

What is an Intellectual Property Strategy?

by Bill Meade

Bill Meade, Ph.D. President of BasicIP, is the former Patent Portfolio Manager for HP's LaserJet group where he lit the inventing fire that took HP from 18th in patenting after Agilent's spin out, to 6th in patenting in 2006. Bill managed the business side of patent litigation for HP in the HP v Xerox lawsuits during the Thoman regime at Xerox. Bill worked for Jim Hall, father of the LaserJet increasing the quality, quantity, and strategic alignment of inventing with HP's businesses, and was promoted upon Jim's retirement, into the legal department where he extended HP's fantastic IP strategy into day to day use by developing IP business processes. Bill ran over 200 invention workshops for HP in Boise, around the US, and in Australia, Singapore, India, Germany, France, and the UK. Bill is not a lawyer, but when you put Bill between a lawyer and your inventors you will hear your lawyer say "Bill, I could never say what you say, but when you say it, the inventors do what I've always wanted." Bill has 6 issued patents. Basic Intellectual Property Management, Inc., or BasicIP is an intellectual property management consulting firm based in Boise Idaho. We endeavor to be the world's best at invention capture, trade secret protection, and restarting IP programs. We do this by being the most experienced, most enthusiastic, most analytical, and best at IP basics. <http://www.basicip.com>



Intellectual property (IP) is as complicated as a gothic cathedral... and can be more expensive. The complexity of IP is such that if you do not manage your IP, it will manage itself. Now autopilot can be a fine way to manage IP if your industry is stagnant, competitors are few, and your company is lucky, but if you work in an industry with growing competition, changing rules, threats from new technologies, and increasing pressure on margins, autopilot is effectively, no pilot. The purpose of this article is to reduce the gothic cathedral of IP strategy, to the answers to 6 questions that package IP strategy, and put a handle on it so that standard strengths-weakness-opportunities-threats strategic management can be applied to IP management.

Question #1: "Who is our IP reference group?" As an example, think about the display industry. If you were an IP manager in one of the companies competing in the US display market, how would you decide how many patents you need to generate? How many do you need to license from? License to? Wow! Hard questions. Easy to make wrong decisions. Particularly if you've just been hired as an display industry IP manager. Everybody knows "Samsung is big" but what exactly does being "big" have to do with developing a viable long term IP strategy in the display industry? Defining the reference group answers a lot of these questions. Figure 1 shows the past 20 years of patent history of large display companies.

Samsung, Sharp, and Sony display patents were raked out of the total patents for those companies by searing for only patents that included "LCD, screen, display, and plasma" somewhere in the patent. Display patents for Samsung and Sharp are indicated by the name with an asterisk at the end: Samsung*, Sharp*, and Sony*. Patents for Chi Mei, Innolux, and Toppoly have been added together and titled "Chi MEI+I+T".

Picking the correct IP reference group of companies, will set you on a course to preempt litigation, set management expectations for investment, and set the IP manager up with a long-term goals to execute against. The more you know about the deep competences and aspiration of your company, the more wisely you can range in a profitable and practical IP plan once your reference group is defined.

Question #2: "What is our role in our reference group?" Once you know your reference group, you do what we call "simple math" analysis and portfolio management answers start falling out. For example, the display industry patenting, because the industry has become so concentrated, is what we call a "king, prince, serf" distribution. Samsung and Sony are kings. Sharp is the prince. And the serfs are LG Display, AU Optronics, and Chi MEI+I+T. The first law of IP management is "don't piss off the kings."

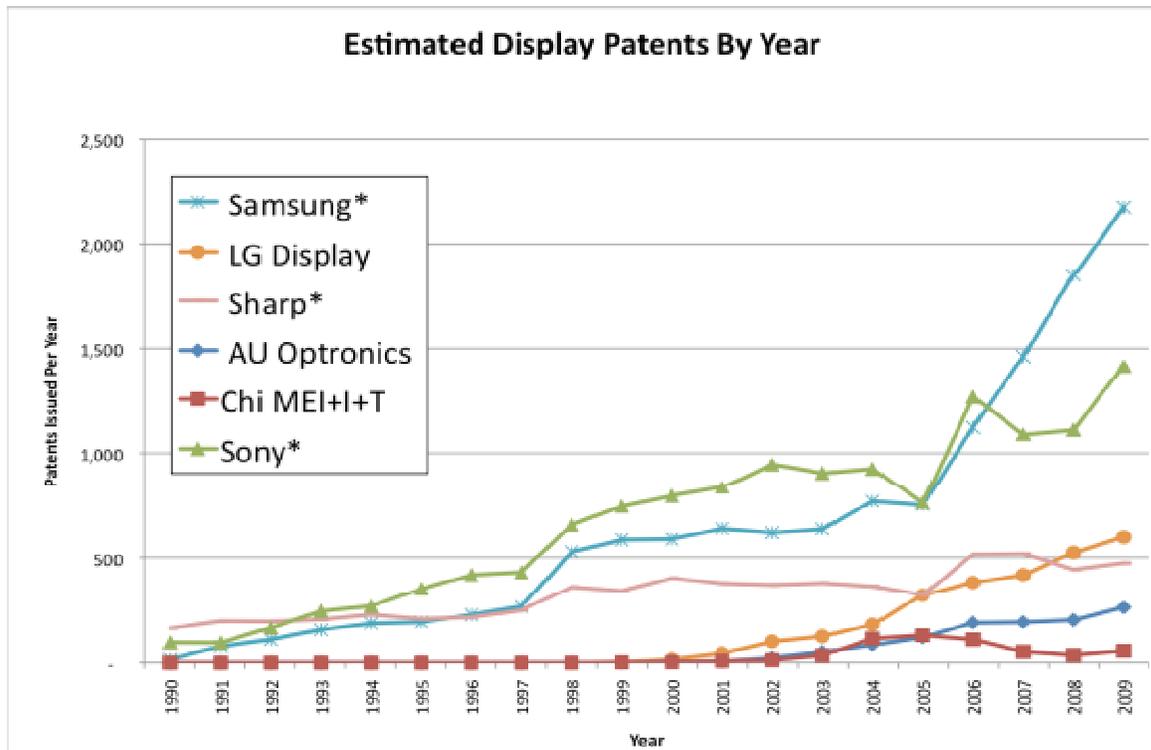


Figure 1 - Estimated Display Patents by Year Source: <http://www.delphion.com>

Of the 422 patent litigations that Samsung is currently involved in (Source: <http://www.innography.com>), there are 32 cases where Samsung is suing, the rest Samsung is being sued. Wait, what? $32/422 = 7.6\%$ of the cases Samsung is involved in, it is asserting. Of the 710 cases that Sony is involved in, $20/710 = 2.8\%$ are cases Sony is initiating. First rule of display IP management is to stay out of Samsung's 7.6% and Sony's 2.8%. With a display portfolio of nearly 13,000 patents (Figure 2), and a total patent portfolio of approximately 33,500 US patents, Samsung is one company that can grind you to dust, and Sony has even more patents. The statistics though say, that unless you do something horribly wrong, kings are unlikely to come after you (only 1 in 13 of Samsung's litigation cases are assertions, 1 in 35 for Sony!).

Sharp, as a prince, has enough patents (Sharp is approximately at steady state portfolio of 6000 patents – about the same number of Sharp patents expire every year, as are captured) that it can't be forced from the display market because of "nuclear IP" logic. Nuclear logic is that even though Samsung has 13,500 and Sharp has 6,000 patents. Each company has a big enough pile of patents that if both companies got into an all out patent litigation war, each company has enough IP to blow up both companies. Just 1 patent and 1 injunction on shipping your best selling product, and you are in a world of hurt. Somewhere in a 6,000 patent portfolio is a patent that will kill Samsung's best seller. Both Sharp and Samsung know this and manage their relations to avoid an all out patent war.

LG Display is a serf that is becoming a prince by aggressively growing its patent portfolio. But serfs in any industry patent structure are essentially free riders. We call the serfs "raiders" because their IP management is all about just staying in the game and running production full blast to tear off big blocks of sales from the king's market. An example in the TV industry might be VIZIO which, when sued by Sony in 2009 (after passing Sony in US sales) bought a patent from Motorola and counter asserted the patent to win a cross license with Sony. All in less than 6 months!

Look again at Figure 1, for IP strategy role changes. Industry insiders who know the internal pressures and crises of each of these companies, will be able to tell a story from the variations in the patent data. But my point for this article is that even as an industry outsider, you can see stories and make conclusions about what roles each auto

company has chosen to play and when those roles change. What happened with Samsung* in 2005? Something changed there. Samsung went from being a king, to being a king with a nearly unlimited arms development program.

I think what was going on was that Samsung around 2004 realized that if it was going to get out of being the world's largest payer of patent licenses, it would need to pass IBM in patenting. The display group seems to have led that as display patents spiked upwards in 2005, and total Samsung total patents took off in 2006 (Figure 3). Sony in the same time period is on a gradual rate of increase.

An IP manager needs to know a tremendous amount about their company in order to isolate the IP strategy role most appropriate for that company. Much as Steve Fox, the brilliant long-time associate general counsel for IP at HP, set HP's IP strategy based on long experience, knowing Bill Hewlett and David Packard personally, and having deep experience with HP as it grew. This IP strategy changed when Carly Fiorina became HP's CEO and then it changed again when Mark Hurd took over the top job.

IP managers need to study senior management, then predict what the right strategy will be for the future, then concept-test the IP strategy on senior management early and often. Then, concept-test the strategy on the board of directors, and anyone else who will listen inside the company. Everyone in a company has an opinion about IP. They may not even know what IP is, but still, opinions come for free and in large volume. When defining the role played in the past, the role needed in the future, the IP manager will have no trouble having management interested if plain English is used.

Question #3: What is the core IP business model? What is an IP business model? Simple, how IP pays for itself. There are at least 8 ways that companies justify the investment in IP (Figure 4). Each company has to pick 1 or at most 2 business models as the main way(s) it will generate returns from IP. The reason is that IP is so underfunded in most companies, that even 1 just 1 business model, most companies are unable to drive their IP strategy through monetization. If your IP team does not have the required infrastructure to implement an IP business model, then that model is not for you (see Question #5 below). Business models and means to them, must match to have a viable IP strategy.

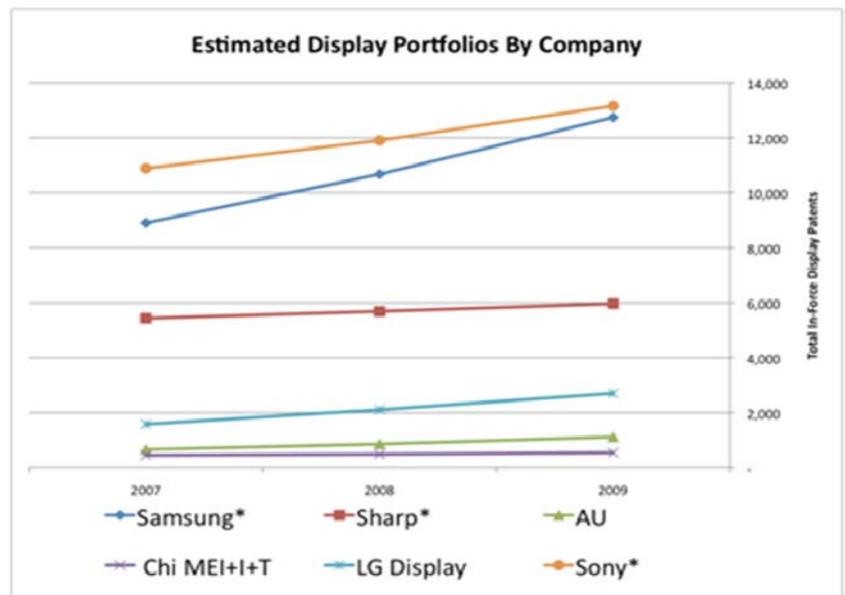


Figure 2 – Annual Estimated Display Portfolios
Source: <http://www.delphion.com>

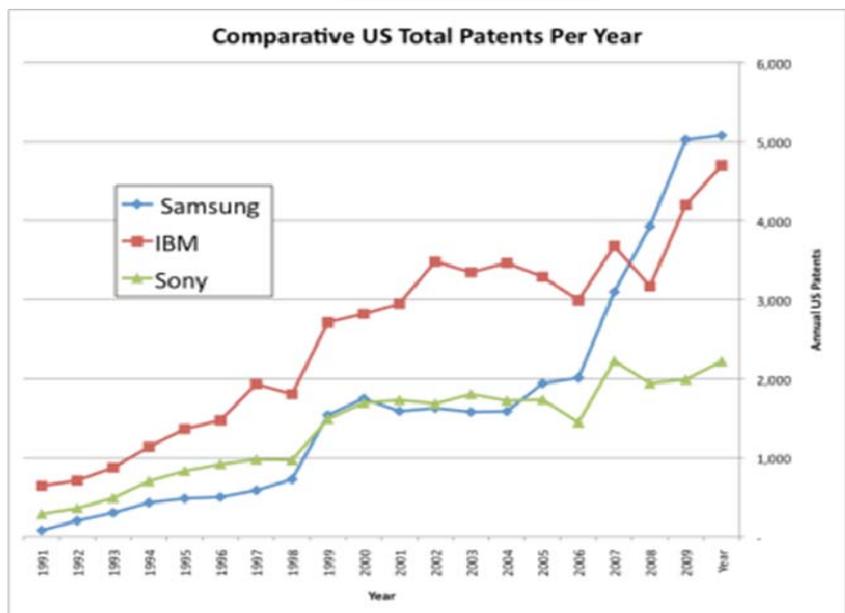


Figure 1 – Total US Patents By Year
Source: <http://www.delphion.com>

The exception to the 1 company, 1 (or at most 2) business model rule is IBM. IBM is renowned for capturing revenue from outbound patent licenses. But this is far from the only way IBM funds its IP management program. Because IBM has the largest number of issued patents over the past 2 decades IBM also benefits from reducing patent litigation.

How do patents reduce litigation? Why would anyone practicing in any business sue IBM when there are 50,000 degrees of freedom (see Figure 5 2009 for IBM) in IBM's ability to make your life miserable? IBM could sue you in the US, in China, in Japan. Their patent portfolio sends a potent message to companies contemplating suing it for patent infringement: "Bring it on." In addition to inbound license revenue, and reduced litigation, IBM benefits from having design freedom.

Design freedom is a fruit of core companies in an oligopoly, cross licensing one another. Numerical example: Imagine 5 companies in an industry, each having 20 patents. Further, imagine all 5 companies have cross-licensed one another to all 100 patents. So for the 20 patent investment, each company has the ability to avoid 100 patents worth of protected ideas. That is, each of the 5 companies can practice its own inventions, and the inventions of all 4 of its peer companies without fear of patent litigation.



Figure 4 - 8 Basic Ways IP Pays for Itself

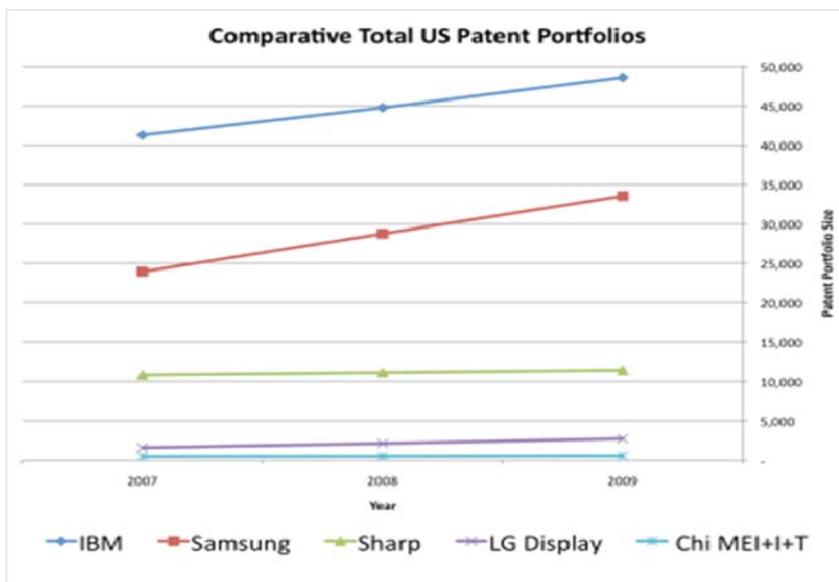


Figure 5 - Total US Patent Portfolios
Source: <http://www.delphion.com>

In actual cross licensing practice, it is not uncommon for heavily cross-licensed companies to multipliers of 15 and 20 to 1. That is, for every patent in one company's portfolio, that company has access to 15 to 20 patents in other company patent portfolios.

So IBM has at least 3 business models: outbound licensing, litigation reduction, and design freedom.

Your IP business model is as simple as an income statement. The sales is the quantified benefit your company receives from the sum of royalty payments, reduction in litigation costs due to strong portfolio, cross licenses, being obscure enough financially to avoid attention, and to save costs by terminating patent litigation.

Question #4: “What IP portfolio hygiene process do we need?” IP portfolio hygiene is all about keeping the IP in a company, matched to the requirements for IP. Matching IP to needs requires a closed loop feedback process that operates much faster than the pace of technical change. Lead times for patents are so long, if you have a patent-based IP business model, you have to be looking 2, 3, and even 4 years into the future before patent protection can be brought on line. IP matched to what requirements? Matched to the reference company patent rates, and the role your company has chosen, the future looking technologies your company needs to own the right to use, as well as competitively preemptive IP.

Portfolio hygiene is much more complex on the inside than it seems from the outside. For example, most companies don't have an employee that is fully up to speed on their patent portfolio. Just reading the portfolio and knowing what technical and business buckets that the patents fall into, is time consuming and difficult. For example, if you started as Apple's IP manager, you now have 2,726 patents that you need to understand and mobilize. HP has 23,500 patents in force in the US and Dell has 1,900. How do you manage the IP of a company with 10% of the patents in the largest competitor's portfolio. Simple really, start reading!!! Ideally, the IP manager would either have read, or have a staff that has read the own-company patent portfolio. Then, there should be a process for specifying and updating the IP requirements. And then, an annual process to match requirements to IP inventory and plan.

The traditional approach to IP management is to get a patent, proof read it and then put in for any typo fixes, then drop it into the portfolio and forget it. Forget it until the next batch of maintenance fees are due by the patent office. Maintenance fees? To keep a utility patent in force fees are due at 3½ years (\$930), 7½ years (\$2,360) and 11½ years (\$3,910) after issuance. http://www.uspto.gov/web/offices/pac/mpep/documents/appxr_1_20.htm#cfr37s1.20

So, in a conventional IP program running on autopilot, the patents with maintenance fees due, are reviewed together in a bundle, and a decision is made whether to pay or drop the patents. In companies that have not specified the IP that is needed, these are high-risk, no-high-veracity-data decisions. That is uncomfortable decisions. Any effort to close the open loop between patent value before deciding on maintenance fees is a huge advance. For example, simply knowing which patents are used in which products, so that you could get a list of patents not being used to sell them or stop maintaining them.

The one area of patent portfolio hygiene that is fun and relatively easy to manage, is finding impending technologies. Another name for impending technologies is future looking or competitively preemptive inventions. IP managers usually know what they want next to bring into the portfolio. The question is “how” to bring future looking technology into the portfolio.

The 3 basic approaches to bringing new technology in a patent portfolio are: (1) Farming, (2) Crisis management, and (3) IP arbitrage.

Farming: Building up a patent portfolio for example, can be done by farming inventors. While managing IP for HP's LaserJet group I learned that the analogy between farming and inventing goes pretty far. You can generate as much IP as you need at a lot better quality if you:

- target the inventing you want (i.e., buy and plant seed of the species you want to harvest),
- if you train (fertilize),
- have an objective rating process and provide quantitative feedback from idea ratings (remove weeds to prevent competition with good plants),
- if you transfuse massive quantities of enthusiasm to inventors (same as watering, **hint** if you water the alfalfa, you can get multiple crops per summer!),
- have infrastructure for closed loop feedback between IP team and inventors (equipment and people needed for the land, plants, and weather).

Pushing the farming analogy we were able to light an inventing fire (By the way, thank you Carly for putting “invent” under HP’s logo!) that took HP from 18th in patenting after the Agilent spin-out, to #6 in US patenting in 2006. But as farmers know, you don’t have to grow just one crop or farm just one way. Once you realize that you can farm inventions, you can go for massive quantities of inventions from a few inventors. You can go for highest quality inventions (but watch out if you do) in future looking areas. You can have a Bonsai invention farm, an organic invention farm, a genetically engineered invention farm, or any other kind of invention farm you require to meet your company’s IP needs. Invention farming is not about quantity. Nor is invention farming about quality. Invention farming is about matching inventions needed to the company’s IP requirements.

To mobilize your organization’s inventing to meet its needs, it helps to have invention farmers. Specialists in targeting, refining, and capturing inventions, can bring closed-loop control under the hand of CTOs and IP departments. While farming inventors at HP we were capturing 2.5 invention disclosures per inventor per workshop. Now, 10 years later we’re capturing between 6 and 11 invention disclosures per workshop. While farming isn’t about just numbers, this increase in numbers over time illustrate the gains from specialization. Invention farming, like real farming is all about profit. If you have knowledgeable invention farmers, you can maximize your IP profit by matching outputs to requirements.

Crisis Management: Often companies find the need for additional IP not by managing their IP portfolio, but instead by an IP crisis engulfing them. For example being sued. Once an IP crisis happens, the company will start climbing the IP management learning curve, with management, with lawyers, with outside consultants, all hands bailing wildly. The good thing about an IP crisis is that the needs for additional IP to manage the situation become crystal clear. Once the crisis points out the need for IP, the company can like VIZIO mentioned previously, find a killer patent owned by a pedigreed patent holder and then counter assert. For many companies this will cost tens of millions of dollars, and would pay for an IP farming program and patent program many times over.

“I think the most important ‘crack’ between business and legal is a feeling on the business side that legal is running the litigation show and they {the business people} only need to be tangentially involved. This is because the business people know nothing about litigation, are busy running the business and assume that since attorneys are trained in litigating that they would naturally be good at managing a litigation project. On the other hand, it seems to me that attorneys are trained or think of themselves mostly as advisors. Therefore they often don’t seem to have the background or training or maybe even inclination to really manage a litigation project. For that reason they really want the business side to be very closely involved and making all the key decisions”.

- Jim Hall, LaserJet R&D manager

The biggest problem with managing IP by crisis, is that very little long term learning happens from crises. Crises bring with them big disconnects between legal and business. This is the point of Jim Hall’s quote above.

After the crisis, litigators declare victory and move on to the next crisis. Business managers are just happy to have the situation closed. Corporate counsel are left burned out and un-thanked. IP portfolio managers having survived litigation often leave their position, and often, the company. Matching your IP portfolio to your needs via crises is like treating type 2 diabetes with emergency room visits and no change in diet. The misfit of this approach is so great, that there always has to be a better way to manage IP than by waiting for crises. Having survived 3 corporate IP crises, I may be biased.

IP arbitrage: The final opportunity for matching your IP portfolio to your IP requirement is to use a new class of IP arbitrage broker that is emerging. IP brokers range from order-taking companies, who list everything from A to Z, to “arbitrage sellers” such as Quinn Pacific that specialize in building “sell high” markets for patents.

QP can set up “sell high” transactions (and theoretically, engineer buy-low transactions as well) because they’ve been focused on the display, and touch asset markets for 20 years. QP knows and is trusted by senior management, so they are able to give patents the best possible exposure to a company’s IP business model managers. In effect,

QP builds a market from scratch for each patent portfolio it sells. As an arbitrage broker, QP lives from commission, so they have a strong incentive to find as many buyers as possible to get the best price for a seller. Golden rolodex + 20 years of trust = sell high patent brokering.

Summary: How are you going to match your IP requirements to your IP inventory? This is the key question of IP portfolio hygiene. You need to specify the IP needed. You need to know the IP you have. You need to specify the mismatch between IP needed and IP on hand. The 3 main ways to fill an IP gap are invention farming, crisis management, and patent arbitrage.

Question #5: “What is your IP infrastructure scaling model?” The first time an IP manager cranks through these IP strategy questions, they inevitably find a mismatch between the IP needed, the IP available, and the budget available to bring needed IP into inventory. Because IP departments are usually cost centers, they rarely have activity-based budgets.

This is a small fact that has huge implications for IP management. For example, if an IP farming effort doubles the IP flowing into an IP department, the IP budget will not increase to fund the increased work. IP departments can crank out more work for a year or two, but if management does not bring in the infrastructure to fund work at competitive levels, the department will disappear as migration to more reasonable workloads takes place. A general counsel friend when challenged about the need for an activity-based IP budget said: “We have no financial problems, we just added a paralegal!” Denial ain’t just a river in Egypt.

IBM’s IP management again provides an example of how the pros match activity to workload. IBM reportedly built a patent factory in India to augment the patent drafting capacity of its legal department once management had decided to become #1 in patenting in the US and world. When you have a dynamic IP generation need, you need to meet the need with economic engineering. To meet this need the legal department and the management teams need to agree on an infrastructure scaling model.

The idea of infrastructure scaling model is to, over some long run, bring IP requirements together with IP capabilities and inventory. The default infrastructure scaling model used in industry is what I call “Last Year + 4%”. Over 30 years, this is a powerful model. But, in the short run of 3 or 5 years, Last Year +4% can’t move the needle enough to fill IP gaps. If your IP strategy requires you to take dynamic action, you need to stop and figure out how to fund dynamic change before you initiate the change.

Think of Tesla. They are entering the auto industry and are tens of thousands of patents behind companies already in the industry. To buy membership in the main industry it should consider an IP strategy to get to 600 patents (average auto industry patenting in 3 years) per year as soon as possible. Table 1 shows just the variable costs of scaling up a company’s patenting to 600 patents per year over 4 years (Tesla Motors has 8 patents as of 2/22/2010). Given how difficult it is to raise money, is it likely that Tesla will have this much capital to invest this quickly? Only insiders to Tesla have an idea. If sales takes off, this may be easy. But then, if sales take off, Tesla is likely to be seeing demands for cross licensing. It is hard to get ahead of IP hygiene needs. Hard to have an IP plan in place to prevent litigation, and then to continue to implement the plan after litigation has engulfed an IP department. IP strategies are just air and email without an IP infrastructure scaling model. Infrastructure scaling models are how IP strategies are implemented over meaningful time horizons.

If you need to make a right angle turn at mach 2 without blacking out (as Tesla likely needs) you will need the infrastructure investment to match owned-IP to IP-needed.

Year	Patents	Cost/Patent	Capital Required	Last Year + 4%	IP Gap
2010	75	\$10,000	\$750,000	6	69
2011	150	\$10,000	\$1,500,000	6	144
2012	300	\$10,000	\$3,000,000	6	294
2013	600	\$10,000	\$6,000,000	6	594

Table 1 - Example Patent Program Ramping Costs

Question #6: “Who is our nemesis?” The last question in defining an IP strategy is who the company’s nemesis is. Because governments grant and implement patent defenses, having patents gives you business partners whether you want them or not. Business partners like inventors with small improvements on your patents, or patent trolls that game the court system. Every IP strategy has a nemesis. For example, IBM’s nemesis is patent trolls. It is surprising how little IP managers talk about their nemeses given how much we complain about nemeses. There are no conferences on managing patent trolls, for example. To complete your initial IP strategy, stop and think about who you have no IP defense against. Make a list. Over time you need to manage this list to become shorter and smaller. But, it will start with too many nemeses.

How does one manage a nemesis? In court would be one (poor) way. Breaking bread with them might be another way. Working jointly on projects with a nemesis might be another way. Conventional practice is to ignore nemeses and hope they will go away rather than getting creative about how to engage and manage the nemesis.

Article Summary:

	IBM	VIZIO	HP	Samsung	ARM	RAMBUS
Reference Group	World #1	None	Big Electronics Companies Follow IBM	Emerging World #1	#1 in low energy CPUs	Top Troll
Role	Patent Dominator	Raider	Bottom 5% of Top 1/3 of Electronics Companies	Emerging Leader	Gate Keeper to Cell Phone CPUs	Cuckoo's Egg: Their Research in Your Nest
Core IP Business Model	License Revenue Reduce Litigation Design Freedom	Obscurity Crisis Mgmt	Design Freedom	Getting To Design Freedom	Design Freedom	Litigate Just Enough to License
IP Hygiene Model	Farming IP Arbitrage	Crisis Management	?? Patent Rank Falling Fast	Farming	Farming	Farming IP Arbitrage
Infrastructure Scaling Model	Rational, if we need it, we get it.	Minimum investment to keep sales growing	Last Year + 4%	Internal Generation	Last Year +4%	Last Year + 4%
Nemesis	Patent Trolls	TV Oligopoly Patent Trolls	Patent Trolls Emerging Competitors (Acer)	Patent Trolls Ologopolies	?	Creativity in IP Management

Table 2 - Hypothesized IP Strategies

Table 2 displays my guesstimates as to the 6 IP strategy parameters of 6 companies. I have no inside knowledge of these companies. These are my quick thoughts. As a homework assignment, take a moment to copy the 6 questions to a new email message. Then, quickly fill in the guesses at your company’s IP strategy parameters for each of the 6 questions. Don’t over think this. Just take 2 minutes to answer all 6 questions in as few words possible. Once you have written down a set of answers, try sending the hypothesized strategy email, asking for feedback.

As Francis Bacon said, “Truth will sooner come out from error than from confusion.” So do not worry about being wrong. My experience with articulating IP strategies is that you will be provided with a lot of help (whether you want it or not) but will not be criticized for articulating IP strategies. Getting an IP strategy down on paper is a big relief. Any written IP strategy is better than any unarticulated IP strategy. Once (even critical) people (lawyers) see the IP management ball moving forward, they will come along side and help. I think this is because when an organization has an IP strategy on auto-pilot, it is stressful dealing with IP. Stressful because when “everybody knows what our IP strategy is,” in fact, nobody knows.