

Foundation for a Free Information Infrastructure
Software Patent Work Group



25 April 2005

FFII e. V.
Avenue de Michel-Ange 68
B-1040 Brussels
Belgium
phone: +32-2-739 6262

Evaluation of the survey on the relation between interoperability, patent protection, and competition

On 4 April 2005, the *Intitut für IT-Sicherheit* (Institute for IT Security) of the *Fachhochschule Gelsenkirchen* published the results of a survey, which was requested by the German Ministry of Economy and Employment.

This is the translation of the original German publication into English.

September 26, 2004

Contact: Prof. Dr. Norbert Pohlmann
Prof. Dr.-iur. Andreas Möglich
Institut für Internet-Sicherheit
Fachhochschule Gelsenkirchen
Fachbereich Informatik
Neidenburgerstr. 43
D-45877 Gelsenkirchen

Phone: +49-209-9596 515 or +49-173-3021-838

Fax: +49-209-9596 490

E-Mail: norbert.pohlmann@informatik.fh-gelsenkirchen.de
andreas.mueglich@fh-gelsenkirchen.de

Web: www.internet-sicherheit.de

Preliminary remark

The survey on the “relation between interoperability, patent protection, and competition” was sent during a phase when the different factions reacted very emotionally to the topic of “software patents”.

It was our intention to obtain an estimation by the different factions to the question of “relation between interoperability, patent protection, and competition” and to provide solid results for the discussion about the EU directive. This goal has been achieved!

We do not claim for our survey to be representative, nor to “sufficiently” comply with all statistical-methodical requirements.

Everyone is capable to estimate the value of this survey for himself and to make appropriate use of its results.

Overview

In following, the evaluation of the survey on the “relation between interoperability, patent protection, and competition” is displayed. For this, tables and diagrams were inserted into the form, establishing a direct relation between original question and evaluation data.

The evaluation refers to the questions where the respondents had to choose between given answering options. Questions requiring text have been read and evaluated in a separate work step, and have been summarized in the short report. The following document contains all questions from the original form.

The evaluation displayed here was done with regard to the size of the companies. Therefor the number of employees was used if this information had been provided in complex H. Companies that did not state their number of employees, have been pooled in the category “no statement”. All other companies are divided into these categories:

Number of employees	Abbreviation used in the evaluation
1–4	1
5–9	5
10–19	10
20–49	20
50–199	50
200–499	200
500 and more	500
Statement invalid or not present	No statement

The diagrams (*not included in this translation – translator’s remark*) are set up in a way to show

- the “0” in the middle (\pm , neutral, equal. . .),
- to the leftmost end “-3” (very little, negative, less, lower. . .) and
- to the rightmost end “+3” (very much, positive, more, higher. . .)

Invalid statements/answers in a question have been taken into the category “No answer”.

If necessary in individual cases, additional explanations are given as footnotes to the answers/diagrams.

The database used for evaluation checked the answered forms for multiple entries. Every 15th form has, if it was sent in by an enterprise, been checked for actual existence of the enterprise.

The form has been, as expressively required in 4 cases, telephonically answered after our telephonical consultation.

Number of answers

In summary, this evaluation results out of 1214 answered forms, 90% of which were answered by email, 7% by fax, 3% by mail, and 0.3% telephonically.

Original survey form, results included:

Survey on the relation between interoperability, patent protection, and competition

Procedure of response: Since out of our current knowledge we are unable to estimate how elaborately you are able and willing to answer the asked questions, we ask you to arrange the size of the response fields for yourself. In case the space in the paper form is not sufficient, please use additional sheets with according remarks. If you want to answer the questions within the word document, you can insert your answers into the prepared fields. Send the answer by e-mail (softwarepatente@informatik.fh-ge.de) or by fax (+49 209 9596 490) resp. by mail (see address below)

until July 29, 2004.

We can also arrange an appointment for a telephonical recording of your answers. If you want to make use of this possibility, please send us a request by e-mail including date suggestions and a way to get in contact with you (phone number).

Thank you very much for your support!

Anonymity, privacy: The answers will be collected and anonymously evaluated. The will not be given to third parties. We assert you to handle your information confidential.

Inquiries: For inquiries about the contents, feel free to directly address us:

Prof. Dr. Norbert Pohlmann

Fachhochschule Gelsenkirchen
Fachbereich Informatik
Neidenburger Str. 43
D-45897 Gelsenkirchen

Phone +49 209 9596 515
Fax +49 209 9596 490
Cell +49 173 3021 838
E-mail norbert.pohlmann@informatik.fh-ge.de

Prof. Dr. iur. Andreas Mücklich

Fachhochschule Gelsenkirchen
Fachbereich Wirtschaftsrecht
August Schmidt Ring 10
45665 Recklinghausen

Phone +49 2361 915 430
Fax +49 2362 915 500
Cell +49 171 4169 532
E-mail andreas.mueglich@fh-gelsenkirchen.de

Appendix:

Complex: General questions about software patents

To what degree are you familiar with the topic of software patents?

(-3 = very little, +3 = very much)

Number of employees	A1 average result
No statement	1.01
1	1.32
5	1.51
10	1.36
20	1.56
50	1.11
200	0.67
500	1.14
Total	1.31

Answering rate: 96.78% of all respondents

What is in your opinion more important in software development, the specific implementation (program code) or general ideas resp. the way of solution?

(-3 = technics, +3 = idea of solution)

Number of employees	A2 average result
No statement	0.42
1	0.08
5	-0.05
10	0.25
20	0.07
50	0.55
200	0.34
500	0.11
Total	0.14

Answering rate: 92.34% of all respondents

What effect will a grant of software patents have on the innovation ability of your company?

(-3 = less innovation, +3 = more innovation)

Number of employees	A3 average result
No statement	-1.78
1	-1.50
5	-1.84
10	-1.12
20	-1.52
50	-1.11
200	-1.25
500	-1.59
Total	-1.50

Answering rate: 94.00% of all respondents

Will the question of the kind of software protection (patent or copyright) affect your company activities resp. protection right management?

Number of employees	Yes	No	No answer
No statement	61	16	27
1	497	48	40
5	141	12	6
10	104	11	7
20	79	10	3
50	53	11	3
200	29	3	2
500	42	3	6
Total	1006	114	94

Answering rate: 92.26% of all respondents

Complex: Programming activities and software patents

Will software patents have an impairing or supporting effect on your programming activities, or do you expect one?

(-3 = negative, +3 = positive effects on programming activity)

Number of employees	B1 average result
No statement	-2.66
1	-2.74
5	-2.71
10	-2.67
20	-2.72
50	-2.44
200	-2.52
500	-2.18
Total	-2.58

Answering rate: 97.12% of all respondents

To what amount would a patentability of software affect your general development activities?

(-3 = less, +3 = more general development activities)

Number of employees	B2 average result
No statement	-0.63
1	-0.42
5	-0.90
10	-0.37
20	-0.53
50	-0.03
200	-0.39
500	-0.32
Total	-0.45

Answering rate: 92.10% of all respondents

Do you check if there are already software patents in your area of software development?

Number of employees	Yes	No	No answer
No statement	22	62	20
1	100	466	19
5	26	129	4
10	34	84	4
20	23	65	4
50	15	51	1
200	7	27	0
500	15	35	1
Total	242	919	53

Answering rate: 95.63% of all respondents

When do you check?

- Before starting the development.
- After finishing the development.

Number of employees	Before	After
No statement	20.2%	10.6%
1	20.7%	11.1%
5	20.8%	14.5%
10	30.3%	23.0%
20	25.0%	12.0%
50	22.4%	14.9%
200	20.6%	8.8%
500	31.4%	15.7%
Total	23.9%	13.8%

Answering rate: 29.16% of all respondents

(Minimum value; in this case calculated by the answers where at least one of the available answer options had been selected.)

To what degree do you estimate the risk of not recognizing software patents in time, e. g. because you could not find an already existing patent before starting your development, but after finishing your project a third party had been granted an according software patent in the respective area (Problem: In the course of the process of claiming and granting a patent there is a phase when patent claims are kept secret, duration of the process, high amount of patenting processes.)?

Evaluation missing.

What is in your opinion the most common reason for infringing on a software patent?

- Intended theft of ideas
- Inadvertent consequence of own development activities

Number of employees	Indended theft	Inadvertent consequence
No statement	13.46%	10.58%
1	7.01%	21.54%
5	5.66%	28.93%
10	11.48%	22.13%
20	5.43%	25.00%
50	2.99%	25.37%
200	0.00%	26.47%
500	11.76%	25.49%
Total	7.22%	23.19%

Complex: Economical aspects and software patents

What effects will software patents have in your opinion on the calculation of product prices?

(-3 = lower, +3 = higher product prices)

Number of employees	C1 average result
No statement	2.55
1	2.53
5	2.49
10	2.62
20	2.52
50	2.15
200	2.44
500	2.29
Total	2.45

Answering rate: 96.62% of all respondents

How much external costs and own personal expenses per year do you expect due to an expansion of software patents?

<i>Fields</i>	<i>external costs in kEUR/year</i>	<i>own personal expenses in man-months/year</i>	<i>Reasons</i>
Own patents			
Investigation of patents of third parties			
Declaration of own patents			
Realization of infringement on own patents by third parties			
Defense of own patents			
Infringement on patents of third parties			

Is your enterprise capable of investigating existing software patents?

Number of employees	Yes	No	No answer
No statement	9	66	29
1	41	526	18
5	24	129	6
10	13	102	7
20	14	73	5
50	9	55	3
200	6	28	0
500	17	32	2
Total	133	1011	70

Answering rate: 94.23% of all respondents

What effect has a possible claim by a patent keeper on your developing activities resp. the existence of your enterprise? Please cite examples where applicable.

Text answers only.

In what way would a latent lawsuit risk, i. e. a claim due to inadvertent infringement on a software patent of a third party, affect your enterprise activities?

Text answers only.

Do you expect, as a patent keeper, an easier enforcement of your rights, if software became patentable in addition to copyright?

Text answers only.

In current law there is no international unified procedure to grant patents on software, including the question of release of interoperability from patent protection. Does the internationally nonuniform procedure affect your development activities?

Number of employees	Yes	No	No answer
No statement	13	62	29
1	100	455	30
5	31	122	6
10	26	91	5
20	14	74	4
50	19	44	4
200	7	27	0
500	17	33	1
Total	227	908	79

Answering rate: 93.49% of all respondents

Do you expect an improved competition situation for your company in case of a unification of the international procedure?

Number of employees	Yes	No	No answer
No statement	8	67	29
1	35	508	42
5	10	143	6
10	9	110	3
20	7	80	5
50	11	51	5
200	3	28	3
500	10	40	1
Total	93	1027	94

Answering rate: 92.26% of all respondents

Are you familiar with investigation of foreign law and foreign patents, usage patterns or copyrights?

Number of employees	Yes	No	No answer
No statement	5	73	26
1	63	510	12
5	26	126	7
10	22	98	2
20	22	68	2
50	17	50	0
200	5	29	0
500	15	34	2
Total	175	988	51

Answering rate: 95.80% of all respondents

Do you have an idea or experience concerning the costs (esp. lawyer fees) you'd have to discharge abroad, if you defend a patent or are confronted with a claim for patent infringement?

Number of employees	Yes	No	No answer
No statement	5	72	27
1	50	518	17
5	27	129	3
10	18	101	3
20	12	75	5
50	13	53	1
200	3	30	1
500	13	38	0
Total	141	1016	57

Answering rate: 95.30% of all respondents

Complex: Licence politics on software patents

Do you already hold software patents?

Number of employees	Yes	No	No answer
No statement	2	79	23
1	8	566	9
5	6	150	3
10	3	117	3
20	6	86	0
50	5	60	3
200	3	31	0
500	8	43	0
Total	41	1132	41

Answering rate: 96.62% of all respondents

If yes, in what fields?

Do you already gain revenues out of software patents?

- irrelevant values
- relevant values

Where applicable: What magnitude (ca. value in kEUR)?

Number of employees	irrelevant	relevant	no answer
No statement	12	1	91
1	89	7	489
5	43	1	115
10	29	2	91
20	24	0	68
50	15	3	49
200	7	1	26
500	11	1	39
Total	230	16	968

What are your expectations for the future?

- irrelevant values
- relevant values

Where applicable: What magnitude (ca. value in kEUR)?

Number of employees	irrelevant	relevant	no answer
No statement	18	2	84
1	160	10	415
5	64	2	93
10	53	3	66
20	38	1	53
50	33	3	31
200	16	2	16
500	18	3	30
Total	400	26	788

Do you already pay licence fees on software patents to third parties?

- yes
- no

If yes, in what fields?

Number of employees	Yes	No	No answer
No statement	5	74	25
1	37	527	20
5	12	141	5
10	15	103	4
20	14	77	2
50	11	55	1
200	2	30	3
500	11	36	4
Total	107	1043	64

Answering rate: 94.73%

What are the amounts?

- irrelevant values
- relevant values

If applicable: What magnitude (ca. value in kEUR)?

Number of employees	irrelevant	relevant	no answer
No statement	10	2	92
1	72	22	491
5	36	6	117
10	23	14	85
20	17	6	69
50	15	8	44
200	2	3	29
500	7	9	35
Total	182	70	962

What are your expectations for the future?

- irrelevant values
- relevant values

If applicable: What magnitude (ca. value in kEUR)?

Number of employees	relevant	irrelevant	no answer
No statement	5	25	74
1	56	144	385
5	24	42	92
10	12	42	68
20	13	29	50
50	12	19	35
200	6	10	20
500	7	20	24
Total	135	331	748

What do you want to achieve with own software patents?

- Become market leader
- Gain profits
- Make market access difficult for competitors

- Defense against patent claims, basis for negotiations about cross-licences
- Provide knowledge to others
- Other reasons:

Number of employees	Become market leader	Gain profits	Make market access difficult for competitors	Defense against patent claims, basis for negotiations	Provide knowledge to others
No statement	0.96%	5.77%	6.73%	11.54%	11.54%
1	4.62%	7.86%	14.02%	18.80%	7.18%
5	4.40%	8.81%	21.38%	29.56%	6.92%
10	8.20%	15.57%	24.59%	26.23%	2.46%
20	5.43%	14.13%	29.35%	39.13%	6.52%
50	10.45%	5.97%	29.85%	38.81%	4.48%
200	11.76%	8.82%	29.41%	35.29%	8.82%
500	11.76%	9.80%	31.37%	33.33%	0.00%
Total	7.20%	9.59%	23.34%	29.09%	5.99%

What is for you the value of software patents of third parties with regard to getting know-how from ideas available to the public?

(-3 = no practical value, +3 = very high practical value)

Number of employees	D4 average result
No statement	-2.34
1	-2.58
5	-2.51
10	-2.35
20	-2.56
50	-2.08
200	-2.44
500	-2.38
Total	-2.41

Answering rate: 89.30%

In what fields of software development do you intend to claim software patents in the future?

Text answers only.

How do you treat software patents of third parties?

- Ignore, develop and wait, if something happens.

- Use patent pools as a basis for negotiations about cross-licences.
- Try to avoid the patent.
- Avoid developing in this area.
- Other possibilities:

Number of employees	Ignore, develop and wait	Use patent pools as a basis for negotiations	Try to avoid the patent	Avoid developing in this area
No statement	37.50%	3.85%	42.31%	18.27%
1	41.88%	3.59%	51.97%	43.76%
5	36.48%	5.03%	57.86%	47.17%
10	37.70%	8.20%	63.11%	41.80%
20	50.00%	7.61%	52.17%	41.30%
50	58.21%	13.43%	58.21%	32.84%
200	44.12%	2.94%	52.94%	38.24%
500	35.29%	23.53%	52.94%	27.45%
Total	42.65%	8.52%	53.94%	36.35%

Complex: Interoperability of software modules

What importance do you attach to the general necessity of granting interoperability between patent-protected software modules?

(-3 = unimportant, +3 = very important)

Number of employees	E1 average result
No statement	1.29
1	1.41
5	1.39
10	1.63
20	1.85
50	1.68
200	1.06
500	1.73
Total	1.51

Answering rate: 87.73%

Does your enterprise depend on interoperability of software modules?

(-3 = unimportant, +3 = very important)

Number of employees	E2 average result
No statement	1.14
1	1.12
5	1.41
10	1.32
20	1.63
50	1.25
200	1.66
500	1.73
Total	1.41

Answering rate: 88.71%

How much do your own software modules depend on the software modules of other companies?

<i>Field</i>	<i>Dependency (None or degree of dependency)</i>
Operating systems	
Communication systems	
Distributed systems	
Applications	
Test systems	
Security services (Crypto lib, TCG, ...)	
Other fields (please insert yourself)	

Number of employees	Dep. on OSs in percent	Dep. on comm systems in percent	Dep. on dist. systems in percent	Dep. on applications in percent	Dep. on test systems in percent	Dep. on security services in percent
No statement	68.89%	68.57%	68.00%	52.22%	35.71%	57.50
1	62.67%	60.46%	51.22%	51.96%	49.21%	58.94%
5	64.47%	58.79%	57.59%	57.35%	43.75%	57.50%
10	74.00%	73.64%	63.68%	61.90%	46.25%	65.50%
20	62.27%	58.24%	65.38%	63.53%	57.69%	72.73%
50	58.89%	55.00%	46.00%	62.00%	43.33%	66.00%
200	70.00%	54.29%	47.14%	53.75%	33.33%	65.71%
500	56.67%	52.22%	55.00%	56.00%	44.29%	61.43%
Total	64.73%	60.15%	56.75%	57.34%	44.20%	63.16%

Remark: The percentual dependency displayed in E3 is based on a graduation due to the following schema:

very little	little	neutral	high	very high
10%	30%	50%	70%	90%

The extreme value 0% was given for no dependency, analogous 100% for total dependency.

What preconditions or methods are in your opinion necessary to grant interoperability (communication resp. data exchange) to other software modules in the following fields?

- Interfacing software
- Conversion software
- Hardware interfaces
- Reengineering
- Other methods¹

Number of employees	Interfacing software	Conversion software	Hardware interfaces	Reengineering	Standard/norm	Open interface
No statement	66.80%	49.00%	30.10%	30.00%	4.00%	4.20%
1	45.19%	29.81%	24.04%	23.08%	0.96%	0.96%
5	67.18%	50.43%	31.62%	32.82%	3.59%	4.10%
10	69.81%	55.35%	34.59%	33.33%	3.77%	5.03%
20	71.31%	52.46%	25.41%	27.05%	4.92%	8.20%
50	77.17%	46.74%	29.35%	36.96%	9.78%	3.26%
200	76.12%	50.75%	31.34%	22.39%	1.49%	1.49%
500	55.88%	44.12%	29.41%	17.65%	8.82%	8.82%
Total	62.75%	50.98%	33.33%	23.53%	3.92%	3.92%

What do you estimate to be the most important aspect to grant interoperability?

- Engineering
- Law
- Contract

¹In “other methods”, noticeably frequently “standard/norm” and “open interface” were mentioned, so they have been taken into the statistical evaluation as categories of their own.

Number of employees	Engineering	Law	Contract
No statement	68.86%	26.00%	9.00%
1	50.00%	18.27%	6.73%
5	69.74%	27.86%	7.86%
10	71.70%	27.04%	8.18%
20	68.85%	27.05%	4.10%
50	78.26%	27.17%	13.04%
200	71.64%	23.88%	11.94%
500	61.76%	23.53%	14.71%
Total	72.55%	27.45%	17.65%

Let us assume, the usage of a patented way of conversion, data exchange, or communication was not a patent infringement!

Would this have effects on your software development?

- Yes
- No

Number of employees	Yes	No	No answer
No statement	50	21	33
1	388	131	66
5	108	35	16
10	83	22	17
20	56	28	8
50	41	13	13
200	26	5	3
500	29	15	7
Total	781	270	163

Answering rate: 86.57%

If yes, what field would be important?

- Conversion of different formats
- Data exchange between different software modules (on the same computer)
- Communication between different software modules (different computers)

Number of employees	Conversion	Data exchange	Communication
No statement	43.27%	30.77%	36.54%
1	57.95%	51.45%	56.75%
5	62.26%	59.12%	61.64%
10	56.56%	62.30%	60.66%
20	52.17%	46.74%	56.52%
50	47.76%	44.78%	50.75%
200	58.82%	52.94%	67.65%
500	52.94%	45.10%	49.02%
Total	53.97%	49.15%	54.94%

Give reasons!

Give examples: (Text answers only)

Does this possibility (no patent infringement) constitute a precondition for an easier market access?

- Yes
- No

Number of employees	No	Yes	No answer
No statement	9	54	41
1	54	460	71
5	19	122	18
10	15	92	15
20	13	67	12
50	9	45	13
200	4	23	7
500	5	39	7
Total	128	902	184

Answering rate: 84.84% of all respondents

Do you believe, this possibility will stimulate a higher intensity of competition?

- Yes
- No

Number of employees	Yes	No	No answer
No statement	40	15	50
1	368	110	103
5	10	72	29
10	72	29	21
20	55	23	14
50	43	9	16
200	21	7	6
500	30	13	8
Total	727	242	245

Answering rate: 79.82%

Would you see a disadvantage for you if third parties were allowed to use your patent due to interoperability reasons without closing a license contract?

- Yes
- No

Number of employees	Yes	No	No answer
No statement	5	48	48
1	28	445	111
5	15	115	29
10	9	93	20
20	3	73	16
50	6	41	19
200	2	24	8
500	9	36	6
Total	77	875	257

Answering rate: 78.42%

If yes:

- Give reasons!
- Give examples:
- Do you know other resp. better possibilities to ensure interoperability for innovation ability?

What kind of a model (interoperability clause) would you suggest to grant, after balancing all advantages and disadvantages, an appropriate possibility to obtain interoperability?

Text answers only.

Complex: Competition and software patents

How do you estimate the effects of software patents on the competitiveness of your company?

- We will better be able to establish ourselves in certain markets.
If yes, in what markets will you better be able to establish yourselves?
- We will not be able to appropriately establish ourselves in the market anymore.
If yes, in what markets do you expect competitiveness problems?

Number of employees	better competitiveness	worse competitiveness
No statement	2	53
1	5	466
5	2	133
10	3	97
20	1	75
50	3	43
200	1	19
500	6	29
Total	23	915

Answering rate: 77.27%

Complex: Overall rating

Do you think you are well-prepared for an introduction of software patents?

(-3 = very badly, +3 = very well)

Number of employees	G1 average result
No statement	-1.93
1	-1.97
5	-1.92
10	-1.67
20	-1.46
50	-1.75
200	-1.77
500	-1.77
Total	-1.78

What macroeconomic effects do you think a possible limitation of interoperability will have?

Text answers only.

What effects in terms of IT politics do you think a possible limitation of interoperability will have?

Text answers only.

What is your general opinion about the question of patent protection for software?

(-3 = very negative, +3 = very positive)

Number of employees	G4 average result
No statement	-2.69
1	-2.77
5	-2.72
10	-2.76
20	-2.54
50	-2.57
200	-2.29
500	-2.22
Total	-2.57

Space for further notes and remarks

Text answers only.

Complex: Company data (anonymized)

Company type	Number	Fraction
Incorporated company	65	5.35%
Incorporated society	5	0.41%
Freelancer	139	11.45%
Civil law association	60	4.94%
Co-operative	2	0.16%
Non-profit limited company	2	0.16%
Limited company	282	23.23%
GmbH & CoKG	27	2.22%
College	26	2.14%
Limited partnership	1	0.08%
General partnership	7	0.58%
Consolidated company	1	0.08%
Private person	42	3.46%
No statement	555	45.72%

Indication of the duration of company activity so far:

- Start-up (recently founded)
- Company activity for 1 to 3 years
- Company activity for more than 3 years

Company activity	Number of companies	Fraction
Start-up (< 1 year)	129	10.63%
Company activity for 1 to 3 years	221	18.20%
Company activity for more than 3 years	779	64.17%
No statement	85	7.00%

Field of activity of your company: (Text answers only.)

Number of employees:

- 1–4
- 5–9
- 10–19
- 20–49
- 50–199
- 200–499
- 500 and more

Number of employees	Number	Fraction
1–4	585	48.19%
5–9	159	13.10%
10–19	122	10.05%
20–49	92	7.58%
50–199	67	5.52%
200–499	34	2.80%
> 500	51	4.20%
No statement	104	8.57%

Number of software products: (Text answers only.)

Type of software products: (Text answers only.)

Volume of sales realized in the field of software: [...]

Name(s) and position(s) of the person(s) in charge of answering this form: [...]

Phone number and e-mail addresses for further enquiry: [...]

94.4% of the respondents are interested in an anonymized evaluation.

Thank you very much for your support