



IPVision

Expert System Driven Insights into Patent Quality and Competitive Positions

Patent Claims Analytics as One Element in
Technology Guided Patent Portfolio Assessments

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IPVision

- A Leading Provider of Innovative Decision Support Services and Solutions for **Evaluating, Managing** and **Creating Value** in Patents / Intellectual Property and Corporate Strategy.
- Based on **Expertise, Algorithms** and **Models** developed in the course of commercializing technologies from the Massachusetts Institute of Technology

Accelerating Portfolio Assessments

Increasing Need

- As patent portfolios continue to grow
- As IP and patents in particular drive patent centric transactions
- Organizations face a strategic imperative to proactively diligence key portfolios and to reduce the cost and time required in building portfolio comparisons

Approach

High-level Understanding of Demographics

Trend, Inventor, Citation Analysis, Class Tree Analysis, Claims Analysis, Country Analysis...

Deeper-Level Review

“Find the Best” for Expert Review

- Best Claims
- Seminal Patents
- Patent Family Analysis
- Licensing / Monetization Options
- Chain of Title Diligence...



This Session's Focus

Finding the Best Patents By
Leveraging Patent Claims Analytics



Why?

By Definition Patent Claims

Are One of the Most Highly Weighted Inputs for
Patent Valuation, Due Diligence and Risk /
Monetization Analysis

The Problem?

Time and Money

After I have found the relevant set...

How do I extract on-point insights for specific questions and decisions?

The Problem?

Time and Money

If analyzing a portfolio of 100 (or 1000...) relevant patents...

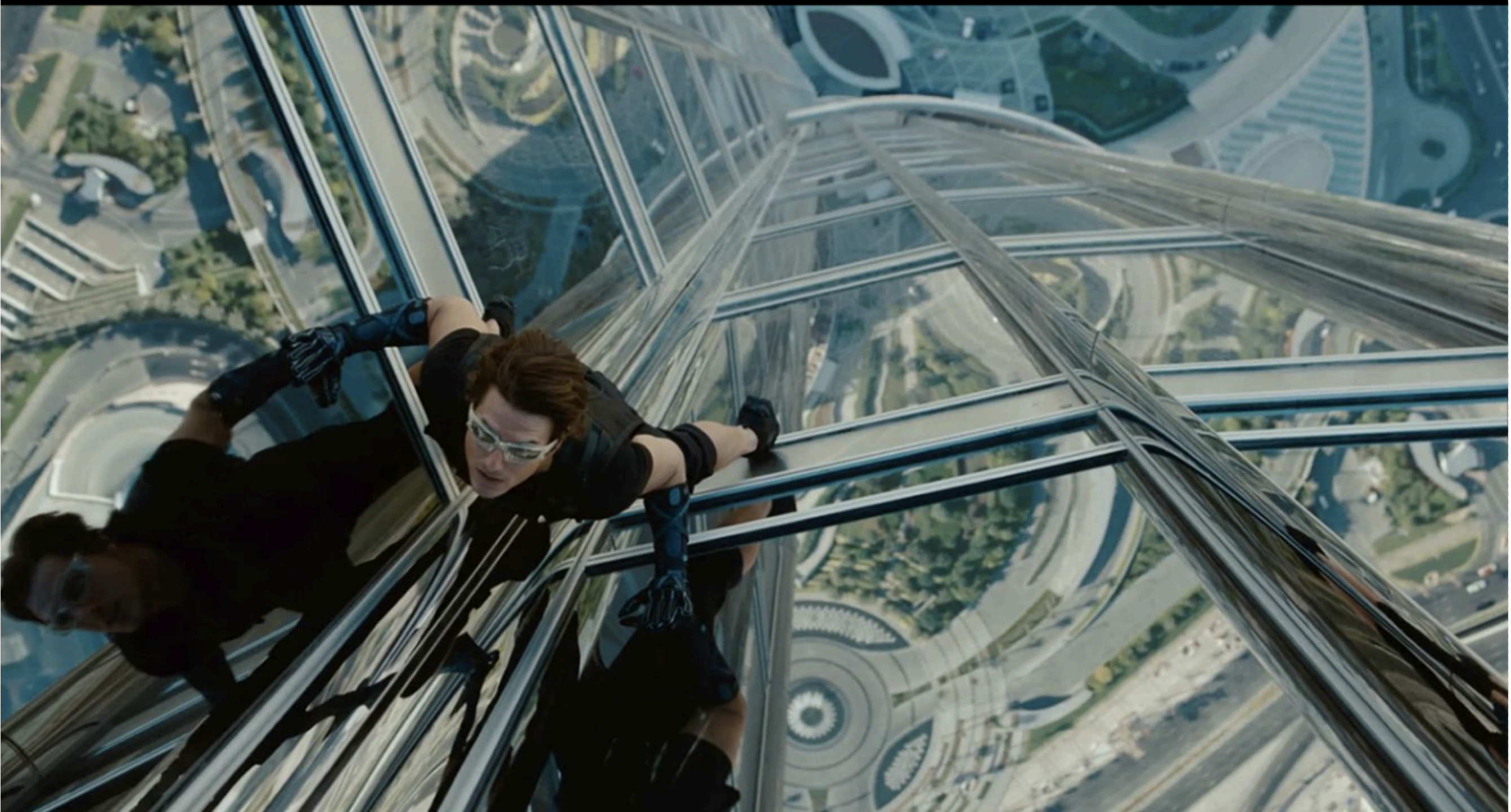
With an average of 4-5 independent claims per patent...

An expert would need to review 400-500 (or 4000-5000...) patent claims...

Maintain consistency over time (and with colleagues)...

AND

Keep the Budget Affordable and Face the Constraint of Time



<http://www.missionimpossible.fr/>



How?

IPVision developed an expert system to provide consistent, evidence-based insights into patent claim scope and quality

Project team included leading technology firm patent departments, and respected outside counsel from patent prosecution, litigation and licensing professions

Two-Factor Assessment

1. Breadth (A, B, or C)
2. Structure (1, 2, 3, 4, or 5)

Combined assessment across 15 possible scores drawing upon dozens of supporting text vectors



For Reference

IPVision's Expert System parses the text within independent patent claims and applies a series of tests and case law analyses to provide insights on patent perspective.

Claims Structure (Place Curser Over Number to View Claims Text):

Columns Contain Claim Numbers from Patent	Independent Claims	Dependent Claims Claim Level			Claim Type	Claim Rating	
		2	3	4		Broadness	Structure
1					[System]	C	3
	2						
	3						
	4						
	5						
	6						
	7						
		8					
	9						
	10						
			11				
				12			
				13			
	14						
			15				
				16			
17					[Method]	A	1
	18						
	19						
	20						
	21						
	22						
	23						
			24				
	25						
	26						
			27				
				28			
				29			
	30						
			31				
				32			
33					[System]	C	5
34					[Method]	A	1
Total Claims By Level:	4	18	6	6			

Two-Factor Assessment

Broadness (A, B, or C)

Structure (1, 2, 3, 4, or 5)

Combined assessment across 15 possible scores drawing upon dozens of supporting text



Rules and Language

Example: Text Extraction and Analysis for Antecedent Basis Support and Indefinite Terms

Clear				Clear				Clear			
Nouns / Keywords				Noun Phrases				Indefinite Terms			
Mark "x"	Nouns/Keywords In Independent Claims	# in Ind. Claims	# in Spec	Mark "x"	Nouns Phrases In Independent Claims	# in Ind. Claims	# in Spec	Mark "x"	Indefinite Terms In Ind. Claims	# in Ind. Claims	Case Law Cites
	MEANS	5	10	x	FIRST WORKSPACE ELEMENT	12	4		means for	5	
	WORKSPACE	20	125	x	FIRST FORMAT	8	4		means	5	
	ELEMENT	20	80	x	SECOND FORMAT	8	4				
	FORMAT	16	59	x	SECOND WORKSPACE ELEMENT	8	4				
	STORE	10	37	x	SECOND STORE	5	4				
	STORING	9	7	x	FIRST STORE	5	3				
	ACCESSING	6	2		SECOND STORE STORING	3	1				
	SYNCHRONIZING	4	7		FIRST STORE STORING	3	1				
	TRANSLATING	4	3	x	INDEPENDENTLY MODIFIABLE	3	0				
	MODIFIABLE	4	4	x	COMMUNICATIONS CHANNEL COUPLING	1	1				
	INDEPENDENTLY	4	9		COMPUTER-READABLE STORAGE MEDIUM	1	0				
					STORING PROGRAM CODE						

Note: Claims text analysis and mining often used to iterate search strategies and analyses of specific portfolios



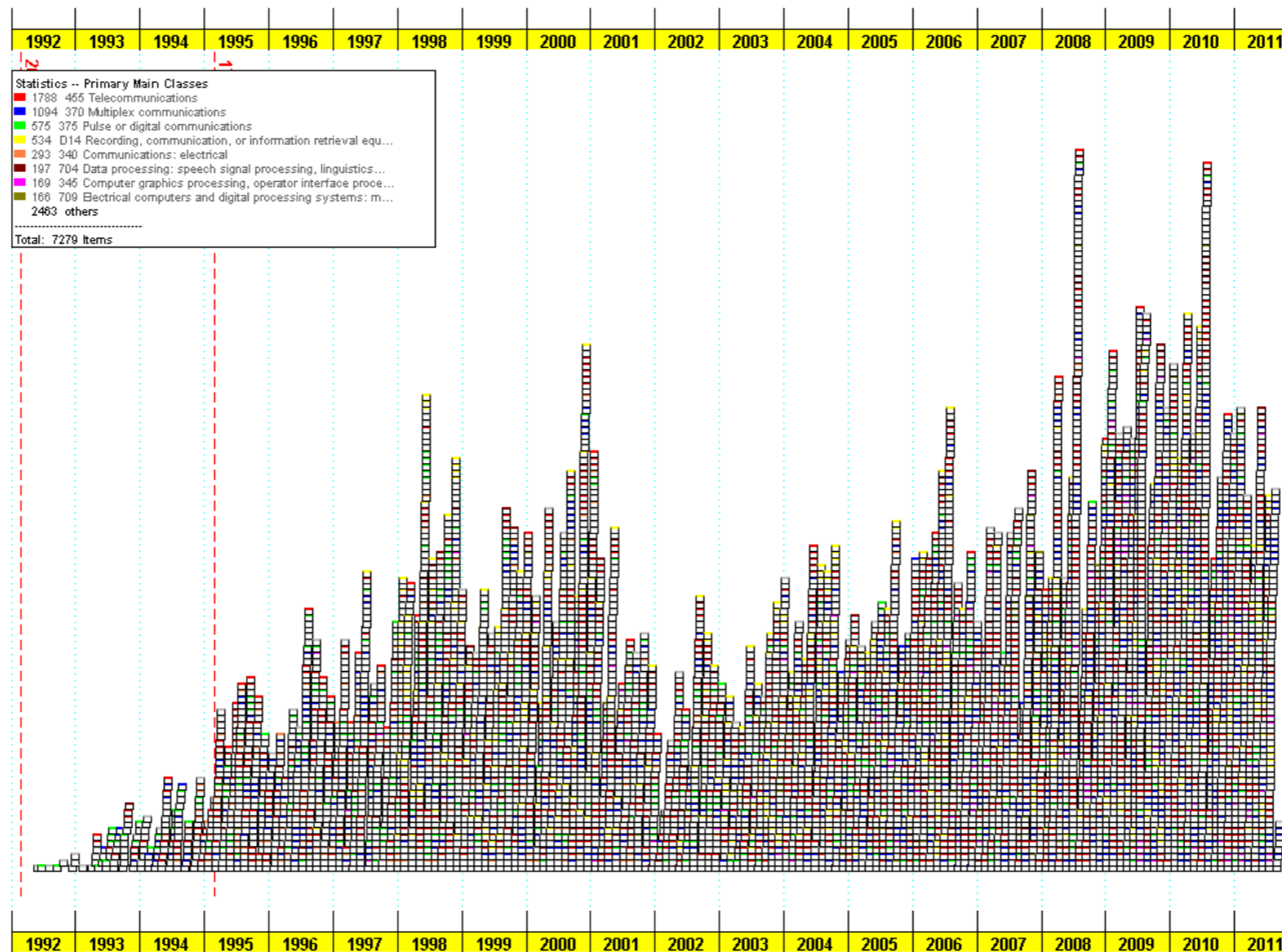
Telecom Example



- In The Wireless Space
- Most of the Players Have Large Patent Portfolios
- Let's take *Motorola Mobility* as an example

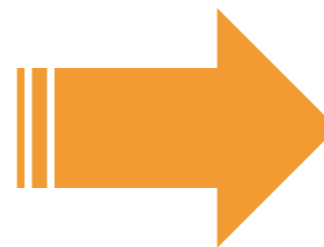
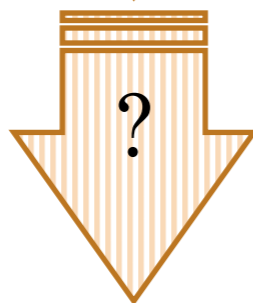
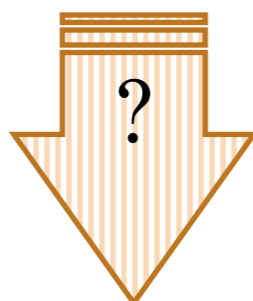
Growth Context

TimeLine Map of Motorola Mobility's Portfolio of 7279 US Patents and Pending Applications

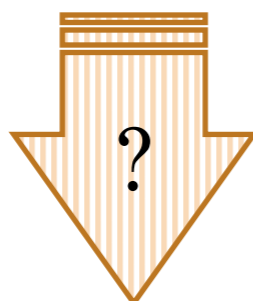


7,300+
Motorola Mobility US Patent Matters

How do we go from here.....



..... to here



High-Level

Gain an Understanding for the “Value” of the Portfolio

Deeper-Level

Find the 100-200 “Best” Motorola Mobility Patents for Expert Review (Will vary by Objective)

ANALYTICS TOOLBOX

Metrics:

- Claims Analysis
- Seminal Patents
- Patent Family Size
- Number of Foreign Filings
- Portfolio Strength
- Competitor Analysis

Due Diligence:

- List of Patent Families
- List of Foreign Equivalents
- Assignment Analysis

What If?:

- Key Inventors
- Technology Landscape
- Citation Relationships
- Cluster Analysis
- General Analytics

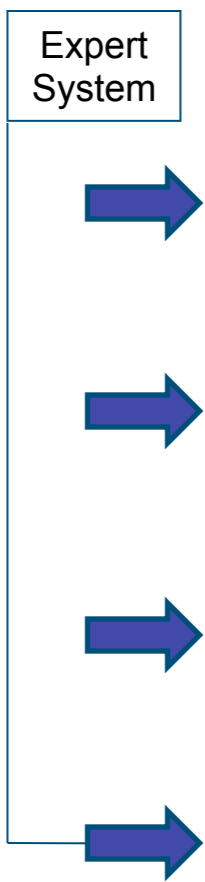


Motorola Mobility Claims Analysis

(16,347 Claims) Broad vs Narrow Claim (A, B, C) Case Law Impact (1 to 5)

Claims Summary of 4893 Motorola Mobility Issued Utility Patents
(original 5546 Issued Patents minus Design Patents)

Claims Analysis	Distribution and Percentage of Independent Claims	
Total # of Independent Claims:	16347	
Claim Category	# of Claims	Percentage
System Claims:	5208	31.86%
Method Claims:	7548	46.17%
Apparatus Claims:	6455	39.49%
Jepson Claims:	113	0.69%
Broadness Rating	# of Claims	Percentage
'A' Rated Claims:	3031	18.54%
'B' Rated Claims:	10217	62.50%
'C' Rated Claims:	3099	18.96%
Structure Rating	# of Claims	Percentage
'1' Rated Claims:	1779	10.88%
'2' Rated Claims:	5211	31.88%
'3' Rated Claims:	5380	32.91%
'4' Rated Claims:	3256	19.92%
'5' Rated Claims:	721	4.41%
Combined Rating	# of Claims	Percentage
'A1' Rated Claims:	736	4.50%
'A2' Rated Claims:	1419	8.68%
'A3' Rated Claims:	691	4.23%
'A4' Rated Claims:	174	1.06%
'A5' Rated Claims:	11	0.07%



Compare to

Nokia
Samsung
RIM
Apple
Microsoft, etc.

Prioritized Review



Drill-Down into Results

Claims Summary of IBM 3062 Patents in US Class 711

Claims Analysis	Distribution and Percentage of Independent Claims	
Total # of Independent Claims:	10459	
Claim Category	# of Claims	Percentage
System Claims:	5771	55.18%
Method Claims:	4449	42.54%
Apparatus Claims:	2577	24.64%
Jepson Claims:	151	1.44%
Broadness Rating	# of Claims	Percentage
'A' Rated Claims:	980	9.37%
'B' Rated Claims:	5369	51.33%
'C' Rated Claims:	4110	39.30%
Structure Rating	# of Claims	Percentage
'1' Rated Claims:	536	5.12%
'2' Rated Claims:	2697	25.79%
'3' Rated Claims:	3563	34.07%
'4' Rated Claims:	2875	27.49%
'5' Rated Claims:	788	7.53%
Combined Rating	# of Claims	Percentage
'A1' Rated Claims:	202	1.93%
'A2' Rated Claims:	487	4.66%
'A3' Rated Claims:	233	2.23%
'A4' Rated Claims:	54	0.52%
'A5' Rated Claims:	4	0.04%
'B1' Rated Claims:	270	2.58%
'B2' Rated Claims:	1648	15.76%
'B3' Rated Claims:	1997	19.09%
'B4' Rated Claims:	1270	12.14%
'B5' Rated Claims:	184	1.76%
'C1' Rated Claims:	64	0.61%
'C2' Rated Claims:	562	5.37%
'C3' Rated Claims:	1333	12.75%
'C4' Rated Claims:	1551	14.83%
'C5' Rated Claims:	600	5.74%

Portfolio



Drill-Down into Results

Claims Summary of IBM 3062 Patents in US Class 711

Patents

Claims Analysis		Distribution and Percentage of Independent Claims							
Total # of Independent Claims:		10459							
Claim Category	# of Cl	Basic Patent Information							
System Claims:	571	PATENT NUMBER (To USPTO)	PATENT CLAIM RATING	ISSUE DATE	FILING DATE	TITLE	# of BC (Backward Citation)	# of FC (Forward Citation)	U.S. CLASS
Method Claims:	444								
Apparatus Claims:	257								
Jepson Claims:	15								
Broadness Rating	# of Cl								
'A' Rated Claims:	98								
'B' Rated Claims:	536								
'C' Rated Claims:	411								
Structure Rating	# of Cl								
'1' Rated Claims:	53								
'2' Rated Claims:	268								
'3' Rated Claims:	356								
'4' Rated Claims:	281								
'5' Rated Claims:	78								
Combined Rating	# of Cl								
'A1' Rated Claims:	20								
'A2' Rated Claims:	48								
'A3' Rated Claims:	23								
'A4' Rated Claims:	5								
'A5' Rated Claims:	4								
'B1' Rated Claims:	27								
'B2' Rated Claims:	164								
'B3' Rated Claims:	196								
'B4' Rated Claims:	121								
'B5' Rated Claims:	18								
'C1' Rated Claims:	64								0.61%
'C2' Rated Claims:	562								5.37%
'C3' Rated Claims:	1333								12.75%
'C4' Rated Claims:	1551								14.83%
'C5' Rated Claims:	600								5.74%
		6601149	.1 = A1 .11 = C2	20030729	19991214	Memory transaction monitoring system and user interface	3	41	711/154
		6345340	.1 = A1 .11 = C2	20020205	19980217	Cache coherency protocol with ambiguous state for posted operations	8	8	711/141
		6996688	.1 = A1 .12 = B2 .13 = B2	20060207	20030311	Method, system, and program for improved throughput in remote mirroring systems	36	2	711/162
		7739477	.1 = A1 .12 = B2 .17 = A2	20100615	20070410	Multiple page size address translation incorporating page size prediction	7	0	711/206



Drill-Down into Results

Claims Summary of IBM 3062 Patents in US Class 711

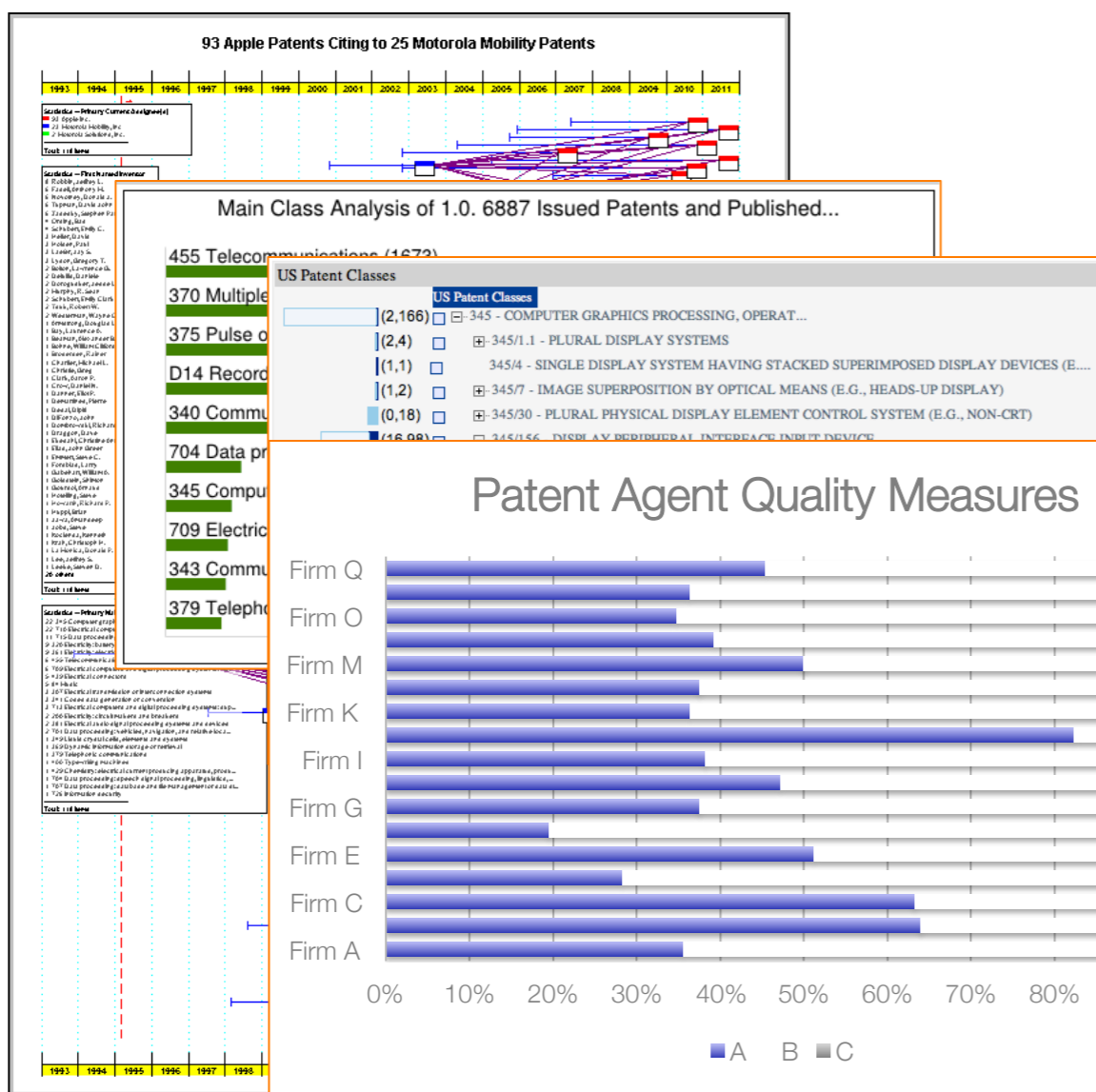
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Method Claims:	4449	42.54%					
Apparatus Claims:	2577	24.64%					
Jepson Claims:	151	1.44%					

	CLAIM ID	DEPENDENCY	Claim Numbers Dependent On This Claim	# Of Claims Dependent On This Claim	CLAIM CATEGORY	RATING1 (BROAD VS. NARROW)	RATING2 (STRUCTURE)
Structure Rating	5150472.1	Independent	2,3,	2	Method, System	B	2
'1' Rated Claims:							
'2' Rated Claims:							
'3' Rated Claims:							
'4' Rated Claims:							
'5' Rated Claims:							
	5150472.8	Independent	9,10,	2	System	C	2
Combined Rating							
'A1' Rated Claims:							
'A2' Rated Claims:							
'A3' Rated Claims:							
'A4' Rated Claims:							
'A5' Rated Claims:							
'B1' Rated Claims:							
'B2' Rated Claims:							
'B3' Rated Claims:							
'B4' Rated Claims:							
'B5' Rated Claims:							
	5151990.1	Independent	2,	1	System	C	2
'C1' Rated Claims:							
'C2' Rated Claims:							
'C3' Rated Claims:							
'C4' Rated Claims:	1591						
'C5' Rated Claims:	600						
				14.53%			
				5.74%			

Claims

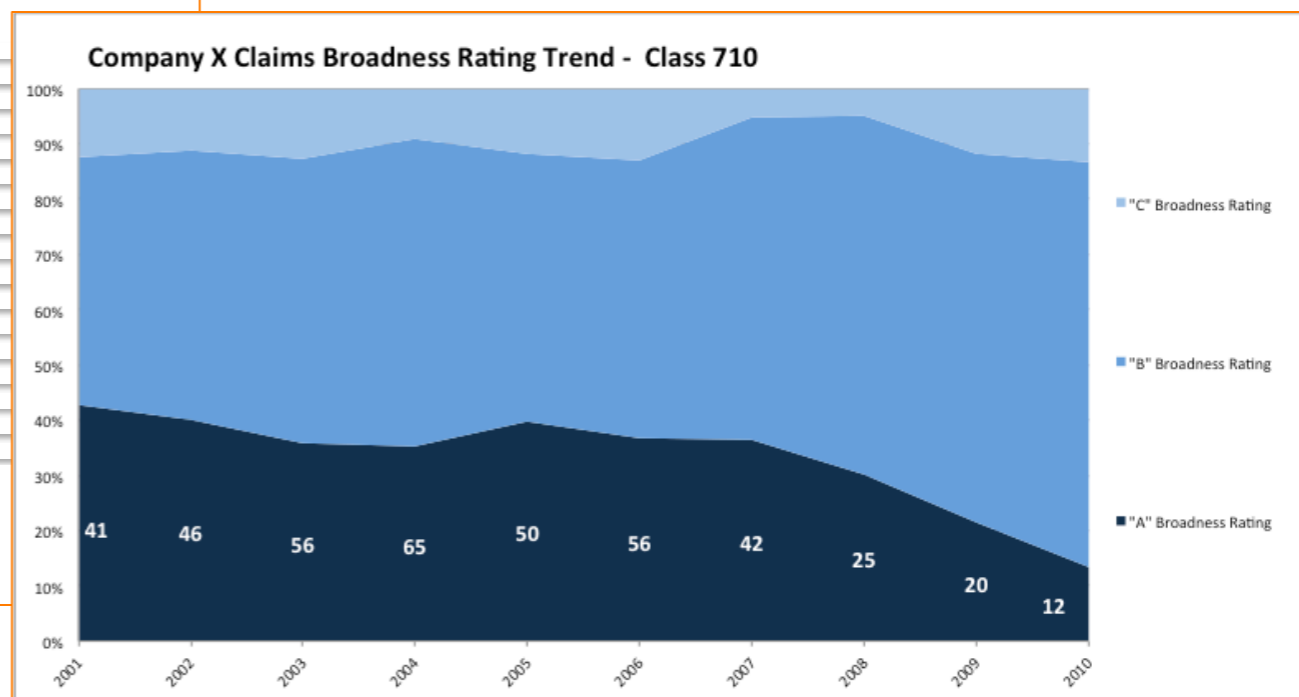


Continue to Drill-Down, Iterate and Report



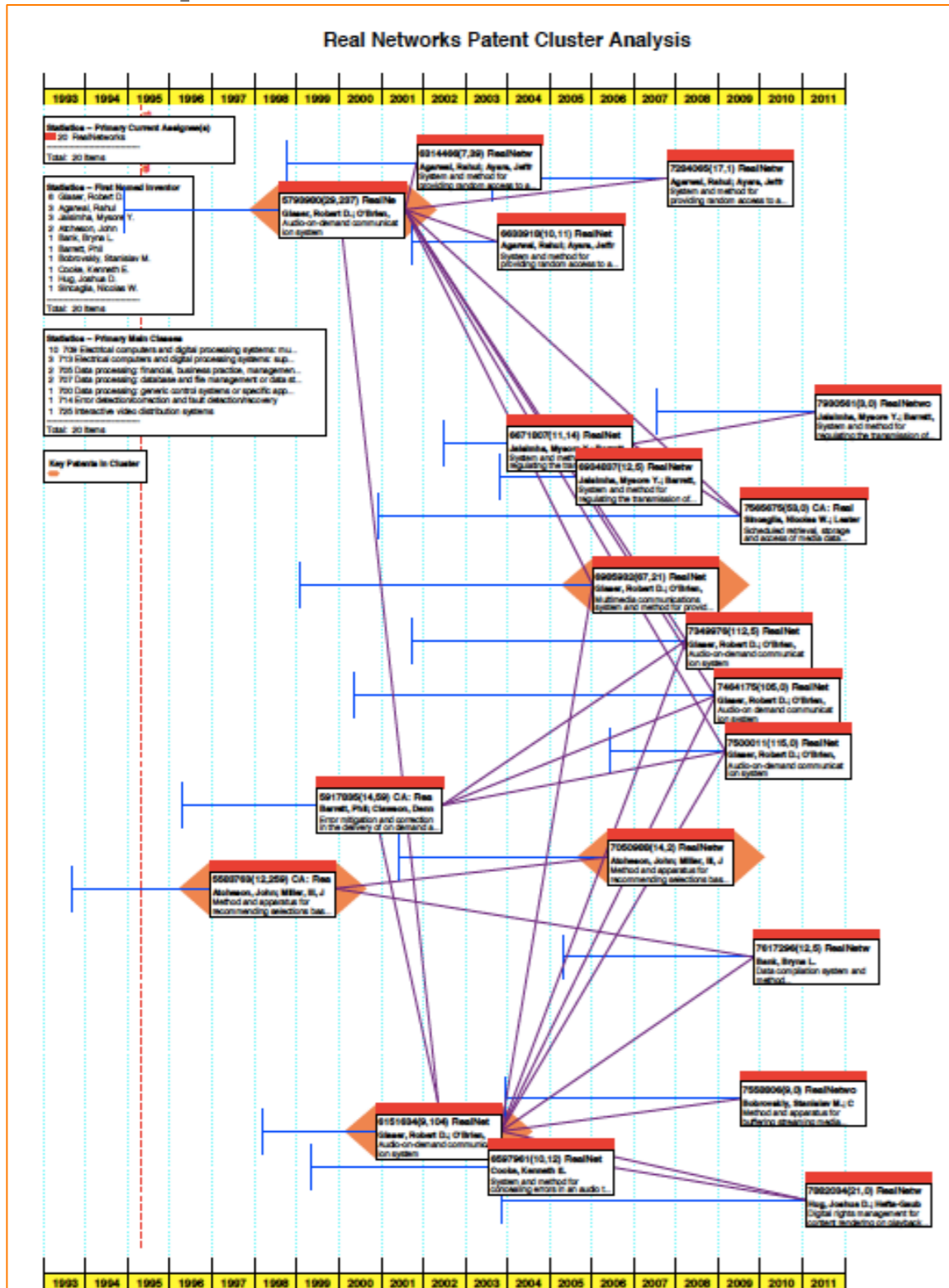
Class, Agents, Seminal Patents, Patent Clusters, Patent Families....

Repeat Across Companies as Appropriate

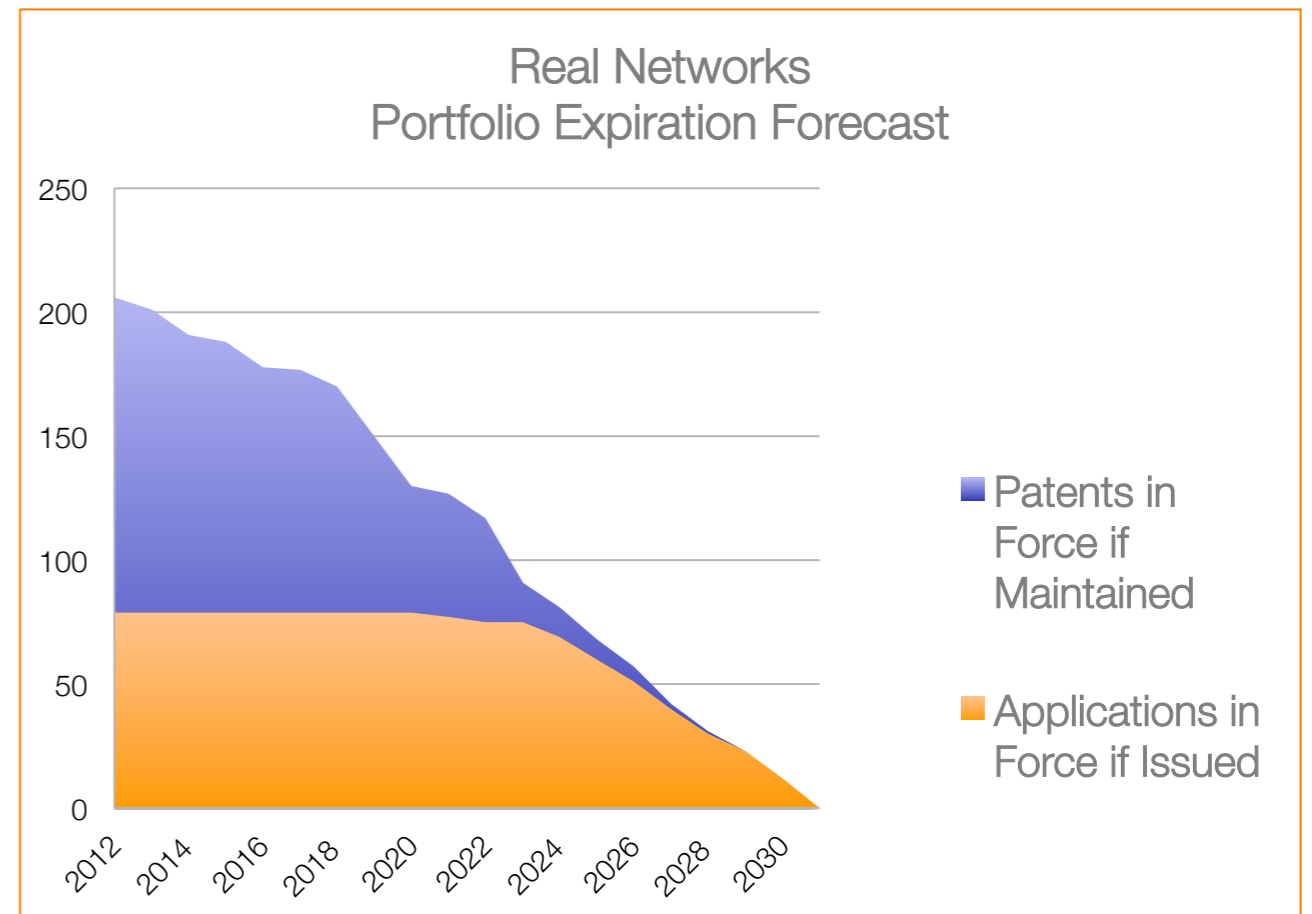


Map to Time-Scale

Real Networks Patent Portfolio



Timing of Value Contribution is Important Perspective in Analysis and Decisions



A Final Real-World Example

A multi-year software industry joint-venture existed between two publicly traded firms. Each firm had contributed original patents and both continued to develop technologies and patent portfolios related to the venture.

Company A decided to exit the business and offered its patent portfolio to its former partner with a 21-day window before the patents would be offered to competitors.

The asking sale price was US\$35,000,000.

The Outcome

The original joint venture partner was able to demonstrate that its relevant patent rights had

1. Broader claim coverage
2. Superior claim construction quality
3. Earlier priority dates and family relationships vs. the seller's loosely constructed portfolio
4. Based upon this analysis, and the risk of infringement presented to other potential bidders, the seller was unable to achieve its asking price and sold a portion of the portfolio for ~\$3,000,000 – less than 10% of its original expectation.

ipvision

information > knowledge > wisdom



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