

Mobile office functionality is at the heart of the 3G value proposition. Jim Brewington believes that the time to bring it to market is now



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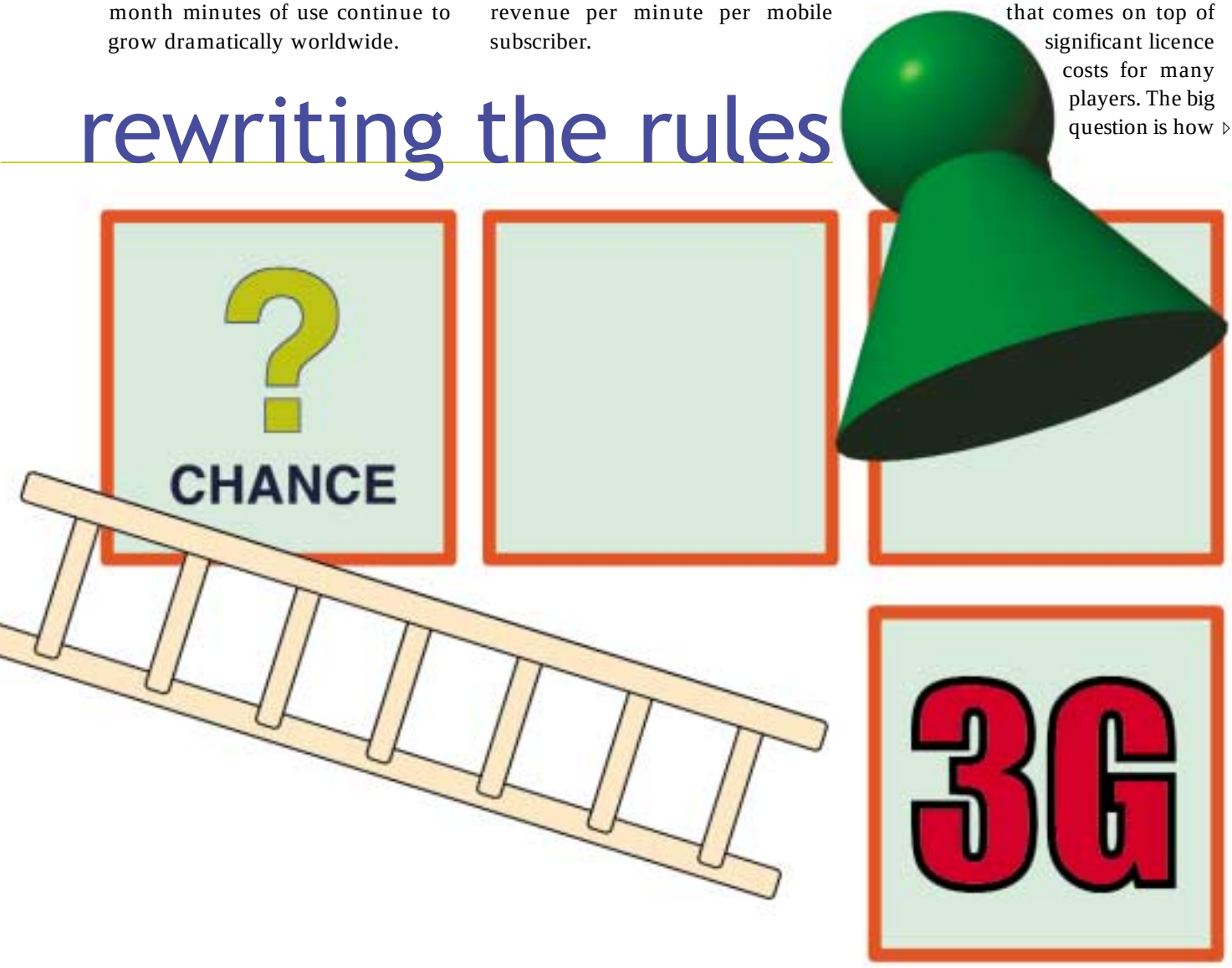
rewriting the rules

The cellular industry has enjoyed unprecedented growth over the past decade. Today there are over 800 million subscribers worldwide, with 125 million in the United States and more than 330 million in Europe. In fact, in some regions penetration rates are now reaching saturation point. A number of Scandinavian countries are already close to or even exceeding 100 per cent penetration and the average figure for Western Europe is over 60 per cent. Yet there are still plenty of opportunities for subscriber growth – for example, in South-east Asia penetration is only 10 per cent and the markets of South America are hungry for development. In addition, month-on-month minutes of use continue to grow dramatically worldwide.

However, there are a number of indicators that make it clear the industry can no longer proceed as it has done through its formative years. Perhaps one of most potent signs is that as mature markets reach saturation, over 95 per cent of subscriber usage remains stuck on voice-only communication. This is a statistic that is giving investors pause for thought. Experience from the wire-line world has shown us that the voice business is a commodity game. In increasingly aggressive, competitive markets, high-volume usage can only mean falling prices. The consequence of this is that the price premium for mobility is disappearing and this is clearly reflected in the decline of revenue per minute per mobile subscriber.

With the mobility voice-price demand curve at its inflection point, a market sea-change seems inevitable.

Let's consider the other side of the story. When it comes to capital spending, mobile operators anticipate modest growth over the next 12 months. They will see an expected three per cent increase from 2001 to more than US$80 billion in 2002. And this annual figure is projected to rise to more than US$95 billion by 2006. However, what is significant about the anticipated spend is that more than 65 per cent of it is likely to be on third generation (3G) spread spectrum technology. By any standards, this is a very considerable commitment and one that comes on top of significant licence costs for many players. The big question is how ▷



best to protect such investment and at the same time speed up new revenue generation?

It is clear that with the value of voice in decline, wireless data holds the key to driving future growth and profitability. With literally billions of short messages sent and received every month, we already have one very visible indication that in the minds of consumers mobile communication is not exclusively associated with voice. Yet once mobile data moves beyond the transmission of simple text messages, the speed and capacity of mobile networks become critical issues.

This is where next generation technology comes into the picture. There is no doubt the potential is exciting. However, the fact remains that unless you can market them, the 3G advantages of high-speed data and increased voice capacity are mere technical enhancements. It's like having a high performance car without knowing how to drive it. A great deal has been written about the potential of the new 3G networks, but to date the problem has been that new service strategies have been a little vague on the detail. This has been especially true in relation to 3G launch strategies.

So how are we going to drive 3G's capabilities and what are the strategies that have the best chance of bringing operators to revenue fast? It may be useful to consider a little history. Voice was not always so cheap. Back in the early days of the industry corporate users were prepared to pay high tariffs because mobile connectivity made them more effective in their businesses. Remember, this was a time when workforces needed to become more mobile and cellular communications facilitated new levels of mobility. Even at premium rates, pioneer operators found it was possible to forge a culture of usage because their product gave corporate end-users a competitive edge. A new service addressed a tangible market need.

And there is every indication that history is set to repeat itself in a data context.

This is the way the market seems set to move forward. It seems clear that the trend of providing extremely low-cost voice will continue, while at the same time operators must develop new, highly targeted premium rate data services. The emphasis here is on 'highly targeted' and 'premium rate'.

Lucent has recently carried out extensive market studies in the world of wireless data. This identified dozens of popular internet-based applications similar to the i-Mode services in Japan. However, although these low speed data services will contribute to the voice traffic volume and revenue, such a trend will be insufficient to drive service provider's required earnings growth. Instead, the successful carriers of the future must be able to:

- provide huge voice capacity – *ie*, truck loads of minutes (not the buckets currently on offer from 2G networks) and eventually voice packets – at extremely low cost in a very spectrum efficient manner; *and*
- penetrate the high-speed wireless data market in the enterprise space and later in the consumer segment.

These are the areas that can give competitive advantage and provide the all-important new revenue streams. The emphasis on voice is deliberate. In all the excitement over new services, we need to keep it in mind that for the foreseeable future voice will continue to be a killer application for our industry. So the successful operators of the future must be able to provide huge amounts of voice traffic at costs below anything we have seen in the past. Voice will remain a core element of our business and leading players will need to become increasingly aggressive in order to hold on to market share.

The second component of this strategy is to address the huge, untapped market for high-speed corporate data services. The magnitude of this demand could fundamentally alter the competitive environment of our business.

We need to be clear about the nature of this untapped market: Corporate end-users that are constantly on the road, in the air and away from their offices need secure mobile access through a laptop or personal digital assistant (PDA) to corporate local area networks, virtual private networks (VPNs) and the internet. These are services that the corporate world wants yesterday.

However, it is important to note that along with this pent up demand for data services comes an equally significant demand for quality of service. For example, Lucent's research reveals that while enterprise laptop users maintain a willingness to pay US$50.00 to US$100.00 per month for mobile office functionality, they also demand a minimum data throughput of at least 64Kbps. In fact, that turns out to be the low-end access speed that will satisfy this market. The majority of these corporate prospects are calling for over 100Kbps data rates and easy access to their corporate information systems without jeopardizing their security firewalls. Fortunately, spread spectrum 3G technology, when properly integrated with secure wireless VPNs, will allow levels of security that meet the most exacting standards and give the capacity levels

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needed to provide a reliable 'always-on' service.

Operators and vendors alike must realise that these new premium rate revenue streams depend on ensuring that from day one high-speed mobile data offerings offer a genuinely outstanding end-user experience. The WAP experience has taught us the consequences of failing to take account of this particular maxim.

It has been argued that 2.5G networks are already positioned to address the corporate data market. The problem is that dial-up speeds are too slow, security passwords too many, and firewall access too problematic for mobile professionals who need to meet critical deadlines and close sales. Our researchers asked the questions and this has been the response. In addition, given that the new data applications must co-exist with the continued rise of minutes of use for voice, 2.5G technologies simply do not address the capacity constraints currently facing successful operators in many mature markets. The danger of relying on 2.5G solutions is that operators could become caught in a spiralling investment cycle with diminishing returns.

Let's consider a more radical alternative. At launch, third generation networks will deliver double the voice capacity and high-speed wireless data at twice today's minimum rates. But that's just the start. Within six months it will be possible to deliver solutions at five times the minimum rate. In addition, 3G establishes the platform for introduction of voice over IP in mobility networks. And all this is possible while ensuring high quality voice and data delivery with tremendous reliability. So surely it makes more sense to pick a deployment strategy that pulls 3G commercial launch dates forward, and optimises the network for high-speed data from day one?

It is worth remembering that most operators will roll out pockets of 3G coverage to spread their investment as far as possible within the constraints of their regulatory timetable. Given the current economic climate, few players will feel inclined to push ahead of these timescales. This means that at the heart of both roll out and service strategies, there must be a tight focus on attracting and building new revenue streams at the earliest opportunity. The majority of operators intend targeting metropolitan areas and creating premium rate services to fund further 3G coverage. Only an enterprise-focused strategy can deliver significant new revenue on the back of such coverage constraints.

Lucent estimates the market for mobile high-speed data services at $10 to $15 billion by 2007. The Yankee Group sees nearly 100 million mobile data users in the United States alone by 2006.

The critical point to note is that operator business cases reveal an excellent pay back period when they exploit the high-speed data market. The ease and speed with which this revolution can take place is unprecedented. And the word is revolution, not evolution.

With so much at stake, operators are at great financial risk if they deploy 3G spread spectrum technology later than their competitors in any given market. To refer back to industry history once again, it is worth considering that the operators that made the first moves into the corporate voice market continue to hold on to the lion's share today. This is a sector with relatively low churn rates. However, it is also the sector in which competitive advantage is everything. If companies see competitors have access to high-speed data offerings unavailable to them from existing service providers, they're not going to wait around for their operator to get up to speed.

The term 'third generation' has for so long been synonymous with 'futuristic' that many are struggling with the fact that 3G is now upon us. We are no longer discussing capabilities and products available in the distant future. Today Lucent is rolling out CDMA2000 that provides 3G voice capacity and high-speed data for CDMA carriers such as Verizon, Sprint, China Unicom and Leap among others. We have leveraged our CDMA experience so that we can introduce a high-speed data first capability for UMTS operators and enable them to start breaking into this high margin wireless data segment mid-2002. Fully commercial, integrated voice and data 3G networks will be available from Lucent and generating revenue in 2003.

It is important to recognise this strategy is about getting first to revenue while at the same time laying the foundations for capturing mass market revenues. The initial focus on high-speed corporate intranet access is only the beginning of the story. The same technology will enable operators to provide broadband internet and email access to residential customers without the disruption caused by cabling in the home. Customers will be able to retain the same functionality while switching between laptops, PDAs and desktops – any time, anywhere, any device.

The 3G high-speed data strategy avoids investing in technology with the prospect of diminishing returns. It addresses a conspicuous market need with an appropriate technology solution. But most of all, it promises to bring operators fast to market with new services and revenues streams ahead of their competitors. This will enable such players to carve out significant and sustainable market share and drive a move to long-term profitability. □

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