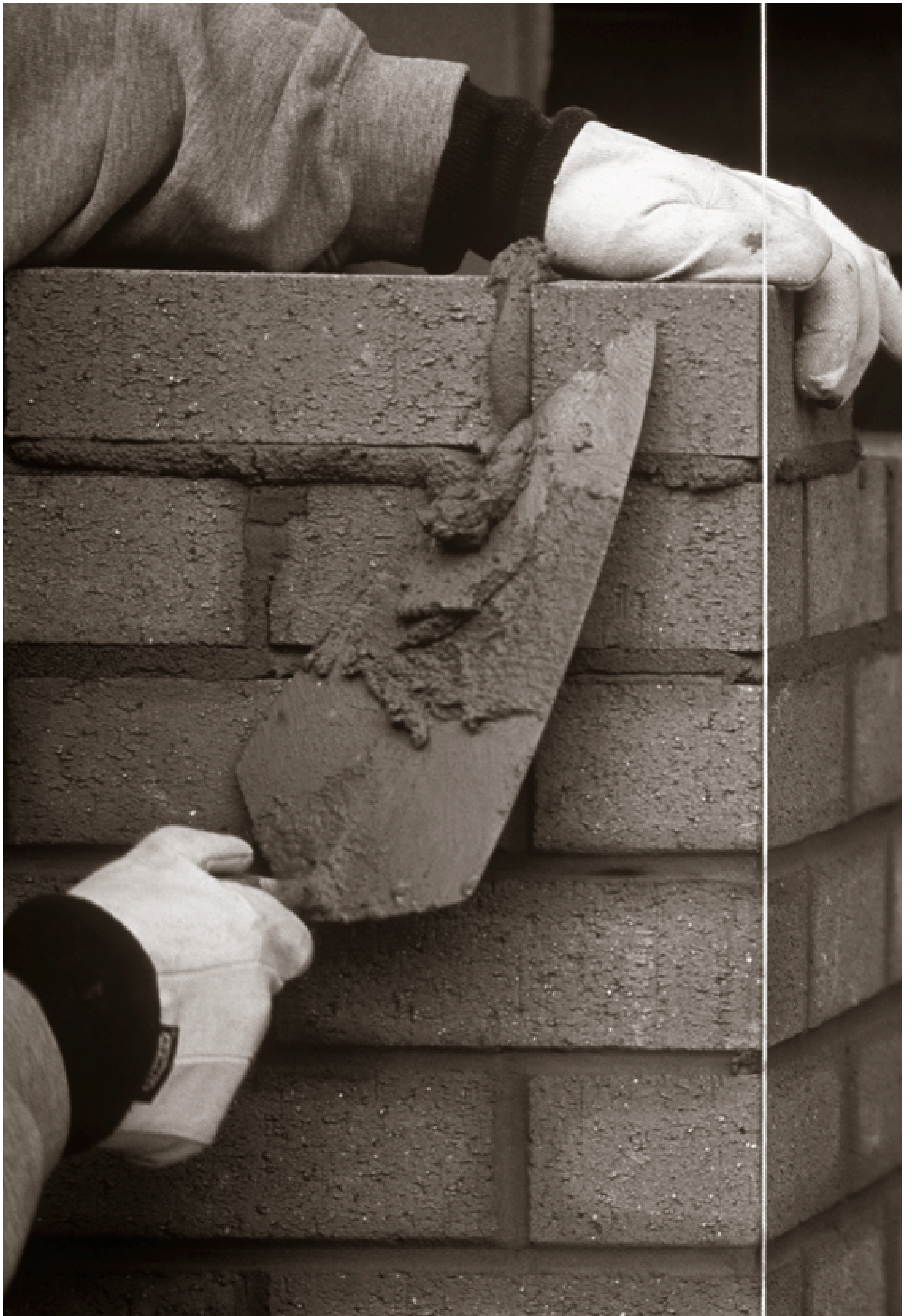


A Solid Defense

As communications companies face up to ongoing erosion in returns from their traditional business, they find themselves at a crossroads. For many, the way forward lies in charting a new strategic course as multiproduct entertainment and communications companies. As they embark on this journey, operators are signing deals with content owners—who, in turn, expect and demand that their content be safeguarded while it is on the network. For operators that traditionally have focused largely on transmitting voice and data, content represents both a huge opportunity and a challenging new responsibility. To respond effectively to each, communications companies need to look beyond the technology and focus on the key processes that will keep content secure.

by Quentin Orr and Steve Woolley

Picture the scene. Two established but historically very different communications companies—a European-based cable company and a traditional fixed-line telephone operator located in Asia—are each seeking the best way to transform their business for the future. Let's call them Operator A and Operator B. Both companies know that their future profitability and even viability depend on migrating successfully into the multi-product, content-rich entertainment and media services marketplace.

Operator A, the European cable provider, decides that speed to market is of the essence in getting into this fast-moving, new environment. So it sets out to develop new, content-based products and services rapidly on the basis of its legacy infra-structure, using a range of specialist, external technology vendors, consultants, and third-party content providers for help in bringing its new offerings to market as quickly as possible. Long-term strategic planning for content management, security, and standardization takes a back seat in the rush to roll out basic new services and grab first-mover advantage.

In contrast, Operator B—the Asia-based telephone operator—decides to leapfrog the competition by focusing on product differentiation, and to enter its local market with an emerging and largely untested IPTV (Internet protocol television) offering. Its plan is to use still-evolving, leading-edge technology to support sophisticated, content-rich services, while also trying to establish a framework for managing such longer-term issues as standardization and skills.

A tale of two operators?

Of those two contrasting approaches to the same market pressures, which one wins? Unfortunately, the answer to date is neither of them. Operator A has succeeded in coming to market, but with a range of services that users and analysts feel lack innovation and coherence. The company also has become heavily reliant on external vendors, and only now is starting to appreciate the longer-term security, operational, and skills challenges it faces in the content-rich world.

In contrast, Operator B has a firmer grasp of the longer-term issues. But the size and complexity of its initial product set, and delays in the development of the new IPTV software, have slowed down the process of bringing the new services to market. As a result, Operator B has found its IPTV services stuck at the pilot stage and has been forced to postpone its launch plans as it seeks to fix a series of complex technology issues.

Clearly, these hypothetical stories represent two extremes in operators' approaches to the new, content-rich world of media. However, while their approaches appear different, both companies ultimately came up against a common stumbling block. Both found that it is vital to focus on getting the key processes right—and not to rely purely on technology, whether new or legacy, to protect and control the valuable content flowing across their networks.

Indeed, the choice of approach to the multiproduct world has major implications for operators' future ability to maintain the security of content. Security is absolutely critical in sustaining the new service model built on that content.

The challenge of content

The difficulties both fictional operators faced reflect the fundamental challenge most communications companies face today. Traditionally, they have been engineering-based businesses, focused on maximizing the availability of their networks. Their culture and mind-set have centered largely on using technology as a tool to solve most of the operational problems they encounter. Now, as they move into the content world, the limitations of a technology-focused perspective are becoming apparent.

Operators need to address this issue as soon as possible because they are spending significant amounts of capital to build out their network and content management systems. As they do so, they know that the choices they make now will stay with them for many years to come. They also know that it will become prohibitively expensive to make significant changes to this infrastructure in later years, when the pressure to achieve and maintain profitability will be at its highest.

So, as they formulate their strategies as content distributors, operators need to ask themselves some key questions, including:

- What should we focus on now as we build out our networks for the future?
- What are the content management issues today?
- Do we have the right people and processes in place to manage this our-selves after our early dependence on technology vendors ends?
- Have we adjusted our policies and pro-cedures to guide decision making in a multiproduct environment?
- Is content security a key discussion point as we develop new systems and processes?

The answers will shape an operator's entire approach to acquiring, securing, and dis-tributing content. And the first base for any content strategy must be the ability to keep content secure. Without that, there is a real risk that the opportunities presented by the multiproduct world not only may be missed, but also may be subsumed by liabilities and disputes with content suppliers.

Operator/content dynamics

To chart the right path forward, it is first necessary to take a step back and examine the emerging dynamics of the relationship between operators and content owners—both of whom face daunting challenges to their business goals.

On the content side, content owners per-ceive real threats to their existing revenue models both from piracy and from the impact of ongoing changes in consumer behavior. The content owners do recog-nize they need to adapt to consumers' changing preferences. They also know that adapting will mean investing in inno-vations, such as making more content available for time-shifted viewing and making content more portable. Such shifts can be summed up as enabling consumers to watch what they want, when they want, and with whatever device they want. The revenue opportuni-ties presented by such a model are exciting but fraught with uncertainties.

On the other side, distributors—initially cable companies but, increasingly, operators as well—have invested heavily in infrastructure that is technologically capable of carrying rich content, and that provides the potential for considerable and growing cash flow. The bottom line is that they want to gain access to as much high-quality content as possible for distribution, and to pay content owners as little as they reasonably can. The problem for most communications companies is that their existing back-office infrastructure, even where it is now stable, is immature with respect to protecting content.

So, there are clear competitive tensions in the market. What is more, there is a risk of those tensions continuing to hinder the availability of digital content, due largely to divergent viewpoints on either side. On the content owners' side, many have neither encoded their entire catalog for digital distribution nor negotiated digital distribution rights for their content. Their initial reluctance and cautious approach to digital distribution more readily reflects the fact that, despite repeated attempts, they have not agreed with the distributors on a mutually satisfactory revenue-sharing model.

Movie studios, specifically, are also fully aware that the threat of piracy has undergone a step-change from "linear" mechanical copying of VHS tapes to "viral" sharing of digital files over the Internet. Yet studios are skeptical of the ability of distributors to protect their digital content from piracy by both consumers and, to a lesser degree, employees. Fanning the flames of content owners' fears about piracy is their own inability to protect their content even before they release it to movie theaters.

Operators face equally challenging issues on the distribution side. The technology for the digital distribution of content is immature, particularly in terms of the lack of end-to-end *de facto* industry standards for either digital rights management or encryption. As a result, operators cannot easily demonstrate the level of due care needed to allay the fears of the content owners. Content owners simply will not accept operators promising to protect the content, but not agreeing to be held to any standards or audits. And, as content deals and partnerships become more extensive, the potential liabilities from failures in content security could be very heavy indeed for operators—possibly even crippling their businesses financially.

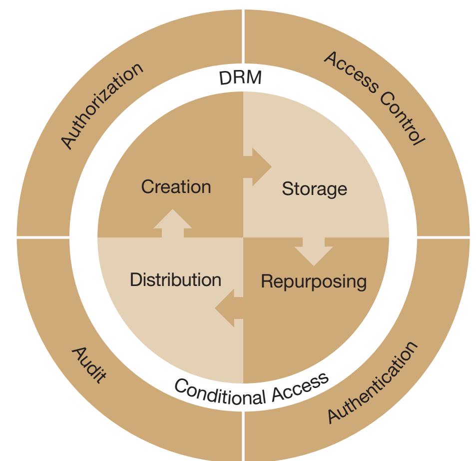
Looking beyond technology

In such circumstances, it is clear that rolling out services and technology like video on demand in a hurried manner, and without a lot of advanced thought on controls, monitoring, and reporting, is both shortsighted and highly risky. To position themselves for success in the multiproduct future, operators must look beyond the technology aspects and focus strongly on embedding the right processes and people—both of which are equally critical to the successful protection and security of third-party content. To gain focus, operators should step back from current operations and ask themselves the following questions, which might highlight the tell-tale signs of exposure:

- Do you have policies in place to address how people gain access to content?
- Do you have a framework in place to identify and manage the risks of content security?
- Do you have decentralized organizations that operate differently, by differing rules and management philosophies?
- Do you monitor the movement of content throughout your organization to quickly identify unusual patterns?
- Are you highly dependent on third-party technology vendors to support your systems? If so, do you have processes in place to monitor what they are doing on your systems?
- In the event of an incident, do you have processes in place to enable you to understand what happened and identify your vulnerabilities?
- Do you have technology architecture standards that dictate the methods and configurations for deploying new supporting technology in your environment?

As we have already pointed out, given their history as infrastructure players, this holistic perspective requires a change of mind-set and culture for traditionally engineering-based operators. They now must become adept at the entire content management and distribution life cycle, ensuring that they know at every stage exactly where the digital content is, who has access to it, and for what purpose.

Figure 1: Recommended content security framework



Operators must put a framework in place that supports digital rights management (DRM), and that enables them to understand the risks surrounding content and develop the capabilities and processes to mitigate those risks.

A typical framework for content security is illustrated in Figure 1. As the graphic suggests, establishing this control requires operators to understand their risks and develop a number of capabilities and specific processes to mitigate those risks. Processes might include formal authorization processes before employees or business partners are given access to content; two-factor authentication methods to get access to high-value content; continual monitoring of content management systems; and pressuring technology vendors to build the best available security into their applications before they go live. With respect to individuals' capabilities, whether an operator has a linear video or a fixed telephone line heritage, many of its people may need training to understand the new challenges associated with a network-based content management and delivery system.

On a higher level, establishing control means operators must avoid becoming

overly reliant on the promises and hype surrounding the claimed benefits that technology can deliver for their business. It means accepting that technology merely facilitates effective content security—and that, for technology to fulfill this role, the operator first must have the processes, operations, and people in place to make use of the right technology tools. Such processes include proper authorization and auditing, supported by technology that can provide authentication and access control, to allow content to move through the organization in a controlled manner. And, establishing control means operators being ready and willing to submit themselves to the scrutiny of content partners who demand hard evidence that their assets are secure.

As operators strive to achieve content security, a further hurdle for many of them lies in the disparity and relative lack of connectivity among their existing systems. This situation, which mirrors that in many cable companies, tends to encourage bolting on various systems, including content management and security, as additional solutions. Again, this approach can hinder the ability to take a holistic perspective and it raises the risk of directing insufficient attention to and investment in the checks, balances, and governance processes needed for effective content security.

Models to follow

As communications companies implement their strategies into operations, what models or templates might they choose to follow? One useful starting point may be to examine how the major movie studios have tackled the issues of content security and piracy by building specific specialist capabilities.

Most of the leading studios have established expert teams that focus exclusively on content security and processes, and that most often operate independently of the traditional mainstream IT department. As operators and other digital distributors handle greater and greater volumes of high-value content, and do so increasingly in real time, we believe they should consider developing dedicated capabilities of this kind internally. By concentrating solely on protecting content, rather than that being one responsibility among others, such teams avoid the distractions and lack of clear lines of accountability that can hamper an operator's performance in this area.

In assembling a team, operators should aim for a combination of technical and business skills. The head of a team would need to interface internally with product development and engineering teams as well as externally with content owners, technology vendors, and their attorneys. For the business skills, it might be helpful to look outside the organization to other industries more familiar with content negotiations and usage rights and obligations. For the technical capabilities, it may be possible to find the right individuals within the existing engineering or IT security functions, provided they do not carry any pride of ownership over the existing systems and processes. We suggest starting small with a team of two to three people and expanding as the volume, value, and various types of content increase.

A rigorous, focused approach will become all the more valuable over the coming years, as joint ventures, collaborative partnerships, and information sharing between operators and content providers continue to increase in number, scope, and complexity. Such arrangements often involve sharing or transmitting content among multiple partners, networks, entities, and teams—creating security risks and vulnerabilities at every hand-over point, as well as in the end-user distribution arena. In this kind of environment, the value of an effective process for monitoring and tracking content will truly come to the fore. And, as we have already pointed out, the contractual liabilities for a security failure could be onerous.

No silver bullet

For today's operators, the overall messages are clear. Content security is critical to operators' business models as future multiproduct providers. And while technology plays a key role in operators' content security, it is just one element among many. In other words, technology is not a silver bullet for content protection—and to think otherwise is not just misguided, but dangerous. The need to focus on processes is all the more critical for operators that possess, as many do, a disparate and largely unintegrated legacy IT architecture. In these circumstances, the only way to pull together all the strands, short of replacing complete systems, is through robust, overarching processes and controls.

However, operators must balance the need for processes with commercial time pressures. Upon deciding to enter the multiproduct content space, they need to move as quickly as possible. With this in mind, operators tackling content security must focus on doing so at high speed while also ensuring effective and comprehensive execution. Also, given the shifting and evolving threats to content security resulting from the rollout of broadband IP and increasing consumer empowerment, operators should constantly review and fine-tune their overall approach and specific processes to ensure that they remain fit for purpose.

Digital content opens up new vistas of opportunity for operators—but also brings risks and responsibilities that lie outside the traditional scope of their business and capabilities. Technology is part of the answer. But unless the right processes and governance are in place as well, an operator that embarks on the digital journey risks far more than it needs to.

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The Benefits of Conformity

As communications companies across Asia Pacific continue down the path of transition to International Financial Reporting Standards (IFRS), they face the same wide array of opportunities and challenges as other operators. On the plus side, they can learn from the prior experience of their counterparts elsewhere that have already made the transition. On the downside, they must cope with a regional environment where the move to IFRS and the convergence of standards are progressing at varying speeds, and where interpretation and application continue to differ from market to market. However, Asia-Pacific operators that determine to go beyond mere compliance, and that succeed in using their IFRS transition as an opportunity for transforming their financial reporting processes, controls, and governance, stand to reap substantial benefits in both the competitive environment and capital markets.

by Chee Kheong Poh Lim, Kevin Stevenson, and Andrew Parker

The Asia-Pacific region comprises countries at varying stages of economic development, and with significant cultural and historical differences among them. This diversity, however, has not prevented the move to adopt or allow International Financial Reporting Standards (IFRS) from gathering pace. The shift to the new standards is now well under way in most territories.

Countries and operators across Asia Pacific vary widely, both in their approach to IFRS and in how far they have travelled down the road toward adoption. Operators such as Telstra in Australia, Hutchison Telecom in Hong Kong SAR, Telecom New Zealand in New Zealand, and SingTel in Singapore have already reported IFRS-equivalent year-end information to their investors and stakeholders. So have the main Chinese operators who currently report under Hong Kong generally accepted accounting principles (GAAP). The Philippines have already harmonized their standards with IFRS. China and Indonesia have plans to do so by 2007 and 2008, respectively. And Malaysia, Korea, Taiwan, and Thailand are all in the process of converting their accounting standards to IFRS, although no specific timetables for completion have been determined.

Operators in some other countries—notably Japan and India—will have more time to get ready for IFRS since no road map has yet been drawn up for the transition.

The variations in approach and adoption raise particular challenges for the region's communications companies and investors. Not least among them are the challenges of understanding IFRS as it is applied globally (and not just as it is documented in regulatory and corporate pronouncements), mapping out the right strategies for transitioning to IFRS, and resolving the specific accounting issues that are confronting (and will continue to confront) many operators during and beyond the transition.

While, clearly, operators making the transition will need to develop IFRS-compliant systems and processes, there are considerable opportunities for exploring potential synergies and savings through initiatives such as streamlining existing reporting processes and minimizing the need for manual intervention. Crucially, the operators likely to experience the greatest benefits from the change to IFRS are those that approach it as an opportunity to position themselves for future success, rather than as an exercise in complying with externally imposed IFRS reporting deadlines.

Creating competitive edge

This likely premium for going beyond compliance reflects the fact that, going forward, the quality, clarity, and credibility of IFRS reporting and disclosures could well become a competitive advantage, with implications for share prices and costs of capital. The likelihood of this was borne out by the PricewaterhouseCoopers/Ipsos MORI survey of fund managers in the United Kingdom, published in June 2006. Two-thirds of the 75 fund managers surveyed said they found the detailed financial accounts "very" or "fairly" useful, and one-third said they had actually changed their investment decisions as a result of IFRS information.

Interestingly, these findings among fund managers appear to contrast with a separate UK survey of senior finance executives in 93 of the London Stock Exchange's FTSE 350 companies, published by PricewaterhouseCoopers/Ipsos just one month later, in July 2006. Only one in five of the executives interviewed believed IFRS would be useful to fund managers and analysts. A mere 11% thought that conversion to IFRS had resulted in a "very" or "fairly" significant impact on the way shareholders and market analysts viewed the performance of their company.

This marked difference in viewpoint seems to reflect investors' perception that strong and immediate benefits will flow from the increased disclosures and pan-European or even global comparability under IFRS. Companies, on the other hand, may have been so preoccupied with bearing the costs—both human and financial—of the conversion process that few have been able to focus on the possible direct benefits in the short term.

Taken together, these findings suggest a substantial and possibly urgent need for a facilitated dialogue between the preparers and the users of accounts. This is especially the case since some 85% of the respondents to the executive survey noted how their company had found it more difficult to explain their results under IFRS. The survey respondents also agreed that further efforts would be required to improve levels of IFRS knowledge among senior executives. Although audit committees were generally seen as relatively knowledgeable about IFRS, chief executives and the board as a whole were seen as having room for improvement.

Moving from "project" to "business as usual"

What are the implications of these findings for communications companies in the Asia-Pacific region? To assess this question, the first step is to establish the current state. Many of the region's operators have already raced for, or completed, their first year-end close. To meet the prescribed deadlines, a number of operators have had to generate some IFRS numbers outside their normal reporting systems, often relying heavily on tactical "fixes" such as spreadsheet reconciliations. Short-term fixes of this type can be difficult and time-consuming to repeat, and may well increase the risk of human error.

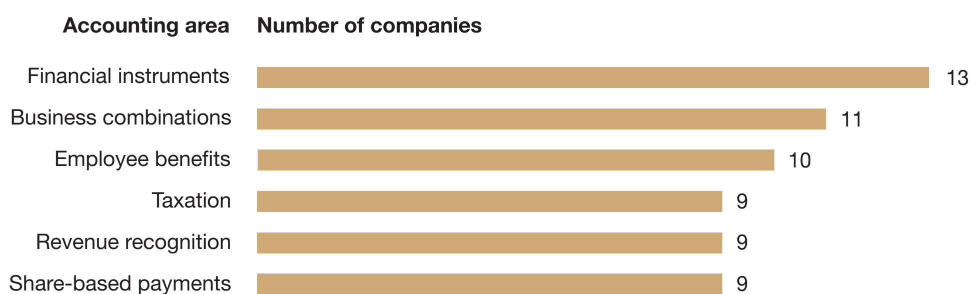
To become truly effective, the changes need to be embedded. Otherwise, the reporting processes can become unsustainable, and the risk of control deficiencies and material errors may increase, especially in the complex areas of accounting that are often involved *(see Figure 1).*

Though many Asia-Pacific entities do not need to comply with the requirements of the Sarbanes-Oxley Act in the United States, it is very evident that the accent on having proper processes underpinning financial reporting is being widely felt. The issue of interpretation discussed later in this article and this increased emphasis on controlled processes are closely related, as is the issue of strategically managing the transition to IFRS by embedding it in management systems. A survey in the US of Securities and Exchange Commission (SEC) filings up to the end of September 2006 shows that the telecommunications industry continues to have the highest proportion of adverse Section 404 opinions of any industry group. Underlining our point is the fact that the most commonly identified material weaknesses involved inadequate accounting documentation and procedures, incidences of material and/or numerous year-end adjustments, and restatements.

Given this background, the key challenge is to manage the reporting processes so as to provide timely and reliable information without a special IFRS project team, thereby turning IFRS from a distinct program or project into "business as usual." To do this, the company needs to put in place systems, processes, and teams capable of responding speedily and decisively to the rapidly changing financial reporting landscape.

Aside from embedding IFRS in business as usual, a further challenge that operators in Asia Pacific face is how to consistently

Figure 1: Home country GAAP to IFRS transition adjustments



In a survey of recent financial reports of 13 major communications companies based outside the US, PricewaterhouseCoopers found that the most common local GAAP to IFRS transition adjustments occurred in six complex accounting areas.

interpret the standards—an issue that the regulators charged with checking compliance also face. Organizations of all kinds are now coming to appreciate that the move to principles-based accounting standards under IFRS gives rise to many questions that need to be answered in specific areas of application. It is no longer satisfactory for a company simply to arrive at an answer from its own experiences. Instead, entities today need hard, verifiable assurance that their answers and approach are defensible in the light of global practice, and that they are consistently applied.

This requirement implies a need for consultation and process. IFRS has come an enormous distance in a relatively short period of time. The convergence of standards and alternative interpretations on a global scale can be expected to take some time, and may well take longer than the initial transition to IFRS has taken to date. Some of the more important areas where divergent views and practices exist are covered below. While the IFRS community—preparers, regulators, standard setters, and the accounting/auditing profession—continues to work toward a consistent set of global interpretations, management must take responsibility for ensuring that their company's accounting policies continue to reflect sound business practices.

Although compliance with the standards has to be achieved, companies should not assume that consistency necessarily means identical application or interpretation of IFRS. Equally important is that IFRS reporting be consistent internally, which helps ensure that new accounting practices form an integral part of everyday activities and that sound IFRS reporting is achieved efficiently and effectively.

In the absence of specific guidance in certain areas, operators—especially foreign private issuers registered in the US with the SEC—have a clear desire to minimize the number of reconciling items under US GAAP. To do this, they may consider turning to US GAAP guidance, to the extent that it does not conflict with IFRS. For example, in the area of revenue recognition, it is widely acknowledged that US GAAP offers extensive guidance that can be usefully adapted for application under IFRS.

Drawing on such guidance may offer an easier route to IFRS compliance. The potential downside, however, is that offsetting uncertainties by reference to rules may prove self-defeating in the move to principles-based financial reporting.

Guidance and regulation

As IFRS is rolled out, the aim is for national guidance on IFRS to be kept to a minimum. Instead, views and priorities are to be fed to the International Financial Reporting Interpretations Committee of the International Accounting Standards Board (IASB) to develop a clear consensus on international interpretations. This approach stems from the expectation that the principles underlying a particular set of facts and circumstances will almost always have a parallel application in other countries.

In moving toward a consensus, the standard-setting bodies must perform a fine balancing act. On the one hand is a need to avoid a plethora of interpretations emerging from various bodies. On the other is a need to recognize that the commercial substance of apparently similar transactions can and does vary among markets and operators.

Regulators are expected to weigh in with their views. But they also must recognize the benefits of working closely together to reinforce the credibility of IFRS, and to achieve convergence toward high-quality global accounting standards that will ensure the providing of transparent, comparable information in general purpose financial reports.

One positive development in that regard is the move by the International Organization of Securities Commissions (IOSCO) to maximize coordination and convergence, and thereby to facilitate consistency, by establishing a system for participating IOSCO members and other independent enforcement organizations to consult and share information. But whatever approaches and structures are used, in the final analysis it is in the interests of all parties—preparers, auditors, and regulators—to do what they can to ensure the robust and internationally consistent application of IFRS.

Specific accounting issues

Achieving a single set of high-quality, understandable, and enforceable global accounting standards—with the aim of overcoming the costs and inefficiencies that stem from differences in accounting methods—is the "holy grail" of accounting.

Beyond issues of general IFRS guidance and regulation, experience elsewhere suggests that operators in Asia are also likely to face a number of specific issues concerning their accounting approach and treatment. Driving some of the issues is the ongoing process of convergence between accounting standards. Driving others is the need to handle rapid and continuing change in the industry, change that ranges across new product lines, revenue streams, billing methods, business combinations, and so on.

In terms of accounting issues resulting from convergence of standards, a significant development occurred in February 2006. The IASB and the US Financial Accounting Standards Board (FASB) established a 2006–2008 road map for convergence between IFRS and US GAAP. In publishing the road map, both the IASB and the FASB re-affirmed their shared commitment to enhancing consistency, comparability, and efficiency in global capital markets. The main points of the road map and underlying agreement are shown in the box on page 36 and Figure 2 on page 37.

Many of our clients are questioning not only the technical reporting challenges that the new standards present, but also the broader overarching issues. Most notable is the perception that IFRS has complicated their home country accounting. Although it is easy to attribute increased

The IASB/FASB road map

Based on the road map the two organizations published in February 2006, the IASB and the FASB agreed to:

- Work toward a conclusion by 2008 about whether major differences in certain areas (listed below) should be eliminated through one or more short-term, standard-setting projects. If so, they will complete or substantially complete work in:
  - Fair value option
  - Borrowing costs
  - Government grants
  - Joint ventures
  - Segment reporting
  - Impairment
  - Income tax
  - Investment properties
  - Research and development
  - Subsequent events
- Undertake and make significant progress on joint projects by 2008 in topics regarded as candidates for improvement, potentially including:
  - Business combinations
  - Consolidation
  - Fair value measurement guidance
  - Liabilities and equities distinction
  - Performance reporting
  - Post-retirement benefits (including pensions)
  - Revenue recognition
  - Derecognition
  - Financial instruments (replacement of existing standards)
  - Intangible assets
  - Leases

complexity to the new accounting framework, being aware that, in most cases, the standards reflect our current business environment is important. This is especially true for the communications industry.

A wide range of accounting issues arises from the need to transition to IFRS while dealing with rapid, sweeping industry changes. The tremendous upheavals undergone by communications companies, both in the Asia-Pacific region and globally, are reshaping the industry. The need for flexible and durable systems and reporting processes capable of adapting to change is likely to become more pressing. How to ensure that the increasingly complex transactions and arrangements seen in the industry comply with IFRS will continue to be a challenge—as today's complex transactions mean simple accounting answers are a thing of the past.

Following is a summary of the interplay among six major industry changes currently under way and their implications for accounting.

Business combinations. As communications companies search for new markets, new areas of growth, and new business opportunities, they will find that traditional competitors may morph into valuable allies and new partnerships may be formed with start-up entrants. Assets—and even customers—may have to be shared, and mergers and acquisitions (M&A) may surge, allowing fewer but stronger companies to emerge.

IFRS has introduced sweeping changes to the way business combinations are accounted for, and these changes have potentially profound ramifications for financial reporting. For example, more intangible assets are expected to be separately identified and recognized—and the task of determining and explaining "fair values" for them will pose a significant challenge to operators engaged in M&A activities.

The ability to report post-acquisition improvements can be built up only through management actions to integrate the acquired entity and extract cost and revenue synergies, bringing into sharp focus the underlying quality of the M&A deals undertaken by those operators. Some of the more common intangibles to arise in a business combination are licenses and customer-related intangibles such as contracts and customer lists. Each of those poses its own challenges in arriving at fair value and requires careful consideration of the most appropriate valuation technique to apply.

Impairment. The ongoing erosion of communications companies' traditional core voice businesses may well accelerate. Areas that have already been especially hard hit include fixed-line revenues, with tumbling long-distance prices and flat-rate mobile phone plans lowering per-minute charges; and revenues further whittled away by innovative IP-based services and continued mobile subscriber growth. As such trends continue, impairment reviews of acquired goodwill, intangible assets, and other tangible assets will become an established and regular procedure for many operators.

Never have consumers and businesses pushed so hard and so fast to accelerate and incorporate technological changes into the services they buy. To keep up with this demand, operators are being forced to venture into unexplored territory where they face an uncertain return on their considerable investments. One effect of the longer return horizons on investments may be that a higher proportion of value will be realized in the later years. This may involve the use of projections based on forecasts in excess of five years in impairment testing of assets—an approach that will need to be justified in a robust and explicit way under IFRS.

At the same time, many of the long-standing, virtual walls within operators are being eliminated as they experiment with new business models, blurring the distinctions between their traditional businesses. As a result, it is becoming even harder to establish what constitutes a cash-generating unit in impairment testing of acquired goodwill and intangible and tangible assets for accounting purposes. How a cash-generating unit is defined can also affect what is shown as a "discontinued operation" when a business is disposed of. Operators will need to revisit their approach to this issue when they change the way they generate cash flows or monitor their businesses. Early consideration of the potential implications of strategic business decisions is essential in avoiding unexpected outcomes or surprises.

Restructuring and structured solutions. Communications companies are under continuing pressure to enhance their financial performance and improve their bottom line by driving down the costs associated with network access, provisioning, remediation, maintenance, and service. To achieve this, they may extend their use of outsourcing from traditional functions, such as customer care and data inputting, into complete service solutions. Outsourcing may involve the service provider's taking on an increasing proportion of an operator's businesses or operations, including such areas as network management and maintenance.

Outsourcing arrangements of these types are often complex and multifaceted, with a series of related transactions involving the use of assets in combination with the provision of the related services. The way these arrangements are separated into their individual components to be accounted

for can significantly affect the operator's reported results. For example, such arrangements may contain leases that are required to be separated from other elements in the arrangements.

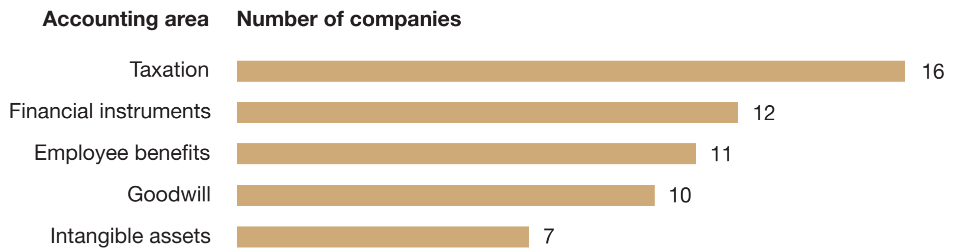
Revenue recognition. The consumption of communications services has continued to grow rapidly in recent years, but downward price pressures exerted both by traditional and nontraditional rivals have prevented profits from doing the same. Customers continue to clamor for more, better, and better-integrated products. Operators are scrambling to evolve new business models based on offering advanced and value-added services. The key accounting issue includes whether the services can be technically and commercially separated and, if so, whether the fair values can be reliably determined.

With the ongoing upheaval in the content, distribution, and technology sectors, communications companies can be expected to seek to own—or at least to secure continuous access to—valuable content in order to meet the needs of consumers. Given the lower-than-expected demand for wireless data services, such as video calling and video downloads, companies are under increasing pressures to demonstrate how data services can be their main driver of earnings growth.

Historically, the local legal structure might have governed the principal/agent relationships between content companies and operations, leading to operators accounting for revenue on a gross basis rather than net. The appropriate revenue recognition treatment under IFRS needs to be considered in light of the individual circumstances but can often lead to net presentations.

Intangible assets. Communications companies know they have to spend money to make money. This awareness reflects the fact that intense price wars, rapid technology shifts, and an uncertain regulatory environment have made it difficult to attract customers—and even harder to retain them. Historically, some operators may have deferred handset subsidies and other customer acquisition and retention costs based on the contracted period. As competition intensifies, operators might find themselves practically unable to or unwilling to enforce their contracts, making it debatable whether such costs can be carried forward.

Figure 2: IFRS/US GAAP reconciling items



Some of the IASB/FASB road map items could have a potentially major impact on how communications companies must carry out accounting. In a survey of recent financial reports of 16 major communications companies based outside the US, PricewaterhouseCoopers found that the most common local GAAP (predominantly IFRS) to US GAAP reconciling items occurred in five specific accounting areas.

Emerging from the hangover of high up-front fees for 3G licenses (especially in Europe), and realizing that 3G is unlikely to be an immediate and major source of growth for most carriers, the authorities responsible for the licensing of radio frequency spectrum in most countries are now proceeding more cautiously with their licensing regime. Companies may own the rights to use and operate specified spectrums over a period of time through a combination of up-front fees and periodic minimum fees plus a variable portion (often to be determined on the basis of future revenues from the services). The complexity of these arrangements presents real challenges when it comes to measuring the initial asset to be recorded at acquisition, and the corresponding liability for future payments.

Depreciation and useful lives. Across the content, distribution, and technology sectors, convergence is now emerging as the predominant industry dynamic. The move to triple-play services is putting operators under intense pressures to rapidly upgrade to systems that can price, provide, and bill new voice, video, and data offerings. The increasing pace of technological change requires regular monitoring of the estimated useful lives of assets.

Pushing beyond traditional boundaries

As the communications industry, in Asia Pacific and worldwide, continues to undergo a sweeping transformation, operators need to be strategically flexible and vigilant in monitoring, anticipating, and responding to relevant shifts in the marketplace. The relentless pace of industry change—coupled with the evolution of an internationally consistent understanding of IFRS and the convergence between IFRS and US GAAP—can be expected to place a fierce strain on operators' current reporting systems, processes, and teams. Operators need to have in place financial reporting capabilities that can respond effectively to this environment. Otherwise, they will end up facing problems that extend far beyond the realm of financial reporting, ultimately affecting every stakeholder in the business.

The good news is that the IASB, having recognized that companies are still finding the transition to IFRS challenging, recently announced that no new standards will be effective until 2009. Although the IASB will continue to develop, amend, and potentially issue new standards and interpretations, adoption won't be mandatory until 2009. This comes as a relief to our clients, many of whom will spend the next few years of stability coming to grips with the standards currently in place.

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Perspectives

Cable operators are rapidly moving away from purely delivering television and movie channels to customers. They are shaking up the communications and media markets around the globe as they seek to improve their financial and operational performance by delivering broadband voice and data applications, owning and distributing unique and exclusive content, and becoming the provider of choice to more consumers.

In the following interviews, we hear from executives at three cable companies that represent differing markets and stages of evolution. Their opinions and outlooks offer some interesting insights as to where this market is headed.

An Interview with Steve Burke, Comcast Cable

Comcast Cable is the largest provider of cable services in the United States and one of the world's leading communications companies. The company offers digital voice, video, and data services and develops and delivers innovative programming. Here, Steve Burke, Comcast's COO and president, talks about the reality of competition with telcos, the importance of customer service, and how triple-play services and content will drive the company's growth.

Communications Review: Competition in the communications market is very intense. With traditional and nontraditional operators offering similar services—video, broadband, voice, mobile—boundaries are being blurred. Who do you see as your main competitors right now?

Burke: The cable industry in the United States has had robust competition from satellite for more than 10 years. EchoStar and DirecTV, in particular, are two well-financed, aggressive competitors of ours. What is new in the United States is the impending entrance into the market of the big regional telephone companies. The good news is we have some advantages that I think are going to prove to be beneficial over the next five years.

The first advantage is that in virtually all of our markets—we pass 45 million homes—we can offer the triple play of video, voice, and data. Our competition can offer all three products only to a very small number of homes in our markets. Specifically, fewer than a million of the homes that we currently pass can get all three products from a competitor. And it's going to take the regional Bell companies, in our estimation, a long time before they are in a position to do what we can do already.

The second reason why we are excited about the triple play is that offering all three products over the same infrastructure, installed by the same person with one consolidated bill, and doing it all for a very attractive price is a better value for our customers than buying it on an *a la carte* basis would be. Also, we can deliver very efficiently over a pipe that we have already invested in, we use our existing technical workforce, etc. So the triple play is what has really changed the US cable business over the last year or so.

Cable companies used to grow about 10% per year, and now most cable companies are growing up to 15% per year. When we were in the video business, we struggled to maintain the same number of subscribers every year. Now we are in a position where we are gaining a lot of telephone customers. This year we will gain about 1.5 million telephone customers and 1.5 million high-speed data customers, and our total customer accounts should grow because we are doing this. So we look at the next five years as a chance for us to gain significant market share. That's not to say Verizon and AT&T won't take some of our video customers, but we think we will take a lot more of their phone customers.

The triple play is going to fuel all three of our businesses in a way that our competition can't really match in most of our footprint.

Communications Review: Competition in the US market is characterized as head-to-head across all of these markets and equal footing from a technology perspective. Is this the reality?

Burke: I think that a year ago people expected head-to-head competition everywhere, immediately. I think they ignored the challenges the Bells are going to have as they enter the video business, and they ignored the head start we have in getting into the phone business.

I believe that has changed now, although a lot of people still assume that the Bells are closer to having video than they are. There are two strategies. One is a strategy Verizon has that involves building out fiber. They are building out three million homes a year, so it's going to take them a long time to grow. Right now, they have five to six million homes to which they can offer FiOS [fiber optic service], or really high-speed Internet, immediately.

AT&T, BellSouth, and everyone else are using a technology called IPTV [Internet protocol television], which no one in the US has deployed at scale. IPTV has a lot of technical challenges, particularly in a country like the US where there are long geographies, large distances. The twisted pair, which has been around for over a hundred years, was designed for a point-to-point phone call—not for delivering TV.

It's not unreasonable to assume that over the next four or five years we will get 20% telephony penetration—which will be nine million customers of our 45 million homes. If we get 10 or 20 times as many telephone customers as the regional Bell companies get of our video customers, then it's all going to be positive.

In this process, what we are really trying to do is gain not only market share but also customers who have our Internet service, phone service, and video service. They have their e-mail address, their telephone number, and everything they do regarding video with us. Once we get customers buying all three products, they are much less likely to leave.

Communications Review: Are you finding that churn rates are increasing in areas where the telcos have built fiber?

Burke: In terms of video, there are fewer than one million homes in our footprint to which the telephone companies could offer video. In these areas, we don't think the telephone companies have a significant number of subscribers. So, right now, video is not a relevant question. In terms of high-speed Internet, they do have some customers but a small number in comparison. We have 10 million high-speed data customers in our footprint, and they have fewer than 100,000 of our high-speed data customers.

A reality for us is that we have had head-to-head video competition with DirecTV and EchoStar for 10 years. Based on our experience and our thinking, when you have one supplier of a service, some percentage of the market—15%, 20%, 25%—will do anything to get a second supplier. Compared to our 10 or 15 years of competition from the satellite companies, the regional Bell companies had no competition for phone services until the cable companies showed up. We think it's been much easier for us because we are the second entrant into the phone business and the phone companies are the third or fourth entrants into the video business.

Communications Review: Can you talk a little bit about customer relationships and the role they play in competition?

Burke: That's our biggest challenge. Ten years ago, a cable company had only one product—analog cable—and at the time people would pay $20 a month to get 40 or 60 channels of TV. Today, the majority of our customers pay us more than $80 a month and many pay us $120 to $125 per month; inevitably, people's service expectations are greater when they pay that much money.

We have 70,000 employees in the Cable Division, and we are growing revenue-generating units at a rate of 15% to 20%

a year. Every 18 months or so, we are introducing a new line of business. It's very hard to manage that growth and improve our service when we have a lot of employees who grew up in an environment where service wasn't as important as it is today.

How do we manage the growth, how do we stay competitive, and how do we keep our service or improve our service in the process? It's almost tempting to slow down and just concentrate on service, but our feeling is that we have a window here and we need to be aggressive on units while trying to improve the service at the same time.

Communications Review: Where is the next growth opportunity for Comcast?

Burke: One of the wonderful aspects of the cable business is that for the last 10 years there have been new growth initiatives. The business never has slowed down. We've had 24 consecutive quarters of double-digit growth. A lot of the growth for the last 10 quarters has been digital and high-speed data. We see the commercial, or corporate customer, segment as the next growth engine; it is bigger than our existing residential business. If we get 20% or 25% of that segment, that will be a great driver of growth.

We think that, if you look at our footprint, about $20 billion worth of commercial business is done in the areas we serve. Somewhere around 70% of it is from small and medium-sized businesses, which we think are a better target for us because we have fiber very close to a lot of those businesses. Trying to compete to replace the regional Bell companies as the telephone provider at General Motors or IBM would be costly. That doesn't mean we won't do some large corporate business along the way, but it isn't our first target market.

In addition to the triple play, the second strategy we've been pursuing for a long time is to make sure that each of our three products is differentiated and is as good as or better than the competition. For instance, 10 years ago, satellite offered more channels and better picture quality than we did. Now that we've rolled out digital ubiquitously and are making changes to our infrastructure, we have as many channels as satellite does. But we also have something that satellite doesn't have: video on demand. We are trying to be innovative with digital video recorders and high definition.

We are doing the same thing with high-speed data, where, in most markets, you can get DSL for a cheaper price, but we offer more speed. We have maintained a 50% market share with higher average revenue per subscriber because we offer progressively faster speeds.

The third strategy is to pursue converged services that offer the ability, once you have a triple play, to do things that cross all three products. The easiest example would be caller ID on your television set. Another example is accessing your voice mail via your high-speed data connection on your computer. We are trying to do more of those things that will give the consumer an innovative product and also encourage people to take all three products from us.

Communications Review: How does Comcast differentiate itself?

Burke: Right now, our biggest differentiation is that we can offer all three products and our competition can't. You want to make sure that you differentiate, I think, in terms of what products you offer. Our ability to localize our products is also a differentiation, and some of that is manifested through our channels. We try to do whatever we can because we tend to have more local management. We try to differentiate in terms of how we interact with the communities we are in.

Communications Review: Comcast has been focused on the local market, and now you have a product-driven model with execution by regional markets. How do you deal with the tension that those two components create?

Burke: We believe in decentralization, and that's always worked for cable. The larger you get in any human endeavor, the more you need to break up the work; otherwise, it's unmanageable. That having been said, right now a big percentage of our business comes from networked type services, whether in the high-speed data or the IP telephone business. As our business becomes increasingly IP-based and network-based, we need to be more centralized.

In a network-based business, you can have a service interruption for every single one of your customers. In a bad storm, a potential 200,000 customers could be out of business. If you make a major system-wide error on your high-speed data platform, 10 million people could be affected. Much work has been done to make sure we do everything you do when you are running very, very large networks—whether redundancy or policies and procedures—to make sure people don't interface with that network in a way that could bring it down.

Another thing that makes the business more centralized is that our world is getting more complicated. Whether it's new technologies or the ability to adopt the best practice in marketing telephone service, this is new to most of our employees. We would like to be able to say "Here's the way we think you should market telephone; adjust it for your local markets" without forcing hundreds and hundreds of people throughout the country to reinvent the wheel.

Communications Review: A debate that rages in the industry all the time concerns the question of the need for the content interplay. How much content do you have to own and manage and control?

Burke: For a variety of reasons, we wish we had control of more content. Our company right now is about 95% distribution and 5% content. We have a good-sized content business and it's growing nicely, but it's only 5% of our company.

We believe the histories of companies that have had content and distribution show that the two can be synergistic. In the United Kingdom, Rupert Murdoch has proven that with Sky; in the US, John Malone proved that with TCI and Liberty. Finally, in a world that's more competitive and in which we have more technical ability to offer innovative new products, you could argue that content is more valuable than ever for a big distributor.

Take our bid for Disney. The idea there was not that we wanted to get into the movie business or that we necessarily wanted to buy ESPN to make sure one of our big programming costs didn't go up too much. The idea was to give our cable subscribers and our high-speed data subscribers access to Disney movies and ESPN and ABC network on a time-shifted basis.

There are only a half dozen big entertainment companies in the US and none of those is for sale right now; and so I think it's likely this company will remain weighted toward distribution for the time being. The good news is that over the last 18 months the windows and the rights for content have shifted more than anyone predicted. Many entertainment companies are putting more content on the Internet, which we think is good for us. Apple has secured much content as well. So we think that—short of having to do a major acquisition—breaking down the windows is going to end up getting us content that is synergistic with our platform.

Communications Review: If one can get content on the Internet, many people would say that puts undue pressure on the traditional cable model. Some would argue that if you can get anything you want to watch through the Internet for free, why would anyone ever want to spend money for cable or satellite?

Burke: There are a number of flaws in that thinking. First, the Internet really wasn't built to transport large numbers of live streaming video. It just can't support, with any kind of reasonable quality, large numbers of video pieces. Second, the big entertainment companies get hundreds of millions of dollars a year from the cable and satellite providers, so it is not in their interest. For example, we pay the Walt Disney Company alone more than a billion dollars a year. I don't believe Disney is going to stream ESPN for free to consumers. We have language in most of our contracts saying that content providers who stream something over the Internet have to charge as much or more to others as they charge us. So we don't think the notion of an Internet bypass is a realistic threat.

We do think that people are going to consume more and more video on the Internet, and we look at that as being an opportunity for us because we have so many high-speed data customers. We have an advantage when people stream video on our platform versus DSL. We also have started a division called Comcast Interactive Media, or CIM, to develop more video-based Internet content as a new business.

So, as to whether the Internet is friend or foe, if we are aggressive and take advantage of developing some of these new businesses, I think we can make some money and support our platform. People are not going to disconnect their cable or satellite any time soon. Clearly, you can go to YouTube to watch user-generated videos, but I don't think you are going to be able to get CNN, ESPN, Nickelodeon, or the key channels that people want in their entirety any time soon on the Internet.

Communications Review: YouTube and MySpace are distribution channels for user-generated content. How do you commercialize these kinds of applications?

Burke: Well, we think the user-generated content field is very interesting, and, clearly, a lot of people are using it. There are a number of challenges. The first one is how do you monetize it? YouTube hasn't figured out the answer to this yet. Second, a lot of the content on YouTube is copyrighted content that they don't really have the right to use. It's one thing for an entrepreneurial company to be doing that; it's another thing for a big company such as ours to do that.

That having been said, we think it's a fascinating area and we like the idea of creating a Web site that would have a lot of user-generated content. YouTube is so far ahead of everyone else in the world, how is anyone else going to catch up? Our concept is that we can offer some of the ability to not only stream users' videos on the Internet, but also to get their videos to their television sets. One notion is that we would take a subset of the best Internet video and put it on video on demand. Any of our customers who have digital would get it. We even played around with the idea of taking the best of the best in creating a television show or even a channel. So if you are sitting at home and creating a video, why not—in addition to sending it to YouTube—send it to one of our sites, and then we can disseminate it? That's an idea we have in development inside CIM.

Communications Review: Is regulation going to have a major impact on your strategy?

Burke: Some aspects of our business are regulated; and when you are in a regulated business, you never stop worrying about Washington. Every year there is a different set of issues, and I like to imagine that one year there will be no issues with Washington. It hasn't happened yet!

I can remember catch phrases that have come and gone. The current catch phrases are *net neutrality* and *a la carte.* Net[work] neutrality, we would say, is a solution for a problem that really doesn't exist. We, and every other cable company, have never advantaged or disadvantaged any Web site. Interestingly, Verizon did a study that said 91% of registered voters had never heard of net neutrality, because it is an issue inside the beltway in Washington but not necessarily an issue outside. [Editor's note: *A la carte* refers to customers selecting the individual cable channels they want as opposed to providers specifying subscription packages of channels. *Network neutrality* is a principle that, for all users, ensures the right to choose devices for connecting to the Internet, content and services to access, and applications to run; and that for the Internet's providers of networks, applications, services, and content, ensures open competition.]

I think the reality is that we will always worry about the effect regulation could have on our business, but that we will continue to be successful and it won't have as big an impact on us if we do our jobs well.

Communications Review: Is there any likelihood that the cable companies or the Bells will be required to resell some of your network to other service providers? In countries like the Netherlands, they are certainly thinking about it for their cable industry.

Burke: We have spent $25 billion rebuilding our network, and that money was entrepreneurial risk capital. It's hard for me to imagine that that investment would be, in effect, taken away from us. It's not impossible, but it would be hard for me to imagine. I think that in the US, the regulators tried to make sure there was robust competition. We want to encourage the telephone companies to come into the video business, we want to encourage cable companies to get into the telephone business, and that's the way we are going to best serve our customers.

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Communications Review: What are your thoughts on outsourcing? Does it become a necessary consideration, as competition heats up, to keep costs low?

Burke: A fairly large percentage of our telephone calls are handled by other companies. Now we are in the mode of growing revenue and getting more market share. We answer more than 200 million phone calls per year, and there is an advantage to answering a lot of those phone calls locally.

Communications Review: Final question. What industry are you in?

Burke: I don't think the term cable accurately describes our company. I think we are in the communications and entertainment business. Without getting too technical, we have a very large pipe into people's homes and deliver video, data, or voice bits that are repurposed in the home. When AT&T was in the cable business, they called themselves AT&T Broadband; we looked at changing our name from Comcast Cable to Comcast Broadband, and that probably is a better way to describe what we really are.

Steve Burke is the COO and president of Comcast Cable. Since joining Comcast Cable in June 1998, he has been a driving force in the company's growth from a cable industry leader to a world-class communications company. Mr. Burke dedicates his time and expertise to numerous initiatives in the cable industry, including service on the C-SPAN executive committee and membership on the Cable in the Classroom advisory board. He also serves on the board of directors of JPMorgan Chase. Before joining Comcast, Burke served with The Walt Disney Company as president of ABC Broadcasting, responsible for the 10 ABC-owned television stations; the ABC Radio Group, consisting of 27 radio stations and eight radio networks; and Buena Vista Television, the company's domestic syndication arm.

For more information, visit the company's Web site at www.comcast.com.

An Interview with Georg Hofer, Kabel BW

Kabel BW is the first German operator to introduce triple-play services—digital cable television, broadband Internet, and telephony services—on a single platform. Today, the company has more than 2.3 million subscribers, making it one of the largest cable operators in Germany and Europe. We spoke with Kabel BW CEO Georg Hofer to get his perspectives on what German cable operators need to do to compete in the communications market and on how regulation, technology, and competition influence what his company will do to survive.

Communications Review: Can you provide our readers with a brief overview of the German cable market and the positioning of Kabel BW therein?

Hofer: The German cable market was created by the disposal of these businesses from Deutsche Telekom. After some consolidation, three large network operators were formed: Kabel Deutschland, Unity Media, and Kabel BW. A fourth player, ewt, emerged recently, which consolidated the networks that, historically, were owned and installed by residential housing associations.

In terms of revenues, we are presently fourth in the market, but third in terms of earnings. We position ourselves as an innovator at the forefront in Germany with new products such as broadband Internet, VoIP, and pay-TV. On a global level, however, Kabel BW is an early follower. We realize that we have a lot of ground to make up in the German cable market, which is why we are trying to switch over to new products quickly.

Communications Review: How do you meet current market demands?

Hofer: Our capital expenditure is between 35% and 40% of our revenues over the next two to three years to close the demand gap. We hope that by then all of our networks will be interactive and will be upgraded to Hybrid Fiber Coax (HFC), providing very high broadband connections.

We also have to change from being a provider of products to a customer-oriented organization. We are investing more and more in marketing, becoming increasingly a marketing and distribution organization. Since 2003, we have consistently doubled our marketing budget and will do so again in the coming year.

Finally, we must accept that convergence is taking place. Offering triple-play service is a must, and quadruple play will become a strategic imperative within a couple of years. Therefore, we need to operate more as a service provider for customers in the media and communications sector and less as a cable network operator.

Communications Review: Competition in the communications market is very intense, with traditional and new operators offering similar products. Product boundaries blur (among video, broadband, fixed network, and mobile communications). Whom do you currently consider your toughest competitor?

Hofer: We have very diverse markets in Germany. We have the toughest satellite TV, free-to-air market in the world due to the size and the advertising revenues of the broadcasters. In Germany, households receive free-to-air programs, either through cable or satellite, which are financed via advertising. Consumers can watch hundreds of TV channels free of charge because the broadcasters pay the satellite providers for the transmission. We consider satellite to be our strongest competitor, especially because of its price advantage. Broadcasting via satellite without the customer having to pay anything—free-to-air across Europe without basic encoding, without addressability—is hardly imaginable anywhere in the world. This is one of the peculiarities of the German market, and it is possible through a dominant satellite provider. Pay-TV has not developed quickly in Germany because free-to-air is so strong.

In the broadband Internet sector, we consider DSL providers, especially infrastructure providers, to be tough competitors—and even tougher considering their relationships with mobile providers. Germany currently has four major mobile network operators: Vodafone Group, which has ARCOR as a DSL provider; Deutsche Telekom, with its T-Mobile and T-Com; Telefonica, with O2, which will be a very strong competitor in the future; and E-plus, which currently has no fixed network connection. We imagine that, as in the United States, the cable network operators will become strategic partners with these mobile communications providers.

Communications Review: How does Kabel BW differ from its competitors?

Hofer: In the television sector, we have adopted a diversification strategy whereby we look for content from 34 satellites that can be reached from Central Europe. We have agreements with the content providers to feed free-to-air into cable so that, today, we have a variety of content targeted at new German customers. We also offer many international and niche programs. This provides us with an advantage over some of our competitors who do not provide this level of choice.

We also provide a great amount of content for cable customers in Baden-Württemberg exclusively. In part, this is true premium content, but it is also regionally and locally focused. Towns and cities create their own content, like in Holland, which is our role model in this respect. Customers get the view of the "global village" but at the same time have their regional roots. Given that Baden-Württemberg is a very traditional state that tends to be conservative and communicative, with a lot of societies and associations, and that has a great deal of state pride, we are able to use the strong municipal components to distinguish ourselves from the competition.

In the pay-TV sector, we are also very diversified and pursue an open strategy. We position ourselves as a content-neutral or pay-TV, package-neutral cable network operator and, naturally, use all kinds of content. In contrast to other cable network operators that acquire content themselves, we do not compete with providers such as Premiere, KDG, Unity Media, RTL, Pro 7, or SAT 1; and we try to get virtually all content equally onto our cable network. This is possible due to our positioning in the market: We position ourselves quite clearly as a broadband cable provider. We upgraded all our networks consistently to 862 megahertz (MHz) and have the bandwidths necessary for offering a great deal of content on the network and also providing Internet access.

We are undergoing a strong wave of digitalization. We now have more than 600 digital programs on cable, and we are attracting a great number of customers as a result. Today, more than one-third of our customers watch digital television, which is a great achievement for a cable operator, even by international comparison. Our position is clear: To pursue a very strong broadband-based strategy and to offer high bandwidths at fair prices. We consider ourselves—having a very lean team—to be the price leader for television, Internet, telephony, and VoIP. Kabel BW has only 540 employees. We believe that in the long term, just like is the case with television, Internet and telephony will be regarded as mere commodities and that, therefore, cost leadership is desirable.

Communications Review: Cable network operators are pushing ahead with modernization of their own networks and are strengthening their portfolios in relation to triple play. What strategy is Kabel BW pursuing in this context?

Hofer: I think it is very important to pursue a clear platform strategy. Similar to the US, some markets in Europe will change from states' granting of licenses to a platform granting of licenses. For example,

today if you purchase films from a content provider somewhere in Hollywood, then you are usually buying them for Germany, Austria, France, or the United Kingdom. In the future, however, platforms will be purchased on a regional basis.

For this reason, we need a strong platform from which we can reach virtually all of our customers; we need fiber optics throughout our access networks. We are pushing ahead with connections in our own fiber optics, with dark fibers, in order to be able to guarantee a quality of service. We do not want to have a closed network just for the television sector but rather a network that will also support Internet and IT. Other cable network operators, such as Telenet Flanders and many in the US, have done it this way.

The market needs to move away from satellite provision. The BBC has initiated a strategy for moving away from satellite provision toward fiber optic provision. I believe that FTTx is the fundamental requirement for providing maximum content, maximum bandwidth, and a maximum level of service and quality.

Communications Review: Do you see in the future an increased risk from packages provided by wireless broadband providers?

Hofer: We have analyzed wireless broadband. Due to the major infrastructure work that has already been performed, especially in Germany with 96% to 98% market coverage, entering this sector as a new, fifth provider would be difficult. The current providers, optimally, will use the additional frequencies coming onto the market. From a cost/benefit perspective, it would make no sense for a new entrant to operate regionally, locally, or marginally. Instead, we may cover this complementary technology through a partnership with one or more of the major providers.

However, we do not believe that wireless can easily cover the basic needs of a household. The 25 to 30 Mbps minimum bandwidth required by the household of the future to best utilize the entire range of television and interactive services simply cannot be met by wireless. Wireless is, and remains, a mobile matter. Sticking to our strategy, we will continue to concentrate on the coax fiber optic infrastructure and to develop it further in cooperation with our partners. Out of 1,111 municipalities, we have already made some 740 accessible. We plan to continue this development work, frankly, because in the long term this is where we see our unique selling point.

Communications Review: What role does technology play in being a market leader?

Hofer: I don't think technology itself plays any role in being a market leader. I think the decisive factor results from choosing the right engineering, mature and ready for the market. We are not a global player, not a market leader in America, Asia, or Europe. Our strategy is simply to purchase the right engineering at the right time.

We believe, generally speaking, that the technology for coax cable must be developed further. There we see clear tasks for the Cabel Europe organization, formerly ECCA, or CableLabs in the US. In the technology sector, we are working together on a global level to best utilize the coax cable. For this reason, yes, technology is relevant; but for a provider such as Kabel BW, the focus is on engineering, where technology is processed and ready for series manufacturing.

Communications Review: Customer service is essential for customer loyalty, while customer loyalty declines as the range of products and competition increases. What do you do to minimize churn?

Hofer: We try to cope with the increasing number of customer contacts. In 2003, Kabel BW started with 30,000 customer contacts per month and we're now at 300,000. If these contacts are not managed perfectly, churn results. We counter churn through a targeted bundling strategy.

Our basis is always the cable connection, which customers must select in order to obtain further products such as pay-TV, Internet, VoIP, or video on demand over IP. Through this bundling strategy, the customer has a single contact, that is, the customer speaks with one of our customer support representatives about all products and all packages.

We reduced our net churn rate from more than 6% in 2002 to 3.9% last year. Despite the increase in new services, I believe that this bundling strategy, combined with competent and highly qualified customer support, is well received in our market.

The heterogeneous product landscape in our environment—separate DSL, separate mobile communications, separate media—helps in this respect, naturally. Other providers in Germany offer only a few converged bundles, which is why we are undoubtedly a pioneer by virtue of offering everything under one roof. I believe that we can keep the churn level very low if we continue to be the pioneer.

Communications Review: It is often said that content is king. Do you believe that you have to own content in order to acquire customers?

Hofer: I do not believe in owning content, nor do I believe that cable network operators must have their own content. That might be necessary in other markets, but for regulatory, legal, political, and historical reasons, the German market has a clear separation between infrastructure providers and content providers. It is important for us to have all relevant content on the network, but we do not have to own it ourselves because we would become dependent and virtually begin to compete with our customers.

Today, the German market is clearly structured: Content, content production, and content rights are closely aligned with television stations and public institutions. This means that anyone can put content on our network, and we develop a commercial partnership in which we create a win/win situation and have all rights and all pay-TV packages on the market. Kabel BW—because of our strategy of not acquiring content—can offer on our platform the greatest variety of pay-TV packages and free TV packages on the German market.

Communications Review: What is your opinion of outsourcing? Does it represent a way for you to reduce costs?

Hofer: Outsourcing is a central issue for us. The German market is very expensive in terms of personnel. Since we are a personnel-intensive company with regard to customer service, we have to establish where we outsource, how we outsource, and with what quality we outsource. Baden-Württemberg is known for its strong dialect, and outsourcing oral customer service outside Baden-Württemberg is difficult for this reason. Due to our origin and history, we have a lot of old problems—involving agreements with unions, the works council, and shop agreements—that don't allow us to operate effective, efficient customer service within the company.

We outsource the entire first level of customer service to regionally located specialists, who perform the first level

customer contact handling for us on-site. We have defined core areas of expertise that we do not wish to outsource, such as network operations and second level customer service and field service.

We consider outsourcing to be something that we can and do control, to a relatively large extent, ourselves. For example, our executives in the outsourcing companies report directly to the organization and are, to some extent, executives within the company. Our margins and growth ambitions permit this, and so we do not have to outsource everything to India or Estonia or Lithuania. We have reduced per-contact costs by 50% since 2003 through outsourcing our first level customer service. We have reduced our IT costs by 60% through insourcing in the IT division.

Communications Review: What are the growth opportunities for Kabel BW?

Hofer: We see growth opportunities in further utilizing our infrastructure and in the broadband Internet sector, which we believe we can increase by multiples. We also expect good growth in the VoIP sector. Mobility is another area of opportunity, with MVNOs [mobile virtual network operators]. In the classic television sector, the market has been fairly exhausted. No doubt there are one or two other niche opportunities for pay-TV, but otherwise I believe we have reached the limit with digitalization.

Communications Review: Cable network operators in Germany are limited in using their networks by must-carry rules. Do you consider this a problem for Kabel BW?

Hofer: Must-carry regulation is a problem that was born from the flawed market of analog television. In Germany, regulation lies in the hands of the federal states and the 15 state media institutions. In Baden-Württemberg, the media institution prescribes approximately 50% of programming; in other German federal states, that figure can be up to 100%. For this reason, the European Union has commenced proceedings against these states. We believe that must-carry rules generally limit development.

The second issue is that must-carry forces unattractive programming on us. For example, there is now a must-carry regulation for tele-shopping. Customers churn when a film channel is replaced by a tele-shopping channel. Another issue is that these must-carry slots must be awarded at regulated prices. The regional broadcasters, however, limit themselves to only six programming hours and sublease the rest at twice or three times what we can obtain at a regulated price.

Therefore, in July 2006 in Brussels, we submitted a complaint about must-carry that covers this and other points. We believe that the EU and the Competition Commission will address this issue, and if must-carry remains in the digital sector, we feel all other infrastructures should be covered by it. A cable network operator should not be subject to a must-carry regulation that a DSL provider, mobile communications provider, or DVB-T provider is not. Infrastructure neutrality is required here, and a technology-neutral regulation should be implemented.

Communications Review: Compared to those in other countries, cable network operators in Germany are lagging behind. How do you see the chances of cable network operators in Germany becoming successful?

Hofer: First, it is necessary to get rid of all the old problems, all the legacies. These include the must-carry regulation, which would lay the foundation for cable network operators to start converting to digital. Second, all the copyright laws need to relate not only to cable but also to other infrastructure. Third, we require investment security. I believe the ownership structure that has now been created will lead to an investment mode that will be implemented by 2008 or 2009.

We are still far too influenced by free-to-air, effectively by satellite, and are not offering the customer the best package in the media sector. As a result of all the free-to-air, a superficial content strategy has developed and there has been less niche development. We have to make sure that we, as cable network operators, use our platform to tailor ourselves to the customer's expectations by addressing the customer in a more targeted manner. This is not possible if I do only free-to-air. I believe these are the four major aspects we have to deal with in Germany—then everything will no doubt prosper as well.

Communications Review: Let's come back to competition. Who do you think will be your competitors in five years? Who will still be around?

Hofer: I believe there will be fewer competitors in the infrastructure sector than there are today. Consolidation will continue, particularly in the DSL market. We will face competition from mobile communications providers, who combine a strong fixed network infrastructure and IP-based infrastructure. Anyone who can keep pace with the growth in interactivity, who can adapt to the needs of new customers, or who can grow the interactivity of SMS will be able to compete. The extent to which satellite achieves all this undoubtedly will be determined by the regulatory authorities.

Due to the high investments necessary both in the mobile communications sector and in the fixed network sector, I don't think new players will enter the market. If any do, they will be only regional and local players who might spend a lot of money for FTTH and FTTx. I think that, more likely, consolidation will reduce the number of providers.

I believe that Vodafone, Arcor, Deutsche Telekom, and Telefonica will remain in the market. It is perfectly clear that cable network operators have a very good infrastructure that has to be connected with fiber optics. Once the HFC solution is rolled out in the German market—by 2008 the rollout will be 90% complete—the cable network operators will play a much greater role than they do today.

Georg Hofer is the chief executive officer and chief operating officer at Kabel BW. Prior to joining the company in January 2003, he was managing director at Colt Telecom GmbH and COO for Colt Central Region (Germany, Switzerland, Austria). Between 1993 and 2001, Mr. Hofer was the founder, CEO, and senior advisor of TelePassport GmbH. Prior to that, he held various R&D and project quality management positions at Siemens AG.

For more information, visit the company's Web site at www.kabelbw.de.

An Interview with Michael Lee, Rogers Communications

Rogers Communications is a diversified Canadian communications and media company engaged in four primary lines of business: wireless, cable, media, and telecoms. With all these assets under one roof, the company is poised to drive new, convergent services and to compete against incumbents in many segments. Rogers' Chief Strategy Officer Michael Lee talks with *Communications Review* about the company's plans to leverage its assets and the challenges and opportunities therein.

Communications Review: Rogers is somewhat unique in the industry, as the largest national cable and wireless company in Canada. What are some of the key cross-leverage opportunities, and how quickly do you see them coming into play?

Lee: The opportunities come into play in a phased approach, in part due to the evolution of technology and in part due to the evolution of the customer. Customer relationships in our wireless and cable bases provide us with incremental leverage and efficiency because we can have multiple-product customers. What's going on in parallel is that the network systems are starting to mature and to migrate to a common platform, whether that is IP or a common OSS/BSS-type platform. Within the road maps of the individual companies, we will have common investments across differing infrastructures so that we can leverage the investment of one company in a certain area to benefit other operating divisions.

Another opportunity is that we have scale in wireless and cable. When you are providing triple- or quadruple-play services and you are a new entrant in one of those markets, you don't bring scale. We are going through an innovation phase of evolution in terms of integrating wired and wireless services. Scale affords us the ability to continue to invest in the innovation. We can sell new products, features, and services to a much broader base of customers than can someone who is trying to enter a market and is struggling to get the economics right on a single product.

Take, for example, single product companies like Skype or Vonage or a telecom company who offers data and wants to get into the television business. They have to contemplate both being innovative in television and securing rights in television, and then spread the cost of that over a few thousand people. A lot of times, economies of scale are necessary to even contemplate doing innovative things in the marketplace.

Communications Review: At what point do you see cost through integration giving you a significant advantage in the market? Right now, you have bundled services, but a loose bundle of services.

Lee: Right now, we have a financial bundle of services as opposed to a product-integrated bundle of services. We are going through product integration to a degree now, and we have services that are bundled at a theme level, if you will. For instance, when we did the World Cup sponsorship this year, we had special broadcast rights, exclusive wireless rights, video-on-demand rights, and broadband rights. If you were a fan of the World Cup, the best holistic experience would have been to be a Rogers customer across multiple lines of business. By providing a unique experience that's not available from other carriers, we can create differentiated value for customers.

Over the next 12 to 18 months, you will start to see meaningful product-integration bundles, where technically we will have common features across products. So, not only will an existing Rogers customer who purchases a second product in the bundle get the benefit of a multiple product discount—which customers expect—but also, the features of the second product will make the product the customer already has a better experience. For example, on wireless and wireline integration of voice services, a wireline customer who decides to get the complementary offer in wireless will immediately have certain features that work across platforms or that are simply better integrated in a way that makes life easier.

Communications Review: How important is integration at the product level going to be from a retention strategy?

Lee: That's a challenging question to answer. The integration of wireline and wireless services is still in its infancy. We have a very small set of customers who are motivated to have it, but we are not at mass penetration/mass demand. The more integration you have across products—essentially, the tighter the customer relationship you have—the greater the loyalty the customers have to the product. Customers move from seeing just a product, like voice, to seeing the product as integrated to the way they work and operate and live their lives. By asking a customer to make an investment in a product, you create a higher barrier for churn because leaving would interrupt a number of things the customer is doing.

Communications Review: Many people say that content is king. More recently, some have said that context is king, that is, the ability to know what particular customers want, when they want it, and how they would like it delivered. What are your thoughts on this?

Lee: I think context will become increasingly important. In a traditional world—last year—you had separate distribution and separate programming, with most content businesses in highly regulated environments. Leverage was difficult to execute, at least in the Canadian marketplace.

Going forward, the pervasiveness of IP platforms creates greater flexibility in terms of what you can do with content. IP distribution doesn't sit within that highly regulated environment, so what you end up with is that customers always gravitate to what the experience is. And the experience is usually driven by content. Content can be traditional—printed word, audio, video—or it can be applications and services built around certain themes. To provide an optimized experience, you have to take the content assets you own and your expertise in identifying what customers want and marry those two with an intimate knowledge of how the technology works.

Communications Review: What about unique content? Do you just keep it to yourself? Do you sell it to a competitor?

Lee: In a regulated environment like Canada, you cannot provide any preference. Programmers must provide access to a program to all distribution. Generally in the media business, there is no intention to restrict rights; you want broad distribution because your reach, ultimately, is how you measure your addressable base and your revenue opportunity.

But as you start to integrate with different distribution channels that are not regulated, this changes. We acquired incremental rights in wireless, broadband, and video on demand so that we could provide a preferred experience for our customers for the World Cup content. The exclusivity that exists today is available because we are still talking about a relatively limited universe. Once that universe broadens, it's not going to be easy, as the owner of rights, to make a business case to simply distribute to one provider.

Those who have more integration of media and technology will be able to provide an optimized experience. So even if you are not restricting access to certain media or content experiences as a rights holder,

you may have more intimate relationships with certain distributors because they decided that for strategic or financial reasons they want to invest more heavily in the way they create a customer experience. Going forward, form is going to be very important. The way in which you describe and offer a media experience will be intimately tied to the type of device and the way that device and the network operate.

Communications Review: What advantages do you gain from the ownership of media and entertainment assets, including your professional baseball team, magazines, and television channels? Is it necessary to own this content in order to compete?

Lee: Owning content outright always creates more flexibility than being in a sponsorship licensing arrangement does. Our interest in sports is driven by three things.

First, we want to be associated with what customers are extremely passionate about and sports clearly is one of the categories. Second, technologies are influencing the way people watch television and consume media, enabling people to watch less advertising. The types of content that are important and will deliver more value are those that are not consumed in real time. Sports is one of those categories where you don't want to PVR it and watch it tomorrow. So, we want to be associated with categories of content that can preserve their value in the marketplace, independent of the technology. Third, in a market that's becoming increasingly global and commoditized, you have to support local activity.

Communications Review: As consumers gain the ability to influence the creation and the delivery of content, how will Rogers' role in the industry change?

Lee: We have a role, but we don't know exactly how that role will play out. The ability for the customer to have a more personalized method of consuming content is important. It's a by-product of everything being digitized. To most people, digital means higher-quality audio and video and a more consistent user experience. But consumers also associate it with choice and the ability to consume things in smaller units than they have in the past. Video on demand, PVR, different content experiences in wireless—those are the trends and content behaviors that we want to be sure we stay on top of and are open-minded about the technology being deployed to meet that demand.

Another phenomenon is that broadcast, one source distributed to many end points, has become point-to-point, such that every individual can become a creator and a distributor of content. If people are creating compelling content, there always will be a role for a distributor—particularly, direct access through television and trying to integrate some of that content for people on their TVs through a set-top box, video on demand, or a direct data pipe.

The role that user-generated content will play in the overall media consumption of a customer is still unclear. The great thing is that consumers use our networks to distribute content, so that makes our service, at its core, perceived as more valuable. The one device that truly is about user generation and personalization is the wireless handset, because it is ultimately an embodiment of "who I am." As we transition to third-generation networks, the device becomes that much more powerful with its ability to support a higher-quality audio and video experience.

We are very excited about the future of wireless, not just from straight-line-penetration growth within the existing marketplace, but also in terms of the ancillary services and the benefits that customers get as a result of data becoming a more robust component of a wireless relationship.

Communications Review: What are your thoughts on outsourcing and offshoring? Do those approaches become necessary considerations in keeping costs low as competition heats up?

Lee: We don't offshore. We do outsource things today to deal with peaks in capacity, primarily in the service or the development side of the business. Our focus right now is to ensure that we provide a high-quality customer experience. We will continue to outsource to meet capacity demand, and as services evolve we'll decide if there are other opportunities for outsourcing.

Communications Review: Whom do you see as your main competitor(s) right now?

Lee: We are in a market now with strong facilities-based competitors in television and telephone, and we have direct competition from wireless-based competitors. All of our markets are highly competitive from the perspectives of product feature innovation and pricing.

We will continue to see significant competition from traditional providers of these services because, at the end of the day, regardless of how much innovation they seek in their lives, consumers will continue to have a limitation in the way they consume services. Complexity is still a barrier to the adoption of a wide range of services. Multiple product providers like us need to focus on the way we bill and serve customers. Simple things like that will continue to be central to how people value their providers.

There are going to be third parties entering the market who provide similar services, maybe not feature-for-feature equivalent services, but similar services. For instance, a lot of people use Skype, primarily because many of their friends are on PCs and they want to do PC-to-PC communications. But also they want to use it as a way to arbitrage our voice rates. Right now that's not a directly competitive service; customers would not disconnect their home telephone service and replace it entirely with Skype. But, over time, that may happen, so we have to watch and ensure that we broaden our core services to appeal to customers who want more innovation and flexibility. We need to make it simple for them to consume and pay for the service and feel that they are getting a good value.

I think we will see some diversification in the marketplace; we definitely will see third-party providers from foreign markets and from within Canada who are competing directly against us. Overall, I think people want to consume more; they are actually consuming incrementally as opposed to purely substituting.

Communications Review: Do you see anybody new coming into the fray and, in spite of traditionally not having played in this space, taking control of a certain market, like the home?

Lee: It is not so much about control. I think customers are exercising their rights to resist control at this point. There will be other parties who will have a different relationship with our customers, at a brand

level or a service level, and who will provide services that may be complementary to what we provide.

Every time I open the newspaper in the morning and read the trades, I wonder who is going to do what next. But at the end of the day, customers value not just technology innovation; they value the simple things about how they consume products. You have to do all the fundamental, simple things well to get permission to offer services. I think we have been doing all those simple things—and we continue to focus on doing them exceptionally well.

Communications Review: As IP takes hold and as consumers focus more closely on service delivery than on the network that delivers the services, how important to competitive advantage will network ownership be?

Lee: I don't believe network ownership is a necessity for competing. I do believe that through owning the network you can provide better services.

In the early days, services are offered in a no-guarantee environment, meaning that you click on a link for a video and it may come through uninterrupted or you may have some interruption with no clear indication of where that service interruption was created. It's a *caveat emptor* environment for new services online. Early adopters are willing to live with inconsistencies in delivery because the benefit created outweighs the inconvenience.

We're in that phase of innovation at this point. Once we move into mass adoption, there will be bigger stakes and service delivery will become very critical. It is difficult for most of us to imagine turning on the TV and the screen going snowy for two or three minutes, unless we are satellite customers in a rain storm. It is important to ensure service delivery, and the only way to do so is to work more closely with the networks delivering that service and be able to monitor and repair on a real-time basis. So, integration of network elements is going to be very important.

You can make the same argument in the gaming space right now. If you are an avid gamer, you are chasing a high-performance network at any cost because you want an absolute guarantee of low latency performance so that your game experiences are consistent and of high quality. As you start to move that into the masses, people will demand that your networks perform at low latency. The fact that you can deliver video over an Internet or wireless connection is of sufficient value to some customers that they are willing to forego the quality element. But as you reach the masses, quality becomes king and you have to be an integrated network to get that.

Communications Review: What is the biggest issue facing Rogers going forward?

Lee: There are two challenges. The first is that of going to work with a common mission in a very large organization and delivering our core services to our customers well. This is a challenge we step up to on a daily basis. When you do transactions at the rate at which we do them, any error rate, no matter how small it is, manifests itself in a group of customers. We need to ensure that we deliver our core video, data, voice, and wireless services in a high-value, high-quality way.

The second challenge is that, in a world where innovation is critical and the market is sub-segmenting, we are near the last of the mass value services. We don't see services on the horizon that have the characteristics that 60% to 70% of customers will take. For instance, with video they will buy in sub-segments: 5% will take it this way, 10% that way, and 1% another way. As we start getting into the sub-markets, how do we respond in a timely fashion with an organization that is designed to deliver services to the masses? Everything becomes a custom order. How do we adapt the cost structure, the marketing, and the technology and innovation environments to appeal to those sub-segments of the market and be relevant to all of our customers—but at the same time be relevant to the one specific customer? It will require a combination of understanding at a high level and at a detail level what customers want and marrying that understanding with flexible technology on the back end to deliver the products.

Change is moving at a pace that is sustainable. The last time we moved at this pace, change was unsustainable because there were not enough customers. With 50% to 60% data penetration on broadband, a billion broadband users worldwide, and two billion wireless users worldwide, the market is large enough that these models will find revenue sustainability. And as more customers increasingly drive to have a greater share of their media spending online, the revenue will follow.

Michael Lee is chief strategy officer for Rogers Communications Inc. Mr. Lee is responsible for strategy development, business development, and strategic partner management for the Rogers Communications' group of companies, which includes Rogers Cable, Rogers Wireless, and Rogers Media. Previously, Mr. Lee held the role of vice president, strategy and development, for Rogers Cable, where he managed the development of new businesses and services for video, high-speed Internet, and telephony.

For more information, visit the company's Web site at www.rogers.com.

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