

# Patent Portfolio Valuation

*Adding value to your client's patent portfolio.*

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## Overview

**Goal:** Provide strategies and tools for adding value to client patent portfolios.

- **Overview of the Secondary Patent Market**
  - Why companies buy patents, what type of patents typically sell, and who buys patents.
- **Patent Valuation**
  - Patent valuation strategies and factors to consider when assessing patent value.
  - Recent court decisions and trends that have affected patent values.
- **Adding Value for Your Clients**
  - Strategies for creating valuable client portfolios.
  - Strategies for patent portfolio management.

*Note: Our focus will be on high-tech sector and related patented technologies. Pharmaceutical patent valuation and patent management involves distinct strategies and market realities.*

## Secondary Patent Market: *Why do companies buy patents?*

- Why do companies prosecute patents?
  - Patents grant a right to exclude others from using the claimed technology.
  - Companies most often file patents to protect their own technology and R&D.
  - Prosecution is a natural extension of R&D efforts.
- Why do companies buy patents?
  - Defensive
    - To avoid potential assertion by a competitor or a Patent Assertion Entity (PAE).
  - Competitor Infringement
    - To gain leverage against a competitor who uses the patented technology.
  - Litigation
    - To obtain counter-assertion assets for current litigation.
  - Licensing Discussions
    - To gain bargaining power in a licensing discussion and to allow for cross-licensing agreements.

## Secondary Patent Market: *Why do companies buy patents? (continued)*

- Why do companies buy patents? (continued)
  - Threat of Licensing
    - Active licensors routinely approach young companies as their market share increases.
      - IBM, for example, is notorious for approaching companies around the time of their IPO announcement.
    - It is easier to acquire assets before the licensors come knocking.
  - Portfolio Expansion
    - When a company enters a mature market, they lack the R&D advantage.
    - Companies supplement lack of prosecution with targeted acquisitions.

## Secondary Patent Market: *Corporate patent acquisition mindsets*

There are three typical mindsets for corporate patent acquisition programs:

- **Strategic Acquisition Objectives**

- Pursue specific goals relating to particular targets:
  - Technology Areas
  - Jurisdictions
  - Competitors
- PAEs and Patent Consortiums additionally consider revenue goals, shareholders, etc.

- **Opportunistic Acquisitions**

- Monitor market opportunities for undervalued assets with strategic importance.
- Consider marketed assets on their merits without *a priori* goals.

- **Immediate Acquisition Needs**

- Address an immediate threat:
  - Lawsuit
  - Licensing request

## Secondary Patent Market: *Majority of patent sales are EOU driven*

- “The name of the game is [use of] the claim.”
  - No EOU (Evidence of Use) means little market interest.
    - A small minority of purchasers consider assets with only expected future EOU.
  - Yet, transferred assets are rarely asserted.
    - Sales happen frequently without contentious negotiations.
- There are a variety of factors that go into EOU strength:
  - Priority
  - Claim Quality
  - Ease of Detection
  - Ability to Design Around
  - Size of Impacted Market
- But EOU is paramount to a successful patent sale.

## Secondary Patent Market: *Current market activity*

- Mobile Telecommunication and Mobile Device technologies realize the most value on the secondary market currently.
- These mobile technologies include:
  - Mobile Broadband & Telecom;
  - Mobile Software & Mobile Hardware;
  - Network Infrastructure;
  - Near Field Communications;
  - Cloud Computing;
  - Multimedia, Audio/Video Streaming, & Media Processing;
  - Display Technologies.
- In addition, related technologies have started to see some market interest as well:
  - Internet of Things;
  - Wearables;
  - Medical Device technologies (related to IoT and Wearables).
  - Automotive Communications and Telematics

## Secondary Patent Market: *Most Frequent Sellers in 2015*

<b>Company</b>	<b>Seller Transaction</b>
<b>IBM</b>	5
<b>Intellectual Ventures</b>	5
<b>NEC</b>	4
<b>Conversant Intellectual Property Management, Inc.</b>	4
<b>AT&amp;T</b>	3
<b>Harris Corporation</b>	3
<b>Panasonic</b>	3
<b>Sony</b>	3
<b>Verizon</b>	3

## Secondary Patent Market: *Most Frequent Buyers in 2015*

Company	Buyer Transaction
<b>Intellectual Ventures</b>	26
<b>RPX</b>	19
<b>Intel</b>	6
<b>Apple</b>	5
<b>Tessera</b>	5
<b>Hynix</b>	3
<b>IP Bridge</b>	3

## Secondary Patent Market: *Most Transacted Class Codes in 2015*

Class Code Rank	Class Code	Description
1	370	Multiplex Communications
2	709	Electrical Computers and Digital Processing Systems: Multicomputer Data Transferring
3	257	Active Solid-State Devices (e.g. Transistors, Solid-State Diodes)
4	379	Telephonic Communications
5	707	Data Processing: Database and File Management or Data Structures
6	455	Telecommunications
7	365	Static Information Storage and Retrieval
8	715	Data Processing: Presentation Processing of Document, Operator Interface Processing, and Screen Saver Display Processing
9	438	Semiconductor Device Manufacturing: Process
10	398	Optical Communications

## Patent Valuation: *Understanding the Context*

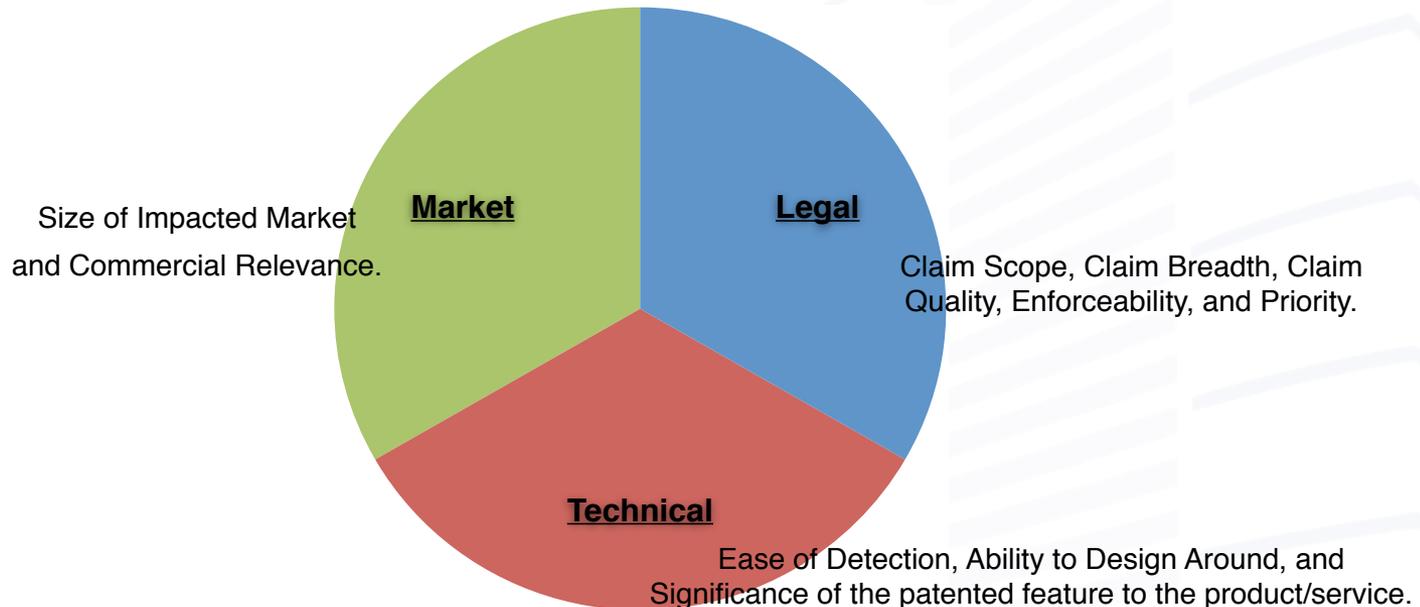
- Patent prosecution is a forward-looking proposition.
  - In the present, patents are a liability—an extension of the R&D budget.
  - Patents are often prosecuted with immediate invention goals in mind:
    - For younger companies:
      - Driving investor interest in a startup;
      - Creating a barrier to entry of the company's own market;
      - Increasing company acquisition value.
    - For larger, mature companies:
      - Creating large patent holdings around core technologies;
      - More filings means more potential for litigation-grade and licensing-grade patents.
- Patents become valuable on the secondary market when EOU is present:
  - After the patent owner becomes successful in the market; or
  - When other major players adopt the technology.
- Patent valuations are needed for different purposes with unique end goals in mind.

## Patent Valuation: *Understanding the Context (continued)*

- Need to first frame the context within which the patents are being valued.
  - Licensing royalties
  - Divestment valuation
  - Value of defensive position
    - i.e. Revenue position of client products and services covered by patents.
  - Value against a competitor
    - e.g. Client is willing spend \$X to reduce royalty outflows in licensing negotiations.
  - Future value projections
    - e.g. a startup looking to create investor support.
- Understanding the context and purpose of the valuation is key to creating the appropriate valuation model.

## Patent Valuation: *Valuation Methodologies*

- There is no widely accepted patent valuation methodology.
- There is no short-cut to valuing a patent portfolio.
  - Automated tools are inaccurate (e.g. reference, class code analysis).
  - There is no substitute for a Subject Matter Expert analyzing the patent claims.
- Most valuations utilize a variation of one of two valuation methodologies:
  - Income-Based valuation approach.
  - Comparable valuation approach.



## Patent Valuation: *Income-Based Model*

- Utilizes EOU analysis to estimate patent licensing royalty revenues.
  - Context is important—most purchasers don't plan to license acquired patents.
  - Even if EOU exists on a number of companies,
    - Most acquirers are only concerned with one or two.
    - E.g. their own risk exposure; E.g. A competitor's exposure.
- Licensing revenues are projected from actual royalty rates from relevant litigation or public licensing deals.
  - Licensing revenues are then discounted back using several factors to arrive at a projected divestment value.
- Primary focus of Income-Based Model is typically 1–3% of any given patent portfolio.
  - Because only a small portion of portfolios are infringed upon.

## Patent Valuation: *Income-Based Model Sample*

- The table below provides a snapshot into an income-based valuation model for a portfolio of 50 patents containing standards essential 3GPP HSPA & HSPA+ patents.

Factors	Value	Comments
Total UMTS Handset & Modem Market (thru 2020)	\$1,520B	Patent applicability is limited to UMTS Handsets and UMTS Modems. Market numbers are projections limited to 2020 due to remaining life of patents and foreseeable applicability.
Applicable Market Size (thru 2020)	\$750B	Applicable Market Size removes all parties licensed to the portfolio.
Royalty Rate	x % - x%	Divestment royalty rate calculated utilizing publicly available 3GPP licensing royalty rates.
ROI Multiple	10x	Each purchaser values its investment differently, but purchasers typically expect a 10x ROI in a patent purchase.
UMTS/WCDMA Patent Discount	X%	This discount takes into account the number of essential patents in the portfolio and current SEP dynamics.
<b>Divestment Value</b>	<b>\$xxM - \$xxM</b>	<b>This value reflects likely divestment value range for the patent portfolio</b>

## Patent Valuation: *Comparable Valuation Model*

- Similar to approaches in M&A transactions and commercial real estate.
  - Identify transactions with similar number of patents, related technology areas, and similar number of value drivers.
  - Buyers/Sellers try this on a small-scale by comparing their previous transactions.
    - This is limited because it's a small sample size.
- GTT Group has been monitoring and analyzing the global patent transaction marketplace for the last 18 years and has compiled a large patent transaction database.
  - Similar transactions are identified and key information is analyzed to determine whether the previous transactions may represent a reasonable comparable.
- Comparable transactions are then utilized to project market interest and market valuation.

## Patent Valuation: *Other Valuation Factors to Consider*

While EOU is by and large the main driver of patent value, there are a number of other factors to consider that may positively or negatively affect the value of a patent portfolio.

- **Encumbrances:** The more encumbrances, the less remaining value to the purchaser.
- **Scarcity:** The fewer portfolios of similar technical breadth and strength available, the stronger position a portfolio has to command a multiple of its typical value.
- **Competition:** The more companies interested in acquiring a portfolio, the higher probability it could drive a premium on its typical value.
- **Technical Diversity of Family**
- **Geographic Diversity:** Jurisdictions beyond U.S. that may drive incremental value currently include China, Japan, Germany, the UK, and the Netherlands.

## Patent Valuation: *A few recent trends*

- The full impact on patent values that recent court decisions and the ongoing legislation debate is still in flux.
  - There remain ambiguities related to patentable subject matter.
  - There is uncertainty related to patent reform.
- However, three recent trends have had a material impact on patent values:
  1. Limitations relating to FRAND obligations and Standard Essential Patents (SEPs);
  2. Royalty Rate apportionment and identifying the Smallest Salable Patent-Practicing Unit;
  3. Patent Validity.

## Patent Valuation: *FRAND Obligations and SEPs*

- Two well-recognized problems with standardization and patents:
  1. **Hold-up:** SEP owners demand excessive royalties.
  2. **Royalty Stacking:** Royalties become excessive if companies are required to pay royalties to all SEP holders.
    - Most standards implicate hundreds or even thousands of patents.
- Recent court decisions have attempted to provide clarity on the extent of FRAND obligations.
  - Until recently, there has been little case precedent to follow outside of Georgia-Pacific and the factors it presents.
  - For example, it has been typical for smartphones to be subject to a 35% royalty stack for wireless communication SEPs.

## Patent Valuation: *FRAND Obligations and SEPs (continued)*

A snapshot of recent decisions and developments for SEPs:

Case/Standards Body	Results
Apple v Motorola (N.D. Ill. 2012)	<p><b>Court limited damages to specific value conferred by patented technology itself.</b></p>
Microsoft v. Motorola (W.D. Wash. 2013)	<p><b>Not all SEPs are created equal.</b></p> <p>The royalty must be commensurate with the actual value that the patented technology adds to the overall standard and product. Rewarding the SEP owner with any of the value of the standard itself would constitute hold-up value and be contrary to the purpose behind the [F]RAND commitment.”</p>
Ericsson v. D-Link (Fed. Cir. 2014)	<p><b>Court required jury instructions to focus on the “incremental value of the invention, not the value of the standard.”</b></p> <p>First time Federal Circuit weighed in on the SEP debate.</p>
Institute of Electrical and Electronics Engineers	<p>On February 8th, IEEE approved new patent policies as a direct result of these court decisions, including <b>(1) Requiring everyone requesting a license to get the same terms;</b> and <b>(2) preventing injunctions against parties who are willing to negotiate for licenses.</b></p>

## Patent Valuation: *Royalty Rate Apportionment*

- Understanding the value that the claimed invention contributes to the infringing product is paramount in understanding patent value.
- Outside the FRAND context, the Federal Circuit has been consistently reducing royalty rates adopting two primary rules:
  - **Smallest Salable Patent Practicing Unit (SSPPU)**
    - Damages are not calculated on the entire device.
    - But only on the individual component to which the patent is applicable.
  - **Apportionment**
    - Allocating value based on that attributable to the patented component versus that attributable to the rest of the device.
    - i.e. How much of the consumer demand does that component create?

## Patent Valuation: *Royalty Rate Apportionment (continued)*

A snapshot of recent decisions related to apportionment:

Case	Results
<p>Lucent Technologies v. Microsoft (S.D. Cal. 2007)</p>	<p><b>\$350M jury award based on a patent covering the date-picker feature of Outlook was limited by the court to only \$26M.</b> (Parties later settled out of court.)</p>
<p>In re Innovatio Patent Litig. (N.D. Ill. 2013)</p>	<p><b>Limiting the royalty base to the Wi-Fi chip.</b>            “Finally, the court notes that ... the appropriate royalty base in this case is the Wi-Fi chip...that provides Wi-Fi capability..”</p>
<p>VirnetX v. Cisco Systems (Fed. Cir. 2014)</p>	<p><b>Rejecting a jury award of \$368.2M.</b>            “The law requires patentees to apportion the royalty down to a reasonable estimate of the value of its claimed technology...”</p>

## Patent Valuation: *Patent Validity*

- Patent Validity has the most significant impact on patent value.
  - But recent court rulings and Patent Trial and Appeal Board (PTAB) trends are impacting value perception in the patent market.
- Federal Circuit has historically been the primary means for validity challenges.
  - This has shifted to the Patent Trial and Appeal Board (PTAB), created by the America Invents Act in 2011.
  - The PTAB has been dubbed the “patent death squad.”
    - In its first three years, the PTAB invalidated 83% of all claims that are subject to its final written decision.
- ***Alice Corp v. CLS Bank (U.S. S.C. 2014)***: Patents related to electronic escrow service for facilitating financial transactions was ruled invalid.
  - Ruling of invalidity has already been cited well over a dozen times in lower court decisions to invalidate similar financial practice and business method patents.
  - Significant concern about the validity of software patents has impacted market value.

## Adding Value for Your Clients: *Things to avoid when prosecuting*

- **Narrow scope and breadth.**
  - Claim length significantly reduces perceived value.
  - Consider using continued prosecution to trim unnecessary elements.
- **Keep the Family Open.**
  - A live application can sometimes add substantial value to a family.
- **Focus on the independent claims.**
  - The secondary market often ignores dependent claims.
  - Key material with appropriate limitations should appear in independent claims.
- **Keep families separate.**
  - Only “link” patents if necessary; don’t claim priority when it is not needed.
  - Value is by family; each individual patent usually only adds incremental value.
- **Limit your jurisdictions.**
  - Few foreign jurisdictions add significant value.
  - Spend prosecution dollars on polishing U.S. Apps instead.
  - U.S. patents are main value driver of patents in the secondary market.
    - However, China, Germany, and the Netherlands are becoming more valuable.

## Adding Value for Your Clients: *Portfolio Maintenance*

- **Review applications through the course of prosecution.**
  - Companies often only review applications when first filed and once NoA is received.
  - Many prosecution attorneys are committed to getting patents granted.
    - But this is not always ideal if the claims are significantly limited throughout prosecution.
  - Show your clients that you have their best interests in mind by updating them on which applications have been considerably narrowed in prosecution.
    - Recommend applications to consider for abandonment.
- **Regular review of issued patents and filing strategies is important.**
  - Recommend your clients to review their portfolio once a year or every other year.
  - Many patents become obsolete in their applicability to the market or even their applicability to your client's business as well.
    - Abandoning these patents could save considerable maintenance fees.
  - At a minimum, reviewing patents when maintenance fees are due is best practices.

## Adding Value for Your Clients: *Things to consider when selling*

- **Is there EOU?**
  - By far the most important take away when selling.
  - Companies do not want to buy patents that improve their existing products.
    - R&D expenditure is measured in “millions” and product cycles in “years.”
- **How much life do the patents have left?**
  - Severe discount to patents with less than 3 years of life remaining.
    - Many companies won’t even consider them for purchase.
  - Patents with less than 5 years of life are typically discounted as well.
  - Typical sweet spot is 7-12 years of life remaining.
    - Because of the need for EOU and the desire for longer life.
- **How big is the applicable market?**
  - Patents that apply to small or niche markets are difficult to sell.
- **Are their customer or supplier concerns?**
  - Your client may wish to first approach core client relationships to give them an opportunity to purchase in order to protect their existing ecosystem.

## Adding Value for Your Clients: *Things to consider when acquiring*

- **Focus your client on acquiring patents related to other's technology.**
  - File patents related to their own technologies. Acquire patents related to others' technologies (e.g. competitors, obvious threats).
  - Owning patents on technology that only your client uses has limited value.
- **Understand your client's patent risks.**
  - Potential risks come from your client's ecosystem (e.g. competitors) and corporate licensors (e.g. companies with highly active licensing programs).
  - Understand (1) which competitors are most threatened by client's business, (2) which suppliers are most crucial to client, and (3) who are client's largest customers.
    - Then cross-reference this with which companies have shown willingness to promote, license, or litigate their patents.
  - Client's acquisition focus should be on where those two lists intersect.
- Client does not have to be aggressive or litigious at all, it's just smart business strategy.
- **Acquire patents that are relevant to high-revenue or high-growth business segments.**
  - Patents related to low-revenue or low-growth businesses will have little affect for your client if their patent threats become a reality and they are approached.

## Final Thoughts

- Understand both your client's short-term goals and long-term goals when prosecuting.
- Regular portfolio maintenance should be a priority.
- Few issued patents are litigated, but a reasonable portion may still be valuable.
- Understanding the context of patent valuation is key.
- EOU. EOU. EOU

