the future is value-added

Mark McClure

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3G strategies for operators

3G strategies for operators The wireless industry is going through a period of transition at present. What are the key trends that will inform future development?

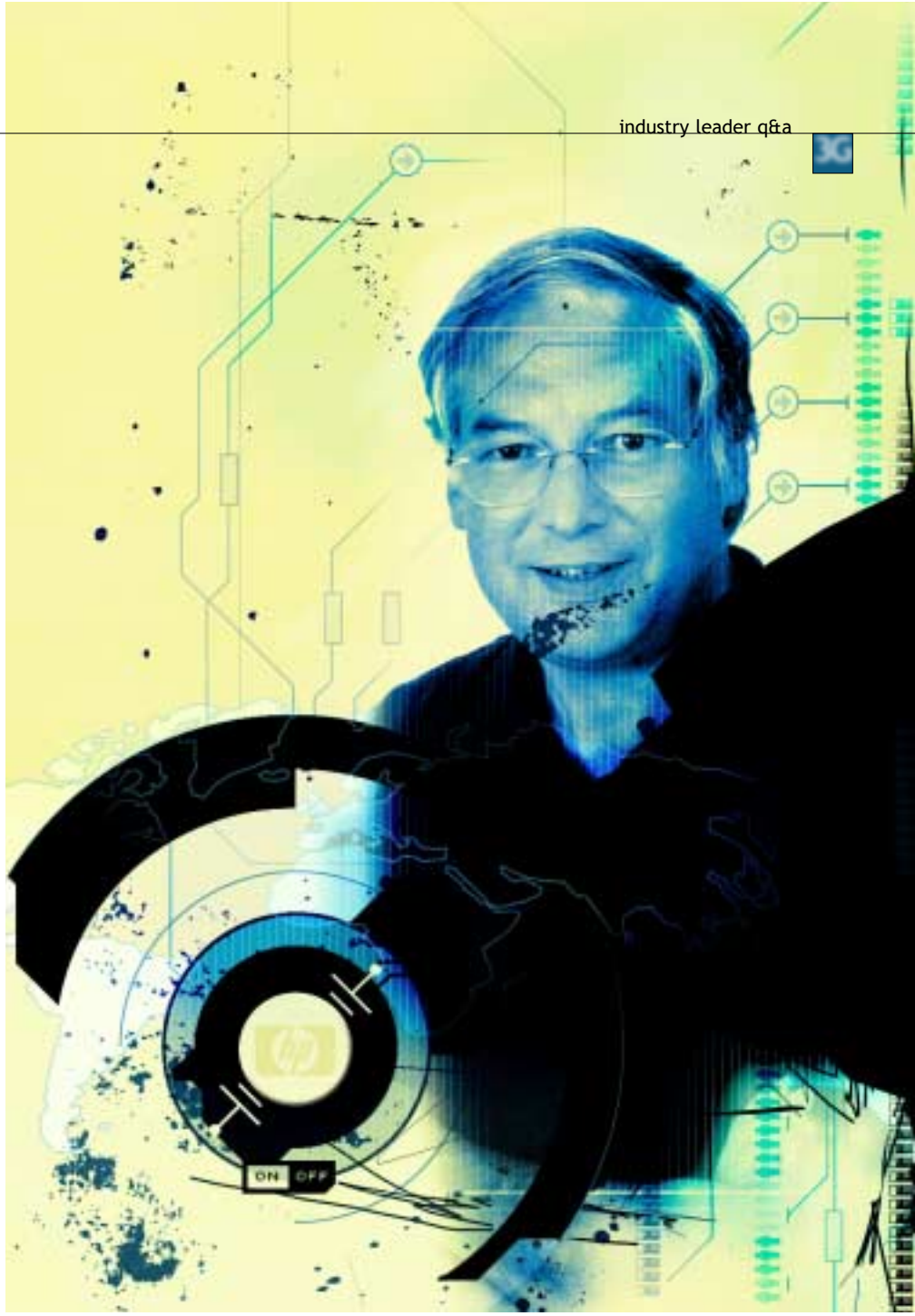
Maurice Marks There are three areas that spring to mind. The first has to do with the combination of new devices, increased bandwidth and content-rich services. The next wave of terminal devices will come with additional functionality in terms of their storage, processing power, multimedia capabilities and human interface flexibility. The arrival of 3G wireless service and 802.11 provides significantly enhanced bandwidth, thus the combination of enhanced devices and bandwidth facilitates new types of content-rich services. As device capabilities and bandwidth improve there are break points where it becomes possible to significantly change the market dynamics, for example enabling multimedia messaging, streaming media, grid computing, etc. So that's one area that will shape the industry: powerful terminal devices, increasing data bandwidths enabling new value-added services.

The second, related area is the increasing convergence of distributed computing with wireless and wireline networks and entertainment. All these areas are converging into the same network infrastructure, requiring common platforms and services that are device and transport agnostic. This is why HP has become active in creating content delivery networks, why we're working with broadband providers as well as developing expertise in the area of wireless 4G. I think we can safely say that the whole internet world is reaching deep into the wireless network creating new opportunities. This clearly has very significant implications for a telecom and internet systems provider such as HP.

The third important trend is the separation we're beginning to see between the players that are providing network transport and those that are providing added-value services that run over that transport. There was a time when simply providing the connectivity and a few basic services added up to a satisfactory business model. Now we're seeing that the value placed on actual connections is diminishing and value-added services are in ascendancy. I think that this is becoming quite an issue for operators.

3GS How are operators coping with these changes in the value chain?

MM To be quite honest I think many operators are struggling with it. Their long-time business model has changed and their experience



in some of these new service areas and customer requirements is limited at best. While some operators are addressing the changes and adapting pretty dramatically, others are trying to see how long they can cling on to their current business models. This is really a good time for operators to review what capabilities they want to expand, maintain efficiently, dispose or outsource based on the changes in their business and the economy.

3GS In this context, what's the value-add HP is able to bring to the table?

MM Broadly speaking I would say HP's 25 years of expertise in building core elements in the carrier network infrastructure – and our experience in the OSS and BSS domains. With this heritage, as well as its well known expertise in IT/enterprise, HP is in pole position to add great value to operators as they look towards the enterprise market. This market is becoming even more important to operators as the consumer segment becomes increasingly commoditised. Because of our expertise, we're increasingly being brought in to help operators extend their reach into the corporate sector. We can help firms identify the sort of services and capabilities enterprises want and also bring interested third parties together, add our own technology and create integrated service offerings. On the other side, we see enterprises reaching towards the wireless world, trying to mobilise their workforces. As a major supplier of enterprise information infrastructure we're an obvious partner for them in that activity.

3GS If the transport mechanism is becoming devalued, operators are clearly concerned they'll lose out to third parties. How do you view this threat to their business models?

MM For operators, integrators, service and content providers we've got to create what I describe as win-win opportunities. If this business is to move forward, we've got to be able to structure deals so that all firms involved get appropriate value for their products. There's no room left in this industry to charge more than fair value for services. I spend much of my time trying to figure out how all the participants in this equation can get their fair share in the overall value chain. For instance, I believe that network operators have a lot of valuable information and capability in their network that would be of value to enterprises in the creation of new value-added services. Right now there are no simple and efficient ways for operators to sell that information and capabilities to companies. This is one of the areas I'm focusing a lot of personal attention on, because I think that there is a way for operators to get fair value for what they can do in their network infrastructure and the information they control.

3GS How is HP positioning itself in relation to the more traditional device manufacturers?

MM We've strong relationships with all the terminal equipment providers and in many cases work alongside them. We're not in the wireless phone market, but then I think everyone is moving towards a kind ▷

of a smart-phone solution that is much closer to the PDA-type business where HP is an industry leader. We're working out ways in which we can share this technology with the network equipment providers and collaborate with them in developing new capabilities.

3GS How does HP envisage the evolution of the device itself?

MM HP understands that customers have differing device requirements and styles of usage, but there are two schools of thought on the issue of functional integration. It's certainly technically possible to merge all the functionality into a single device, and we already see some people using PDAs as wireless phones. On the other hand, out on the street you see people with a phone, a Blackberry text-mail type device, and maybe a PDA as well. These are the people that have a 'tool-belt' of communication/computing devices. My personal opinion is that this is kind of clumsy. We can bring all the required functionality together into one fairly compact device that can provide different forms of messaging and communication capabilities as well as collaborative, distributed computing. So it's my belief that we're going to end up with converged devices. At present, we're going through a stage where users might use a tiny phone with Bluetooth capabilities used with PDAs or a laptop as a wireless modem. But, ultimately, I think that they're all going to end up merging into a single multi-capability device.



3GS From a business model perspective, how important is it to get users up-to-speed and connected as quickly as possible? Is provisioning a big issue for Hewlett-Packard?

MM Yes, I think it's an extremely important issue. Especially when you're dealing with multiple devices per user, we really have to get to the point where we can automate the provisioning and update process. This is important from the point of view of the enterprise customers and essential for increasing operator productivity. Operators don't want to waste resources dealing with all sorts of special provisioning issues. We are trying to automate that process and develop the ability to share a base of subscriber information with a number of aspects of network infrastructure to simplify the problem.

Provisioning is also important from an enterprise perspective. Neither users nor enterprise helpdesks should have to deal with lots of different companies to make sure services are properly provisioned and that they inter-operate smoothly. So I believe this is an important area of focus for us.

3GS What do you see as the key challenges confronting the operator community over the next couple of years?

MM There are two main issues here. The first comes back to the value chain. I think the biggest challenge facing operators is to find ways of leveraging the information and capability associated with their infrastructure in a manner that provides real value-added services. We're talking about companies that over the years have invested very heavily in infrastructure. In the present climate, such operators are no longer really interested in simply adding more transport capacity. They need to find new ways of providing content and services that provide more customer value.

The second big challenge is about standardisation. In this industry we've learned the hard way that it's rarely productive to move forward on the basis of proprietary technologies and solutions. In other words, there's a need for standardisation and a need for operators to work together and to provide uniform services across the market. That's a tough pill for many in the industry to swallow. The business models of many equipment vendors and operators have been based around unique differentiation and proprietary value. Ultimately, it's an approach that never works. They need to be based on standards. We need to be able to work across regions and across the world. In many respects, this is a challenge that comes with built-in contradictions – to be proprietary, in the sense of ensuring differentiation, but also to be standards compliant as much as possible for flexibility and economies of scale.

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3GS How does Hewlett-Packard envisage the deployment of 3G networks?

MM There are two sides to 3G deployment. The first is about increasing the efficiency of the wireless network, and that's an undeniable benefit. The second is about exploiting increased data bandwidth for enhanced applications. That's a more complicated and contentious issue. As I've said,

we believe there are break points where if you can provide the right combination of equipment, bandwidth and coverage you can transform the service paradigm. We think that the breakpoint for significant new applications is probably higher than CDMA 1x or GPRS standards facilitate, so 3G or even higher bandwidth wireless links will be needed. If 3G networks are complemented with 802.11 hotspots then that composite network can provide a lot more value to enterprises and even consumers. For example we've been working closely with Lucent to provide enterprises with an end-to-end solution using 802.11 technology and 3G networks. I believe there's a lot more value in the combination than either technology on its own.

3GS Is the market ready for this? Do you think operators are beginning to regard WLAN and 3G as complementary solutions?

MM They *are* complementary solutions. However, I think it's only in the past year or so operators have noticed that there's another kind of wireless network being developed under their noses. This is a network that has not needed to pay for spectrum and where take-up has been driven by everyday devices that are already well established in the marketplace. So while WLAN only reached the operators' radar screen over the past year or so, it's come to their attention at a time when the whole proposition is taking off very dramatically in the enterprise space. We're also at a point where the market has demands that are beyond the capabilities of most simple wireless ISPs. These days customers want more than just a connection to the internet. With cellular and WLAN services they're looking towards some uniformity on their billing. They'd like services that can be provided over both 3G and WLAN. Users are demanding more flexibility and services than wireless ISPs can easily deliver so there is an opportunity for operators to pick up the challenge. HP sees many opportunities in WLAN integration – ranging from access devices, networking infrastructure, management, deployment and integration services, storage, printing and content delivery, up to wireless application developer ecosystem support.

3GS Are many operators actively incorporating WLAN into their business models?

MM Many are investigating solutions that allow them to manage and operate WLAN as part of their infrastructure, without the need to deal with them as completely different networks. In this context, there are a number of small start-ups offering useful technology, but this needs to be integrated into end-to-end solutions that are straightforward from an operational perspective. Operators do not want to spend a great deal on additional infrastructure or expensive operational models. In fact, high operating costs have been one of the main problems hampering many of the wireless ISP models. I think the cost of operating 802.11 complementary networks has to go down as they become more smoothly integrated into the infrastructure of cellular networks. But for this kind of convergence to really make an impact, I think service providers need to develop additional services for their customers and for particular types of venue. We need to step beyond just a connection to the internet and create service portfolios that really enhance the value proposition for users.

3GS What sort of services are you envisaging?

MM I'm thinking about location-specific services that relate to a particular venue or a particular type of venue. Let's take airports as an example. People want flight schedules, but they also might want printing services so they can reproduce an email or a presentation. There should be opportunities for them to do things like purchase new tickets or change their routing or plan future trips. If you think about a venue like a museum or a theme park, it's easy to imagine a lot of different services, including things like walkie-talkie phone services, where people might want to talk to each other or play games that are related to the particular venue. Enterprise users want access to corporate applications, online collaboration support, etc. All these elements make up the kind of additional value propositions that need to be included in a 3G/WLAN solution.

3GS How close do you think the industry is to addressing the security issues associated with an enterprise 3G/WLAN solution?

MM Once again, I think it was about a year or 18 months back that the industry woke up to the fact there were serious issues on the security front. Since then, a great deal of work has gone into security-related standards to improve that situation. Right now we're just starting to see some of those standards being put into practice.

Clearly, security is a significant concern for enterprises and any sort of wireless communication is, of course, vulnerable on the security front. On the other hand, I also think that some very impressive solutions are starting to emerge and that the security situation will improve very considerably in the new future. In a security context, at HP we're not just considering the implications of ▷

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the 802.11 standard, but we're also looking at the whole issue of internet security. So we're working a lot on IPv6 and the related security benefits of that iteration, which I think will be extremely significant. It bears repeating that the internet itself is not a particularly secure place, whether or not wireless connections are in place. The challenge is: how do you provide end-to-end security and at the same time keep services convenient?

3GS As Hewlett-Packard's CTO, what are the main technical challenges facing you in terms of wireless development?

MM One of the most important things we need to do is improve the connections between enterprise and telco infrastructures. My concern is that current needs are not being addressed by existing standards and technologies. For example, Parlay/OSA [a standard intended to enable enterprises to create their own telephony services] has had serious problems gaining much traction from the enterprise space. Right now we need new sorts of standards and capabilities to connect web services to telecom infrastructure. We need to come up with solutions that allow enterprises to create new telephony services more readily, without needing to understand how an operator's infrastructure works.

Another challenge we need to address is that operators don't have a lot of money to spend on new infrastructure, but they all want to provide new services and generate new revenue streams. So we have to look at ways to exploit their existing infrastructure and accomplish a smooth migration to enhanced services, as well as providing them with lower cost network platforms. This is all about coming up with solutions that migrate operators forward in an incremental manner; that allow them to get as much value as possible out of their existing infrastructure and then start to migrate across into more advanced capabilities.

3GS Do you mean services like voice portal capabilities?

MM Certainly. We see voice portals as a valuable way of connecting the data network and voice capabilities. This is one example of the incremental shifts for operators I was describing earlier. Another priority is finding ways for operators to create subscriber-centred network architectures. We believe this is important because we see increasing challenges thrown up by device diversity and a subsequent focus on enabling subscribers to self-provision services. This will require significant changes and there are undoubtedly some associated technical challenges that we're trying to address.



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3GS It's a tough time for the technology sector at present. How does HP intend to survive and prosper?

MM I think it's a tough time for all of us, no matter what business or profession we're in. I think it's critical that as a company we make investments in the sort of products and services that will fuel growth. It really makes a difference what you sell when times are difficult. Right now, Hewlett-Packard is concentrating on helping companies cut their operating costs, improve their efficiency and creating new revenue-generating services. For obvious reasons, the wireless industry's very open to that, and in fact, this is an area in which we're still generating a good deal of business. Of course, we're also improving our own efficiency, and at the same time evolving new approaches to the market that will help us position our products and services for the growth that I think is going to follow.

3GS There are undoubtedly tough times ahead. What's the single most important take-away readers need to bear in mind in the months ahead?

MM I think my last comment would be that it's essential for companies to take full account of recent changes in the market and, in particular, to business models. We have to recognise that the complexion of the telephony market has changed very significantly over the past few years. We're seeing some companies that have embraced that change and started to work on how they can move forward. They're prepared to adopt new strategies, even if this means some of their old business models or products have to be limited, bounded or even abandoned altogether. Then there are many other companies that seem determined to follow their old business models – even if these days the models in question are not working very well. So my final thought would be about the importance of embracing change and having the courage to shift direction to move your business forward. The industry is transforming itself, and it will return to growth. But the new telecom industry will emerge stronger, more agile, more realistic and more in tune with customers' needs. □

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