## Intellectual Property

***Intellectual property (IP) refers to creations of the mind, such as inventions; literary and artistic works; designs; and symbols, names and images used in commerce.***

IP is protected in law by, for example, [patents](http://www.wipo.int/patents/en/), [copyright](http://www.wipo.int/copyright/en/) and [trademarks](http://www.wipo.int/trademarks/en/), which enable people to earn recognition or financial benefit from what they invent or create. By striking the right balance between the interests of innovators and the wider public interest, the IP system aims to foster an environment in which creativity and innovation can flourish.

## History

The [Statute of Monopolies](https://en.wikipedia.org/wiki/Statute_of_Monopolies) (1624) and the British [Statute of Anne](https://en.wikipedia.org/wiki/Statute_of_Anne) (1710) are seen as the origins of [patent law](https://en.wikipedia.org/wiki/Patent_law) and [copyright](https://en.wikipedia.org/wiki/Copyright) respectively,[[3]](https://en.wikipedia.org/wiki/Intellectual_property#cite_note-3) firmly establishing the concept of intellectual property.

The first known use of the term *intellectual property* dates to 1769, when a piece published in the [*Monthly Review*](https://en.wikipedia.org/wiki/Monthly_Review_(London)) used the phrase.[[4]](https://en.wikipedia.org/wiki/Intellectual_property#cite_note-4) The first clear example of modern usage goes back as early as 1808, when it was used as a heading title in a collection of essays.[[5]](https://en.wikipedia.org/wiki/Intellectual_property#cite_note-5)

The German equivalent was used with the founding of the [North German Confederation](https://en.wikipedia.org/wiki/North_German_Confederation) whose [constitution](https://en.wikipedia.org/wiki/Constitution) granted legislative power over the protection of intellectual property (*Schutz des geistigen Eigentums*) to the confederation.[[6]](https://en.wikipedia.org/wiki/Intellectual_property#cite_note-6) When the administrative secretariats established by the [Paris Convention](https://en.wikipedia.org/wiki/Paris_Convention_for_the_Protection_of_Industrial_Property) (1883) and the [Berne Convention](https://en.wikipedia.org/wiki/Berne_Convention_for_the_Protection_of_Literary_and_Artistic_Works) (1886) merged in 1893, they located in Berne, and also adopted the term intellectual property in their new combined title, the [United International Bureaux for the Protection of Intellectual Property](https://en.wikipedia.org/wiki/United_International_Bureaux_for_the_Protection_of_Intellectual_Property).

The organization subsequently relocated to Geneva in 1960, and was succeeded in 1967 with the establishment of the [World Intellectual Property Organization](https://en.wikipedia.org/wiki/World_Intellectual_Property_Organization) (WIPO) by [treaty](https://en.wikipedia.org/wiki/Convention_Establishing_the_World_Intellectual_Property_Organization) as an agency of the [United Nations](https://en.wikipedia.org/wiki/United_Nations). According to Lemley, it was only at this point that the term really began to be used in the United States (which had not been a party to the Berne Convention),[[2]](https://en.wikipedia.org/wiki/Intellectual_property#cite_note-Lemley_2005-2) and it did not enter popular usage until passage of the [Bayh-Dole Act](https://en.wikipedia.org/wiki/Bayh-Dole_Act" \o "Bayh-Dole Act) in 1980.[[7]](https://en.wikipedia.org/wiki/Intellectual_property#cite_note-7)

"The history of patents does not begin with inventions, but rather with royal grants by [Queen Elizabeth I](https://en.wikipedia.org/wiki/Queen_Elizabeth_I) (1558–1603) for monopoly privileges... Approximately 200 years after the end of Elizabeth's reign, however, a patent represents a legal [right](https://en.wikipedia.org/wiki/Right) obtained by an inventor providing for exclusive control over the production and sale of his mechanical or scientific invention... [demonstrating] the evolution of patents from royal prerogative to common-law doctrine."[[8]](https://en.wikipedia.org/wiki/Intellectual_property#cite_note-8)

Until recently, the purpose of intellectual property law was to give as little protection possible in order to encourage innovation. Historically, therefore, they were granted only when they were necessary to encourage invention, limited in time and scope.[[11]](https://en.wikipedia.org/wiki/Intellectual_property#cite_note-11)

## What is Intellectual Property?

Intellectual property refers to creations of the mind: inventions; literary and artistic works; and symbols, names and images used in commerce. Intellectual property is divided into two categories:

**Industrial Property** includes patents for inventions, trademarks, industrial designs and geographical indications.

**Copyright** covers literary works (such as novels, poems and plays), films, music, artistic works (e.g., drawings, paintings, photographs and sculptures) and architectural design. Rights related to copyright include those of performing artists in their performances, producers of phonograms in their recordings, and broadcasters in their radio and television programs.

## What are intellectual property rights?

Intellectual property rights are like any other property right. They allow creators, or owners, of patents, trademarks or copyrighted works to benefit from their own work or investment in a creation. These rights are outlined in Article 27 of the Universal Declaration of Human Rights, which provides for the right to benefit from the protection of moral and material interests resulting from authorship of scientific, literary or artistic productions.

## Why promote and protect intellectual property?

There are several compelling reasons.

**First, the progress and well-being of humanity rest on its capacity to create and invent new works in the areas of technology and culture**.

**Second, the legal protection of new creations encourages the commitment of additional resources for further innovation.**

**Third, the promotion and protection of intellectual property spurs economic growth, creates new jobs and industries, and enhances the quality and enjoyment of life**

## What kind of protection do patents offer?

Patent protection means an invention cannot be commercially made, used, distributed or sold without the patent owner’s consent. Patent rights are usually enforced in courts that, in most systems, hold the authority to stop patent infringement. Conversely, a court can also declare a patent invalid upon a successful challenge by a third party.

## What rights do patent owners have?

A patent owner has the right to decide who may – or may not – use the patented invention for the period during which it is protected. Patent owners may give 5 permission to, or license, other parties to use their inventions on mutually agreed terms. Owners may also sell their invention rights to someone else, who then becomes the new owner of the patent. Once a patent expires, protection ends and the invention enters the public domain. This is also known as becoming off patent, meaning the owner no longer holds exclusive rights to the invention, and it becomes available for commercial exploitation by others.

## How is a patent granted?

The first step in securing a patent is to file a patent application. The application generally contains the title of the invention, as well as an indication of its technical field. It must include the background and a description of the invention, in clear language and enough detail that an individual with an average understanding of the field could use or reproduce the invention. Such descriptions are usually accompanied by visual materials – drawings, plans or diagrams – that describe the invention in greater detail. The application also contains various “claims”, that is, information to help determine the extent of protection to be granted by the patent.

## What kinds of inventions can be protected?

An invention must, in general, fulfil the following conditions to be protected by a patent. It must be of practical use; it must show an element of “novelty”, meaning some new characteristic that is not part of the body of existing knowledge in its particular technical field. That body of existing knowledge is called “prior art”. The invention must show an “inventive step” that could not be deduced by a person with average knowledge of the technical field. Its subject matter must be accepted as “patentable” under law. In many countries, scientific theories, mathematical methods, plant or animal varieties, discoveries of natural substances, commercial methods or methods of medical treatment (as opposed to medical products) are not generally patentable.

## Who grants patents?

Patents are granted by national patent offices or by regional offices that carry out examination work for a group of countries – for example, the European Patent Office (EPO) and the African Intellectual Property Organization (OAPI). Under such regional systems, an applicant requests protection for an invention in one or more countries, and each country decides whether to offer patent protection within its borders. The WIPO-administered Patent Cooperation Treaty (PCT) provides for the filing of a single international patent application that has the same effect as national applications filed in the designated countries. An applicant seeking protection may file one application and request protection in as many signatory states as needed.

# Famous Patent Law Suits

## Who Invented the GUI?

Although it seems like a relic of the distant past, it's only been 30 years since Microsoft launched Windows 3.0, its first successful operating system to sport a graphical user interface. It was a great idea, but whose idea was it anyway?

According to Apple founder Steve Jobs, it wasn't Microsoft's; it was Apple's. Or was it? Legend has it that Jobs actually got the idea when he took a tour of the famed Xerox ([XRX](http://finance.cio.com/idg.cio/quote?Symbol=XRX)) PARC and saw an early version of a windowed operating system, recalls long-time semiconductor analyst Nathan Brookwood of Insight 64.

Whether that's true or not, Apple claimed that the "look and feel" of the Macintosh operating system, taken as a whole, was protected by copyright, and it sued Microsoft in federal court in 1988. Not to be outdone, Xerox jumped into the fray before the original action was resolved and sued Apple for stealing its ideas.

After six years of litigation and appeals that went all the up to the United States Supreme Court, both suits were dismissed; Apple's because it couldn't prove its claims, Xerox's because it had waited too long.

## Is it Linux or UNIX?

In early 2003, an obscure software company called SCO, which had come into existence via a Byzantine series of mergers and technology sales, shocked Silicon Valley by announcing that part of its UNIX system code had found its way into Linux. SCO, which hadn't invented the code, refused to identify the specific segments of the software, claiming that it was a secret which they would reveal only to the court.

A flurry of lawsuits followed, including a $1 billion action against IBM ([IBM](http://finance.cio.com/idg.cio/quote?Symbol=IBM)), and suits against Novell ([NOVL](http://finance.cio.com/idg.cio/quote?Symbol=NOVL)), Red Hat and Daimler Chrysler. For a while, there was fear that third party customers who used Linux could be liable for huge damages to SCO. There were allegations that Microsoft, in a truly Machiavellian move, had funneled money to SCO to help fund a lawsuit that would damage its competitors. Ultimately, though, the cases fell apart.

## No CrackBerry for You

Hardly anyone had heard of a tiny Virginia-based company called NTP. That changed in a hurry when NTP, which held a basketful of wireless patents, brought suit against RIM, the inventor of the wildly popular Blackberry. A jury agreed that the patents were valid and RIM was hit for $53 million in damages.

Had it ended there, it would have been just another expensive lawsuit. But a judge then ruled that RIM was continuing to violate NTP's patents by operating the Blackberry data network. He could have issued an injunction to shut down the service. Panic ensued as everyone from Wall Street traders to senior advisers at the White House faced the loss of their favorite electronic gadget. Ultimately [RIM settled](http://www.cio.com/article/503437) for $615 million, one of the largest ever settlements in a technology patent case.

The NTP suit sparked outrage in many quarters at the perceived unfairness of the patent system. However, in a more recent patent case known as eBay ([EBAY](http://finance.cio.com/idg.cio/quote?Symbol=EBAY)) vs. MercExchange, the U.S. Supreme Court issued a ruling making it less likely that a patent holder could win an injunction to shut down the business of a patent violator, says Michael Sacksteder, a patent attorney with Fenwick & West.

## Chips Ahoy

Intel and a workstation maker called Integraph tangled in a complex series of patent lawsuits beginning in 1997. Integraph claimed that Intel, the world's larger microprocessor maker, had stolen key features of its Clipper chip. One settlement, which that involved memory design, cost Intel about $300 million. A second alleged infringement involving a microprocessor instruction set known as VLIW was settled for $225 million. Brookwood notes that the settlement was more money than anyone ever made bringing that technology to market. At $525 million, the Integraph litigation resulted in the largest set of damages ever won against Intel.

## Apple Again

A federal court jury in Madison supported a criminal complaint initially filed in 2014 by the Wisconsin Alumni Research Foundation Tuesday, finding Apple Inc. guilty of infringing on the foundation’s patent rights for a specialized microprocessor.

The technology, developed by UW-Madison microprocessor architecture researchers Andreas Moshovos, Scott Breach, Terani Vijaykumar and Gurindar Sohi, known as “Table Based Data Speculation Circuit for Parallel Processing Computer,” was patented in 1998, according to the 2014 complaint.

WARF said in the complaint it believes Apple incorporated the technology from the patent into their latest products, including the iPhone 5S, the iPad Air and the iPad mini with Retina display.

The researchers’ patent “significantly improved the efficiency and performance of contemporary computer processors,” and is noted as a major milestone in the industry, according to the 2014 complaint.

Apple originally argued the patent was invalid, and previously appealed to the U.S. Patent and Trademark Office to review the patent's validity. The agency rejected the appeal in April 2015, according to the news service Reuters.

The next step of the lawsuit will focus on the monetary damages the WARF could receive from Apple. U.S. District Judge William Conley said Apple could face up to $862 million in damages for using the technology developed by WARF, according to a Tuesday article by Reuters.

WARF Director of Strategic Communications Jeanan Yasiri Moe said the foundation is unable to comment on ongoing litigations.

## Do not marvel at Marvell

In 2012, a Pittsburgh jury ordered Marvell Semiconductor to [pay Carnegie Mellon University $1.17 billion](http://arstechnica.com/tech-policy/2012/12/jury-slams-marvell-with-mammoth-1-17-billion-patent-verdict/) for infringing two patents related to reducing hard drive "noise." It was the largest patent verdict of all time, and it got bigger when the federal judge overseeing the case knocked the damages up to $1.54 billion and added an ongoing royalty.

A [ruling (PDF)](http://www.cafc.uscourts.gov/sites/default/files/opinions-orders/14-1492.Opinion.7-31-2015.1.PDF) today from the US Court of Appeals for the Federal Circuit has cut Marvell's award significantly, affirming only $278 million in damages and ordering a re-trial over other damages issues. The three-judge panel struck all enhanced damages, saying that the additional penalty wasn't warranted. Even though Marvell lost at trial, its patent invalidity defense was "objectively reasonable," and therefore its infringement was not willful.

Tensions between universities and tech sector are on the rise.

The parts of the case that need re-trial involve the location of sale of many of Marvell's infringing chips; the judge must re-consider the issue of whether some chips were sold in the United States or not. Chips that were produced abroad, sold abroad, and not imported into the US can't be slapped with a royalty payment based on Carnegie Mellon's US patents.

Even though it's a significant reduction in damages, the appeals court has still upheld a solid win for the university. A judge, jury, and appeals court have now all considered, and rejected, Marvell's invalidity and non-infringement arguments. The appeals court found that the amount of the royalty was fair, and it gave its seal of approval to the ongoing royalty as well. Marvell's attack on CMU's damages expert as a "career litigation consultant with no background in economics" went nowhere.

CMU's eye-popping verdict has likely inspired some of the other universities that have taken their patents to court lately. Today's result will probably enhance that trend, not diminish it.

The infringed patents are numbered [6,201,839](http://www.google.com/patents/US6201839) and [6,438,180](http://www.google.com/patents/US6438180), and they describe a way of reducing "noise" when reading information off hard disks. Marvell argued that an earlier [Seagate patent](http://www.google.com/patents/US6282251) describes everything in CMU's invention, both at trial and on appeal, but to no avail.