



Intellectual property

Inventive warfare

Battles over patents are becoming fiercer and more expensive

THIS deal is all about patents. That was the near universal view of Google's announcement this week that it was taking over Motorola Mobility, a maker of handsets and other devices, for a colossal \$12.5 billion. Indeed, the purchase will provide Google with an awful lot of patents: around 17,000 of them issued and another 7,500 pending. They should help Google in its efforts to get more smartphones and other mobile devices running on its Android operating system (see following story). But it could also make the battles over patents nastier and more costly.

A scramble for patents had already begun. In December four companies, including Microsoft and Apple, paid \$450m for around 880 patents and applications owned by Novell, an ailing software firm. In July those two and four others, including Research In Motion, maker of the BlackBerry, spent \$4.5 billion on 6,000 patents owned by Nortel, a bankrupt Canadian telecoms-equipment maker. Before its latest deal, Google bought 1,000 patents from IBM. Firms are also suing each other. Apple claims its technology has been copied by Samsung and Motorola in their Android phones. Oracle is suing Google for up to \$6 billion, claiming that Android infringes its patents. Microsoft is suing Motorola over Android too. Nokia recently settled a similar quarrel with Apple.

What is going on? Some say companies are attaching more value to intellectual property. Indeed, the Google deal seems to

have been priced on a cost-per-patent basis, causing the share prices of other firms with lots of patents to rise. Others, however, think the battles reflect deficiencies in the patent system forcing firms to pay vast sums to protect technologies they have developed. The answer is a bit of both.

System failure

Kent Walker, one of Google's senior lawyers, grouses at being forced to spend a lot of money defending the company against frivolous lawsuits by rivals. Others counter that as computing goes mobile, it favours information-technology firms that have invested in research for years and that Google was naive-or idealistic-to broaden its IT business without having a stack of patents. There is a retort to that, too: that incumbents can use patents as barriers to entry, which is why America's antitrust regulators are showing interest in them. In April the Department of Justice demanded changes to Novell's patent sale to protect open-source software.

Nowadays, innovations in IT usually rely on many small improvements involving numerous technologies, which means it is not always clear precisely which inventions a patent covers. The open secret is that everyone infringes everyone else's patents in some way. This creates an incentive for firms to build up their patent portfolios to strengthen their position in negotiations, leading to what some liken to an arms race. The legal tussles usually end in

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cross-licensing deals, in which small sums of money change hands. This is considered preferable to a mutually destructive exchange of endless lawsuits.

The patent battle has become more contentious than ever. One reason is the mobile phone has provided a new platform of computing that firms want to dominate. Also, such a backlog of applications built up at America's patent office (now more than 1m, with a waiting time of around three years) that standards slipped. Dubious patents were granted, helped in part by court rulings that allowed patents to stand on some software and "business methods" that many thought no one could lay claim to. In Europe and Japan, where patentability standards are higher, this is less of a problem.

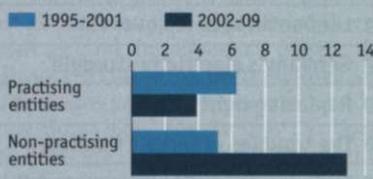
Making things even more troublesome is that as lawsuits became particularly lucrative some companies entered the fray to feed off them. Non-practicing entities (NPEs), which have intellectual property but no actual products, include such august bodies as the Harvard Medical School. But some NPEs are derided as "trolls" because their sole purpose seems to be to exploit the legal system by demanding licensing fees from companies, sometimes for questionable patents. Over the past 15 years, the median award to NPEs of damages for patent infringement has doubled while that for other firms has declined (see chart on next page).

Court rulings in America have begun to clip the trolls' beards by making it harder to win injunctions and by strengthening the criteria for whether an invention is truly "non-obvious". Microsoft has seen the number of suits filed in the famously plaintiff-friendly district court of Eastern Texas fall from 17 in 2007 to just two so far this year, says Brad Smith, Microsoft's general counsel. However, as big companies have improved their defences, the trolls

Patent abuse

US patent-holders

Annual median damages awarded, \$m



Source: PwC

- have changed their tactics and are now going after start-ups.

New legislation could change things. David Kappos, director of America's patent office, says the America Invents Act could amount to "the most sweeping reforms to the us patent system in 175 years." It is expected to be passed this autumn, Barack Obama has indicated that he will sign it, and big IT and drug companies support it. But many entrepreneurs and venture capitalists do not, arguing that it does not fix any of the system's big problems and risks creating new ones.

The most contentious point is a change to determine who is the rightful inventor.

Instead of being the "first to invent", the successful applicant would be the "first to file", the standard used worldwide. Harmonising America's rules with those in other countries would be a step towards greater co-operation and efficiency in patent examinations globally. Big companies like the proposal because it gives them more legal certainty that someone will not appear claiming they came up with the idea first. But inventors like Steve Perlman, the founder of WebTV and other firms, argue that it forces companies to file for patents before their inventions are fully developed. That, says Mr Perlman, would lead to yet more incremental improvements rather than big innovative steps and put a toll on America's competitiveness.

For the moment, though, companies are amassing ever larger arsenals of patents. Google, for one, was hit by eight lawsuits in April alone—more than in the first five years of its 13-year existence, says Mr Walker. "See how far we have strayed from the notion of innovation, that we need to acquire patents to fend off potential suits," he says of the firm's overall strategy. "That money could have been spent on engineers, to much more productive use."

Google's takeover of Motorola Mobility

Patently different

The battle in the mobile industry takes an unexpected turn

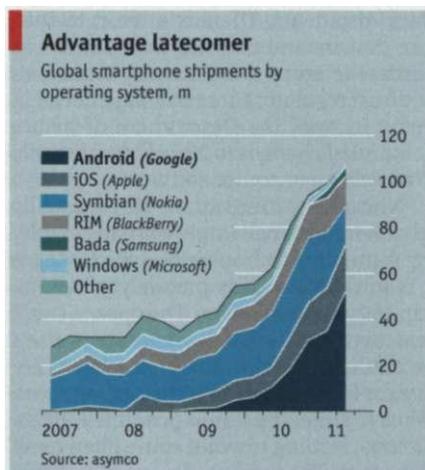
WHEN smartphones were still young and computing tablets not yet born, some analysts predicted that the market for mobile devices would sooner or later look much like that for personal computers (pcs): there would be a clear division of labour and intellectual property between makers of hardware and software; a dominant operating system would emerge; and Apple would again become a niche player.

If proof is still needed, Google's takeover of Motorola Mobility is the strongest sign yet that this will not come to pass, at least in the near future. On the contrary, the mobile-device industry will bear a closer resemblance to its other parent: the market for old-fashioned, voice-only handsets.

Start with intellectual property. In contrast with PC makers, firms in the telecoms industry have long fought over patents. If such disputes are even more common over today's mobile devices (see previous article), it is because they are exceedingly complex and based on intellectual property from many different industries.

Gaining control of Motorola's big patent portfolio will provide Google with ammunition in the ongoing battle between

mobile platforms. Android, Google's operating system for smartphones and other devices, has taken the world by storm. Its global market share is approaching 50% (see chart). Yet Apple and Microsoft have found a way to slow down, and even benefit from Android's advance: going after makers of smartphones running Android for patent infringements.



Source: asymco

This tactic has put a price on Android, which Google gives away free. In early 2010 HTC, a leading vendor of Android devices, agreed to pay royalties to Microsoft for the use of its patents. And in July Apple won a legal victory against HTC which could lead to even higher payments.

Google's acquisition also illustrates the second difference between the markets for pcs and mobile devices: the latter will be more vertically integrated. Apple's big advantage is controlling all parts of its products, from the user interface to the processor. It is thus able to fine-tune them, for instance to keep power consumption low or make touch screens react faster. Most devices powered by Android are not as highly optimised—which helps to explain why Android tablets, for instance, have yet to catch up with Apple's iPad.

Owning a handset-maker allows Google to better integrate software and hardware. At the same time, the firm cannot copy Apple's model completely. If it is seen to favour Motorola's products, other device makers might abandon Android. This would defeat the operating system's purpose: making sure that Google's services—and thus its lucrative advertisements—make it onto as many mobile displays as possible. When Google's bosses announced the merger, they took great care to explain that they would run Motorola as a separate business and not change the way in which Android was managed.

Carolina Milanesi of Gartner, a market-research firm, expects Google to use Motorola to build benchmark models for Android devices to help others improve their products. The industry is moving towards a similar set-up. As part of a co-operation agreement with Nokia, Microsoft is using the Finnish company as its hardware-maker of reference.

Third, it is unlikely that one firm will ever dominate the mobile industry as much as Microsoft did in pcs—because the most powerful companies will do almost anything to keep this from happening, says Ben Wood of CCS Insight, another research firm. Just like Google, they will spend billions to stay in the race. And wireless operators have let it be known that they are already unhappy with the current duopoly of Android and Apple. They will certainly push Nokia's new Windows phones once they hit the market later this year or early next.

All of which means Google's acquisition is unlikely to be the last deal of its kind. Other American technology giants have plenty of cash—and a need to strengthen their mobile stature, says Mr Wood. Even Amazon, an online shopping giant, may feel the urge to splash out and buy, perhaps, Sony-Ericsson, which like Motorola seems too small to make it on its own. The battle for supremacy in the mobile industry has only just begun.