Microsoft and Nokia: Additive or Redundant?



Intellectual Property Analysis of the Nokia Patents preceding Microsoft patents

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The degree to which Microsoft's global cross-license with Nokia could impair Nokia's entire patent portfolio is not clear in public statements made by the firms or accounts of regulators' competitiveness reviews. Nearly 20% of Microsoft's patent portfolio either coincides with or is subsequent to Nokia's patents on similar technologies. This may present a material consideration for investors in both Microsoft and Nokia. Given recent events in China, the cumulative effect could, at best, be a decreased enterprise and equity value for both firms. At worst, it could expose both companies to risks from the third parties who hold competitive alternative patents or potentially invalidating prior art.

When Microsoft announced that it would acquire Nokia's handset business for \$7.2 billion, the basis of value for that business appears to be based on forward licensing income and the remaining Nokia business was not clearly defined or valued. Microsoft also acquired 8,500 design patents from Nokia and a non-descript cross-license of Nokia patents for 10 years with an option to renew in perpetuity.

Microsoft's integration of Nokia's Devices and Services unit has not been a smooth transition. Nokia's handset business continued to lose money (approximately \$700 million) according to Microsoft's fourth quarter earnings.¹ Microsoft is cutting 12,500 jobs across the company after acquiring 25,000 workers from Nokia.² Also, it is discontinuing Nokia's feature phones and shifting all Nokia X smart phones onto Windows and away from Android onto its Windows operating system.³



Microsoft's agreement to license Nokia's patent portfolio could devalue the whole Nokia portfolio. It appears that Microsoft has aggressively overlapped its own patent portfolio with Nokia's and possibly reverseengineered 20% of its portfolio.

This could undermine Nokia's plans to license its own portfolio. Part of Nokia's new strategy has been to expand its intellectual property licensing program through its Technologies business.⁴ Microsoft already believes that it controls many same technologies first of the patented by Nokia according to their representations surrounding standard

essential smartphone patents. Microsoft could actively attempt to undermine Nokia's licensing strategy with the presumption that all of Microsoft's later-acquired patents are novel and enforceable. The effect of this could considerably diminish the market value of Nokia's patents and, by extension, negatively impact Nokia's equity.

¹ http://www.usatoday.com/story/tech/2014/07/22/microsoft-earnings/12999743/

² http://www.microsoft.com/en-us/news/press/2014/jul14/07-17announcement2.aspx

³http://www.bgr.in/manufacturers/nokia/microsoft-to-abandon-mobile-phones-x-series-android-smartphones-internal-jo-harlowmemo/#more-318384

⁴ http://www.sec.gov/Archives/edgar/data/924613/000119312514169071/d682897d20f.htm#tx682897_13

But Nokia's apparent risk of loss may not be offset by a benefit to Microsoft. Microsoft has acquired Nokia patents including some uncited potential prior art which could be used to invalidate parts of its own portfolio. How Microsoft treats this in their impairment of acquired intangibles is not a trivial matter given that Microsoft has a duty to disclose impairments under the Financial Accounting Standards Board (FASB) Statement No. 142.

Microsoft's patented technology on smartphones may provide insight into other issues currently plaguing the company. Documents released in July 2013 by Edward Snowden indicate Microsoft helped the NSA access its encrypted messages and services.⁵ As such, China has become decidedly anti-Microsoft despite the fact that it allowed the Nokia handset acquisition. In April 2014, China disclosed Microsoft's represented Android portfolio and standard essential smartphone patents.⁶ In May 2014, China banned government offices from installing Windows 8. In July 2014, Microsoft's cloud service was disrupted in China and representatives from China's State Administration for Industry & Commerce raided Microsoft offices in Bejing, Shanghai, Guangzhou and Chengdu.⁷

Microsoft's launch of Office365 and Microsoft Azure public cloud in China earlier this year is probably too late to recover the damage to its image in a key market.⁸ Qualcomm, another company infamous for royalties from smartphone manufacturers in China, is also a subject of an antitrust investigation by the China National Development and Reform Commission (NDRC), since the NDRC suggests that the company has a monopoly in China.⁹

Microsoft could also likely face investigations in Europe where Germany is upset by the NSA's continued espionage activities.¹⁰ This month, Microsoft's partnership with UK telecom, BT, went live through which Microsoft provides an "ExpressRoute" connection to its Azure cloud service and bypasses the public internet.¹¹

Microsoft and Nokia's current weaknesses in global markets provide opportunities for other competitors who could exploit these mounting challenges.

Analysis

Using our commercial asset underwriting systems, M·CAM analyzed Nokia's patent portfolio for instances in which it intersected with Microsoft's portfolio. 149,000 instances were identified where Microsoft patents either coincided with or originated after Nokia's portfolio. This is a strong indication that Microsoft has actively patented improvements to, or reverse-engineering of, Nokia patents.

The chart below indicates, via U.S. Patent Classification Descriptions, parts of Nokia's portfolio where Microsoft has subsequent or concurrent patents.

⁵ http://www.theguardian.com/world/2013/jul/11/microsoft-nsa-collaboration-user-data

⁶ http://www.m-cam.com/patently-obvious/microsofts-android-license

⁷ http://www.reuters.com/article/2014/07/28/us-microsoft-china-idUSKBN0FX0TY20140728

⁸ http://www.thewhir.com/web-hosting-news/chinese-government-officials-raid-four-microsoft-offices-country-cracks-us-based-tech

⁹ http://www.forbes.com/sites/gordonchang/2014/07/27/qualcomm-in-quicksand-its-china-problem-not-fixable/

¹⁰ http://www.mcclatchydc.com/2014/07/09/232778/germans-feeling-betrayed-as-another.html

¹¹ http://www.computerweekly.com/news/2240224812/BTs-secure-link-to-Microsoft-Azure-that-bypasses-public-internet-goes-live-in-Europe



Unsurprisingly, telecommunications is the most highly represented U.S. Classification in their respective overlapping portfolios. Microsoft's acquisition of Nokia's patent portfolio may be more redundant than additive to its own. In the figure below, M-CAM has further refined the Nokia patents into different innovation areas which better reflect Nokia's products.

Innovation Area	Innovation Area
Antenna	Mobile Devices
Audio Systems	Network Layer
Computer System Operations	Network Session
Data Link	Peer to Peer
Data Management	Physical Network
Device Design	Power Control
Digital Imaging	Printed Circuit Board
Gaming	Telephony
Internet Protocol	Transport Network
Location Mapping	User Interface
Messaging	Security and Encryption

These innovation areas are in addition to the device design patents purchased by Microsoft from Nokia. The Nokia patents which precede Microsoft patents are more strongly represented in some innovation areas over others.¹²

Conclusion

The possible impairments to Nokia's portfolio could represent negative material implications to the company's ability to monetize its portfolio, which is part of Nokia's stated plan for revenue generation. Microsoft's patents already had serious problems being non-novel, but Microsoft may convince the market they have value if they keep demanding licenses without licensees actually knowing which patents are included in the license beforehand.

Chinese device manufacturers can benefit from this dynamic with the backing of the State Council. If competitors such as Lenovo, HTC, or Yulong (Coolpad) acquired Nokia's remaining patents, Microsoft's market share and capital could quickly be in jeopardy.

For a more detailed examination of the patents mentioned in this report, please contact us at patentlyobvious@m-cam.com.

¹² Information available upon request

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M.CAM's Patent Glossary

<u>Aligned Sector</u>: The business sector in which the product(s) resulting from the patent(s) is currently or intended to be sold.

<u>Applicant</u>: The person or corporation that applies for a patent with the intent to use, manufacture or license the technology of the invention; under U.S. law, except in special situations, the applicant(s) must be the inventor(s).

<u>Application</u>: Complete papers submitted to the U. S. Patent and Trademark Office seeking a patent including oath, specification, claims, and drawings. This usually does not signify a Provisional Patent Application, but only a regular patent application.

<u>Art</u>: The established practice and public knowledge within a given field of technology. This also identifies a process or method used to produce a useful result. A term used in consideration of the problem of patentable novelty encompassing all that is known prior to the filing date of the application in the particular field of the invention.

<u>Assignee</u>: The person(s) or corporate body to whom the law grants or vests a patent right. This refers to the person or corporate entity that is identified as the receiver of an assignment.

Business Method

- <u>Patent</u>: A patent that controls the way a business process is undertaken. The issuance of these patents by the United States Patent and Trademark Office (USPTO) is new and controversial, since many allege that it is unfair to allow a patent on a way of doing business.
- <u>Citation</u>: This may include patents or journal articles that the applicant or examiner deems relevant to a current application. A reference to legal authorities or a prior art documentation are examples of a citation.
- <u>Claim</u>: The language in a patent application that defines the legal scope of the patent. Most patents have numerous claims. This is typically the single most important section in the application.
- <u>Concurrent Art</u>: Concurrent art occurs when related patent applications are being examined by the USPTO at the same time. It is difficult for any company or inventor to know, at the time they file for a patent, whether a "related" patent application exists.
- Filing Date: The date when a properly prepared application reaches the patent office in complete form.
- Innovation Cycle: A description of the commercialization timeframe for the intellectual property.

Innovation Space: M-CAM's representation of the innovation(s) that occur before, during, and after the pending period of the subject patent. The innovation space is the first place to look for patents that are closely related to the subject patent and that may impact the defensibility of the subject patent or create opportunities for patent licensing.

<u>Issue Date</u>: Not to be confused with the filing date, which is the date the patent application was physically received by the U.S. Patent and Trademark Office. This is the date on which the patent actually issues.

Non-Aligned

- <u>Sector</u>: Any sector in which the patent can be used or sold, other than the sector for which the patent or resultant product was invented or intended.
- <u>Pod</u>: A group of patents owned by a company that should be treated as a single unit of innovation (e.g., a certain group of patents that comprise a single product or multiple related products).

<u>Prior Art</u>: Any relevant patent that was issued before the patent being analyzed. If this previous patent was specifically mentioned in the new patent's application, the previous patent is referred to as "cited prior art". If it was NOT mentioned, then that previous patent is referred to as "uncited prior art".

<u>Subsequent Art</u>: Any patent that has a filing date with the USPTO that is after the issuance date of the subject patent. This subsequent art patent may or may not have cited (see "Citation" above) the subject patent. As subsequent art represents more recent innovation than the subject patent, it has great potential to shrink the market opportunity for the subject patent.

A Brief Primer on the Patent System

In recent years, the importance of patents and intellectual property rights as an important variable in the marketplace has come to the forefront of the public consciousness as world leaders declare their country's lead in the innovation race. Damaging intellectual property litigation is becoming increasingly common across all industries. This is exacerbated when patent rights are granted for non-novel ideas. A vast amount of precedent innovation is unconsidered by patent-granting authorities in the creation of new IP rights. Patent granting authorities including the United States Patent and Trademark Office (USPTO), European Patent Office (EPO), Japanese Patent Office (JPO), Chinese State Intellectual Property Office (SIPO), Korean Intellectual Property Office (KIPO) and many others are constrained by the use of patent classification systems which are routinely circumvented by patent applicants.

There is a two-way social contract underlying the patent system. In the United States, patent terms are generally limited to 20 years from the date of application. By statutory intention, once a patent has expired, the patent holder loses the right to exclude others from fully utilizing any innovation described in the patent. A large number of patents enter the public domain when they are "abandoned" – when owners discontinue paying patent maintenance fees. Patents also only provide an exclusionary right in the country for which the patent is filed. As demonstrated by the Global Innovation Commons¹³ (G.I.C.), using intellectual property available in the public domain eliminates the need to pay licensing fees on those innovations in countries where the patent was never registered, or worldwide, if abandoned.

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¹³ http://www.globalinnovationcommons.org/