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Existing Narratives about PAEs

- PAEs bring lawsuits against a large number of defendants
- Behavior of PAEs are different from operating companies
  - Within PAEs (individual inventors, patent holding companies, failed startups, universities, aggregators), each have different economic motivations, and consequently litigate differently
    - PAEs bring hit-and-run lawsuits, seeking quick, nuisance-value settlements
    - PAEs lose on the merits 90% of the time
The Alleged “Boom” in PAE Litigation

• “Suits brought by PAEs have tripled in just the last two years, rising from 29 percent of all infringement suits to 62 percent of all infringement suits.”
  – Colleen V. Chien, Patent Assertion Entities, Presentation to the DOJ/FTC hearing on PAEs

• “Patent infringement litigation by patent monetization entities has risen dramatically over a remarkably short period of time. One of the most striking results is that in 2012, litigation by patent monetization entities represented a majority of the patent litigation filed in the United States.”
Research Design

- All patent lawsuits filed in 2010 and 2012
  - Removed extraneous cases (false marking, inventorship, term extension, etc...)
  - Approximately 8,000+ lawsuits in 2 years
Research Design

• All patent lawsuits filed in 2010 and 2012
  – Removed extraneous cases (false marking, inventorship, term extension, etc.)
  – Approximately 8,000+ lawsuits

• Classified patent holders
Measurement

Coded patent plaintiffs in eight categories:

1. Operating company
2. Universities
3. Individual inventors
4. Failed startups
5. Technology development companies
6. Patent holding companies
7. Mass patent aggregators
8. IP subsidiaries of operating company
Research Design

- All patent lawsuits filed in 2010 and 2012
  - Removed extraneous cases (false marking, inventorship, term extension, etc.)
  - Approximately 8,000+ lawsuits

- Classified patent holders

- Manually counted number of defendants

- See, http://www.npedata.com
Research Design

• Determined information about resolution per defendant in 2010
  – Date of resolution (pendency)
  – Type of resolution (voluntary dispositions; substantive dispositions; procedural dispositions; trials)
Research Design

- Determined information about resolution per defendant in 2010
  - Date of resolution (pendency)
  - Type of resolution (voluntary dispositions; substantive dispositions; procedural dispositions; trials)

- Eliminated duplicative defendants within a lawsuit
  - *i.e.*, Fujitsu America, Inc.; Fujitsu Components America, Inc.
Results – Distribution of # of Lawsuits

Number of Cases Filed

1. University/College
   - 2010: 19 (0.8%)
   - 2012: 35 (0.7%)

2. Individual/family trust
   - 2010: 193 (7.7%)
   - 2012: 394 (7.6%)

3. Large aggregator
   - 2010: 48 (1.9%)
   - 2012: 332 (6.4%)

4. Failed operating company/failed start-up
   - 2010: 48 (1.9%)
   - 2012: 166 (3.2%)

5. Patent holding company
   - 2010: 400 (15.9%)
   - 2012: 1946 (37.5%)

6. Operating company
   - 2010: 1748 (69.5%)
   - 2012: 2202 (42.5%)

7. IP Holding company of operating company
   - 2010: 26 (1%)
   - 2012: 23 (0.4%)

8. Technology development company
   - 2010: 34 (1.4%)
   - 2012: 87 (1.7%)
Results – Distribution of # of Unique Patentees

<table>
<thead>
<tr>
<th>Category</th>
<th>2010</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. University/College</td>
<td>14 (0.9%)</td>
<td>14 (0.8%)</td>
</tr>
<tr>
<td>2. Individual/family trust</td>
<td>142 (8.9%)</td>
<td>160 (9.6%)</td>
</tr>
<tr>
<td>3. Large aggregator</td>
<td>34 (2.1%)</td>
<td>35 (2.1%)</td>
</tr>
<tr>
<td>4. Failed operating company/failed start-up</td>
<td>23 (1.4%)</td>
<td>23 (1.4%)</td>
</tr>
<tr>
<td>5. Patent holding company</td>
<td>213 (13.4%)</td>
<td>256 (15.4%)</td>
</tr>
<tr>
<td>6. Operating company</td>
<td>1136 (71.5%)</td>
<td>1148 (68.9%)</td>
</tr>
<tr>
<td>7. IP Holding company of operating company</td>
<td>11 (0.7%)</td>
<td>10 (0.6%)</td>
</tr>
<tr>
<td>8. Technology development company</td>
<td>15 (0.9%)</td>
<td>21 (1.3%)</td>
</tr>
</tbody>
</table>
Results – Distribution of # Defendants

Number of Defendants

1. University/College
   - 2010: 57 (0.6%)
   - 2012: 86 (0.9%)

2. Individual/family trust
   - 2010: 453 (4.6%)
   - 2012: 619 (6.6%)

3. Large aggregator
   - 2010: 705 (7.5%)
   - 2012: 1134 (11.5%)

4. Failed operating company/failed start-up
   - 2010: 400 (4%)
   - 2012: 380 (4%)

5. Patent holding company
   - 2010: 2917 (29.5%)
   - 2012: 3097 (32.9%)

6. Operating company
   - 2010: 4622 (46.7%)
   - 2012: 4248 (45.1%)

7. IP Holding company of operating company
   - 2010: 216 (2.2%)
   - 2012: 55 (0.6%)

8. Technology development company
   - 2010: 95 (1%)
   - 2012: 229 (2.4%)
Results -- # of Named Defendants

Type of Resolution

<table>
<thead>
<tr>
<th># of Defendants</th>
<th>Substantive Decisions</th>
<th>Procedural Decisions</th>
<th>Voluntary Dispositions</th>
</tr>
</thead>
<tbody>
<tr>
<td>One Defendant</td>
<td>40 (4.3%)</td>
<td></td>
<td>56 (6%)</td>
</tr>
<tr>
<td>Two to Four Defendants</td>
<td>36 (3.2%)</td>
<td></td>
<td>84 (7.5%)</td>
</tr>
<tr>
<td>Five to Nine Defendants</td>
<td>25 (5.7%)</td>
<td></td>
<td>18 (4.1%)</td>
</tr>
<tr>
<td>Ten or More Defendants</td>
<td>69 (2.4%)</td>
<td></td>
<td>150 (5.2%)</td>
</tr>
</tbody>
</table>

Number of Dispositions by # of Defendants

- One Defendant: 832 (89.7%)
- Two to Four Defendants: 996 (89.2%)
- Five to Nine Defendants: 395 (90.2%)
- Ten or More Defendants: 2685 (92.5%)
Results -- # of Named Defendants

• Word of caution: These do not correspond closely to entity type

  – Individual inventors, patent holding companies, failed startups, and operating companies all sometimes sue =>10 defendants

  – Canon, Apple, Eli Lilly, Lexmark =>20 defendants each
Results – Type of Entity

Number of Disposition By Plaintiff Type

<table>
<thead>
<tr>
<th>Type of Entity</th>
<th>Substantive Disposition</th>
<th>Procedural Disposition</th>
<th>Voluntary Disposition</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Individual/family trust</td>
<td>101 (13.3%)</td>
<td></td>
<td>621 (81.6%)</td>
</tr>
<tr>
<td>4. Failed operating company/failed start-up</td>
<td>8 (3.9%)</td>
<td></td>
<td>186 (90.3%)</td>
</tr>
<tr>
<td>5. Patent holding company</td>
<td>33 (1.9%)</td>
<td></td>
<td>1658 (95.2%)</td>
</tr>
<tr>
<td>6. Operating company</td>
<td></td>
<td></td>
<td>2087 (89.4%)</td>
</tr>
</tbody>
</table>
Results – Type of Entity

Duration for Closed Cases by Plaintiff Type

<table>
<thead>
<tr>
<th>Type of Entity</th>
<th>Median Duration (Days)</th>
<th>Mean Duration (Days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Individual/family trust</td>
<td>376</td>
<td>514.65</td>
</tr>
<tr>
<td>4. Failed operating company/failed start-up</td>
<td>207</td>
<td>384.95</td>
</tr>
<tr>
<td>5. Patent holding company</td>
<td>237</td>
<td>327.17</td>
</tr>
<tr>
<td>6. Operating company</td>
<td>278</td>
<td>403.38</td>
</tr>
</tbody>
</table>
# Results – Type of Entity & Early Settlements

## Time to Voluntary Dismissal by Plaintiff Type

<table>
<thead>
<tr>
<th>Type of Entity</th>
<th>Voluntary Dismissal w/ 60 Days</th>
<th>Voluntary Dismissal w/120 Days</th>
<th>Voluntary Dismissal After 120 Days</th>
<th>Substantive or Procedural Disposition</th>
<th>Still Pending</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Individual/family trust</td>
<td>13 (1.7%)</td>
<td>140 (18.1%)</td>
<td>520 (67.2%)</td>
<td>25 (3.2%)</td>
<td>0%</td>
</tr>
<tr>
<td>4. Failed operating company/failed start-up</td>
<td>20 (7.2%)</td>
<td>72 (25.9%)</td>
<td>136 (48.9%)</td>
<td>24 (8.6%)</td>
<td>10%</td>
</tr>
<tr>
<td>5. Patent holding company</td>
<td>26 (9.4%)</td>
<td>83 (4.5%)</td>
<td>290 (15.7%)</td>
<td>152 (8.2%)</td>
<td>20%</td>
</tr>
<tr>
<td>6. Operating company</td>
<td>106 (5.7%)</td>
<td>1216 (65.8%)</td>
<td>295 (11.5%)</td>
<td>1616 (62.9%)</td>
<td>30%</td>
</tr>
</tbody>
</table>

- Red: Voluntary Dismissal w/ 60 Days
- Blue: Voluntary Dismissal w/120 Days
- Green: Voluntary Dismissal After 120 Days
- Orange: Substantive or Procedural Disposition
- Gray: Still Pending
# SJ & Trial Winners

<table>
<thead>
<tr>
<th>Entity</th>
<th>Patentee Prevail Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Company</td>
<td>28.6%</td>
</tr>
<tr>
<td>PAE (combined)</td>
<td>19%</td>
</tr>
</tbody>
</table>

Note: PAE (combined) sample size is 58; OpCo is 182
Implications

• Narratives and reality
• Check assumptions when comparing different years, *e.g.*, 35 U.S.C. § 299
• PAEs may be -- more like, than unlike -- operating companies; we are continuing to do more careful work on this topic.
• PAEs are complex, with potentially important differences between individual inventors and patent holding companies, for instance.
Thank you very much. Questions?
Results – Technology

Disposition by Technology

- Other: 41 (4.4%) Substantive Disposition, 3 (1.3%) Procedural Disposition, 807 (87.4%) Voluntary Disposition
- Mechanical: 9 (2.1%) Substantive Disposition, 3527 (93.5%) Voluntary Disposition
- Electrical and Electronics: 11 (1.8%) Substantive Disposition, 686 (95.7%) Voluntary Disposition
- Drugs and Medical: 3 (1.3%) Substantive Disposition, 527 (83.9%) Voluntary Disposition
- Computers and Communications: 3 (1.3%) Substantive Disposition, 3527 (93.5%) Voluntary Disposition
- Chemical (excluding Drugs): 3 (1.3%) Substantive Disposition, 195 (84.1%) Voluntary Disposition
Claim Construction – Type of Entity

Claims Construction By Defendant

<table>
<thead>
<tr>
<th>Type of Entity</th>
<th>Claims Construed</th>
<th>Claims Not Construed</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Individual/family trust</td>
<td>589</td>
<td></td>
</tr>
<tr>
<td>4. Failed operating company/failed start-up</td>
<td>96</td>
<td></td>
</tr>
<tr>
<td>5. Patent holding company</td>
<td>234</td>
<td></td>
</tr>
<tr>
<td>6. Operating company</td>
<td>284</td>
<td></td>
</tr>
</tbody>
</table>

- Claims Construed
- Claims Not Construed
Results – Judicial District

Disposition by Plaintiff Type Grouped by District

- **D.Del.**
  - Substantive Disposition: 15 (9%)
  - Procedural Disposition: 11 (5%)
  - Voluntary Disposition: 6 (5.1%)
  - total: 32 (26 (7.5%)

- **N.D. Ill.**
  - Substantive Disposition: 87 (97.8%)
  - Procedural Disposition: 9 (0.7%)
  - Voluntary Disposition: 2 (2.2%)
  - total: 98 (318 (92.2%)

- **E.D. Tex.**
  - Substantive Disposition: 1319 (99.1%)
  - Procedural Disposition: 4 (2.4%)
  - Voluntary Disposition: 10 (7.6%)
  - total: 1327 (318 (92.2%)

- **N.D. Cal.**
  - Substantive Disposition: 146 (86.4%)
  - Procedural Disposition: 10 (69.8%)
  - Voluntary Disposition: 30 (7.6%)
  - total: 166 (194 (95%)

- **6. Operating company**
  - Substantive Disposition: 150 (90.4%)
  - Procedural Disposition: 31 (20.6%)
  - Voluntary Disposition: 11 (9.6%)
  - total: 192 (194 (95%)

- **PAE (Combined)**
  - Substantive Disposition: 211 (95%)
  - Procedural Disposition: 26 (12%)
  - Voluntary Disposition: 87 (42.8%)
  - total: 318 (92.2%)

- **6. Operating company**
  - Substantive Disposition: 318 (92.2%)
  - Procedural Disposition: 19 (11.2%)
  - Voluntary Disposition: 3 (7%)
  - total: 340 (99.1%)

- **PAE (Combined)**
  - Substantive Disposition: 146 (86.4%)
  - Procedural Disposition: 10 (23.3%)
  - Voluntary Disposition: 30 (7.7%)
  - total: 186 (99.1%)

Legend:
- Substantive Disposition
- Procedural Disposition
- Voluntary Disposition
## Truncation

<table>
<thead>
<tr>
<th>Entity Type</th>
<th>District Closed</th>
<th>District Open</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual/family trust</td>
<td>804 (99.01%)</td>
<td>8 (0.99%)</td>
</tr>
<tr>
<td>Failed operating company/failed start-up</td>
<td>228 (76%)</td>
<td>72 (24%)</td>
</tr>
<tr>
<td>Patent holding company</td>
<td>1770 (95.01%)</td>
<td>93 (4.99%)</td>
</tr>
<tr>
<td>Operating company</td>
<td>2533 (91.72%)</td>
<td>229 (8.29%)</td>
</tr>
</tbody>
</table>
Results -- # of Named Defendants

- These do not correspond closely to entity type
  - Individual inventors, patent holding companies, failed startups, and operating companies all sometimes sue =>10 defendants
  - Canon, Apple, Eli Lilly, Lexmark>20 defendants each

<table>
<thead>
<tr>
<th># of Defendants</th>
<th>Median Duration (days)</th>
<th>Mean Duration (days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>331.5</td>
<td>426.97</td>
</tr>
<tr>
<td>10=</td>
<td>301</td>
<td>421.42</td>
</tr>
</tbody>
</table>

Preliminary Data:
Work in Progress
Caution: Outcomes is a Work In Progress

- Dataset is limited to lawsuits filed in a single year (2010)
- Limited truncation effect because of on-going cases (about ~2%)
- Statistical testing is ongoing
- Selection effect concerns