

# Patent Damages & Valuation



INTERNATIONAL

**Washington State Patent Law Association**

**March 25, 2009**

**David Yurkerwich**

**CRA International, Inc.**

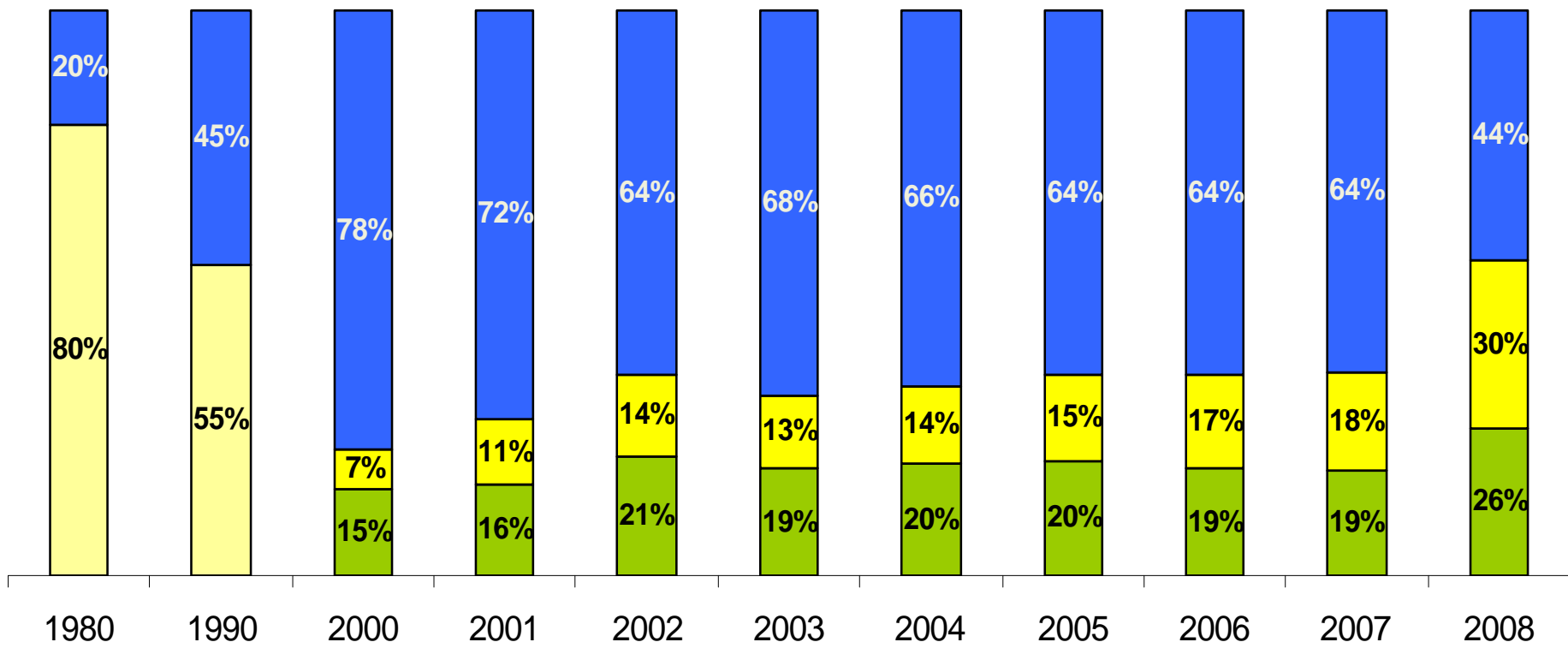
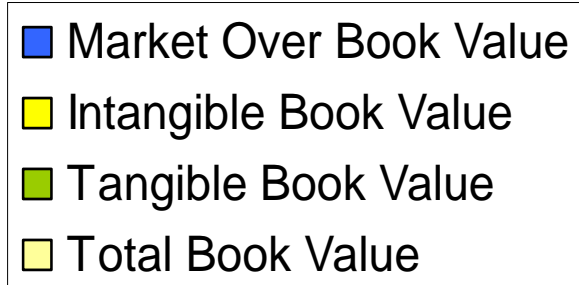
# How Are The IP Value Sands Shifting? Given....

- **New accounting rules**
- **Supreme court decisions**
- **Increased global patenting**
- **Public awareness (e.g. RIM)**
- **New patent investors/alliances**
- **Increased brokerage/auction activity**
- **Pending legislation**
- **The new economy**

# Market & Book Value

## S&P 500

### 1980-2008



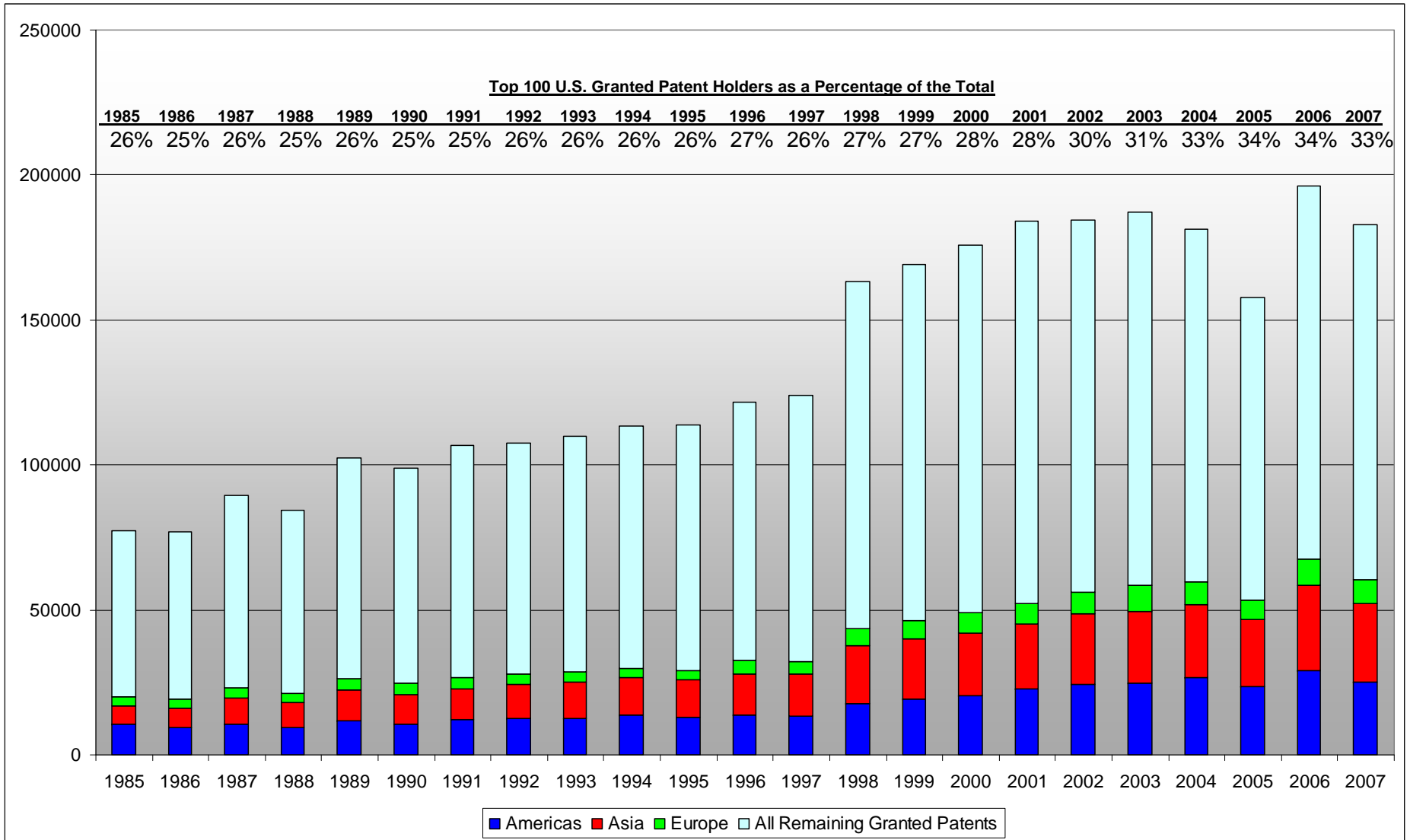
# Patent Valuation Context Differences

- **Lost Profit Damages**
- **Reasonable Royalty Damages**
- **Purchase Price Allocation**
- **Transfer Pricing**
- **Investment**
- **Licensing**
- **Sales**

# David Yurkerwich Background

- Vice-President CRA International (“Charles River Associates”)
  - **InteCap, Inc. – Founder, CEO and Chairman**
  - **Peterson Worldwide – Founder, President and Vice-Chairman**
  - **Arthur Andersen & Co. – Audit & Consulting Manager**
- Education & Credentials
  - **B.S. Business Administration – Villanova University**
  - **Certified Public Accountant**
  - **Certified Valuation Analyst**
  - **Accredited in Business Valuation**
- IP Experience
  - **Expert valuation testimony in over 40 infringement matters**
  - **Routinely identify value, market and negotiate transactions**

**Top 100 U.S. Granted Patent Holders by Region vs. All remaining U.S. Granted Patents**



Source: Intellectual Property Owners Association



## PCT International Applications for the Top 15 Applicant Countries in 2007

| Countries of Origin      | 2003           | 2004           | 2005           | 2006           | 2007           | Change Compared to 2006 |
|--------------------------|----------------|----------------|----------------|----------------|----------------|-------------------------|
| United States of America | 41,031         | 43,351         | 46,809         | 51,241         | 53,147         | 3.7%                    |
| Japan                    | 17,414         | 20,264         | 24,869         | 27,022         | 27,732         | 2.6%                    |
| Germany                  | 14,662         | 15,214         | 15,984         | 16,728         | 17,889         | 6.9%                    |
| Republic of Korea        | 2,949          | 3,558          | 4,688          | 5,945          | 7,066          | 18.9%                   |
| France                   | 5,171          | 5,184          | 5,748          | 6,243          | 6,523          | 4.5%                    |
| United Kingdom           | 5,206          | 5,027          | 5,084          | 5,091          | 5,610          | 10.2%                   |
| China                    | 1,295          | 1,706          | 2,503          | 3,949          | 5,470          | 38.5%                   |
| Netherlands              | 4,479          | 4,284          | 4,500          | 4,534          | 4,165          | -8.1%                   |
| Switzerland              | 2,861          | 2,898          | 3,291          | 3,600          | 3,728          | 3.6%                    |
| Sweden                   | 2,612          | 2,851          | 2,883          | 3,323          | 3,646          | 9.7%                    |
| Italy                    | 2,163          | 2,189          | 2,349          | 2,708          | 2,911          | 7.5%                    |
| Canada                   | 2,271          | 2,104          | 2,319          | 2,573          | 2,827          | 9.9%                    |
| Australia                | 1,680          | 1,837          | 1,996          | 2,002          | 2,071          | 3.5%                    |
| Finland                  | 1,557          | 1,672          | 1,893          | 1,844          | 1,994          | 8.1%                    |
| Israel                   | 1,129          | 1,227          | 1,454          | 1,594          | 1,719          | 7.9%                    |
| All Others               | 8,722          | 9,263          | 10,363         | 11,185         | 11,901         | 6.4%                    |
| <b>Total</b>             | <b>115,202</b> | <b>122,629</b> | <b>136,733</b> | <b>149,582</b> | <b>158,400</b> | <b>5.9%</b>             |

Source: WIPO Statistics Database

# ISO Proposal on Patent Valuation

- **Submitted by Germany – December 2007**

- The intended standard was to specify requirements for valuation process in various contexts.

- mergers and acquisitions
- transfer
- licensing
- reporting
- taxation



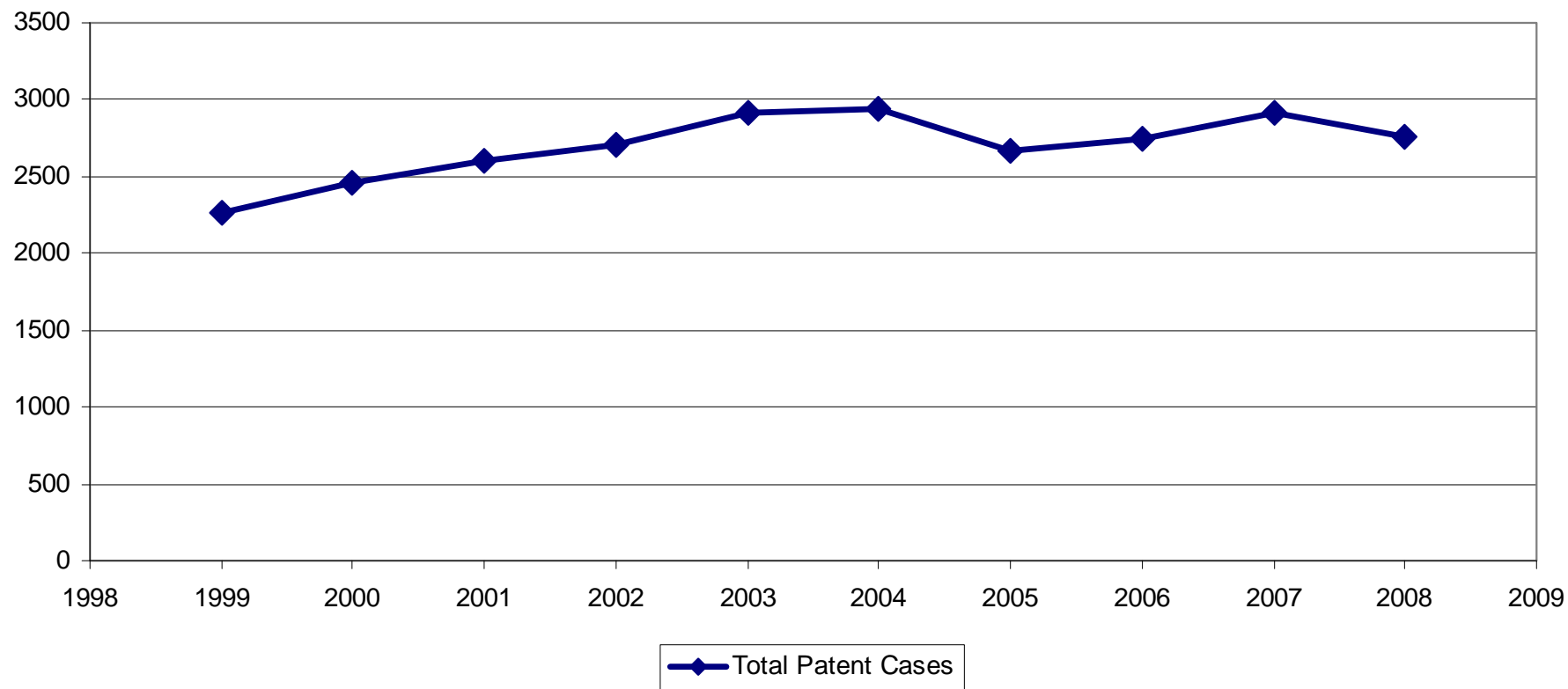
### NWIP - Patent Valuation Voting Results

| Member Body    | Yes       | No       | Abstain  |
|----------------|-----------|----------|----------|
| Armenia        | X         |          |          |
| Australia      | X         |          |          |
| Austria        | X         |          |          |
| Brazil         |           |          | X        |
| Canada         |           | X        |          |
| China          | X         |          |          |
| Colombia       | X         |          |          |
| Egypt          | X         |          |          |
| Finland        |           | X        |          |
| France         | X         |          |          |
| Germany        | X         |          |          |
| Ireland        | X         |          |          |
| Israel         | X         |          |          |
| Italy          | X         |          |          |
| Japan          |           | X        |          |
| Korea Rep.     | X         |          |          |
| Morocco        | X         |          |          |
| Netherlands    |           | X        |          |
| Norway         | X         |          |          |
| Singapore      | X         |          |          |
| South Africa   |           | X        |          |
| Spain          |           | X        |          |
| Sweden         | X         |          |          |
| United Kingdom |           | X        |          |
| USA            |           | X        |          |
| <b>Total</b>   | <b>16</b> | <b>8</b> | <b>1</b> |

# USA - ANSI

- Patent valuation is a complicated subject involving a number of businesses, legal and technical variables that are **dependent on the type of transactions and specific geographic regions involved.**
- It is unlikely that these kind of variables can be made to follow a set of specific rules applicable to diverse global legal frameworks.
- A robust patent valuation methodology would **either need to be sufficiently abstract ... or be tailored to particular geographies...**

## Total U.S. Patent Cases Filed

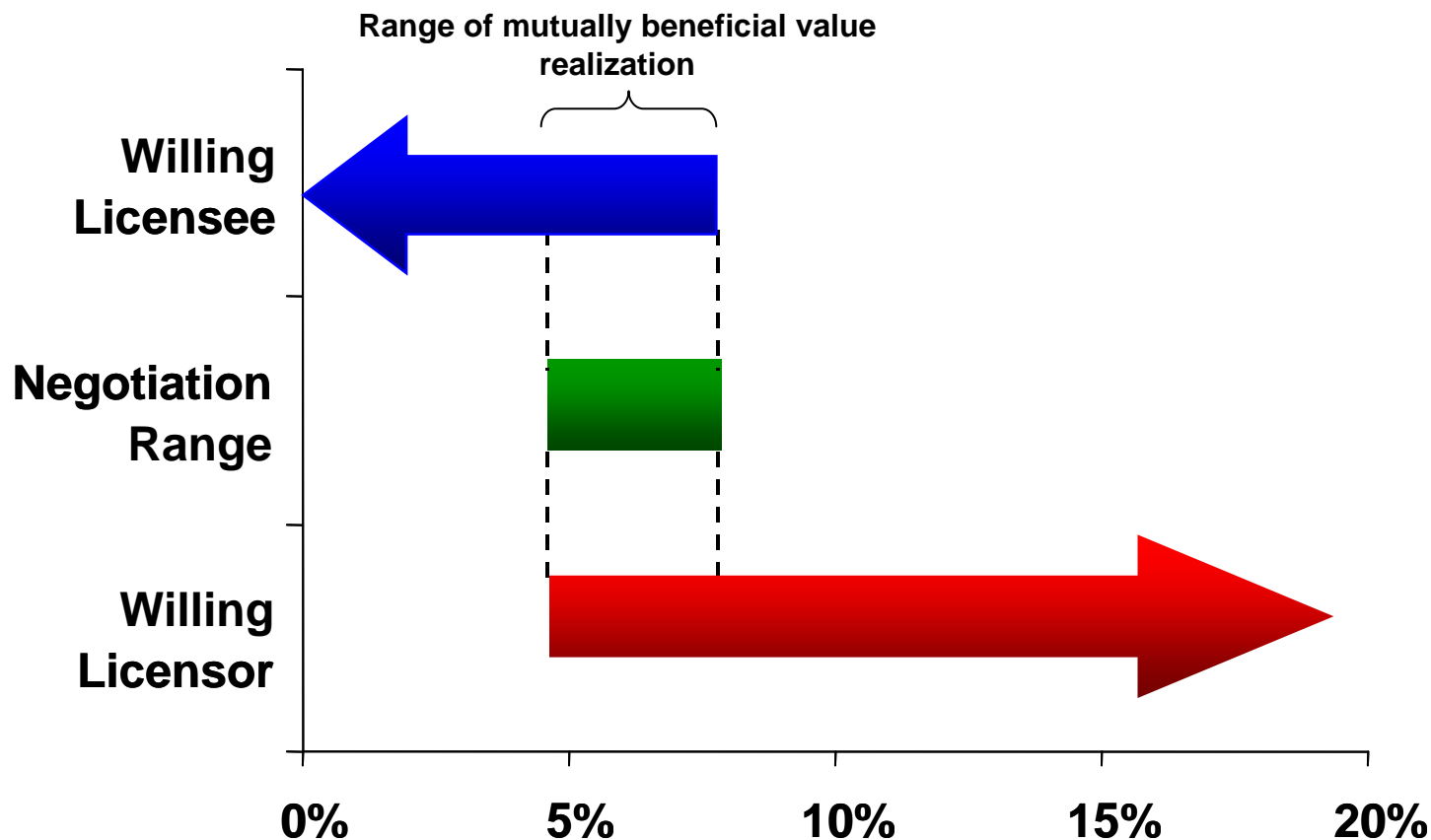


# 35 U.S.C. § 284 (Patent Damages)

“Upon finding for the claimant the court shall award the claimant damages adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer, together with interest and costs as fixed by the court.”

# Successful Business Negotiations

Basic premise of doing a deal...

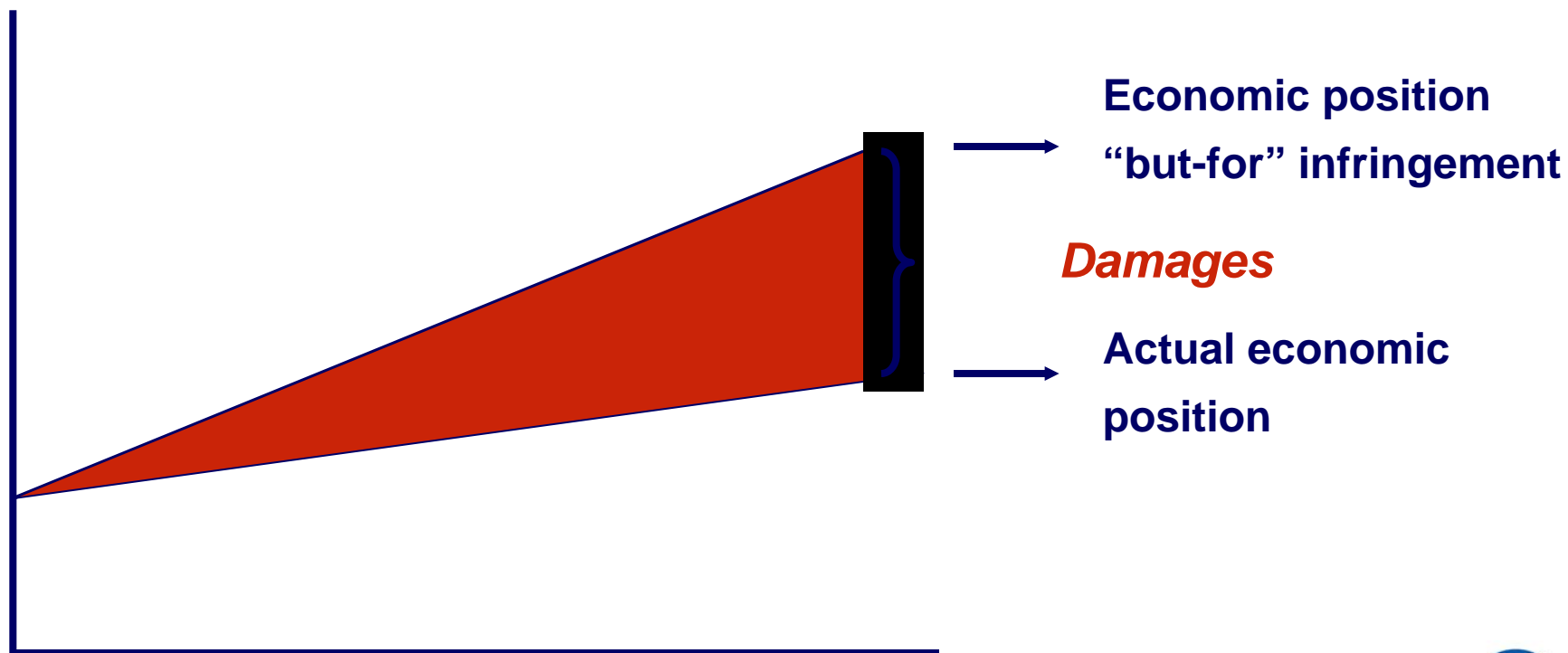


# PATENT VALUATION CONSIDERATIONS

- 1. Valuation Context (litigation, financial reporting etc.)**
- 2. Timing of Negotiation (pre or post market introduction)**
- 3. Demand for Patented Technology (market appeal)**
- 4. Extent of Use (past and future)**
- 5. Availability of Acceptable Non-Infringing Alternative**
- 6. Dependence on Other Patented Technology (royalty stacking)**
- 7. Comparability of Other licensed Patented Inventions**
- 8. Profitability of Patented Invention and Related Product or Service**
- 9. Existence of Derivative or Convoyed Sales**
- 10. Degree of Competition Between the Parties**

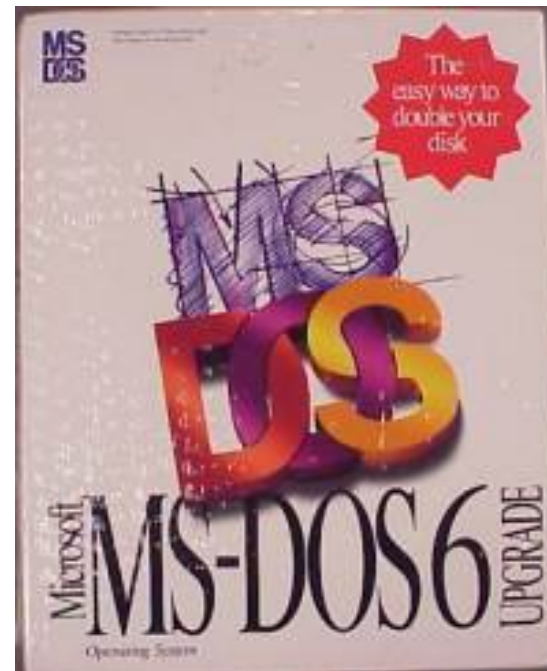
# Lost Profits

- Patent owners must show they would have made some or all of the sales taken by the infringer “but-for” the infringement



# Stac Electronics Inc. v. Microsoft Corp.

- Stac was introduced data compression software which allowed PC users to double their hard drive capacity
- Microsoft was launching an upgrade to its operating system and was searching for a selling feature





# Stac Electronics Inc. v. Microsoft Corp.

## Lost Profit Assumptions/Proof

1. The 009 & 745 Patents were *valid* and found to be *infringed*.
2. There was *significant* demand for data compression at the time of infringement.
3. There were *no* other products in the marketplace acceptable to customers that did not infringe Stac's patents.
4. Stac *did* have the capacity to manufacture more product and distribute more product to the potential customers.
5. Stac *did* have the ability to calculate the amount of loss.

# Stac Electronics Inc. v. Microsoft Corp.

## Damages Conclusion

|                    |                      |
|--------------------|----------------------|
| Lost Profits       | \$70 million         |
|                    | +                    |
| Reasonable Royalty | \$47 million         |
|                    | +                    |
| Lost Interest      | <u>\$2.4 million</u> |
| Total Damages      | \$120 million        |

# Stac Electronics Inc. v. Microsoft Corp.

- Parties settled with Microsoft agreeing to pay \$43 million over 43 months and agreeing to purchase \$40 million of Stac's non-convertible preferred stock in exchange for rights to Stac's patents



# Celeritas v. Rockwell

- Patented technology to increase data transmission rate over cellular telephone networks
- Met with Rockwell under NDA to demonstrate technology and negotiate license
- Celeritas filed suit in Sep 1995 claiming:
  - Patent infringement
  - Breach of a NDA
  - Misappropriation of trade secrets

# Celeritas v. Rockwell

- Celeritas did not seek injunctive relief
- Asked the jury to award damages base on license being negotiated between the parties in January 1995
- Stipulated it would accept highest of damage claims for
  - Patent infringement
  - Breach of NDA
  - Theft of trade secrets

# Celeritas v. Rockwell

- Rockwell and Celeritas had history of lump sum licenses
- Relied on projected sales discounted to net present value
- Established reasonable royalty rate based on other licenses
- Estimated lump-sum amount that Rockwell “would have” paid
- Patent infringement damages amounted to \$57,658,000
- Able to benchmark for jury with AT&T lump sum settlement

# Celeritas v. Rockwell

- Jury found Rockwell liable and awarded damage amounts for all three causes of action
  - Patent Infringement: \$57,658,000
  - Breach of Contract: \$57,658,000
  - Trade Secrets: \$26,850,000

# Celeritas v. Rockwell

The CAFC later found the patent invalid, but affirmed the \$57.7 million award for the breach of the NDA

In the opinion, Justice Allan D. Lourie wrote:

“The evidence established that lump-sum paid-up licenses based on projected royalties were common in the industry...

...By adopting this lump-sum amount as the proper measure of damages, the jury implicitly accepted the expert's methodology.”



# NTP v. RIM

- NTP was an individually run licensing firm in VA with minimal revenue and no employees
- RIM introduced its BlackBerry™ brand service and products in January 1999
- Suit filed November 2001
- Asserted over 40 claims from 5 patents



# NTP v. RIM

- **How much was the settlement?**
- **Was the original jury award greater than \$100 million?**
- **Was the effective jury royalty rate less than 6%?**
- **What was included in the jury royalty base?**

# ***Georgia-Pacific Factor 1***

“The royalties received by the patentee for the licensing of the patent in suit, proving or tending to prove an established royalty.”

- No licenses of the patents in suit to independent third parties that would prove or tend to prove an established royalty
- NTP does not produce any products under the patents and its business objective is to license the patents in suit to others

## ***Georgia-Pacific Factor 2***

“The rates paid by the licensee for the use of other patents comparable to the patent in suit.”

## NTP - Musika

- RIM is paying royalties under a number of licenses
- No single rate suggested by licenses
- Overall royalty range 5.5 – 12%
- Group of licenses tend to suggest a royalty rate
  - In the lower half of overall range (5.5 - 8.5%)

## RIM - Donaldson

- Provide insight into industry practice and some guidance in determining a reasonable royalty
- Licenses illustrate per-unit royalty based on revenue from hardware
- Negotiation would recognize Qualcomm rate of 5 to 6.5% as absolute maximum -Patents in suit have much less value

## ***Georgia-Pacific Factor 3***

“The nature and scope of the license, as exclusive or non-exclusive; or as restricted or non-restricted ...”

- Hypothetical negotiation would be non-exclusive license for the United States with no restrictions on scope
- **Neutral effect on reasonable royalty**

## Georgia-Pacific Factor 4

“The licensor's established policy and marketing program to maintain his patent monopoly by not licensing others ...”

- NTP is a licensing company and does not have an established policy to maintain a patent monopoly on the patented products, methods and services = **No effect on royalty rate**
- NTP has offered licenses to over 40 other companies without success. Would have incentive to license RIM under favorable terms = **Lower reasonable royalty**



## ***Georgia-Pacific Factor 5***

“The commercial relationship between the licensor and licensee, such as, whether they are competitors...”

- Agree they are not competitors
- Musika says would push to lower end of range but no less than 5.5%
- Donaldson says would lower the rate

## ***Georgia-Pacific Factor 6***

“The effect of selling the patented specialty in promoting sales of other products of the licensee; ... value of the invention to the licensor as a generator of sales of his non-patented items; and the extent of such derivative or conveyed sales.”

### Musika

- Not aware of any conveyed sales by RIM at time
- No effect on royalty rate

### Donaldson

- Royalty base is revenue from sales of BlackBerry devices
- Revenue generated from sales of enterprise software would raise the reasonable royalty rate

## ***Georgia-Pacific Factor 7***

“The duration of the patent and the term of the license.”

Both agree license is for duration of patents

### Musika

- Patents which have significant time remaining
- Effect = Higher royalty rate

### Donaldson

- Patents at issue extend beyond typical technology life cycle
- Effect = Neutral to positive

## ***Georgia-Pacific Factor 8***

“The established profitability of the product made under the patent; its commercial success; and its current popularity.”

### **Musika**

- Profits projected to be very high
- Factors suggest royalty rate greater than mid point of 8.75%

### **Donaldson**

- NTP does not manufacture products and thus has not shown any established profitability, commercial success or popularity
- Effect of this factor would lower reasonable royalty

## Georgia-Pacific Factors 9 & 10

“The **utility and advantages of the patent property** over the old modes or devices, if any, that had been used for working out similar results.”

“The nature of the patented invention; the character of the commercial embodiment of it as owned and produced by the licensor; and the **benefits to those who have used the invention.**”

## NTP – Musika (9 & 10)

- Great improvement over prior pull technology and other methods that required mobile users to have a laptop computer with a modem and access to telephone jack to retrieve their email
- RIM and outside analysts consistently promoted the push technology employed in RIM products covered by NTP patents
- Factors have positive influence on the royalty rate

## RIM – Donaldson (9 & 10)

- Users have convenience of ready access to e-mail
- Mixed reviews from focus groups
- Balance of advantages provided by BlackBerry with uncertain demand and consumer acceptance
- Effect would raise reasonable royalty

## ***Georgia-Pacific Factor 11***

“The extent to which the infringer has made use of the invention;  
and any evidence probative of the value of that use.”



# NTP - Musika

- Merrill Lynch
  - Determined at least 80% of the value of the BlackBerry product associated with accessing email
  - Felt “the ability to access email in real time and return messages with RIM’s BlackBerry [was] a breakthrough”
- Factors have positive influence on royalty rate



# RIM - Donaldson

- BlackBerry solution has been a developing market
- At time of hypothetical negotiations numerous risks were involved in trying to make the product a commercial success
- RIM experienced a loss from operations during the period from date of hypothetical negotiations to the present
  - EBIT Margin of 11.8% in 2000, -2.1% in 2001, -11.3% in 2002 and -6.6% in 2003 (est.)
- Effect would lower reasonable royalty



## ***Georgia-Pacific Factor 12***

“The portion of the profit or of the selling price that may be customary in the particular business or in comparable businesses to allow for the use of the invention or analogous inventions.”

# NTP - Musika

- Not aware of customary royalty rate or profit percentage for comparable businesses
- No effect on royalty rate

# RIM - Donaldson

- Royalty rates for a patent-only license in the semiconductor and communication industries range from less than 1% to approximately 5-6%
- In competitive industry limit to total royalty burden (i.e. royalty stacking)
  - RIM already pays royalties on BlackBerry devices to many patent owners
- Effect would lower reasonable royalty



## ***Georgia-Pacific Factor 13***

“The portion of the realizable profit that should be credited to the invention as distinguished from non-patented elements, the manufacturing process, business risks, or significant features or improvements added by the infringer.”

# NTP - Musika

- RIM launched first North American BlackBerry advertising/branding campaign in April 2000
- Merrill Lynch Report (May '99)
  - “It’s really access to corporate information such as emails rather than to the Internet that we expect will drive demand for RIM-like appliances.”
- Positive effect on royalty rate



## RIM - Donaldson

- RIM faced significant business risks in developing BlackBerry market (acceptance, competition, rapid technological change)
- RIM developed business plans and models prior to or contemporaneous with the date of hypothetical negotiations that anticipated continued large operating expenses and low profits (even losses) from operations over several years
- RIM developed numerous advantages and product differentiation features for its BlackBerry which have contributed substantially to its success
- RIM developed its business at substantial cost as evidenced by SG&A and R&D expenses and capital investments
- Factors would lower reasonable royalty





## ***Georgia-Pacific Factor 15***

“The amount that a licensor (such as the patentee) and a licensee (such as the infringer) would have agreed upon (at the time the infringement began) if both had been reasonably and voluntarily trying to reach an agreement; that is, the amount which a prudent licensee -- who desired, as a business proposition, to obtain a license to manufacture and sell a particular article embodying the patented invention -- would have been willing to pay as a royalty and yet be able to make a reasonable profit and which amount would have been acceptable by a prudent patentee who was willing to grant a license.”

# NTP - Musika

- Established reasonable royalty ranged based on minimum the licensor would accept (5.5%) and maximum a licensee would pay (12%)
- Georgia-Pacific Factors
  - 5 and 8 most relevant and significant to circumstances of this case
  - 2 represented the only other specific data point
  - Others neutral or positive
- Concluded that rate would be 7.13% (mid-point of 5.5 and 8.75%)

## RIM - Donaldson

- Wireless e-mail had good potential but not overwhelming demand for such a service
- Significant risks associated with commercial success
- Licensing practices in the semiconductor and data communications industries: 1% to 5-6%
- Industry practice of calculating royalties based on revenue from sales or hardware (not including service fees)
- Patents in suit never licensed
- RIM license from NTP would put RIM at competitive disadvantage to competitors
- Reasonable royalty range in case equal to 1-3% of BlackBerry handheld revenues
- Within royalty range most appropriate rate would be 1.5%

# Quantifying Damages

## NTP - Musika

- Estimated device, server & service revenues
- Multiplied total by 7.13% (mid point of 5.5 and 8.75%)
- Total damages amounted to \$28.9 Million

## RIM - Donaldson

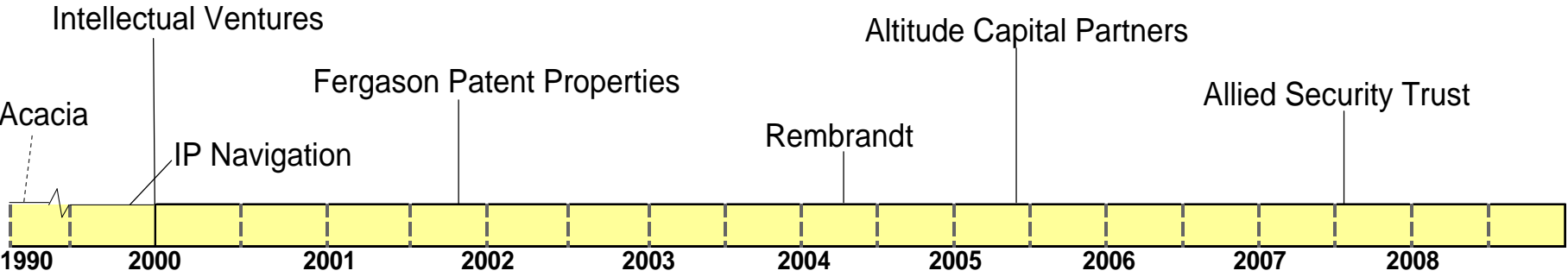
- BlackBerry device revenues only
- Multiplied by 1.5%
- Total royalty for BlackBerry handheld devices would be \$3.1 Million

# NTP v. RIM

## *Final Outcome*

- Jury awarded \$23 million based on 5.7% royalty on 11/21/02
- Judge awarded \$33 million on 8/5/03 (plus interest, fees and enhanced damages of \$20 million)
- In March 2005 a settlement of \$450 million was being negotiated
- In March 2006 the parties reached a settlement of \$612.5 million

Selected IP Investors



Company Profile: IP Navigation Group; Orion IP, LLC

Founder/CEO: Erich Spangenberg

Date Created: Unknown

Business Type: Patent Licensing & Enforcement

Related Transactions:

- Orion has been a party to roughly 100 litigation settlements. As of October 2007, the company generated approximately \$72.3 million in revenues, primarily from litigation settlements.

Company Profile: Acacia Research Corporation

Date Created: 1993 – Reincorporated in 1999

Founder/CEO: Paul Ryan

Business Type: Patent Licensing & Enforcement

Statistics:

- Publicly traded since 1995
- Market Capitalization of \$134.0 million as of 4/03/09
- 2007 Revenues of \$52.6 million
- 2008 Revenues of \$48.2 million



Company Profile: Fergason Patent Properties, LLC

Date Created: 2001

Founder/CEO: James L. Fergason

Business Type: Patent Licensing & Enforcement

Licensees: Panasonic, LG, Seiko Epson, Sharp, Samsung, JVC, Sony

- Owns over 35 patents in the areas of electronic displays and liquid crystal technology

Company Profile: Rembrandt IP Management, LLC

Date Created: 2004

Founder/CEO: Paul Schneck

Business Type: Litigation Finance/Investment

Statistics:

- Acquired 200 patents and engaged in 15 lawsuits since inception
- Recent activity: Received \$41 million judgment from Novartis

## Company Profile: Altitude Capital Partners

Date Created: 2005

Founder/CEO: Robert Kramer & Warren Hurwitz

Business Type: Litigation Finance & Investment

### Transactions:

- Completed thirteen transactions in sixteen different portfolio companies
- February 2008: Invested \$11 million in Intrinsity, Inc.
- February 2007: Invested \$35 million in Visto Corporation
- February 2007: Invested \$8 million in Deep Nines Inc.

Company Profile: Intellectual Ventures, Inc.

Date Created: 2000

Founder/CEO: Nathan Myhrvold

Business Type: Institutional Patent Aggregator

Members: Microsoft, Intel, Apple Computer, Sony, Nokia, eBay, Google, SAP AG, Nvidia Corp. and others

- Investors are reported to include private companies as well as pensions and endowments

# Intellectual Ventures Identified US Patents

- **Thomas Ewing investigated IV transactions**
- **Produced report version 1.1 in September 2007**
- **Methodology:**
  - Review of open literature to identify IV shell companies
  - Review of corporate records of IV shell companies
  - USPTO databases revealed assigned or licensed patents
  - Review of patent prosecution and sales records
  - Process performed iteratively
  - Identification of key employees signing paperwork
  - Verification that IV entity is managed by an IV employee

# Summary of IV Identified US Patents

| <b>Intellectual Ventures Identified US Patents Overview</b> |             |               |
|---|-------------|---------------|
| US Patents  | 2055        | 73.2%         |
| US Patent Applications                                      | 754         | 26.8%         |
| <b>Total</b>  | <b>2809</b> | <b>100.0%</b> |
| <b>Intellectual Ventures Source of US Patents</b>           |             |               |
| US Patents sourced from Companies                           | 1857        | 90.4%         |
| US Patents sourced from Individuals                         | 198         | 9.6%          |
| <b>Assignee Contribution - Identified IV US Patents</b>     |             |               |
| Top 30 Assignees of Patents [1]                             | 1047        | 50.95%        |
| US Patents from Universities                                | 105         | 5.11%         |
| US Patents from Government Agencies                         | 51          | 2.48%         |

[1] Non-individuals were original assignee

# Original Assignees of Identified US Patents Assigned to Intellectual Ventures

Top 30 Original Assignees - patents acquired by Intellectual Ventures

| Original Assignee                   | US Patents  |
|-------------------------------------|-------------|
| MOTOROLA INC                        | 76          |
| AT&T                                | 71          |
| TELIA AB                            | 62          |
| MICROELECTRONICS & COMPUTER         | 61          |
| NCR CORP                            | 53          |
| NORTEL NETWORKS                     | 52          |
| NEOMAGIC CORP                       | 51          |
| NIPPON STEEL CORP                   | 49          |
| US NAVY                             | 45          |
| FUJITSU LTD                         | 44          |
| FRANCE TELECOM                      | 37          |
| AEROSPACE CORP                      | 35          |
| THOMSON CSF                         | 35          |
| LOCKHEED MARTIN                     | 34          |
| ADVANCED MICRO DEVICES INC          | 30          |
| UNIV RUTGERS                        | 29          |
| SECR DEFENCE BRIT                   | 27          |
| ZEN RES NV                          | 24          |
| mitsubishi corp                     | 24          |
| COMMISSARIAT ENERGIE ATOMIQUE       | 23          |
| MARCONI COMM INC                    | 21          |
| DEW ENGINEERING AND DEVELOPMENT LTD | 20          |
| AGFA CORP                           | 20          |
| MITRE CORP                          | 20          |
| UNIV NEW MEXICO                     | 19          |
| GEN MAGIC INC                       | 18          |
| CASTLEWOD SYSTEMS INC               | 17          |
| ENHANCED MEMORY SYSTEMS INC         | 17          |
| IOMEGA CORP                         | 17          |
| ACTIVCARD INC                       | 16          |
| <b>Total US Patents</b>             | <b>1047</b> |

# Assignees of Intellectual Ventures Identified US Patents

Top 30 Intellectual Ventures entities with reassigned US patents

| Intellectual Ventures Entity Name | US Patents  |
|-----------------------------------|-------------|
| Data Advisors LLC                 | 90          |
| Voice Signals LLC                 | 68          |
| Stovokor Technology LLC           | 62          |
| Steinmetz Electrical LLC          | 59          |
| Jasper Wireless LLC               | 57          |
| Faust Communications, LLC         | 56          |
| Independence Manzanar LLC         | 56          |
| Pegre Semiconductors, LLC         | 55          |
| Bixenta Ventures LLC              | 50          |
| Discobolus Management, LLC        | 48          |
| Dosa Advances LLC                 | 45          |
| Remote Access, LLC                | 41          |
| Fahrenheit Thermoscope, LLC       | 40          |
| Mineral Lassen LLC                | 39          |
| Purple Mountain Server LLC        | 39          |
| KMB Capital Fund LLC              | 35          |
| Newcomen Engine LLC               | 35          |
| Lujack Systems LLC                | 28          |
| Intarsia Software LLC             | 27          |
| Wengen Wireless LLC               | 27          |
| Xantima LLC                       | 27          |
| Coolidge Casa Grande LLC          | 26          |
| Dragsholm Wireless Holdings LLC   | 26          |
| Ben Franklin Patent Holding LLC   | 24          |
| Gallitzin Allegheny LLC           | 24          |
| Nevada Asset Liquidators, LLC     | 23          |
| Green Wireless LLC                | 22          |
| Null Networks LLC                 | 21          |
| Rose Blush Software LLC           | 21          |
| Straight Signals LLC              | 21          |
| <b>Total US Patents</b>           | <b>1192</b> |



# Summary of Intellectual Ventures US Patent Portfolio

Intellectual Ventures entities with reassigned US patents from Original Assignees

| IV Entity                  | Original Assignee                                | Hits      |
|----------------------------|--|-----------|
| Data Advisors LLC          | TELIA AB   | 62        |
|                            | SONERA OYJ                                       | 13        |
|                            | FINLAND TELECOM OY                               | 4         |
|                            | Individual(s)                                    | 3         |
|                            | BAYER CORP                                       | 1         |
|                            | CISCO  | 1         |
|                            | ERICSSON   | 1         |
|                            | IBM  | 1         |
|                            | PACTIV CORP                                      | 1         |
|                            | THK CO LTD   BELDEX CORP                         | 1         |
|                            | THOMSON CSF                                      | 1         |
|                            | US PLAYING CARD COMPANY                          | 1         |
|                            | <b>Data Advisors LLC Total</b>                   | <b>90</b> |
| Voice Signals LLC          | MOTOROLA INC                                     | 67        |
|                            | LAMINAR FLUID CONTROLS INC                       | 1         |
|                            | <b>Voice Signals LLC Total</b>                   | <b>68</b> |
| Purple Mountain Server LLC | ENHANCED MEMORY SYSTEMS INC                      | 17        |
|                            | RAMTRON CORP                                     | 10        |
|                            | RAMTRON CORP   NMB SEMICONDUCTOR COMPANY LTD     | 6         |
|                            | PURPLE MOUNTAIN SERVER LLC                       | 3         |
|                            | IBM  | 2         |
|                            | RAMTRON INT CORP   NIPPON STEEL SEMICONDUCTOR CO | 1         |
|                            | <b>Purple Mountain Server LLC Total</b>          | <b>39</b> |
| Rose Blush Software LLC    | SMARTPATENTS INC                                 | 8         |
|                            | AURIGIN SYSTEMS INC                              | 7         |
|                            | ROSE BLUSH SOFTWARE LLC                          | 4         |
|                            | WAVERLEY HOLDINGS INC                            | 2         |
|                            | <b>Rose Blush Software LLC Total</b>             | <b>21</b> |
| Cellular Elements, LLC     | CALIFORNIA INST OF TECHN                         | 13        |
|                            | <b>Cellular Elements, LLC Total</b>              | <b>13</b> |

Company Profile: Allied Security Trust

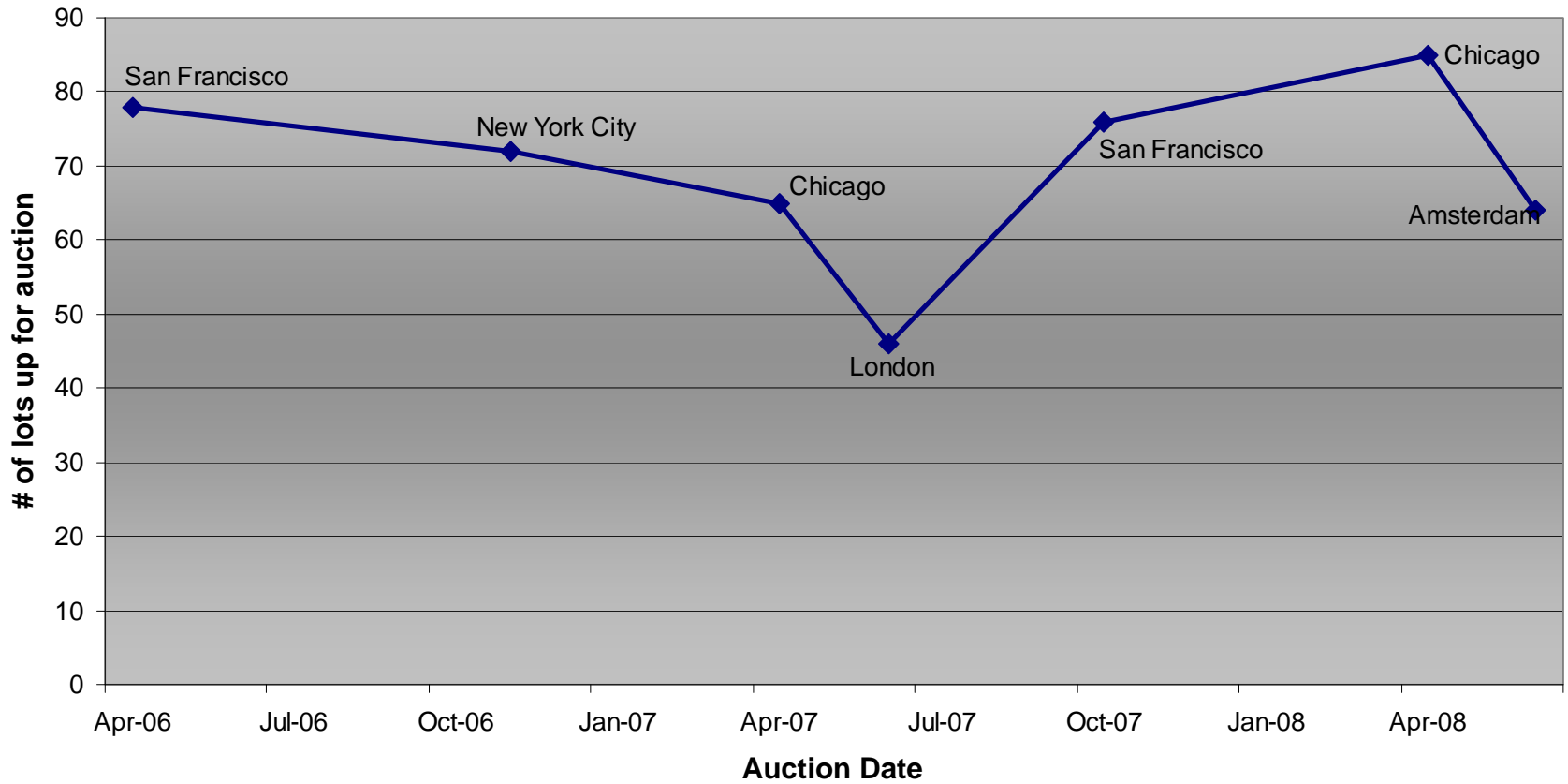
Date Created: 2005

CEO: Daniel McCurdy

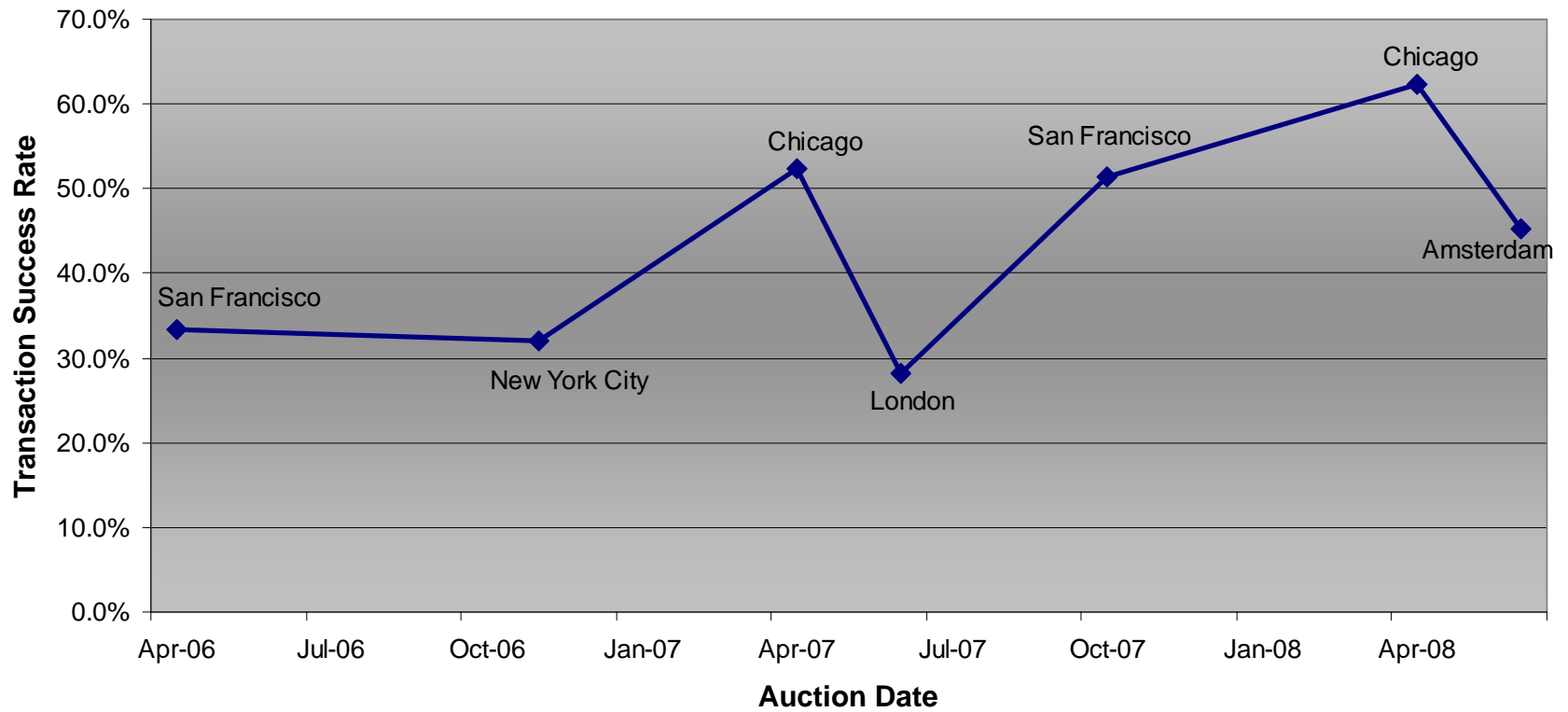
Business Type: Institutional Patent Aggregator

Members: Eleven members including: Sun Microsystems, Motorola, Hewlett-Packard, Verizon, Cisco, Google and Ericsson

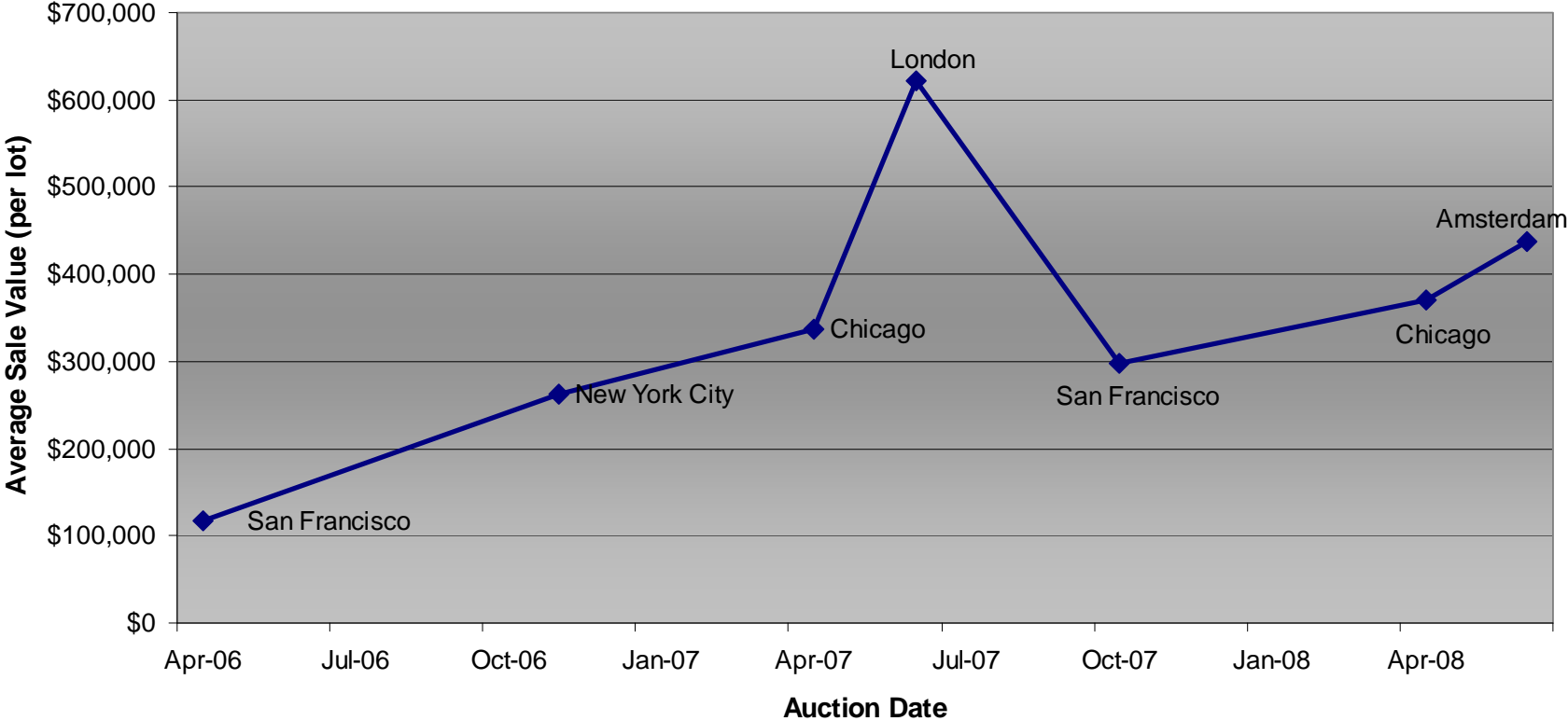
### Ocean Tomo Auction # Of Lots Offered (patent only)



### Ocean Tomo Auction Success Rate (patent only)



### Ocean Tomo Average Sales Prices (patent only)



# Ocean Tomo Auctions – Top Original Assignees

- Top 25 original assignees on US patents being sold at auction

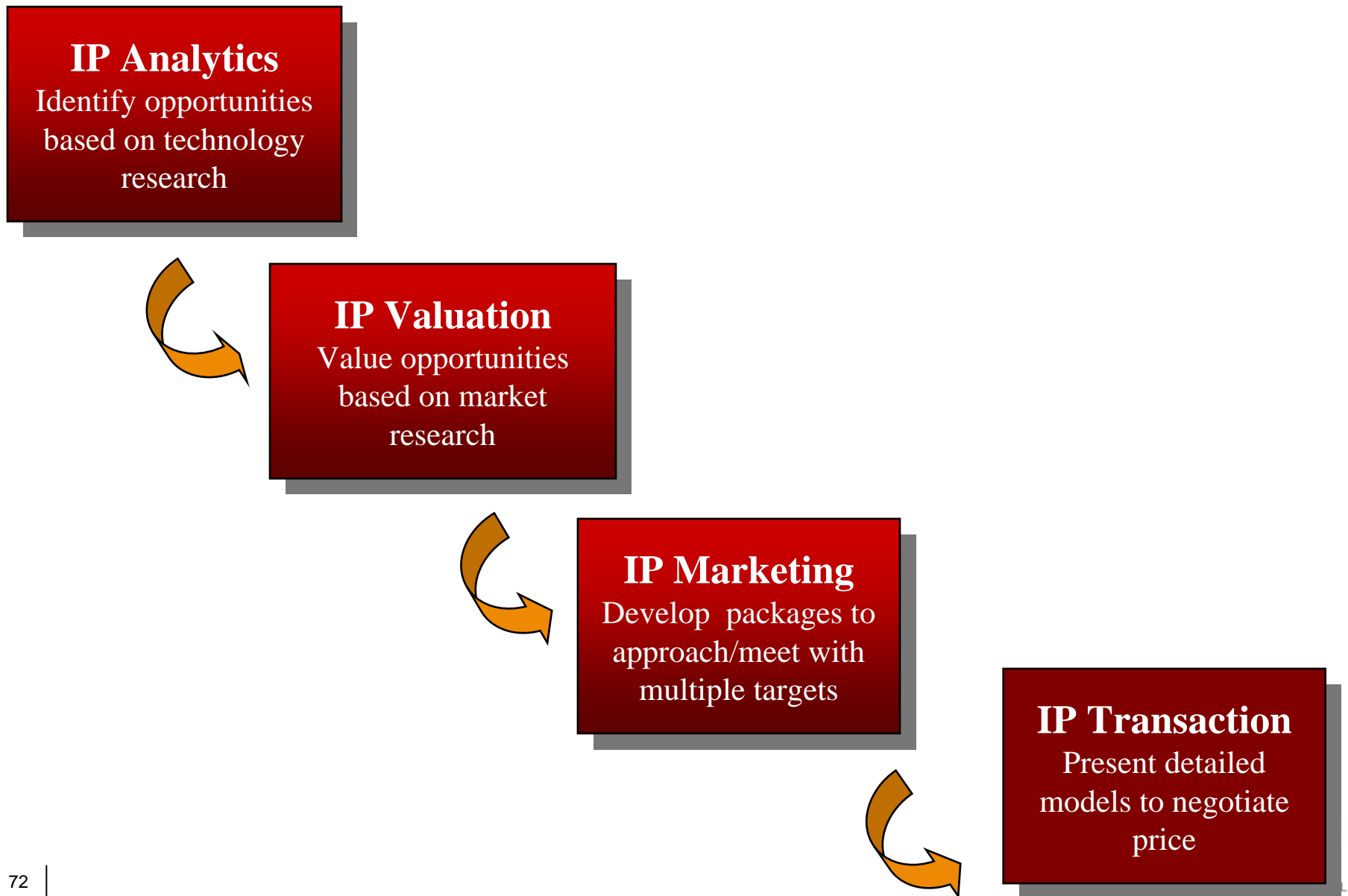
| Original Assignee Name         | Total |
|--------------------------------|-------|
| Individual(s)                  | 156   |
| DISCOVISION                    | 82    |
| EATON CORP                     | 50    |
| CYPRESS SEMICONDUCTOR CORP     | 16    |
| CLOROX CO                      | 13    |
| NORDSON CORP                   | 10    |
| SUN MICROSYSTEMS INC           | 9     |
| COMPETITIVE TECH INC           | 9     |
| PHILIPS ELECTRONICS NA         | 8     |
| NEDERLAND PTT                  | 8     |
| FORD MOTOR CO                  | 7     |
| ONETTA INC                     | 7     |
| SNELL & WILCOX LTD             | 7     |
| METADIGM LLC                   | 6     |
| IMAGE TELECOMMUNICATIONS CORP  | 5     |
| GENGHISCOMM CORP               | 5     |
| SIEMENS AG                     | 4     |
| AGERE SYSTEMS INC              | 4     |
| ISLAND SOFTWARE INC            | 4     |
| NONLINEAR SOLUTIONS INC        | 4     |
| RADIO TELECOM & TECHNOLOGY INC | 4     |
| SHAKTI SYSTEMS INC             | 4     |
| UNITED TECHNOLOGIES CORP       | 4     |
| UNIV MINNESOTA                 | 4     |
| VERVE L.L.C.                   | 4     |

# Ocean Tomo Auctions – Top Reassignments

- Top 25 reassignments on US patents post auction

| Rank | Reassigned Assignee   | Total |
|------|---|-------|
| 1    | MID-AMERICA COMMERCIALIZATION CORPORATION                                     | 19    |
| 2    | BOOKHAM TECHNOLOGY PLC  | 17    |
| 3    | MADISON ISLAND LLC  | 17    |
| 4    | INTELLECTUAL VENTURES   | 15    |
| 5    | DOT ASSETS NO. 12 LLC   | 11    |
| 6    | WAITE INVENTORY CONSULTING LLC  | 10    |
| 7    | YAKISAMI CAPITAL CO. L.L.C.   | 7     |
| 8    | LOT 42 ACQUISITION FOUNDATION LLC   | 6     |
| 9    | NATIONAL INSTITUTE FOR STRATEGIC TECHNOLOGY ACQUISITION AND COMMERCIALIZATION | 6     |
| 10   | DOT ASSETS NO. 10 LLC   | 5     |
| 11   | LOT 17 ACQUISITION FOUNDATION LLC   | 5     |
| 12   | LOT 20 ACQUISITION FOUNDATION LLC   | 5     |
| 13   | LOT 41 ACQUISITION FOUNDATION LLC   | 5     |
| 14   | AUCTNYC 4 LLC   | 4     |
| 15   | AUCTNYC 7 LLC   | 4     |
| 16   | DOT ASSETS NO. 3 LLC  | 4     |
| 17   | JORDAAN CONSULTING LTD. III LLC   | 4     |
| 18   | LOT 18 ACQUISITION FOUNDATION LLC   | 4     |
| 19   | OMNITURE INC.   | 4     |
| 20   | WI-LAN INC.   | 4     |
| 21   | AUCTNYC 19 LLC  | 3     |
| 22   | DOT ASSETS NO. 8 LLC  | 3     |
| 23   | JORDAAN TECHNOLOGIES L.L.C.   | 3     |
| 24   | LOT 16 ACQUISITION FOUNDATION L.L.C.  | 3     |
| 25   | RALVIN REMOTE GMBH L.L.C.   | 3     |

# Phased Transaction Approach





# Unova IP Background

United States Patent (19) (1) Patent Number: 5,748,866  
Henry et al. BROADCASTING April 14, 1998

has acquired approximately 150 domestic and foreign patents and applications from

**UNOVA**  
in consideration of

**\$24,000,000**

The undersigned acted as the financial advisor to Unova, Inc. in this transaction.

**INTECAP**  
December 24, 2002

- Unova's Intermec was a pioneer in mobile computing and data capture technologies
- Unova had broad patent protection in it's core vertical space
  - Implemented assertion program for smart battery patents & RFID patent licensing program
  - Decided to license core technology into non core markets

# 802.11 Assignees

Priority Filings with US Patent in Family by Assignee in 802.11

| Assignee Name      | '85 | '86 | '87 | '88 | '89 | '90 | '91 | '92 | '93 | '94 | '95 | '96 | '97 | '98 | '99 | '00 | '01 | '02 | '03 | '04 | Total |
|--------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|
| Motorola           |     |     |     |     | 2   | 3   | 6   | 9   | 6   | 11  | 5   | 13  | 9   | 21  | 13  | 7   | 13  | 12  | 6   | 1   | 137   |
| IBM Corp.          |     |     |     |     |     | 5   | 3   | 2   | 7   | 15  | 6   | 8   | 3   | 9   | 7   | 3   | 2   | 1   |     |     | 71    |
| Nokia              |     |     |     |     |     |     | 1   |     | 1   | 1   | 2   | 5   | 3   | 12  | 23  | 13  | 7   | 3   |     |     | 71    |
| Ericsson           |     |     |     |     |     | 2   | 1   | 3   | 3   | 2   | 1   | 7   | 9   | 16  | 12  | 8   | 2   |     |     |     | 66    |
| Unova / Intermec   |     | 1   |     | 1   | 2   | 4   | 9   |     | 4   | 2   | 3   | 2   | 4   | 2   | 4   |     |     | 1   |     |     | 39    |
| Intel Corp.        |     |     |     |     |     |     |     |     | 2   | 1   | 2   | 1   | 2   | 1   | 4   | 3   | 2   | 4   | 1   |     | 23    |
| Hewlett-Packard    |     |     |     |     |     | 1   |     | 1   |     | 2   | 2   | 1   | 1   |     | 1   |     | 5   | 1   |     |     | 15    |
| Qualcomm           |     |     |     |     |     |     |     |     |     |     |     |     |     | 4   | 1   | 5   | 2   | 3   |     |     | 15    |
| Broadcom Corp.     |     |     |     |     |     | 2   | 1   | 1   |     |     | 1   |     |     |     | 2   | 1   |     | 5   |     |     | 13    |
| Advanced Microdev  |     |     |     |     |     |     |     |     |     | 1   | 3   | 1   | 1   |     |     |     | 1   | 4   |     |     | 11    |
| Microsoft Corp.    |     |     |     |     |     |     |     |     |     |     | 1   |     | 2   |     |     | 2   | 1   | 2   | 2   |     | 10    |
| Sun Microsystems   |     |     |     |     |     |     |     | 2   | 1   | 1   |     | 1   |     |     | 1   |     |     |     |     |     | 6     |
| Micron             |     |     |     |     |     |     |     | 1   |     |     |     | 1   |     |     |     |     |     |     |     |     | 2     |
| <b>Grand Total</b> |     | 1   |     | 1   | 4   | 17  | 21  | 19  | 24  | 36  | 26  | 40  | 34  | 65  | 68  | 42  | 35  | 36  | 9   | 1   | 479   |



## UNOVA Sells Patents to Broadcom

WOODLAND HILLS, CA - Thursday,  
**December 26, 2002** - UNOVA, Inc.  
(NYSE:UNA) today announced it has **sold approximately 150 of its domestic and foreign patents and patent applications to Broadcom Corporation for \$24 million.**

The patents purchased relate to wireless local-area networking and **wireless communications** including dual-radio access points and hierarchical networks. In addition, Broadcom purchased UNOVA's patents for **dynamically switchable power supplies** and personal video recorders.

## Broadcom Pays Intel \$60M to Settle All Litigation

*Electronic News, 8/8/2003*

- Broadcom Corp. **paid Intel Corp. \$60 million in two equal installments** to settle all outstanding litigation
- Broadcom and Intel entered into a separate comprehensive cross-license agreement covering patents owned or controlled by either party or its subsidiaries having a **first effective filing date any time through August 7, 2008**
- No fees or royalties accompany the cross-license agreement

# Federal Jury Finds That Qualcomm Infringes Three Broadcom Patents

IRVINE, Calif., May 29, 2007 /PRNewswire-FirstCall via COMTEX News Network/ -- Broadcom Corporation (Nasdaq: BRCM), a global leader in semiconductors for wired and wireless communications, announced that a unanimous federal jury today found that certain Qualcomm Incorporated (Nasdaq: QCOM) cellular baseband chips and software infringe claims of three Broadcom patents, and awarded Broadcom **\$19.64 million in damages** for Qualcomm's past infringement.

# PATENT VALUATION CONSIDERATIONS

1. **Valuation Context (litigation, financial reporting etc.)**
2. **Timing of Negotiation (pre or post market introduction)**
3. **Demand for Patented Technology (market appeal)**
4. **Extent of Use (past and future)**
5. **Availability of Acceptable Non-Infringing Alternative**
6. **Dependence on Other Patented Technology (royalty stacking)**
7. **Comparability of Other licensed Patented Inventions**
8. **Profitability of Patented Invention and Related Product or Service**
9. **Existence of Derivative or Convoyed Sales**
10. **Degree of Competition Between the Parties**



INTERNATIONAL

**David Yurkerwich, Vice President**

CRA International

1155 Avenue of the Americas

New York, NY 10036

Email: [dyurkerwich@crai.com](mailto:dyurkerwich@crai.com)

Office: 212-520-7111