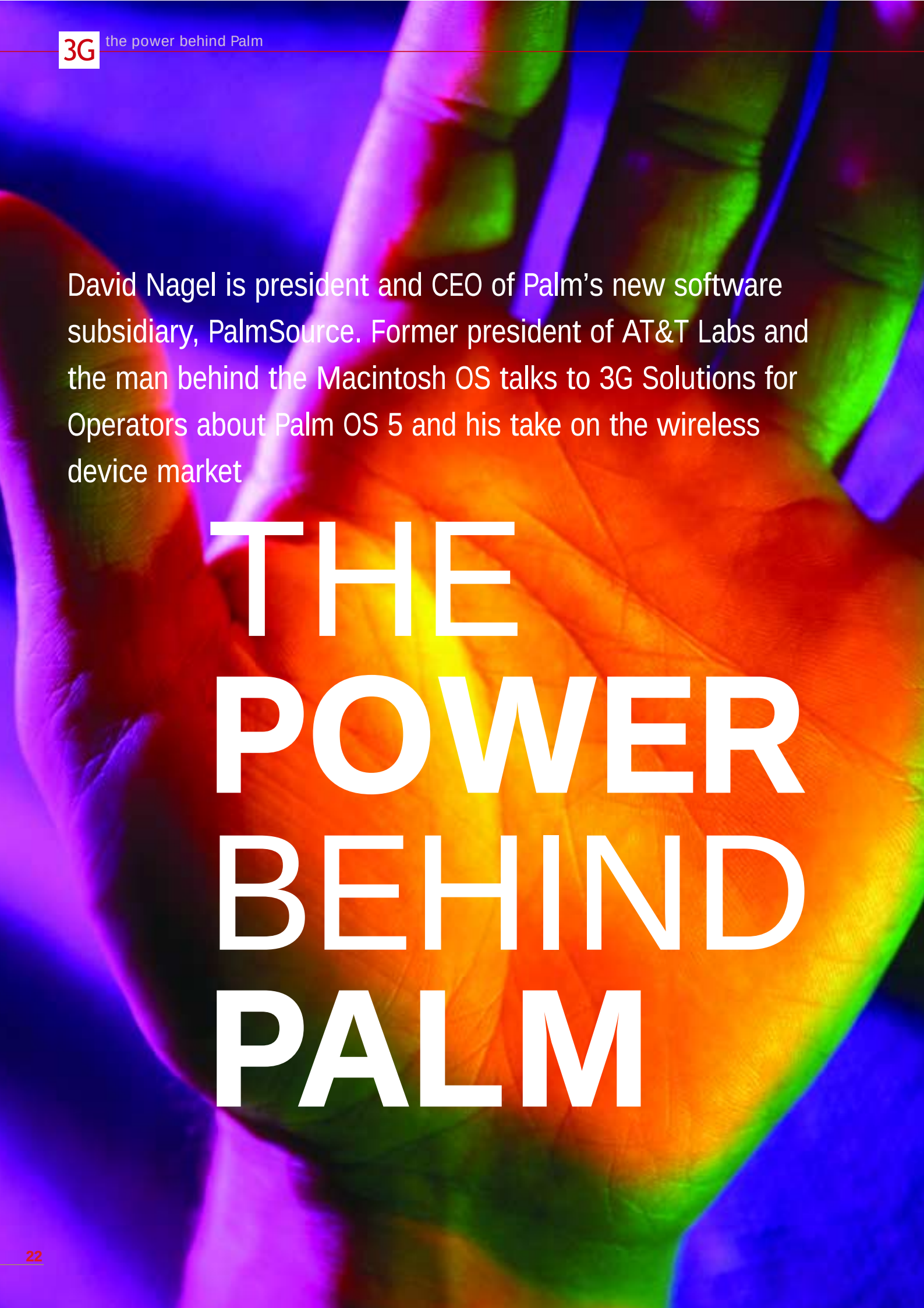

David Nagel is president and CEO of Palm's new software subsidiary, PalmSource. Former president of AT&T Labs and the man behind the Macintosh OS talks to 3G Solutions for Operators about Palm OS 5 and his take on the wireless device market

THE POWER BEHIND PALM

David Nagel was clearly on a mission when he launched the latest version of PalmSource's operating system for handhelds, the Palm OS 5, in London during November. Armed with statistical data detailing Palm's robust performance in world markets, Nagel countered industry speculation that the company had lost momentum, and brushed aside recent talk of Palm's declining power in the device market.

Nagel pointed to increased market share in Europe and the US, and quoted figures from Gartner giving Palm OS a 51 per cent worldwide share of the enterprise handheld market, including a dominant 83 per cent in the US, 49 per cent in Europe, and 56 per cent in Japan. He also announced a major rollout in China towards the end of this year, in a market that Palm estimates could support annual sales of up to seven million devices.

Clearly designed to reassert Palm's market lead, OS 5 marks an important shift to the ARM-compliant processor platform, which Nagel says will offer better performance than the 68000-based series supported by earlier releases. There are also new multimedia features such as an enhanced display and full-motion video capability, as well as improved security and support for new wireless technologies including wireless LAN.

But Nagel admits that though development work at PalmSource is increasingly focused on wireless and the enterprise, Palm OS 5 only 'begins to address the enterprise market' and much remains to be done in future releases on both counts. In terms of wireless 'we will basically take what we've already shipped with OS 5, such as support for 802.11b and Bluetooth, and carry that forward into the other major wide area networking technologies,' he says.

At the same time, Palmsource is working to develop relationships with wireless application providers in key areas, says Nagel. 'The most recent announcement that we've made is a collaboration with Good Technology. They have a Research in Motion-like email push capability that we think is really exciting, and takes that whole category to a new level of affordability as well as user experience.'

Business Concerns

An important area addressed by Palm OS 5, and one of concern for enterprise users, is security. Handheld devices are regarded as easily lost or misplaced, and users want capabilities that will protect their corporate data, observes Nagel. Therefore OS 5 incorporates a variety of security technologies, some embedded in the operating system and others capable of being added to address specific market needs.

Future releases will include virtual private network technology licensed and certified by Palm, and further capabilities such as 'code signing' which allows only trusted applications to be downloaded on the device.

Nagel identifies three additional key areas of the enterprise market where PalmSource will be focusing its attention. The first is integration with the desktop, which has been a hallmark of Palm from the outset. 'HotSync was designed to do that and it continues I think to be the best way, the best example of integration with the desktop. But I think going forward we have to drive that even much harder than we have, and provide things like native file format support for Microsoft applications and the like.'

Secondly, Palm will be working on integration with the back end services infrastructure. 'The trend is moving away from proprietary client/server architectures and more into Web applications and architectures,' says Nagel. 'So we're working actively with people like IBM and BEA and others who make web application servers and support a range of services.'

Finally, work with the mission critical application vendors will be further developed. 'We started out by working with sales force automation, CRM and people of that sort, because those tend to be where the mobile workforce is and it's the sales guys down the road who want all the data and all the tools they ▶

have in the office,' Nagel explains. 'But there are others, and we're finding a very interesting array of new applications that take computing more generally into areas of the enterprise where PCs have never been – on the factory floor or in a delivery truck.'

Besides getting the product and the strategy right, Nagel is optimistic about the market too. He believes businesses are beginning to emerge from the 'dramatic malaise' that has afflicted them over the past two years. 'With respect to capital spending no-one is doing a huge amount yet, although we're beginning to see that change,' he says. And when that happens, he is convinced that a key area of spend for corporate CIOs and IT managers will undoubtedly be handheld computers and the like.

When that happens Palm will be well placed with 95 per cent of enterprises already deploying the Palm OS platform, and the majority of users working in the enterprise space. "We don't have an exact figure, but 80 per cent of the people that we ask say they use a Palm powered device in the enterprise or at work. So clearly it's a very important market for us and we've begun increasingly to talk with the enterprises about what's important to them.'

But even though Palm may be on the company's list of approved vendors, purchasing decisions still tend to be down to the individual says Nagel, although he doesn't regard this as a problem. 'It's almost a discretionary purchase because it's a $100 or $200 or $300 purchase rather than $1000 or $2000 or $3000 purchase. So I think it's more cost effective the fact that they do it this way than to go through the normal purchasing channels. That's the common practice.'

Playing to strengths

Perhaps not surprisingly, the challenge from the old adversary, Microsoft, remains something of a preoccupation for Nagel. He sees Palm's strengths as its low cost of ownership and ease of use. Because the operating system's footprint is so much smaller people can build significantly more affordable devices on Palm than they can on Pocket PC, he argues. Palm-based products in general are also more affordable, he suggests, and although over time that price difference will tend to diminish, it will not disappear.

Nagel calls Microsoft 'a sort of central planned economy' that is even doing hardware design in the handheld space. 'The Microsoft reference model for a Pocket PC labelled handheld is quite rigid, there's a long list of hardware requirements. Our practice is exactly the opposite, we do not specify anything about the hardware other than the microprocessor family, and really all we ask prior to certification of the device is that it passes the software compatibility tests.' This encourages Palm's hardware vendors to make very different kinds of products, and will prove the strength of its platform and approach over time, he contends.

> **"The trend is moving away from proprietary client/server architectures and more into Web applications and architectures."**

Nagel's vision is for what he calls 'mass customisation' comprising a diverse family of products running on a common Palm OS platform. Palm OS licensees such as Samsung, Sony, Kyocera, Handspring, Palm itself, and West Coast start-up AlphaSmart, are already working on a range of device types and form factors. Backing this up are some 240,000 application developers who have so far delivered almost 15,500 applications for Palm OS, claims Nagel.

As regards the rest of the competition, Symbian has not done much with respect to getting the enterprise third parties organised and brought to market, says Nagel, although the RIM announcement with Nokia is evidence that they're starting to move in that direction. 'I think beyond that you will find that each of us tends to focus on particular market areas and particular areas of strength. Palm is particularly strong in healthcare, for example, for a whole variety of reasons. Obviously Microsoft has more strength in the enterprise than Symbian.'

Europe's preference for the phone form factor clearly sets Palm something of a challenge, but its one that Nagel believes the company can address. 'Whether it's a style thing or whether it's practical experience with using short messaging… there are important regional differences and I think as we build our OS if we want to sell in Europe we're going to have to do a great job with SMS. I think that the initial products for

the European market are going to be much more phone centric devices that look much more like telephones than they do PDAs.'

Having said that, Nagel holds to the view that in time Europeans will start looking for more PDA-type features. 'The kind of things that are driving interest are data centric devices such as the ability to get email, screens large enough to render a Powerpoint presentation or an attachment so you could review a document. Those devices will find their way into the market and I think Europeans will begin liking them.'

But more importantly, Nagel thinks that the industry is learning to standardise in key areas that will allow support for a variety of device types. 'I think one of the signs that there has been some positive learning is that people that operate networks are standardising on things like technologies, like Java. So that at least some of the basic network interactions like provisioning and billing and choice of software downloading catalogues, transaction support and things of that sort, are done in a very standard way.'

This suggests that it will be easier to support multiple device architectures in the future, he says. 'I do think that if the network operators can have an operational infrastructure which is common enough across the different platforms that they can support all of these differentiated kinds of products then I think they'll be able to do that much more easily.'

Thoughts on 3G

Nagel attributes the delays suffered by 3G in Europe to a combination of technology problems, a hangover from the economic bubble and the 'almost obscene' prices that the carriers had to pay for 3G licences. Added to this is the general pressure from the investment community 'not to continue investing and to begin actually showing a profit rather than things like EBITDA'.

"The kind of things that are driving interest are data centric devices such as the ability to get email, screens large enough to render a Powerpoint presentation or an attachment so you could review a document."

Nagel's view is that the 2.5G era will serve first and foremost to get carriers up to speed with respect to solving the problems of not being able to sell – or knowing how to sell – mobile data services, and of not having an infrastructure in place.

In terms of the enterprise's currently perceived needs, 2.5G will for the most part fulfil expectations, thinks Nagel. 'Once you get over the first 50 to 100kbps people are used to that kind of speed for email which is still the predominant mobile application. Going forward, as people get more into the access to data XML-based kinds of services, I think even there for the most part they reckon that 100kbps capabilities of the 2.5G networks will largely be adequate.'

But ultimately, he regards 2.5G more as a valuable precursor to 3G rather than a substitute. 'We're talking continually with major carriers in Europe about Palm on 2.5G and 3G. I think the 2.5G era will turn out to be a very useful era for putting most of the pieces in place needed to make 3G really take off. Then when it really does begin to roll out in earnest, I think it will be much easier to make a living by selling data services to enterprises as well as to individuals.'

Ever conscious of the looming challenge from Microsoft however, one of Nagel's greatest fears is that the handheld OS market might go the same way as the PC OS market did before it. If this is to be avoided, then PalmSource's success in building a presence for Palm OS in the emerging wireless market could be decisive. But he is ready to acknowledge that these are early days, and it's going to be a very competitive time ahead. ■

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