

Developer Market Review

April, 2001

For more information contact
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MSSunII 00000010607

Plaintiff's Exhibit
8278
Comes V. Microsoft

Date 4-25-01 Exhibit # 7
Case SUN MICROSOFT
Dependent PARTY
Reporter OBERTEL
Reporting Corporation

MS-DEPEX 005662

MS Developer Taxonomy

- Personal Developers
 - Develop for self only
- End User Developers
 - Work in end user organizations
- Professional Developers
 - Work in a professional development organization
 - MIS; VAR; Consultant; Systems Integrators; ISV's

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How Many Developers (US)?

- *10.2 million people have developed apps/macros in the U.S.
(26.7% increase from 1996)*
 - 4.9 million develop for own personal use
(26.4% increase from 1996)
 - 2.5 million end user Developers
(39.3% increase from 1996)
 - 2.5 million Professional Developers
(5.8% increase from 1996)

Developer Sizing Study, Aug/Sept 1998

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Developer Market Growth

	<u>1996</u>	<u>% change</u>	<u>1998</u>
<i>Total Developers</i>	8,100,000	26.69%	10,263,000
Personal Productivity	3,900,000	26.38%	4,929,000
End-user	1,800,000	39.28%	2,507,000
 <i>Pro Developer</i>	 <u>2,377,000</u>	 <u>5.84%</u>	 <u>2,510,000*</u>
ISV	298,000	12.44%	335,000
VAR	829,000	7.10%	888,000
MIS	1,250,000	2.52%	1,281,000

Developer Sizing Study, August/Sept '98

* Rounded - see Sizing Report for detailed info

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Lotus Notes/Domino Projections

Among Total Households

	<u>Lotus</u>	<u>Exchange</u>	<u>Access</u>
Total Users	2.5 M	5.43 M	6.17 M
Professional developers	389,000	94,000	941,250
Professionals developers/Web Professionals (Overlap of the 2 groups)	117,780	414,950	414,950
Non-Professional Developers	662,000	1.27 M	1.76 M
Departmental End User	299,000	500,100	778,000
Personal Productivity	362,000	765,000	977,750
Web Professionals Only (Excluding All Other Developer Groups)	63,000	153,000	152,174
Joe-Schmoe Unwashed End Users (Not any Web Professionals OR Any Professional Developer groups)	1.34M	3.07M	3.32M

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Developer Metrics

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MS-DEPEX 005667

Developer Tracking Methodology

- Quarterly calls to MIS, VAR/Cons and ISV's
 - N=750+ every quarter
- The sample is purchased from SSI and is ordered as follows:
 - MIS quota is a compilation of random US businesses with 250 or more employees working at that particular site.
 - ISV and VAR quotas are from the SSI Comprehensive database and includes only the following SIC codes: 7371, 7372, 7373, 7379
- Results weighted and projectable to 2.5mm Professional developers
- Only top level results presented here - see report for more detailed information.

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Developer Metrics

- Tool Usage
- Platform Adoption
- Technology Adoption
- Internet Metrics

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Tool Usage (Unaided)

	<u>Oct98</u> (764)	<u>Apr99</u> (761)	<u>July99</u> (751)	<u>Oct99</u> (750)	<u>Jan00</u> (750)	<u>Apr00</u> (757)	<u>July00</u> (753)	<u>Oct00</u> (771)	<u>Jan01</u> (794)	<u>May01</u> (794)
Microsoft	65%	65%	68%	69%	64%	63%	65%	61%	60%	60%
Borland	11	9	10	10	9	9	8	9	8	8
IBM/Lotus	7	4	5	6	5	5	7	6	6	6
Oracle	4	3	4	5	6	4	7	4	5	5
Sybase	4	3	4	2	3	3	3	2	2	2
Sun	na	1	2	2	1	3	2	2	2	2

Statistically Significant at the 90CL = 4%

13. Thinking about the applications and complex macros you have developed in the past 6 months, what are the software development tools you have used most often? (Base: Total Professional developers)

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Language Usage (Unaided)

	Nov97 (777)	Mar98 (769)	Oct98 (764)	Apr99 (761)	July99 (751)	Oct99 (750)	Jan00 (750)	Apr00 (757)	July00 (753)	Oct00 (771)	Jan01 (794)	Feb01 (777)
VB Lang	55%	49%	50%	46%	50%	51%	49%	44%	47%	44%	40%	41%
VBA	na	31	na	33	31	32	30	26	27	26	24	23
Any C++	19	17	16	20	18	16	14	12	14	11	13	11
Java	5	6	7	5	6	7	7	6	6	6	7	7

Statistically Significant at the 90CL (p < .05)

Note: Thinking about the applications and complex macros you have developed in the past 6 months, what are the software development languages you have used most often? (Base: Total Professional developers)

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MS Tool Usage (Unaided)

	Aug97 (757)	Nov97 (777)	Mar98 (760)	Oct98 (764)	Apr99 (761)	July99 (751)	Oct99 (750)	Jan00 (750)	Apr00 (757)	July00 (753)	Oct00 (771)	Jan01 (794)
Any MS	64%	69%	64%	65%	65%	68%	69%	64%	63%	65%	61%	69%
Access	26	29	26	25	26	25	28	25	22	22	19	21
VB	27	30	28	31	26	32	36	33	28	31	26	25
VC++	12	12	8	10	11	11	10	8	6	10	6	5
FoxPro	8	9	8	6	5	7	4	5	5	4	4	2
Excel	13	12	10	10	9	9	9	6	4	4	5	5
Word	7	7	4	5	3	3	3	3	1	1	2	2
VS	<1	2	1	4	5	6	7	6	7	4	7	10
VI	1	2	2	3	3	4	4	4	3	5	4	6

Statistically Significant at the 90CL (p < .05)

Q1a. Thinking about the applications and complex interfaces you have developed in the past 6 months, what are the software development tools you have used most often? (Base: Total Professional Developers)

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Non-MS Tool Usage (Unaided)

	Aug97 (757)	Nov97 (777)	May98 (760)	Oct98 (761)	Apr99 (761)	July99 (751)	Oct99 (750)	Jan00 (750)	Apr00 (757)	July00 (755)	Oct00 (771)	Jan01 (791)
Any Backend	15%	12%	12%	11%	9%	10%	10%	9%	9%	8%	9%	8%
Depth	5	5	5	5	5	5	1	5	5	4	4	4
dBase	2	1	2	1	1	1	2	1	1	1	1	1
For C++	4	4	1	3	2	2	1	2	2	2	1	2
For C++ Bld	<1	1	1	2	<1	2	1	1	2	1	1	1
J-Builder	na	na	<1	<1	<1	1	2	1	1	1	2	1
Other	2	2	2	2	<1	1	2	2	1	1	1	1
Any Oracle	6	5	3	4	3	4	5	6	4	7	4	5
Any IBM/Lotus	5	8	8	7	4	5	6	5	5	7	6	6
COBOL	7	6	7	5	6	7	8	9	6	8	9	6
Powerbuilder	5	4	3	4	3	3	2	2	3	2	2	1
Java	7	5	6	7	5	6	7	7	6	6	6	7
Sum	na	na	na	na	1	2	2	4	3	2	2	2

Statistically Significant at the 90%CL (p < .05)

Q1: "Thinking about the applications and complex macros you have developed in the next 6 months, what are the software development tools you have used most often?" (Base: Total Professional developers)

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Number Of Tools Mentioned (Unaided)

	<u>Nov 97</u> (777)	<u>Mar 98</u> (766)	<u>Oct 98</u> (764)	<u>Apr 99</u> (751)	<u>Jul 99</u> (751)	<u>Oct 99</u> (759)	<u>Jan 00</u> (750)	<u>Apr 00</u> (757)	<u>Jul 00</u> (753)	<u>Oct 00</u> (771)	<u>Jan 01</u> (791)
Use more than 1 tool	65%	58%	61%	55%	61%	63%	61%	49%	59%	50%	53%
Mean	2.2	1.9	2.1	1.9	2.0	2.2	2.2	1.8	2.1	1.8	2.1
Median	3.1	3.2	3.5	2.0	2.1	2.0	2.0	1.0	2.0	2.0	2.0

Statistically Significant at the 90%CL (+/- 4%)

Q1a: Thinking about the applications and complex machinery you have developed in the past 6 months, what are the software development tools you have used most often? (Base: Total Professionals/developers)

Primary Tool Usage (Unaided)

	Aug97 (757)	Nov97 (777)	Mar98 (760)	Oct98 (764)	Apr99 (761)	July99 (751)	Oct99 (750)	Jan00 (750)	Apr00 (757)	July00 (753)	Oct00 (771)	Jan01 (794)
VB	13%	15%	15%	17%	16%	16%	17%	18%	15%	16%	16%	14%
Access	11	13	14	11	13	12	13	11	12	13	10	12
FoxPro	6	5	6	4	2	4	2	3	4	3	3	2
VC++	6	5	4	4	6	5	4	4	4	4	3	2
Excel	4	3	3	3	2	3	2	1	2	1	1	2
Word	2	1	1	1	1	<1	<1	1	<1	1	1	<1
VS	<1	1	<1	2	3	3	4	2	5	2	4	6
VI	<1	1	1	<1	1	1	1	2	2	2	2	2
COBOL	4	3	5	3	4	5	4	6	4	5	6	3
Delphi	2	2	3	3	4	4	3	4	4	3	2	3
Java	2	1	2	2	1	2	2	2	5	4	4	3
Powerbuilder	3	2	1	2	2	2	1	2	2	1	1	1
Oracle Tools	2	2	2	1	1	2	2	3	2	3	2	3

Statistically Significant at the 90CL +/- 3%

Yield of the software development tools you mentioned, which is the ONE tool you use most often to create applications and complex systems. (Base: Total Professional developers)

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Future Tool Usage (Unaided)

	Aug97 (757)	Nov97 (777)	May98 (760)	Oct98 (761)	Apr99 (751)	July99 (751)	Oct99 (750)	Jan00 (750)	Apr00 (757)	July00 (753)	Oct00 (771)	Jan01 (791)	Apr01 (789)	July01 (789)
VB	30%	31%	29%	31%	28%	33%	34%	33%	27%	29%	27%	23%	25%	25%
Access	23	25	21	21	20	23	22	20	18	18	16	17	17	17
VC++	13	12	14	11	11	12	10	7	7	10	7	5	5	5
FoxPro	7	7	6	6	4	5	3	4	4	3	3	2	2	2
Excel	9	8	2	8	6	8	6	4	3	4	3	4	4	4
Word	5	5	1	2	2	2	2	2	1	1	1	1	1	1
VS	na	na	na	na	6	6	7	6	6	4	7	10	10	10
Vi	na	na	na	na	3	3	4	5	4	5	4	6	6	6
COBOL	6	4	7	1	5	6	6	6	4	7	5	3	3	3
Delphi	7	6	6	5	5	6	5	5	4	3	4	4	4	4
Java	17	5	5	10	8	9	11	7	8	9	8	7	7	7
Powerbuilder	0	0	0	0	2	3	2	2	2	2	1	1	1	1
Oracle Tools	6	6	6	5	4	7	6	7	4	9	6	5	5	5
IBM/Lotus	na	na	na	na	3	4	3	4	1	7	5	4	4	4
Sun Tools	na	na	na	na	2	2	3	3	2	2	2	2	2	2

Statistically Significant at the 95% CL (p < .05)

What software development tools do you expect to be using a year from now to create applications and complex menus?
 Total Professional developers (n=1,000)

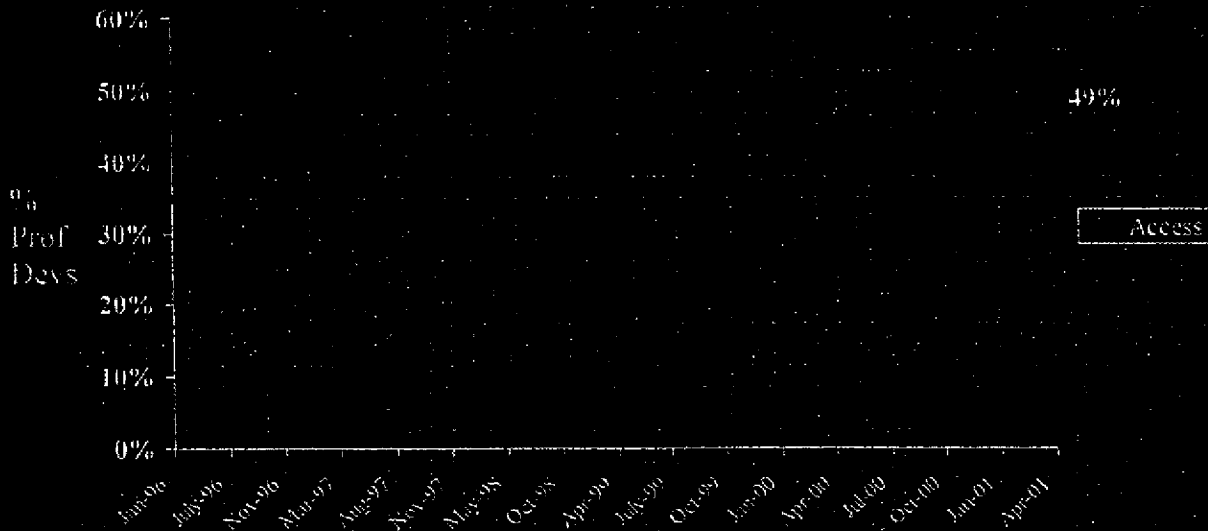
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Tool Usage. Share Of Use

- Desktop Databases (Access)
- RAD Tools (VB, Delphi, Developer 2000)
- C++ (VC++; Borland C++ or Borland C++ Builder)
- Java Tools (Overall Market Sizing)
- Visual Studio (Overall Market Sizing)
- Oracle Development Tools (Enterprise Suite, Designer 2000, Internet Development Suite)
- Other tools (IBM Visual Age, Visual Interdev, WebGain Studio, Allaire Cold Fusion, Microsoft C++)

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Databases (Aided)

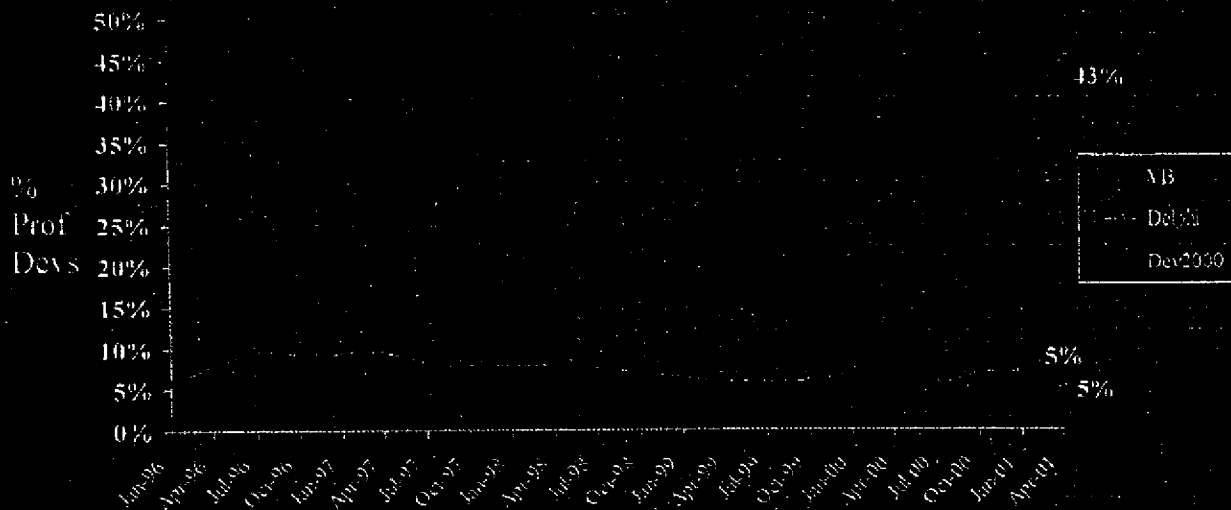


Statistically Significant at the 50CL +/- 4%

(Q7) For each of the products I read, please tell me which of the following best describes your awareness and familiarity with that product. Would you say, I am not aware of it, I know a little about the product, I know enough about it, I own but don't use it, or I am currently using it. (Skip software applications or empty macros.) (Base: Total Professional developers.)
 FoxPro was deleted in Jan01.

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RAD Tools (Aided)

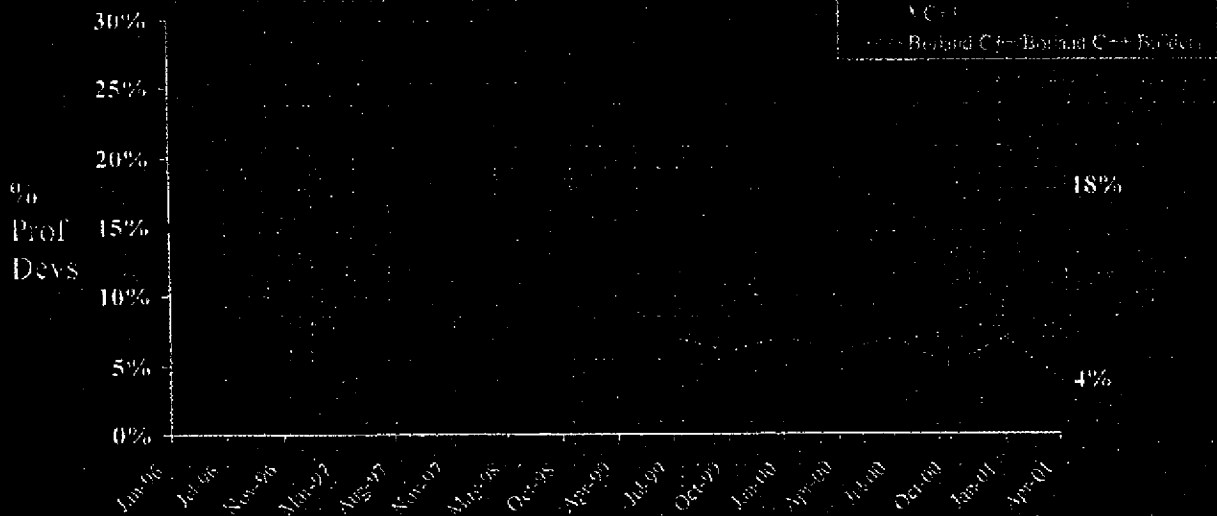


Statistically Significant at the 90CI, +/- 4%

Q7. For each of the products I read, please tell me which of the following best describes your awareness and familiarity with that product. If you say "I am not aware of it, I know a little about it, I know enough about it, I own but don't use it, or I am currently using it (develop software applications or complex macros) (please, I am a Professional developer)." Note: PowerBuilder was deleted in Jan01.

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C++ (Aided)



Statistically Significant at the 95% CI +/- 4%

(Q7) For each of the products I read, please tell me which of the following best describes your awareness and familiarity with that product:
 1 = I am not aware of it, I know a little about the product, I know enough about it, I own but don't use it, or I am currently using it
 (top software applications or complex transactions) (Base: Total Professional developers)
 Data from July 99 to Oct 00 was combined

17

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Visual Studio (Aided)

	Oct98 (764)	Apr99 (761)	July99 (751)	Oct99 (750)	Jan00 (750)	Apr00 (757)	July00 (753)	Oct00 (771)	Jan01 (794)
Usage	23%	27%	30%	28%	28%	28%	29%	31%	34%
Awareness	72	76	82	80	78	79	81	81	82

Statistically Significant at the 99CL -6-4%

For each of the products I read, please tell me which of the following best describes your awareness and familiarity with that product. (If you say, I am not aware of it, I know a little about the product, I know enough about it, I own but don't use it, or I am currently using it, develop software applications or complex macros.) (Base = Total Professional developers)

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MS-DEPEX 005681

Visual Studio Service Pack Installation

	Jan01	Jan02
Successfully applied a service pack	(286)	100%
Successfully applied the latest service pack	76%	100%

Statistically Significant at the 99CL (p < .01)

Q1: Have you applied a Service Pack to your installation successfully? (Q14-b) Have you successfully applied your latest Service Pack (SP4)? (Base: Professional developers using Visual Studio)

MSSunII 00000010627

Oracle Development Tool Usage

	<u>Jan00</u> (750)	<u>Apr00</u> (757)	<u>July00</u> (753)	<u>Oct00</u> (771)	<u>Jan01</u> (794)	<u>Apr01</u> (777)
Oracle Enterprise Suite	6%	4%	6%	5%	4%	4%
Oracle Designer 2000	na	na	na	na	3	1
Oracle Internet Developer Suite	na	na	na	na	2	3

Statistically Significant at the 90CL +/- 4%

(07) For each of the products I read, please tell me which of the following best describes your awareness and familiarity with that product. Would you say, I am not aware of it, I know a little about the product, I know enough about it, I own but don't use it, or I am currently using it (do not include software applications or complex macros, iBase, Total Professional developers).
 (na) was added during interviewing.

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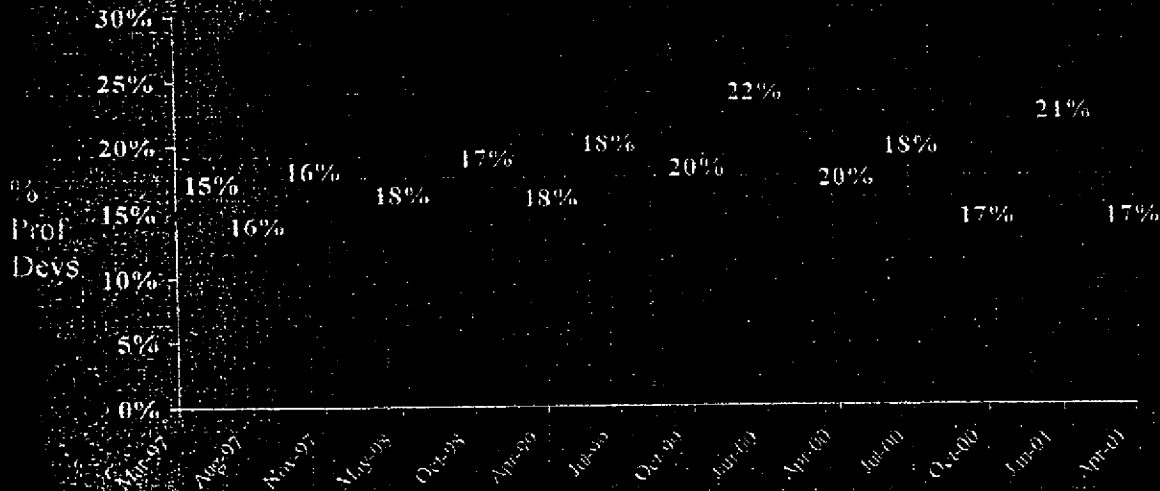
Other Development Tool Usage

	<u>Apr99</u> (761)	<u>Oct99</u> (750)	<u>Jan00</u> (750)	<u>Apr00</u> (757)	<u>Jul00</u> (753)	<u>Oct00</u> (771)	<u>Jan01</u> (794)
IBM Visual Age	1%	2%	2%	2%	3%	2%	3%
Visual Interdev	na	na	13	12	13	14	16
Microsoft C#	na	na	na	na	na	na	2
WebGain Studio	na	na	na	na	na	na	1
Allaire Cold Fusion	na	na	na	na	na	na	6

Statistically Significant at the 90CL (p < .41)

(Q7) For each of the products I read, please tell me which of the following best describes your awareness and familiarity with that product: Would you say, I am not aware of it, I know a little about the product, I know enough about it, I own but don't use it, or I am currently using it (skip software applications or complex macros.) (Base: Total Professional developers.)
 Tool was added during interviewing

Java Total Usage (Aided)



Statistically Significant at the 95% CL -4-9%

For each of the products I read, please tell me which of the following best describes your awareness and familiarity with that product. (You may say, I am not aware of it, I know a little about the product, I know enough about it, I own but don't use it, or I am currently using it.)
 (Develop software applications or complex macros) (Base - Total Professional Developers)

MSSunII 00000010630

Java Tools (Overall Share Of Use) (Unaided)

	May98 (126)	Oct98 (141)	Apr99 (155)	July99 (136)	Oct99 (167)	Jan00 (175)	Apr00 (151)	July00 (163)	Oct00 (137)	Jan01 (173)	Qtr01 (172)
Visual Cafe	36%	38%	57%	23%	29%	30%	22%	19%	26%	25%	25%
Any Sun	23	29	23	26	25	34	30	19	21	27	25
Sun JDK	19	26	20	21	24	33	28	17	19	25	23
Sun Forte	na	na	na	na	na	na	na	na	na	3	2
Any WebGain/Symantec	23	18	15	20	17	12	5	11	13	7	7
Visual Cafe	15	9	5	15	10	9	3	5	9	4	4
Cafe	3	1	6	2	3	2	1	2	2	<1	<1
Visual Cafe Pro	5	9	4	4	4	2	<1	4	2	2	2
Any Borland	na	na	8	13	11	14	11	8	19	10	11
J-builder	11	6	6	13	11	11	10	7	17	10	10
Bor, C++ w/ add on	3	1	2	1	1	2	1	0	2	<1	<1
Metrowerks	4	4	2	2	0	<1	2	3	3	3	3
IBM Visual Age	na	na	2	3	7	5	4	5	4	9	5
Other	14	19	12	16	19	17	16	15	16	27	29
Don't Know	na	na	18	22	11	11	17	24	12	13	10

Statistically Significant at the 90CL (6-99%)

What Java development tools do you use? (Base: Professional developers who use Java)

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Java Tools Primary Share Of Use (Unaided)

	Nov97 (125)	May98 (136)	Oct98 (141)	Apr99 (135)	Jul99 (136)	Oct99 (167)	Jan00 (175)	Apr00 (154)	July00 (163)	Oct00 (137)	Jan01 (173)
Use	26%	31%	31%	37%	19%	29%	38%	23%	24%	26%	23%
Any Sun	20	17	22	25	28	24	27	34	22	18	24
Sun JDK	na	na	na	20	26	24	26	32	21	18	23
Any Symantec Cafe	20	19	15	11	17	16	11	5	12	10	5
Visual Cafe Pro	9	5	7	3	3	3	1	1	5	1	2
Visual Cafe	8	13	8	3	12	10	8	4	5	8	4
Cafe	3	2	0	4	1	2	2	1	2	1	0
Any Borland	na	na	na	7	11	9	12	13	10	15	8
J-builder	na	na	na	6	11	9	9	12	9	11	8
Bor. C++ w/ add on	2	3	1	1	0	<1	3	1	0	2	1
IBM Visual Age	na	na	na	2	2	8	4	4	5	3	6
Metrowerks	1	4	3	2	2	0	0	1	1	2	2
Use equally	21	6	11	1	2	1	1	0	<1	2	2

Statistically Significant at the 90CL (4-9%)

Which do you use most? (Base: Professional developers who use Java, excluding those who said "DK" at Q10.)

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MS-DEPEX 005687

Other Java Metrics

	Oct98 (141)	Apr99 (135)	July99 (126)	Oct99 (167)	Jan00 (175)	Apr00 (154)	July00 (163)	Oct00 (157)	Jan01 (173)
Have completed >1 Java projects	43	33	35	40	44	41	31	48	53
Have 1 Java project completed	15	12	14	6	8	10	13	12	13
Have 1 or more pilot projects underway	13	22	15	18	17	14	16	17	12
Planning a project that uses Java	9	6	12	8	6	8	6	4	7

Statistically Significant at the 90CL +/- 9%

Which of the following best describes your level of experience with Java? (Base: Professional developers who use Java)

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Java Platform Development

Do you target Java as a platform on the server? (Base: Professional developers who use Java)
 Jan01 (173) 41%
Java Users Targeting Java As A Platform 41%

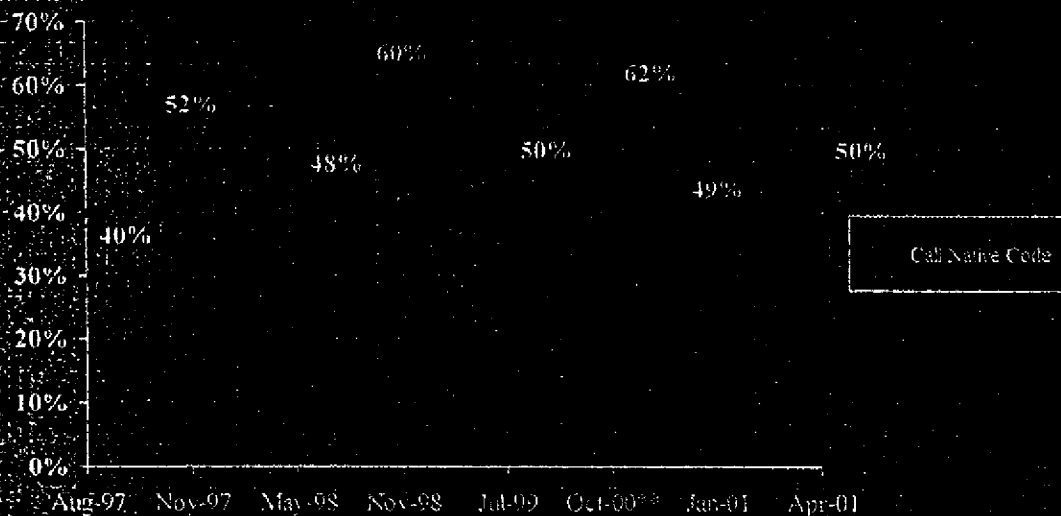
	Jan00 (72)	Apr00 (70)	July00 (59)	Oct00 (58)	Jan01 (75)	Jan01 (161)
Any UNIX	53%	54%	47%	56%	46%	51%
Sun Solaris	28	21	20	39	20	25
Linux	26	24	24	28	23	26
Win 2000	0	0	0	3	18	11
Win NT Server	55	53	54	52	32	31
Novell Netware	8	8	3	6	2	3
AS/400	5	9	7	4	2	3
Other	5	5	12	16	12	11

Statistically Significant at the 95CL (p < .05)

Do you target Java as a platform on the server? (Base: Professional developers who use Java)
 Which server operating system do you use to target Java when its running on the server? (Base: Professional developers who target running on the server.)

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Native Code



Statistically Significant at the 95% CI (p < .05)

Do you call native code or native methods from your Java applications? (Base: Professional developers who use Java)
Question was added during interviewing

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OS Targeted For Native Code

	Nov 97 (67)	Mar 98 (66)	Nov 98 (84)	Jan 99 (69)	Oct 99* (75)	Jan 01 (84)	Mar 01 (81)
Any Win	87%	86%	72%	82%	64%	62%	62%
Win 2000	na	na	na	na	4	19	19
Win NTW	51	39	3	47	41	34	34
Win NTS	47	46	41	43	28	35	35
Win 98	na	na	18	35	31	20	20
Win 95	64	56	42	48	23	11	11
Any Non-Win	na	na	na	50	41	55	55
Any UNIX	23	24	23	32	33	35	35
Sun Solaris	na	na	na	17	21	19	19
Linux	na	na	na	9	11	17	17
Macintosh	13	5	5	10	2	5	5
DOS w/o Windows	4	0	0	1	1	1	1
Novell NetWare	3	1	0	3	1	0	0
OS/2	3	1	3	0	0	2	2
AS/400	1	2	4	2	1	4	4
Other	na	na	na	18	2	13	13

Statistically Significant at the 20CL 95-13%

(Q. 3) What operating systems do you target when building Java applications that use native code? (Base: Professional developers calling code, or native methods from Java applications)
 * This question was added during interviewing.

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Platform Adoption

MSSunII 00000010637

MS-DEPEX 005692

MS Platforms Targeted (Aided)

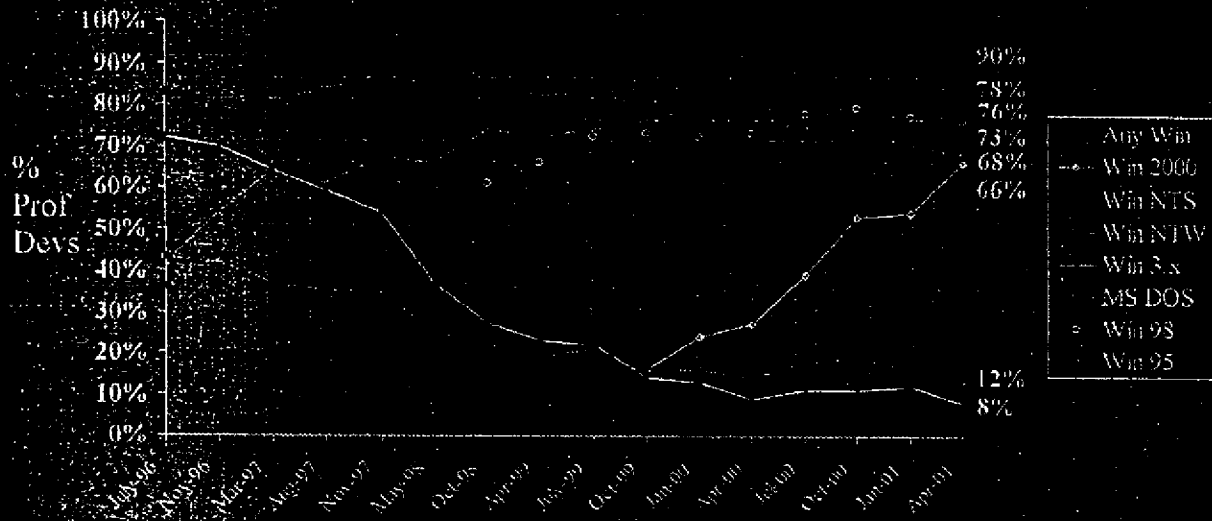
	Aug97 (757)	Nov97 (777)	May98 (760)	Oct98 (764)	Apr99 (761)	July99 (751)	Oct99 (750)	Jan00 (759)	April00 (757)	July00 (753)	Oct00 (771)	Jan01 (794)
Any Win	92%	93%	91%	91%	90%	91%	91%	91%	90%	91%	93%	92%
Win 2000	na	na	na	na	na	na	16	24	27	39	53	54
Win NTW	61	67	66	74	72	74	76	78	72	76	80	76
Win NTS	57	63	59	66	64	70	69	72	66	70	73	71
Win 98	na	na	na	61	66	72	73	72	73	77	79	77
Win 95	84	87	85	86	82	83	79	76	73	75	71	70
Win 3.x	59	51	37	27	23	22	14	13	9	11	11	12
Win ME	na	na	na	na	na	na	na	na	na	na	na	<1
MS DOS	35	35	25	22	19	21	16	16	14	18	19	16

Statistically Significant at the 95CL +/- 4%

For which of the following computer operating systems do you currently target applications? (Base: Total Professional developers)

MS8unII 000000010638

MS Platforms Targeted (Aided)



Statistically Significant at the 95CL: +4%

For which of the following computer operating systems do you currently target applications? (Base: Total Professional developers)

MSSunII 000000010639

Windows 2000 Development

<u>Version Used</u>	<u>Oct99**</u> (135)	<u>Jan00</u> (202)	<u>Apr00</u> (225)	<u>July00</u> (317)	<u>Oct00</u> (439)	<u>Jan01</u> (461)
Server	45%	52%	42%	48%	49%	41%
Professional	68	69	65	76	80	64
Advanced Server	na	na	na	na	na	23
Datacenter Server	na	na	na	na	na	13
Don't Know	13	8	14	8	6	14

Statistically Significant at the 95CL 94.6%

When Expect To Begin Targeting Windows 2000

	<u>Oct99**</u> (507)	<u>Jan00</u> (548)	<u>Apr00</u> (532)	<u>July00</u> (436)	<u>Oct00</u> (332)	<u>Jan01</u> (333)
Within 6 mo.	24%	22%	19%	16%	12%	16%
6-12 mo.	24	25	25	26	26	28
Greater than 12 mo.	28	30	26	32	34	29
Do not plan on targeting	13	12	18	15	14	24
Don't Know	11	10	12	11	14	9

Statistically Significant at the 95CL 94.7%

Q311. Which version of Windows 2000 do you target? (Base: Professional Developers targeting Windows 2000.) (Q310). How soon, if at all, do you think you will begin targeting applications towards Windows 2000? (Base: Professional developers not targeting Windows 2000.) (Question was added during interviewing)

MSSunII 000000010640

Windows 2000 Development

Among Professional Developer Subgroups

When Expect To Begin Targeting Windows 2000

	October				Jan 01				Total	VAR	MIS	ISV
	Total	VAR	MIS	ISV	Total	VAR	MIS	ISV				
	(332)	(117)	(182)	(33)	(333)	(112)	(183)	(38)	332	117	182	33
Within 6 mo.	12%	14%	10%	24%	10%	14%	8%	16%	13%	14%	10%	24%
6-12 mo.	26	19	30	18	28	28	28	26	31	26	33	26
Greater than 12 mo.	34	26	39	27	29	24	33	13	32	28	34	24
Do not plan on targeting	14	24	9	12	24	28	21	42	31	27	20	29
Don't Know	14	17	12	18	9	6	10	3	14	17	12	18

Statistically Significant at the 90CL (p < .05)

How soon, if at all, do you think you will begin targeting applications towards Windows 2000?
 (Professional developers not targeting Windows 2000)

MSSun11 000000010641

Platforms Targeted (Non-MS) (Aided)

	July99 (333)	Oct99 (341)	Jan00 (341)	Apr00 (297)	July00 (326)	Oct00 (351)	Jan01 (314)						
<i>Linux share among UNIX Users</i>	39%	41%	43%	46%	53%	51%	55%						
	Aug97 (757)	Nov97 (777)	May98 (760)	Oct98 (764)	Apr99 (761)	Jul99 (751)	Oct99 (750)	Jan00 (757)	July00 (753)	Oct00 (771)	Jan01 (794)		
Any UNIX	41%	42%	41%	40%	35%	44%	42%	46%	39%	43%	46%	38%	
Linux	na	na	na	na	12	17	17	20	18	23	25	21	
Solaris	na	na	na	na	na	na	na	na	na	na	na	15	
Novell Netware	43	43	36	35	28	32	28	29	27	28	28	21	
AS 400	20	21	19	19	19	19	21	20	15	20	20	19	
VMS	9	12	11	11	6	10	10	11	8	9	12	8	
Macintosh	13	12	10	13	8	10	7	10	8	8	12	11	
OS 2	10	11	9	9	7	8	7	7	6	8	9	6	
MVS	8	9	7	7	5	7	7	8	6	6	7	7	

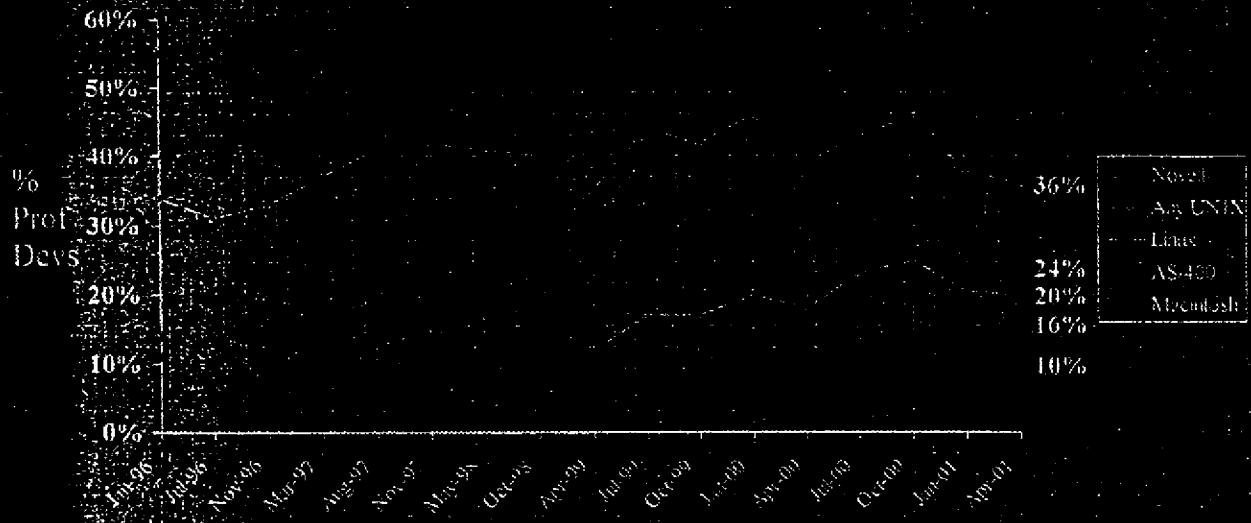
Statistically Significant at the 92CI +/- 4%

For which of the following computer operating systems do you currently target applications? (Base: Total Professional developers)

MSSunII 00000010642

MS-DEPEX 005697

Platforms Targeted (Non-MS) (Aided)

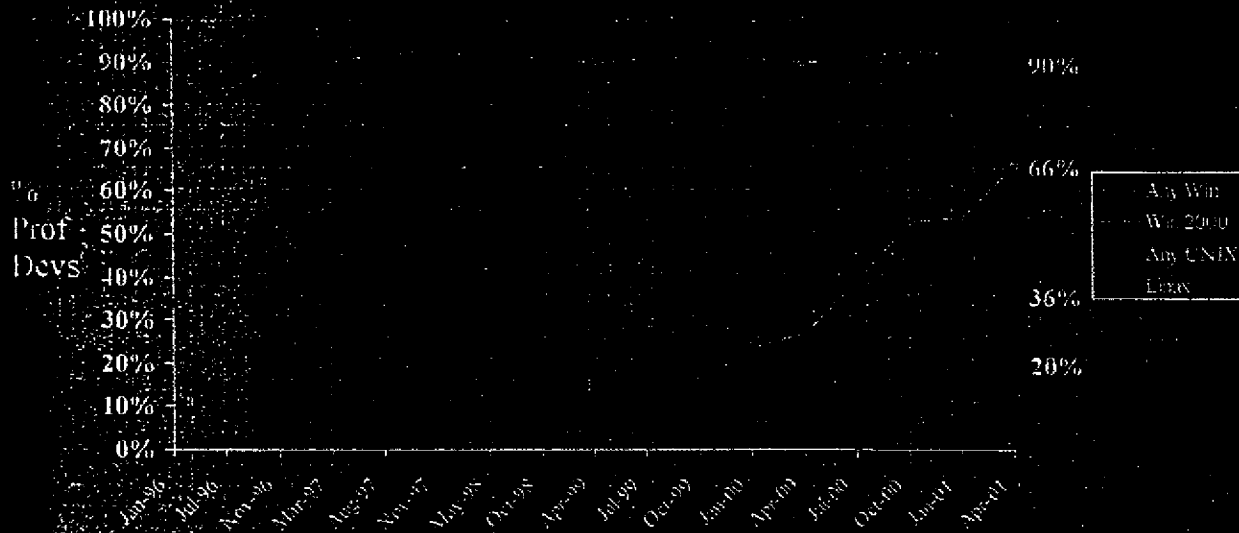


Statistically Significant at the 95% level

For which of the following computer operating systems do you currently target applications? (Base: Total Professional developers)
 Linux added in April '92

MSSunII 00000010643

Platforms Targeted (Aided)



Statistically Significant at the 99% CL - 7.4%

For which of the following computer operating systems do you currently target applications? (Base: Total Professional developers) Linux added in April '99.

MSSunII 00000010644

New OS Adoption

When Expect To Begin Targeting Linux & Windows 2000

	Jan01		Jan02	Jan03
	Windows 2000 (333)	Linux (608)	307	307
Within 6 mo.	10%	5%	10%	10%
6-12 mo.	28	7	22	22
Greater than 12 mo.	29	24	27	13
Do not plan on targeting	24	56	24	61
Don't Know	9	8	17	14

Statistically Significant at the 90CL (p < .05)

Q1: How soon, if at all, do you think you will begin targeting applications towards Windows 2000/Linux? (Base: Professional developers targeting Windows 2000/Linux)

MSSunII 000000010645

Linux Development

Version Used

	Jan01 (186)
Red Hat	76%
Public Distribution	5
LinuxWorks	4
Mandrake	2
Caldera	2
Montavista	4
Lineo-EMBEDDIX	4
Slackware	2
SuSE	0
Debian	2
Other	7
Don't Know	13

When Expect To Begin Targeting Linux

	Oct00 ²³ (293)	Jan01 (608)
Within 6 Mo.	5%	5%
6-12 Mo.	7	7
Greater than 12 Mo.	31	24
Do not plan on targeting	42	56
Don't Know	12	8

Statistically Significant at the 90% χ^2 G2

Q112 Which version of Linux do you target? (Base: Professional developers who target Linux)

How soon, if at all, do you think you will begin targeting applications for a (S Linux)? (Date: Professional developers not targeting Linux system was added during interviewing)

MSSunII 000000010646

Primary Platform Targeted

	May98 (760)	Oct98 (764)	Apr99 (761)	July99 (751)	Oct99 (750)	Jan00 (750)	Apr00 (757)	July00 (753)	Oct00 (771)	Jan01 (794)
Any Win	66%	64%	64%	66%	62%	62%	66%	67%	64%	65%
Win 2000	na	na	na	na	na	<1	2	4	6	9
Win NTW	9	17	16	15	16	18	20	19	18	18
Win NTS	10	10	19	11	12	10	9	8	8	10
Win 98	na	4	10	12	14	16	20	24	22	21
Win 95	44	32	28	27	19	17	16	12	9	6
AS/400	10	8	9	8	9	9	7	9	8	8
Any UNIX	9	12	10	11	12	13	13	11	13	13
Linux	na	na	1	2	1	3	2	2	4	5
Solaris	na	na	1	2	3	3	3	2	4	3
Macintosh	1	3	2	1	1	2	2	1	1	1
DOS w/o Win	3	2	2	1	1	1	1	1	<1	<1
Novell Netware	2	2	2	2	2	2	1	1	2	1
Other	7	8	5	2	8	7	5	7	6	6
Don't Know	1	4	4	3	6	5	5	3	5	6

Statistically Significant at the 90CL - 95%.

Which is the PRIMARY operating system to which you target applications? (Base: Total Professionals/developers)

MS8unII 000000010647

Future Platforms Targeted (Unaided)

	Oct99 (632)	Jan00 (780)	Apr00 (757)	July00 (755)	Oct00 (771)	Jan01 (794)
Any Win	82%	78%	78%	80%	78%	74%
Win 2000	46	47	44	53	57	54
Win NTW	52	48	42	41	33	34
Win NTS	48	43	37	39	32	32
Win 98	48	42	43	42	34	34
Win 95	46	38	35	35	25	24
Win ME	na	na	na	na	na	1
AS/400	12	10	8	10	9	9
Any UNIX	34	30	29	30	28	28
Linux	17	15	16	17	17	18
Solaris	7	6	5	5	4	8
Macintosh	4	4	4	3	4	3
DOS w/o Win	4	3	3	5	3	1
Novell Netware	10	7	7	6	4	4
Other	11	14	13	13	9	12
Don't Know	5	5	8	4	5	8
Mean # OS Mentioned	1.8	1.7	1.7	1.7	1.5	1.5

Statistically Significant at the 90CL +/- 4%

What operating system do you expect to be targeting a year from now? (Base: Total Professional developers.)
 Question was added during interviewing.

MSSunII 00000010648

Types Of Applications Developed

	<u>Jan00</u> (647)	<u>Apr00</u> (757)	<u>July00</u> (753)	<u>Oct00</u> (771)	<u>Jan01</u> (794)
Standalone	49%	43%	52%	51%	50%
2-tier apps	27	25	28	29	22
3-tier/Multi-tier apps	10	8	6	7	9
Both 2-tier and 3-tier	21	16	20	28	24

Statistically Significant at the 90CL +/- 0%

(Q4): Which of the following kinds of applications or business solutions are you currently developing? Standalone Desktop applications; 2-tier applications, for example, you have a client for both user interface and business logic, and a server with a database such as Oracle or SQL Server, or another relational database; 3-tier applications or multi-tier applications, for example, you have a client for user interface only, a user server for the business logic, and a database server. (Base: Total Professional developers.)
 *Question was added during interviewing.

MSSunII 000000010649

2-tier/3-tier Application Development

	Jan01	Jan02
	(439)	(439)
A web browser on the client	66%	64%
A web server	62	61
Database access from the web server	72	67
Programming logic that runs a middle-tier application server	47	50

Statistically Significant at the 90% CL (p < .05)

For your 2-tier or 3-tier applications are you using? (Base: Professionals developing 2-tier or 3-tier applications.)

MSSun11 000000010650

2-tier/3-tier Critical Level Ratings

	Top 3 Box ¹	Mean
	<u>Jan01</u>	<u>Jan01</u>
A web browser on the client	30%	5
A web server	30	5
Database access from the web server	31	5
Programming logic that runs a middle-tier application server	43	6

Statistically Significant at the 90CL → 7%

(Q23). Thinking of your typical 2-tier or 3-tier application (insert type of 2-tier, 3-tier application) if it goes down or is unavailable to you for an hour, how will it impact your company or your client's company as a whole, specifically in terms of resulting in a loss of revenue, inability to conduct core business operations? (Base: Professional developers creating 2-tier or 3-tier applications and doing development.) (Bases vary with each type of application.)
 Top 3 boxes on a scale of 1 to 9.

MSSunII 00000010651

Server Databases Targeted (Aided)

	Aug97 (587)	Nov97 (589)	Mar98 (552)	Nov98 (578)	Apr99 (611)	July99 (578)	Oct99 (578)	Jan00 (464)	Apr00 (374)	July00 (411)	Oct00 (503)	Jan01 (459)	Apr01 (459)
MIS SQL	70%	37%	38%	43%	42%	42%	45%	55%	47%	56%	56%	53%	57%
Oracle	19	20	22	23	22	25	26	33	28	31	35	30	31
IBM DB2	na	na	16	12	13	12	11	12	14	18	16	16	17
Sybase	10	14	12	11	9	8	7	11	12	14	12	8	8
Informix	na	na	9	8	5	8	9	6	7	8	9	6	6
RDB	5	5	6	4	4	3	3	2	3	4	4	4	4
Watcom SQL	5	4	3	2	3	3	3	2	2	3	3	2	2
SQL 400	na	na	na	na	8	6	4	4	3	6	7	6	6
Other	33	33	26	24	27	15	17	15	16	19	16	19	19

Statistically Significant at the 90% +/- 5%

For which of these server databases are you currently developing applications?
(Professional developers creating applications w/ server component)

MSSunII 000000010652

Internet Development Metrics

MSSunII 000000010653

MS-DEPEX 005708

Technology Adoption (Aided)

Awareness²³

	Apr99 (761)	July99 (751)	Oct99 (750)	Jan00 (750)	Apr00 (757)	July00 (753)	Oct00 (771)	Jan01 (794)	Feb01 (793)
JavaScript	44%	50%	49%	51%	48%	50%	57%	60%	60%
Dynamic HTML	50	57	54	56	48	52	57	58	58
Active Server Pages	na	na	na	na	na	na	na	51	50
Java Applets	43	50	49	50	41	44	49	51	50
XML	24	27	29	34	33	38	47	49	48
CGI	na	na	na	na	na	na	na	45	43
Java Server Pages	na	na	na	30	22	26	32	36	36
Java Servlets	na	na	na	na	23	26	33	36	33
COM or COM+	na	na	na	na	na	na	na	34	30

Statistically Significant at the 99% Confidence Level

(23) How aware are you of each of the following technologies? (Base: Total Professional developers.)
 3 boxes on a scale of 1 to 5.
 Technology added during interviewing.

MSSunII 00000010654

Technology Adoption (Aided)

Currently Use

	Apr99 (761)	Jul99 (751)	Oct99 (750)	Jan00 (750)	Apr00 (757)	Jul00 (753)	Oct00 (771)	Jan01 (794)	Jan02 (835)
JavaScript	26%	27%	28%	33%	28%	33%	35%	36%	40%
Dynamic HTML	23	24	25	28	22	25	27	29	31
Java Applets	20	25	24	25	18	21	21	23	24
Active Server Pages	na	na	na	na	na	na	na	29	31
XML	5	7	8	12	11	13	19	22	23
CGI	na	na	na	na	na	na	na	27	31
Java Server Pages	na	na	na	8	7	8	10	12	14
Java Servlets	na	na	na	na	7	9	10	14	16
COM or COM+	na	na	na	na	na	na	na	19	21

Statistically Significant at the 95CL +/- 4%

For each of the following please tell me if it is something you currently use, plan to use in the next year, or next two or three to develop new applications (Base: Total Professional developers)
 Technology added during interviewing.

MSSunII 000000010655

MS-DEPEX 005710

Technology Adoption (Aided)

	Increase				Decrease				Stay the Same			
	April	July	Oct	Jan	April	July	Oct	Jan	April	July	Oct	Jan
JavaScript	69%	67%	69%	67%	3%	1%	3%	3%	21%	27%	26%	26%
Dynamic HTML	73	75	72	74	4	4	4	4	20	19	22	20
Java Applets	64	65	64	63	5	5	8	11	26	20	24	24
Active Server Pages	na	na	na	74	na	na	na	4	na	na	na	21
XML	82	85	85	83	1	0	0	3	11	14	11	13
CGI	na	na	na	19	na	na	na	14	na	na	na	24
Java Server Pages	73	73	72	71	0	5	3	6	22	19	23	21
Java Servlets	83	72	72	70	1	2	4	5	13	24	16	24
COM or COM+	na	na	na	68	na	na	na	3	na	na	na	27

Statistically Significant at the 95CL (N=109)

(*) Do you expect your use to Increase, Decrease, or Stay the same? (base = Total professional developers using technology)
 (na) Not Applicable (technology added during interviewing)

MSSunII 00000010656

Technology Adoption (Aided)

Among Web App Developers

Awareness

	Apr99 (255)	Jul99 (266)	Oct99 (283)	Jan00 (300)	Apr00 (275)	Jul00 (314)	Oct00 (345)	Jan01 (377)
JavaScript	76%	75%	75%	80%	81%	81%	82%	86%
Dynamic HTML	85	81	84	86	80	81	83	83
XML	46	47	50	58	60	65	71	73
Active Server Pages	na	na	na	na	na	na	na	73
Java Applets	74	73	75	76	69	68	68	72
CGI	na	na	na	na	na	na	na	66
Java Server Pages	na	na	na	50	43	45	48	55
Java Servlets	na	na	na	na	44	48	51	53
COM or COM+	na	na	na	na	na	na	na	52

Statistically Significant at the 90CL +/- 6%

How aware are you of each of the following web technologies? (Base: Total Professional developers developing web applications.)
 5 boxes on scale of 1 to 5.

Technology added during interviewing

MSSunII 00000010657

Technology Adoption (Aided)

Among Web App Developers

Currently Use

	Apr99 (255)	July99 (266)	Oct99 (283)	Jan 00 (300)	Apr00 (275)	July00 (314)	Oct00 (345)	Jan01 (377)	Change
JavaScript	58%	55%	57%	61%	61%	65%	61%	65%	+7%
Dynamic HTML	50	48	52	52	48	47	47	52	+2%
XML	13	16	20	23	26	26	34	38	+25%
Active Server Pages	na	na	na	na	na	na	na	51	+51%
Java Applets	45	46	49	48	39	40	35	39	-6%
CGI	na	na	na	na	na	na	na	45	+45%
Java Server Pages	na	na	na	17	16	17	18	23	+7%
Java Servlets	na	na	na	na	17	19	21	25	+8%
COM or COM+	na	na	na	na	na	na	na	33	+33%

Statistically Significant at the 99CL -7-0%

(Of those each of the following please tell me if it is something you currently use, plan to use in the next year, or neither of those to develop applications.) (Base: Professional developers developing web applications)
Technology added during interviewing.

MSSunII 00000010658

Technology Adoption (Aided)

Among Web App Developers

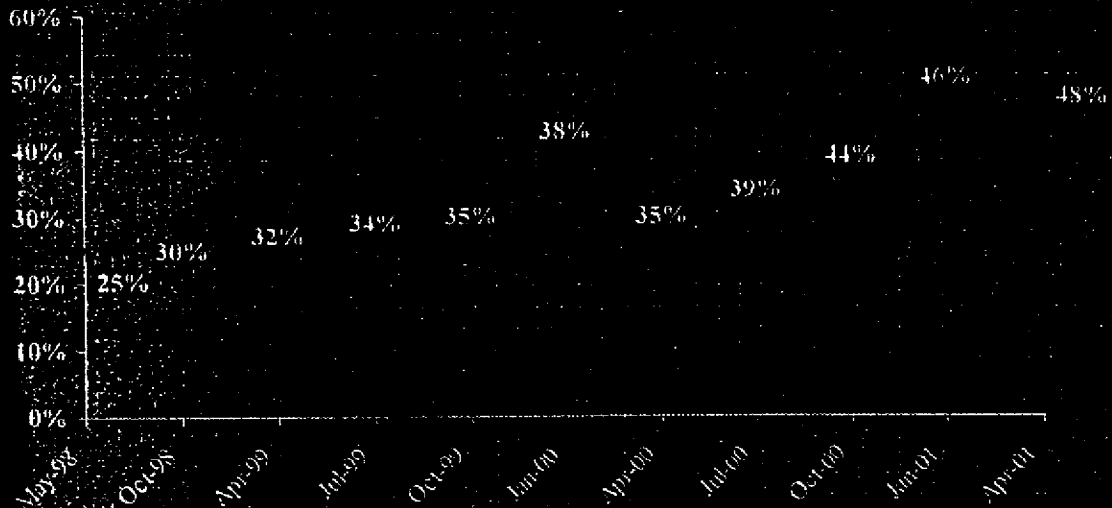
	Increase				Decrease				Stay the Same			
	Apr00	May00	June	July	Apr00	May00	June	July	Apr00	May00	June	July
JavaScript	63%	72%	68%	65%	6%	3%	3%	7%	30%	25%	27%	27%
Dynamic HTML	7%	7%	7%	7%	5%	4%	4%	2%	17%	19%	22%	20%
XML	8%	9%	8%	8%	1%	0%	1%	3%	9%	9%	8%	11%
Active Server Pages	na	na	na	7%	na	na	na	5%	na	na	na	18%
Java Applets	6%	6%	6%	6%	9%	10%	8%	11%	23%	20%	25%	23%
CGI	na	na	na	4%	na	na	na	15%	na	na	na	3%
Perl Server Pages	7%	7%	7%	6%	0%	5%	4%	5%	2%	16%	24%	25%
Java Servlets	8%	7%	7%	6%	2%	3%	5%	4%	14%	15%	16%	25%
COM or COM+	na	na	na	6%	na	na	na	2%	na	na	na	2%

Statistically Significant at the 90% CL (p < .10)

Q1: Do you expect your use to increase, decrease, or stay the same? (Base: Total Professional developers developing web applications using technology.) (Bases vary with each technology.)
 Q2: Do you expect your use to increase, decrease, or stay the same? (Base: Total Professional developers developing web applications using technology.) (Bases vary with each technology.)

MSSunII 00000010659

Web Application Development



Statistically Significant at the 99CL=7-42

In the past 6 months, have you developed an web application that requires a web browser on the client and a programming logic or a database connection on the server? (Base: Total Professional developers)

MSSunII 00000010660

Location Of Hosted Web Applications

	<u>Jan01</u>	
	(377)	
Externally	14%	
Internally	37%	
Both	49%	

Statistically Significant at the 99CI - 0.01.

Are the applications you create hosted... (Base: Professional developers developing web applications.)

MS8unII 00000010661

Web App Metrics: Tools Used (Unaided)

	Mar98 (196)	Oct98 (241)	Apr99 (255)	July99 (266)	Oct99 (283)	Jan00 (300)	Apr00 (275)	July00 (314)	Oct00 (345)	Jan01 (377)
Any MS	48%	54%	56%	58%	61%	59%	53%	56%	53%	51%
Access	7	12	13	9	5	7	8	7	9	6
VB	9	11	12	10	14	10	11	16	11	9
VI	11	11	14	19	15	18	17	17	18	16
FrontPage	9	10	12	22	20	19	16	12	12	11
VC++	6	9	6	4	3	3	5	3	3	4
Visual J++	na	na	4	1	3	1	1	1	2	1
Java	16	12	10	7	13	10	10	9	7	8
HTML	11	13	14	16	10	9	8	8	5	6
PerlScript	8	10	9	6	5	4	4	8	5	4
VB Script	5	2	7	3	2	2	2	3	2	1
JavaScript/Script	5	6	3	4	4	4	3	4	4	2
Macromedia	na	na	0	1	<1	5	3	6	4	4
Text Editor	1	<1	1	2	2	4	4	2	5	4
Cold Fusion	na	na	2	5	5	6	2	6	5	4

Statistically Significant at the 90CL +/- 6%

What software development tools did you use for these applications? (Use: Professional developers developing web applications.)

MSSun11 000000010662

Web Servers Targeting

	July99 (667)	Oct99 (750)	Jan00 (750)	Apr00 (757)	July00 (753)	Oct00 (771)	Jan01 (794)
MIS IIS	38%	35%	38%	31%	36%	38%	39%
Apache Web Server	17	16	19	20	19	22	22
Netscape Comm. Web Server	18	20	22	16	14	15	12
Oracle Web Server	7	7	7	4	7	6	5
Sun Internet Web Server	6	6	5	4	4	6	4
IBM Go Server	1	4	3	3	2	2	2
Other	na	5	2	3	4	4	3
None	44	41	42	49	48	41	43
Mean # Of Mentions	0.8	0.9	1.0	0.8	0.9	0.9	0.9
Median # Of Mentions	0	1.0	1.0	0	1.0	1.0	1.0

Statistically Significant at the 95% level.

Which of the following, if any, web servers do you currently target in your development? (Base: Total Professional developers; question was added during interviewing)

MSSunII 000000010663

Web Application Servers Targeting

	Oct99 (643)	Jan00 (750)	Apr00 (757)	July00 (753)	Oct00 (771)	Jan01 (791)
% ASP/MTS/IS or COM+ ¹	38%	37%	29%	36%	37%	33%
Sun NetDynamic Application Server or Netscape Application Server	8	8	5	6	7	4
Oracle Application Server	11	9	6	9	9	5
Lotus Domino	6	6	5	6	6	7
Allaire Cold Fusion	5	9	6	9	9	7
IBM Web Sphere	4	5	3	5	4	5
BEA Web Logic Application Server	na	1	1	1	2	2
Other	3	3	2	2	2	4
None	43	48	58	51	49	55
Mean # Of Mentions	0.8	0.9	0.7	0.9	0.9	0.7
Median # Of Mentions	1.0	1.0	0	0	0	0

Statistically Significant at the 90CI, $p < .05$

(Q7) Which of the following, if any, web application servers do you currently target for year development?

(N = Total Professional developers)

(*) Question was added during interviewing.

(NA) was added for Jan01.

MSSunXI 00000010664

Web Servers Targeting

Among Web App Developers

	Jul99 (237)	Oct99 (283)	Jan00 (300)	Apr00 (275)	July00 (314)	Oct00 (345)	Jan01 (377)
MIS IIS	66%	58%	64%	60%	62%	62%	62%
Netscape Comm. Web Server	24	32	31	24	22	21	16
Apache Web Server	32	33	37	41	36	37	36
Oracle Web Server	10	13	12	10	12	10	8
Sun Internet Web Server	10	11	8	9	7	8	8
IBM Go Server	3	5	3	5	2	3	4
Other	na	9	5	6	6	6	5
None	11	2	8	12	15	11	14
Mean # Of Mentions	1.3	1.5	1.6	1.5	1.5	1.5	1.4
Median # Of Mentions	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Statistically Significant at the 99CL 1% 0%

(Note: Which of the following, if any, web servers do you currently target in your development?)

(Total Professional developers developing web applications)

(question was added during interviewing)

MSSunII 000000010665

Web Application Servers Targeting

Among Web App Developers

	Oct99 (244)	Jan00 (300)	Apr 00 (275)	July00 (314)	Oct00 (345)	Jan01 (377)
MS ASP/MTS/IIS or COM+	64%	64%	56%	61%	60%	52%
Sun NetDynamic Application Server or Netscape Application Server	14	13	9	10	9	7
Oracle Application Server	17	14	14	14	14	8
Lotus Domino	9	7	7	9	9	8
Allaire Cold Fusion	12	19	14	20	18	13
IBM Web Sphere	7	8	6	10	6	8
BEA Web Logic Application Server	na	3	2	2	3	4
Other	6	5	3	5	5	7
None	19	19	23	19	18	30
Mean # Of Mentions	1.4	1.6	1.4	1.6	1.5	1.1
Median # Of Mentions	1.0	1.0	1.0	1.0	1.0	1.0

(Q2) or Which of the following, if any, web application servers do you currently target in your development? (Base: Total Professional Developers developing Web applications)

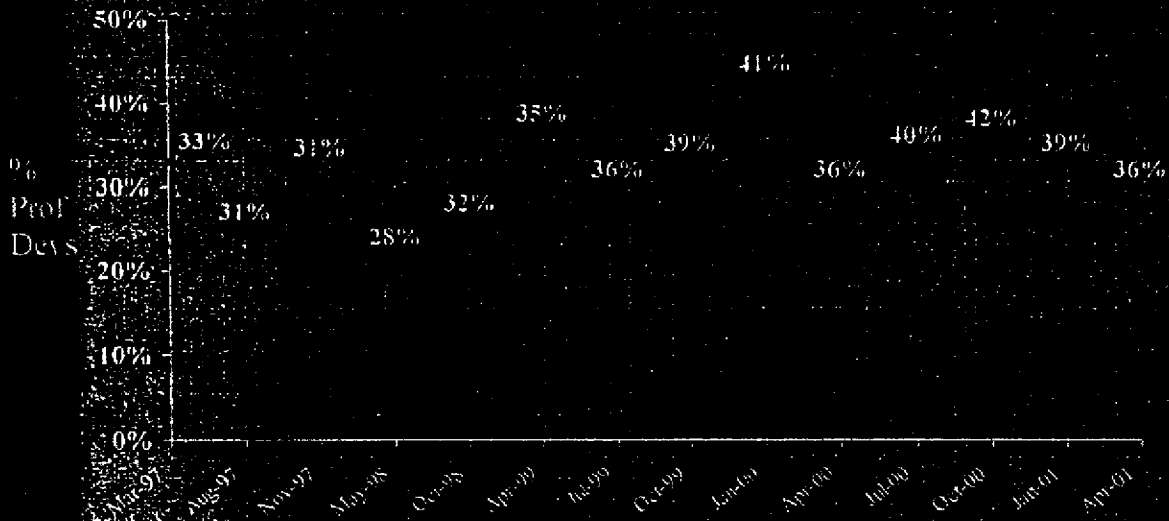
Question was added during interviewing

Statistically Significant at the 90CL - 90%

MS was added for Jan01

MSSunII 000900010666

VBA Usage



Statistically Significant at the 99CL - 4.4%

Do you use VBA to develop applications? (B use: Total Professional developers)

MSSunII 000000010667

Standards Adoption
Object Models/Object Request Brokers

MSSunII 000000010668

MS-DEPEX 005723

Object Model Technologies (Aided)

Aggregated Data

Awareness*

	<u>95</u> (603)	<u>96</u> (1708)	<u>97</u> (2286)	<u>98</u> (1524)	<u>99</u> (2262)	<u>00</u> (3031)	<u>01</u> (1552)
OLE/Active X/COM or COM+	na	68%	66%	67%	69%	60%	46%
Java Beans/ Ent. Java Beans	na	na	na	na	28	26	31
CORBA	15	13	15	18	19	15	17
Dot net	na	na	na	na	na	na	14

Statistically Significant at the 99CL (+/- 2%)

(Q56) How aware are you of each of the following Object Model Technologies? (Base: Total Professional developers)
3 boxes on a scale of 1 to 5.

*ActiveX, and COM were combined and COM+ was added in Jan01.

MSSunII 000000010669

Object Model Technologies (Aided)

Aggregated Data

Currently Use

	95 (603)	96 (1708)	97 (2286)	98 (1524)	99 (2262)	00 (3031)	01 (1552)
OLE/Active X/COM or COM+	na	26%	33%	40%	46%	39%	27%
Java Beans/ Ent, Java Beans	na	na	na	na	8	7	9
CORBA	1	1	2	3	5	4	4
Dot net	na	na	na	na	na	na	2

Statistically Significant at the 90CL +/- 2%

1. For each of the following, please tell me if it is something you currently use, plan to use in the next year, or neither to develop (na = not applicable) (Base = Total Professional developers)

2. ActiveX and COM were combined and COM+ was added in 1997

MS6un11 000000010670

Object Model Technologies (Aided)

Current Year Data

Awareness

	Jan00 (750)	Apr00 (757)	July00 (755)	Oct00 (771)	Jan01 (794)
OLE, Active X, COM or COM+	60%	58%	59%	64%	49%
Java Beans/ Ent. Java Beans	27	26	24	28	34
CORBA	18	15	15	14	13
Dot net	na	na	na	na	12

Statistically Significant at the 50CL +/- 4%

(Q5) How aware are you of each of the following Object Model Technologies? (Base: Total Professional developers.)
 3 boxes on a scale of 1 to 5.
 ActiveX, and COM were combined and COM+ was added in Jan01.

MSSunII 00000010671

Object Model Technologies (Aided)

Current Year Data

Currently Use

	<u>Jan00</u> (750)	<u>Apr00</u> (757)	<u>July00</u> (753)	<u>Oct00</u> (771)	<u>Jan01</u> (794)
OLE, Active X, COM or COM+	39%	36%	38%	43%	30%
Java Beans/ Ent. Java Beans	9	7	7	7	10
CORBA	4	3	4	3	4
Dot net	na	na	na	na	2

Statistically Significant at the 90CI, +/- 4%

For each of the following, please tell me if it is something you currently use, plan to use in the next year, or neither to develop (Base: Total Professional developers)
ActiveX, and COM were combined and COM+ was added in Jan01

MSSunII 000000010672

Object Model Technologies (Aided)

	Oct99			Jan01			p-value	t-test
	Increase	Decrease	Stay the Same	Increase	Decrease	Stay the Same		
Obj. Active X/COM or COM+	na	na	na	69%	0%	31%	0.0001	0.0001
Java Beans/Ext. Java Beans	78%	3%	18%	69	8	20	0.0001	0.0001
CORBA	*	*	*	55	13	30	0.0001	0.0001
Dot net	na	na	na	*	*	*		

Statistically Significant at the 5%CL = 95%

(Q5602) Do you expect your use to Increase, Decrease, or Stay the same? (Base: Professional developers who use Object Model Technologies.) (Bases vary with each technology.)
 * Base less than 50.
 Obj. ActiveX and COM were combined and COM+ was added in Jan01.

MSSunII 000000010673

Web Servers Used To Target Java Beans Or EJB Applications

	Jan01 (89)	Jan02 (90)
MS ASP, MTS, IIS, or COM+	41%	33%
Apache	12	17
Oracle Application Server	9	10
IBM Web Sphere	14	13
BEA Weblogic Application Server	7	8
Sun Net Dynamic Application Server or Netscape Application Server	15	15
Lotus Domino	8	7
Allaire Cold Fusion	3	3
Other	12	10

Statistically Significant at the 99CL+/- 14%

What web server are you targeting with your Java Beans or Enterprise Java Beans application (MS1 Base Professional developers using Beans or Enterprise Java Beans)

MSSunII 00000010674

Developer Programs

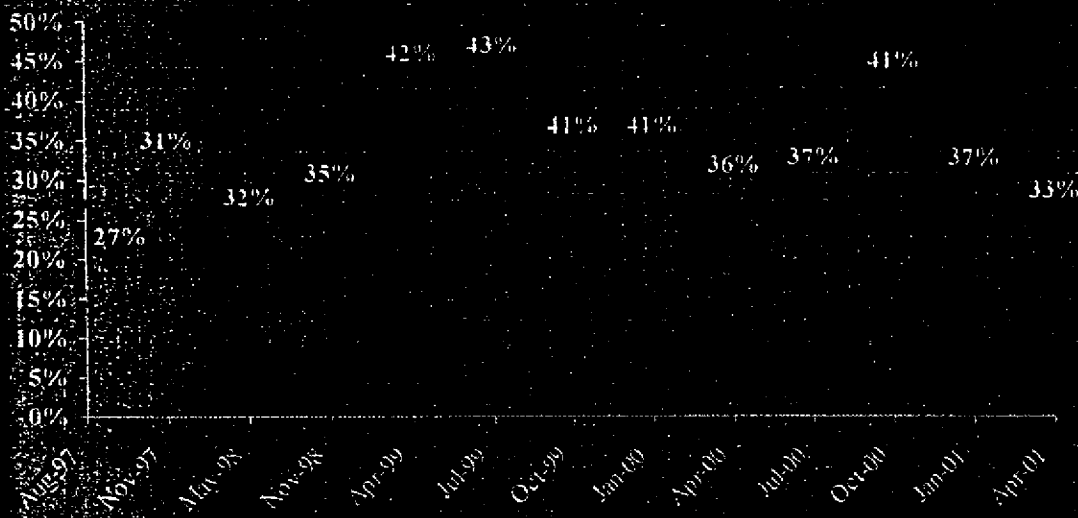
	<u>Apr99</u> (761)	<u>Jul99</u> (751)	<u>Oct99</u> (750)	<u>Jan00</u> (756)	<u>Apr00</u> (757)	<u>July00</u> (753)	<u>Oct00</u> (771)	<u>Jan01</u> (794)
VISDN	42%	43%	41%	41%	36%	37%	41%	37%
IBM/Lotus (Net)	8	8	7	5	5	8	8	9
IBM Developer Works	na	na	na	4	5	6	6	7
Lotus Developer Network	2	2	2	2	1	3	3	3
Oracle Technology Network	4	7	7	9	6	8	8	7
Sun Developer Connection	5	8	6	8	6	6	6	7

Statistically Significant at the 99% CI - p < .01

Do you currently belong to any of the following developer programs? (Base: Total Professional developers)

MSSunII 000000010675

MSDN Involvement



Statistically Significant at the 99% CI - 99.4%

Do you currently belong to any of the following developer programs? (Base: Total Professional developers)

MSSunII 00000010676

Non-PC Based Devices

	July99 (751)	Oct99 (750)	Jan00 (750)	Jul00 (753)	Oct00 (771)	Jan01 (794)	Jan01 (794)
Target Non-PC Based Devices (Net)	21%	32%	16%	14%	13%	15%	15%
Mobile computing devices	6	10	6	8	6	8	8
Home electronic products	2	3	1	1	2	2	2
Telecommunications equipment	5	6	3	3	2	3	3
Manufacturing systems	6	10	6	4	4	6	6
Retail industry devices	8	14	6	4	4	5	5
Navigation systems	2	3	1	1	2	1	1
Management control devices	10	15	7	5	4	5	5
Internet applications	na	na	na	na	na	3	3
Other	2	3	3	2	2	2	2

Statistically Significant at the 90CL (p < .05)

(Q1/Sa1) Do you build systems or applications for any of these non-PC based devices?

(Q1/Sa2) For which, if any, of the following non-PC based computing devices, excluding laptops, do you build systems or applications?

Total Professional developers
question added during interviewing

MSSunII 000000010677

Operating System Used On Non-PC Based Devices

	July99 (169)	Oct99 (241)	Jan00 (121)	July00 (107)	Oct00 (91)	Jan01 (130)
Palm OS/Handspring-based Device	10%	15%	20%	33%	28%	37%
Windows CE	22	23	18	33	26	31
Windows 2000	na	na	na	na	14**	22
Linux	na	na	na	na	na	20
Proprietary	35	30	25	33	26	31
Windows NT Embedded	na	na	na	na	17**	23
Java	5	8	10	4	12	12
PSOS	4	5	0	4	8	1
Psion EPOC 32/Symbian	1	2	4	2	4	1

Statistically Significant at the 90CI +/- 11%

26. Which of the following operating systems, if any, do you target when developing for non-PC based computing devices?
 *Professional developers developing non-PC based devices
 **question added during interviewing

MSSunII 00000010678

Non-PC Device Connections

	<u>Jan01</u> (130)
Back-end Servers	51%
PCs	74
Other	25

Statistically Significant at the 90CL=7-1153

Do the non-PC based computing devices you develop connect to... (Base = Professional developers developing non-PC based devices)

MSSunII 00000010679

MS-DEPEX 005734

Likelihood Of Creating Non-PC Based Devices Next Year

	Jan01 (664)	Jan02 (664)
<u>Very/Somewhat Likely (Net)</u>	<u>18%</u>	<u>17%</u>
Very Likely	8	7
Somewhat Likely	10	10
<u>Very/Somewhat Unlikely (Net)</u>	<u>81</u>	<u>83</u>
Somewhat Unlikely	10	11
Very Unlikely	71	72

Statistically Significant at the 90% level

How likely will you be to begin building systems or applications for any of these non-PC based devices within the next 12 months (if you say you are)? (Base: Professional developers who do not develop non-PC based devices)

MSSunII 00000010680

Future OS Used For Non-PC Based Devices

	Jan01 (123)	Jan02 (103)
Palm OS/Handspring-based Device	48%	57%
Windows CE	39	32
Windows 2000	48	31
Linux	28	20
Windows NT Embedded	24	22
Java	20	17
Proprietary	11	10
QNX	4	3
Psion Epcoc 32/Symbian	3	3
VXWorks/Tornado	3	3
VRTX	3	3

Statistically Significant at the 90CL - 14%

7. Which of the following operating systems do you plan on targeting for your non-PC based computing devices?
 (Professional developers who plan on developing non-PC based devices within the next year.)

MSSunII 00000010681

Overall Satisfaction

Among Total Professional Developers

Very Satisfied

	July99 (751)	Oct99 (750)	Jan00 (750)	Apr00 (757)	July00 (753)	Oct00 (771)	Jan01 (794)
Microsoft	34%	34%	36%	34%	39%	36%	35%
Oracle	12	14	15	16	18	14	14
IBM	na	16	24	24	24	24	21
Sun	na	na	16	20	15	14	16
Allaire	na	na	na	na	na	na	6

Statistically Significant at the 90CL-4%

(013) We'd like you to think about your overall satisfaction with (INSERT MANUFACTURER). Considering everything you know or have heard about (MANUFACTURER), would you say you are (four-point scale)? (Base: Total Professional developers)
 (Manufacturer was added during interviewing.)

MSSunII 00000010682

Overall Satisfaction

Among Those Using The Manufacturer's Tools

Very Satisfied

	July99	Oct99	Jan00	Apr00	July00	Oct00	Jan01
Microsoft	37%	39%	40%	40%	43%	41%	40%
Oracle	54	52	44	60	59	49	52
IBM	na	50	47	58	66	51	56
Sun	na	na	49	58	52	*	51
Altaire	na	na	na	na	na	na	44

Statistically Significant at the 0.05 Level

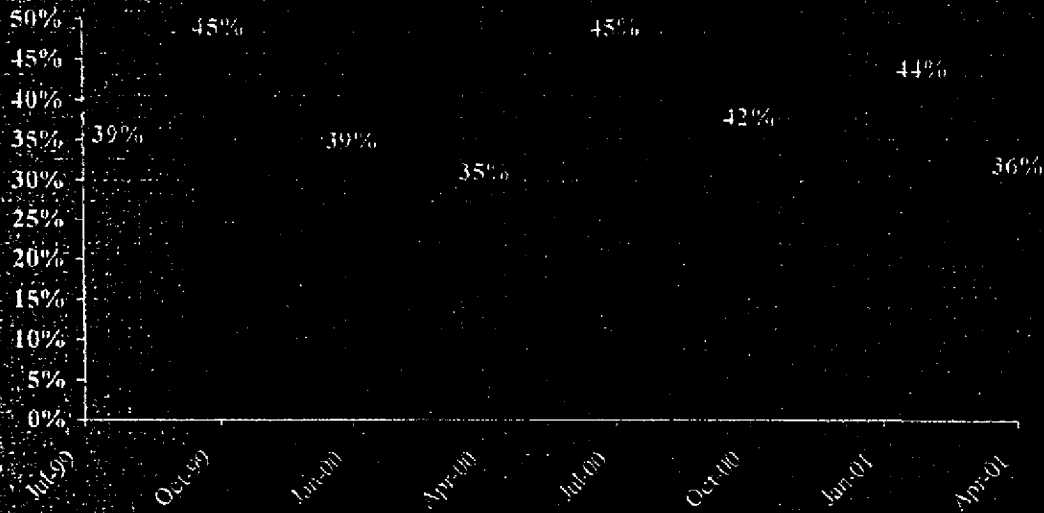
(Q18 - We'd like you to think about your overall satisfaction with (INSERT MANUFACTURER). Considering everything you know or have heard about (MANUFACTURER), would you say you are... (Four-point scale) (base: Total Professional developers using manufacturers' products) (Bases vary with each company)

less than 50. # manufacturer was added during interviewing

MSSunII 00000010683

Overall Microsoft Satisfaction

Among MIS Using Microsoft's Tools



Statistically Significant at the 90CL-7.7%

We'd like you to think about your overall satisfaction with Microsoft. Considering everything you know or have heard about Microsoft, do you say you are... (four-point scale)? (Base: MIS developers using Microsoft's products.)

MSSunII 00000010684

MS-DEPEX 005739

Software Modeling

Involved In Software Modeling

Jan 01
(794)
16%

Statistically Significant at the 90CL=7-4%

Software Modeling Tools Used

	Jan 01 (136)	10%
Any Microsoft	34%	33%
Visual Modeler	10	7%
Visio	25	18%
Rational Rose	22	16%
ERwin	6	4%
Proprietary	2	1%
Architect 2001	2	1%
Other	24	17%
Don't Know	19	14%

Statistically Significant at the 90CL=7-12%

a. Which of the following, if any, are you using object modeling or analysis for? (Base: Total Professional developers)
 b. What object modeling or analysis tools are you using for software modeling? (Base: Total Professional developers doing software modeling)

MSSunII 000000010685

Database Modeling

Involved In Database Modeling

Jan 01
(794)

22%

Statistically Significant at the 90% CL (+/- 4%)

Database Modeling Tools Used

Jan 01
(181)

ERwin	14%
Visio	8
Power Designer	7
Rational Rose	5
Other Microsoft	5
ER/Studio	4
Other	23
Don't Know	36

Statistically Significant at the 90% CL (+/- 10%)

a. Which of the following, if any, are you using object modeling or analysis for...? (Base = Total Professional developers)

b. What object modeling or analysis tools are you using for database modeling? (Base = Total Professional developers using database modeling)

MSSunII 00000010686

Process Modeling

Involvement in Process Modeling

Jan 01
(794)

11%

Statistically Significant at the 90CL +/- 4%

Process Modeling Tools Used

Jan 01
(93)

Rational Rose

9%

Visio

8

BPwin

6

ERwin

6

Other Microsoft

3

Proprietary

2

Other

31

Don't Know

35

Statistically Significant at the 90CL +/- 14%

1. Which of the following, if any, are you using object modeling or analysis for? (Base: Total Professional developers.)

2. What object modeling or analysis tools are you using for process modeling? (Base: Total Professional developers doing process

modeling.)

MSSunII 00000010687

Change Configuration Management

Involved In Change Configuration Management

Jan 01
(794)
20%

Statistically Significant at the 95% CL - 99%

Change Configuration Management Tools

	Jan 01 (170)	Jan 02 (123)
Source Safe	42%	36%
Merant (Net)	18	15
PVCS	13	12
PVCS Dimensions	3	3
PVCS Version Manager	2	2
Star Team	3	3
Clear Case	3	3
Proprietary	3	3
Other	29	33
Don't Know	9	9

Statistically Significant at the 95% CL - 10%

1. Are you using any products for change configuration management? (Base: Total Professional developers)
 2. What products are you using for change configuration management? (Base: Total Professional developers doing change configuration management.)

MSSunII 00000010688

Enterprise Products Usage And Awareness

Jan01
(794)

	Usage	Awareness
SQL Server 2000	11%	70%
Exchange Server 2000	8	62
Internet Security and Acceleration Server 2000	1	28
Biz Talk Server 2000	1	27
Commerce Server 2000	1	27
Datacenter Server 2000	<1	24
Application Center 2000	1	23
Host Integration Server 2000	1	22

Statistically Significant at the 95CL +/- 4%

For each of the products I read, please tell me which of the following best describes your awareness and familiarity with that product. (you say, I am not aware of it, I know a little about the product, I know enough about it, I own but don't use it, or I am currently using it?)
(Total Professional developers)

MSSunII 00000010689

MS-DEPEX 005744

Systems Integrator Involvement

	Jan01	(312)	15%
Using System Integrator			

Statistically Significant at the 90CL (1 - 07%)

	(47)	34%
Average Percentage Of Applications Using Support For		

Statistically Significant at the 92CL (1 - 19%)

(Q242a) Thinking of the applications you are currently developing, are you using a Systems Integrator to help with installing and connecting hardware and networks for that application? (Base: MIS Professional developers)
 (Q242b) For what percentage of the applications you are currently developing do you use Systems Integrator support? (Base: MIS Professional developers who use System Integrator support)

MSSunII 00000010690

Open Source Development

	Jan01 (794)	Jan02 (794)
<i>Professional Developers Who Have Done Open Source Development In the Past 12 Months</i>	19%	23%

Statistically Significant at the 99CL - 4%

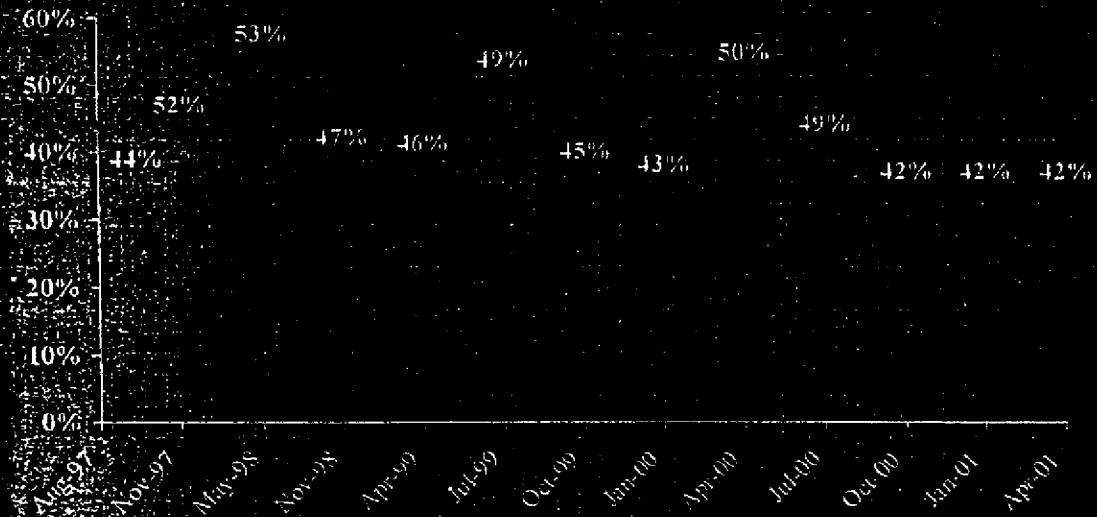
<i>Expect Open Source Development To...</i>	(162)	(162)
Increase	60%	53%
Decrease	6	10
Stay the Same	35	37

Statistically Significant at the 99CL - 10%

Q13: Have you done any open source development in the past 12 months? (Base: Total Professional developers 102418) Do you expect open source development to increase, decrease, or stay the same in the next 12 months? (Base: Total Professional developers who have done open source development in the past 12 months.)

MSSunII 00000010691

Create Office Solutions



Statistically Significant at the 95CL+/- 4%

Are you currently building applications or solutions using Microsoft Office or its components? (Base: Total professional developers)

MSSunII 000000010692

Office Solution Development

Office Solution Developers Create Access Run-Time Solution

Jan 01	Jan 02
(321)	(311)
53%	57%

Primary Tool Used To Create Latest Office Solution

	Jan 01	Jan 02
Any Microsoft	86%	84%
Access	48	55
Visual Basic	15	13
Excel	10	10
Word	4	4

Statistically Significant at the 90CL+/-0%

(Q14b - And, are any of the Office solutions you create Access run-time solutions that is to say Access database solutions that you distribute to using Access Run-time?) (Q14c - And in the last Office solution you created, what was the primary tool used to create that solution?) Professional developers creating Office solutions.)

MSSunII 00000010693

Primary Development Machine

When Development Machine Was Acquired

	Apr99 (761)	July99 (751)	Oct99 (750)	Jan00 (750)	Apr00 (757)	July00 (753)	Oct00 (771)	Jan01 (794)	Apr01 (793)
Within the past 6 months	29%	30%	28%	28%	26%	25%	24%	23%	23%
6 months to 1 year ago	19	25	27	24	25	23	24	23	23

Operating System On Machine

	Nov98 (764)	Apr99 (761)	July99 (751)	Oct99 (750)	Jan00 (750)	Apr00 (757)	July00 (753)	Oct00 (771)	Jan01 (794)	Apr01 (793)
Windows (Net)	77%	71%	72%	71%	72%	70%	74%	74%	76%	75%
UNIX (Net)	8	11	12	11	12	14	13	10	10	10
AS/400	5	8	7	9	7	7	9	9	7	7

Statistically Significant at the 99CL = 7-8%

(When did you acquire the machine you use for the majority of your programming?)
 (What operating system do you have on that machine?) (Base = Total Professional developers.)

MSSunII 00000010694

Number Of Personal Computers In Company

	Jan01 (794)	Apr01 (775)
1 - 4 PCs	13%	10%
5 - 25 PCs	28	25
26 - 249 PCs	20	22
250 - 999 PCs	14	15
1,000 - 4,999 PCs	9	12
5,000 or more PCs	8	8
Don't Know	9	8
Mean	3543	3783
Median	46	90

Statistically Significant at the 99CL+/- P.

What is the approximate number of personal computers, including portables, in your company worldwide at all locations?
Total Professional developers: _____

MSSunII 00000010695

Employees Writing Code By Company Size

	Jan01				
	Total	1	2-10	11-400	401+
	(794)	(119)	(245)	(177)	(240)
1	22%	98%	18%	15%	3%
2-10	49	0	80	59	40
11-50	12	0	1	17	21
51-250	8	0	0	7	18
251 or more	5	0	1	1	12
Don't Know	4	2	0	1	6
Mean	38	1	8	24	82
Median	7	1	6	7	18

Statistically Significant at the 90CL +/- 5%

Approximately how many people in your company, including all locations, write code? (Base: Total Professional developers)
Question was added during interviewing

MSSunII 00000010696

Project Development Team

Number Of People On Development Team (exclude self only)

	<u>May 98</u> (760)	<u>Nov 98</u> (764)	<u>Apr99</u> (761)	<u>Jul99</u> (751)	<u>Oct99</u> (750)	<u>Nov99</u> (753)
Mean	4	6	4	4	5	4
Median	3	3	3	3	3	3

Number Of People Who Write Code(exclude self only)

	<u>May 98</u> (760)	<u>Nov 98</u> (764)	<u>Apr99</u> (761)	<u>Jul99</u> (751)	<u>Oct99</u> (750)	<u>Nov99</u> (753)
Mean	3	5	3	3	3	3
Median	3	2	2	2	2	2

Statistically Significant at the 90CL+/- 4%

On a scale of how many people are on a product development team for any given application?
 (How many of those people write code?) (Base: Professional developers who develop on a team.)
 Question was added during interviewing

MSSunII 000000010697

Number Of Different Applications Developing

	<u>Mar97</u>	<u>Aug97</u>	<u>Nov97</u>	<u>May98</u>	<u>Nov98</u>	<u>Apr99</u>	<u>Jul99</u>	<u>Oct99</u>
	(752)	(757)	(777)	(760)	(761)	(761)	(751)	(750)
None	5%	8%	6%	4%	4%	4%	2%	1%
1	9	10	9	6	6	7	8	6
2	11	10	13	12	11	8	11	11
3 to 5	34	32	34	32	35	32	38	32
6 to 10	19	19	19	19	19	23	19	22
11 to 20	10	9	9	14	14	11	12	14
21 to 40	4	5	5	7	6	6	4	5
41 or more	7	6	4	6	5	5	5	5
Mean	20	14	14	14	11	15	12	13
Median	4	4	4	6	6	5	5	5

Statistically Significant at the 90CL +/- 4%

In the past 6 months, how many different software applications have you personally been involved in developing (including both new applications and upgrades or maintenance releases?) (Base: Total Professional developers)
(Question was added during interviewing)

MSSunII 000000010698

New/Upgrade Application Development

	<u>Mar97</u>	<u>Aug97</u>	<u>Nov97</u>	<u>May98</u>	<u>Nov98</u>	<u>Apr99</u> (707)	
<u>Number Of NEW Applications Created</u>							
Mean	10	7	9	7	5	6	
Median	2	3	3	3	3	2	
<u>Number of UPGRADE Applications Created</u>							
Mean	11	8	5	8	7	9	
Median	1	1	<1	3	3	3	
<u>Type Of Application Created Most Recently</u>							
New	na	na	na	na	na	56%	
Upgrade	na	na	na	na	na	44	

Statistically Significant at the 90CL = 1%

(Q45a) Of the applications you have been involved in developing in the past 6 months, how many of these were new applications, and how many were upgrades or maintenance releases for existing applications? (Q45b) What kind of application was created most recently - a new application, or an upgrade or maintenance release? (Base: Professional developers who have created an application in the past 6 months.)
 *Question was added during interviewing.

MSSunII 000000010699

Software Development Tool Used On Most Recent Application

	Total (707)	Apr99 New Upgrade(319)		Total (707)	New (319)
		Total (707)	New Upgrade(319)		
Microsoft	55%	62%	45%	55%	38%
Borland	7	7	6	7	6
IBM/Lotus	4	3	5	4	3
Oracle	3	3	2	3	2
Sybase	2	1	3	2	3
Sun	1	1	1	1	1

Statistical Significance at the 90% level

Q.3: Thinking about your most recent (NEW OR UPGRADE) application what software development tools did you use to create this (NEW OR UPGRADE) application? (Base: Professional Developers who have created an application in the past 6 months)
 * This question was added during interviewing.

MSSunII 000000010700

Primary Software Development Tool Used On Most Recent Application

	Apr99		Total (707)	New Upgrade(319)	Total (707)	New Upgrade (319)
	Total (707)	New Upgrade (319)				
Microsoft	48%	55%	40%	40%	48%	55%
Borland	5	7	4	4	5	7
IBM/Lotus	3	2	4	4	3	2
Oracle	2	2	1	1	2	2
Sybase	2	1	2	2	2	1
Sun	1	1	1	1	1	1

Statistically Significant at the 90CL - 7.5%

And, of the software tools you mentioned, which is the ONE tool you use most often? (Base: Professional developers who have created an application in the past 6 months)
 (Question was added during interviewing)

MSSunII 00000010701

Platforms Targeted For Most Recent Application (Aided)

Any Win
Win 2000
Win NT
Win NTW
Win NTS
Win 98
Win 95
Win MF
AS/400
Any UNIX
Linux
Solaris
Macintosh
DOS w/o Win
Novell Netware
Other

Statistically Significant at the 10CL+/-.67%

Thinking about your most recent (NEW OR UPGRADE) application to which of the following computer operating systems did you target (NEW OR UPGRADE application)? (Base: Professional developers who have created an application in the past 6 months.)
Question was added during interviewing.

MSSunII 000000010702

Platforms Targeted For Most Recent NEW Application (Aided)

	Mar97 (614)	Aug97 (614)	Nov97 (647)	Apr98 (406)	Jul98 (310)
Any Win	58%	75%	72%	81%	86%
Win 2000	na	na	na	na	na
Win NT	27	32	35	51	53
Win NTW	na	na	na	na	na
Win NTS	na	na	na	na	na
Win 98	na	na	na	na	na
Win 95	47	56	57	69	77
Win ME	na	na	na	na	na
AS/400	6	9	7	9	9
Any UNIX	10	17	14	19	22
EUnix	na	na	na	na	na
Solaris	na	na	na	na	na
Macintosh	3	6	4	7	7
DOS w/o Win	6	8	7	8	8
Novell Netware	3	8	8	14	15
Other	12	7	11	15	15

Statistically Significant at the 95CI - p < .05

Thinking about your most recent (NEW) application to which of the following computer operating systems did you target that (NEW) application? (Base: Professional developers who have created an application in the past 6 months)
 Question was added during interviewing

MSSun11 00000010703

Specialty Tool Used On Most Recent Application

	<u>Apr98</u>	<u>Apr99</u>	<u>Apr 00</u>
	(550)	(707)	(603)
Source code/version control tools	35%	38%	35%
Build management tools	14	15	12
Software deployment tools	na	56	47
Performance profiling tools	14	16	18
Bug tracking tools	25	27	23
Application architecture design modeling tools	19	11	11
Requirements tracking tools	na	7	10
CASE tools	10	8	3
Test case automation tools	8	6	3

Statistically Significant at the 99CL=95%

For your most recent (INSERT NEW OR UPGRADE) application which, if any, of the following did you use? (Base: Professional engineers who have created an application in the past 6 months.)
 Question was added during interviewing.

MSSunII 000000010704

Specialty Tool Used On Most Recent Application

	Total (707)	Apr92		Total (1000)	New (410)	Upgrade (590)
		New (388)	Upgrade (319)			
Source code/version control tools	38%	39%	36%	35%	37%	33%
Build management tools	15	16	13	15	14	16
Software deployment tools	56	60	51	27	37	20
Performance profiling tools	16	17	15	13	16	15
Bug tracking tools	27	25	29	14	25	11
Application architecture design/modeling tools	11	12	10	11	11	9
Requirements tracking tools	7	8	6	10	12	8
CASE tools	8	9	8	10	12	8
Test case automation tools	6	6	7	10	9	11

Statistics Significant at the 90CL+/ - 5%

For your most recent (INSERT NEW OR UPGRADE) application which, if any, of the following did you use? (Base: Professional Programmers who have created an application in the past 12 months)
 Question was added during interviewing.

MSSunII 00000010705

Number Of End Users Using Most Recent Application

	<u>Mar97</u> (752)	<u>Aug 97</u> (757)	<u>Nov97</u> (777)	<u>Apr99</u> (707)
None	10%	5%	15%	9%
1	9	5	8	10
2 to 10	22	22	19	20
11 to 25	13	12	13	11
26 to 50	12	11	12	11
51 to 250	15	17	15	16
251 to 500	5	7	5	5
501 to 1000	4	4	2	3
1001 to 5000	3	3	4	5
5001 to 10,000	1	1	2	2
10,001 or more	2	1	2	2
Mean	1385	760	1355	3521
Median	21	29	20	20

Statistically Significant at the 5% CL (p < .05)

(Q4) Thinking of your most recently-developed application, to how many end users has this application been sold or distributed?
 (Professional developers who have created an application in the past 6 months)
 (System was added during interviewing.)

MSSunII 00000010706

Number Of End Users Using Most Recent Application

	Total (707)	Am99 New (388)	Upgrade (319)	None	1-10	11-25	26-50	51-250	251-500	501-1000	1001-5000	5001-10,000	10,001 or more
None	9%	9%	9%	17	17	11	13	13	7	2	5	2	2
1-10	10	12	8	17	17	11	13	13	7	2	5	2	2
11-25	20	22	17	17	17	11	13	13	7	2	5	2	2
26-50	11	13	8	17	17	11	13	13	7	2	5	2	2
51-250	11	9	13	17	17	11	13	13	7	2	5	2	2
251-500	16	12	20	17	17	11	13	13	7	2	5	2	2
501-1000	5	4	7	17	17	11	13	13	7	2	5	2	2
1001-5000	1	2	1	17	17	11	13	13	7	2	5	2	2
5001-10,000	5	5	5	17	17	11	13	13	7	2	5	2	2
10,001 or more	2	2	2	17	17	11	13	13	7	2	5	2	2
Mean	3521	4934	1758	17	17	11	13	13	7	2	5	2	2
Median	20	15	30	17	17	11	13	13	7	2	5	2	2

Statistically Significant at the 90CL+/- 0%

Thinking of your most recently-developed application, to how many end users has this application been sold or distributed?
 (Professional developers who have created an application in the past 6 months)
 Question was added during interviewing.

MSSunII 00000010707

Critical Impact Of Most Recent Application

	Total	New	Upgrade	Total	New	Upgrade
	(707)	(388)	(319)	(707)	(388)	(319)
<i>Impact Of Most Recent Application</i>						
Top 3	20%	18%	22%	20%	18%	22%
Bottom 3	53	55	51	53	55	51
No Impact	24	25	22	24	25	22
<i>Highest Rating Of Any Application</i>						
	(556)	(311)	(245)	(556)	(311)	(245)
Top 3	38%	42%	33%	38%	42%	33%
Bottom 3	27	26	29	27	26	29
No Impact	10	9	12	10	9	12

Statistically Significant at the 99CL-97 - 6%

(Q45): If you had a recently created application goes down, or is unavailable to users for an hour, how will it impact your company or your client's company as a whole, specifically in terms of resulting in a loss of revenue, or an inability to conduct core business operations? Professional developers who have created an application in the past 6 months (Q45): What is the highest rating you would give for any application you've created in the past 12 months? (Base: Most recent application was not a mission critical app)
 Question was added during interviewing

MSSun.II 000000010708

Number Of Servers Need To Run Most Recent Application

	Apr99			Total (707)	Mean (1.6)	Median (1)
	Total (707)	New (388)	Upgrade (319)			
0	12%	13%	11%	85	0.0	0.0
1	70	66	74	210	1.0	1.0
2 to 5	14	17	11	42	2.5	2.5
6 to 10	1	1	0	2	6.5	6.5
More than 10	1	1	0	2	10.5	10.5
Mean	4	6	1			
Median	1	1	1			
Don't Know	2	2	2	6		

Statistically Significant at the 99CL-1-6%

As currently developed, how many servers are needed to run this application? (Base: Professional developers who have created an application in the past 6 months.)
 Questions as added during interviewing.

MSSunII 00000010709

Length Of Development Time For Most Recent Application

Less than 1 Month

1 Month

2 Months

3 Months

4 - 6 Months

7 - 12 Months

Over 1 Year

Mean (In Months)

Median (In Months)

Don't Know

Statistically Significant at the 50CL 0.0006

(Q: How long was the development cycle for our (NEW OR UPGRADE) application, in months? (Base: Professional developers who created an application in the past 6 months)
Question was added during interviewing

MSSun11 00000010710

MS-DEPEX 005765

Mean Stability Ratings

	<u>May 98</u>	<u>Nov 98</u>	<u>Jul 99</u>	<u>Apr 01</u>
Borland Delphi	7.9	7.6	7.8	8.0
Allaire Cold Fusion	na	na	na	8.0
Borland C++ or C++ Builder	na	na	na	7.6
Visual C++	7.1	7.2	7.3	7.6
Visual Basic	7.3	7.2	7.1	7.4
Visual Studio	6.8	7.0	7.0	7.4
Oracle Enterprise Suite	na	na	na	7.4
Java	5.9	6.4	6.3	7.3
Oracle Developer 2000	7.4	6.6	6.8	7.2
Visual Interdev	na	na	na	7.2
Access	7.0	6.9	7.0	6.8

(Q17) You mentioned earlier that you use (INSERT PRODUCT). Thinking of that tool's "stability", how satisfied would you say you are, on a nine-point scale (1-9)? (Base: Total Professional developers who use the tool. [Aided or Unaided])
 Responses vary with each tool.

MSSunII 00000010711

Mean Quality Of Documentation Ratings

	<u>May98</u>	<u>Nov98</u>	<u>Jul99</u>	<u>Apr01</u>
Borland Delphi	6.6	6.8	6.7	7.5
Allaire Cold Fusion	na	na	na	7.3
Visual Basic	6.6	6.5	6.4	7.1
Visual Studio	6.2	6.4	6.7	7.1
Java	5.9	6.2	5.9	7.1
Borland C++ or C++ Builder	na	na	na	6.9
Oracle Enterprise Suite	na	na	na	6.9
Visual C++	6.2	6.3	6.5	6.8
Visual Interdev	na	na	na	6.6
Oracle Developer 2000	6.8	6.4	6.1	6.4
Access	6.3	6.2	6.4	6.2

(Q38: As you mentioned earlier that you use (INSERT PRODUCT). Thinking of that tool's "quality of documentation", how satisfied would you be? Using a nine-point scale, ...?) (Base: Total Professional developers who use the tool [Aided or Unaided].) (See survey with each tool.)

MSSunII 00000010712

Mean Support Ratings

	<u>May98</u>	<u>Nov98</u>	<u>Jul99</u>	<u>Apr01</u>
Borland Delphi	6.4	6.5	6.5	7.1
Borland C++ or C++ Builder	na	na	na	6.8
Allaire Cold Fusion	na	na	na	6.8
Java	5.7	5.7	5.4	6.8
Visual Basic	6.0	6.1	6.0	6.6
Visual Studio	5.8	5.8	6.0	6.6
Visual Interdev	na	na	na	6.4
Oracle Enterprise Suite	na	na	na	6.3
Visual C++	5.6	5.8	5.6	6.2
Oracle Developer 2000	6.5	6.5	5.8	6.1
Access	5.8	5.9	5.9	5.7

(Q39) You mentioned earlier that you use (INSERT PRODUCT). Thinking of that tool's "support", how satisfied would you say you are, on a nine-point scale (1-7)? (Base: Total Professional developers who use the tool [Aided or Unaided])
na = Not Applicable to each tool.

MSSunII 000000010713

Mean Feature Set Ratings

	<u>May98</u>	<u>Nov98</u>	<u>Jul99</u>	<u>Apr01</u>
Borland Delphi	7.8	7.6	7.8	8.2
Allaire Cold Fusion	na	na	na	7.5
Visual C++	6.8	7.0	7.3	7.4
Visual Basic	7.1	7.2	7.1	7.4
Visual Studio	6.7	7.2	7.3	7.4
Oracle Enterprise Suite	na	na	na	7.4
Java	6.1	6.6	6.4	7.4
Oracle Developer 2000	7.1	7.0	6.5	7.3
Borland C++ or C++ Builder	na	na	na	7.2
Visual Interdev	na	na	na	7.0
Access	6.9	6.7	6.8	6.8

(Q10) You mentioned earlier that you use (INSERT PRODUCT). Thinking of that tool's "feature set", how satisfied would you say you are, on a nine-point scale (1-9)? (Base: Total Professional developers who use the tool [Aided or Unaided])
 (Notes vary with each tool.)

MSSunII 00000010714

Mean Availability Of Resources Ratings

	<u>May98</u>	<u>Nov98</u>	<u>Jul99</u>	<u>Apr01</u>
Borland Delphi	6.9	6.9	7.3	7.8
Visual Basic	7.3	7.3	7.2	7.6
Visual Studio	6.8	6.9	7.3	7.5
Java	6.6	6.7	6.8	7.5
Visual C++	6.8	7.1	7.2	7.4
Oracle Enterprise Suite	na	na	na	7.1
Allaire Cold Fusion	na	na	na	7.1
Access	6.8	6.7	6.8	7.0
Visual Interdev	na	na	na	6.9
Oracle Developer 2000	6.6	7.1	6.4	6.7
Borland C++ or C++ Builder	na	na	na	6.6

(C) You mentioned earlier that you use (INSERT PRODUCT). Having of that tool's "availability of resources", how satisfied would you be, using a nine-point scale: (1) (Base: Total Professional developers who use the tool [Aided or Unaided])
 (Note: Sample sizes vary with each tool.)

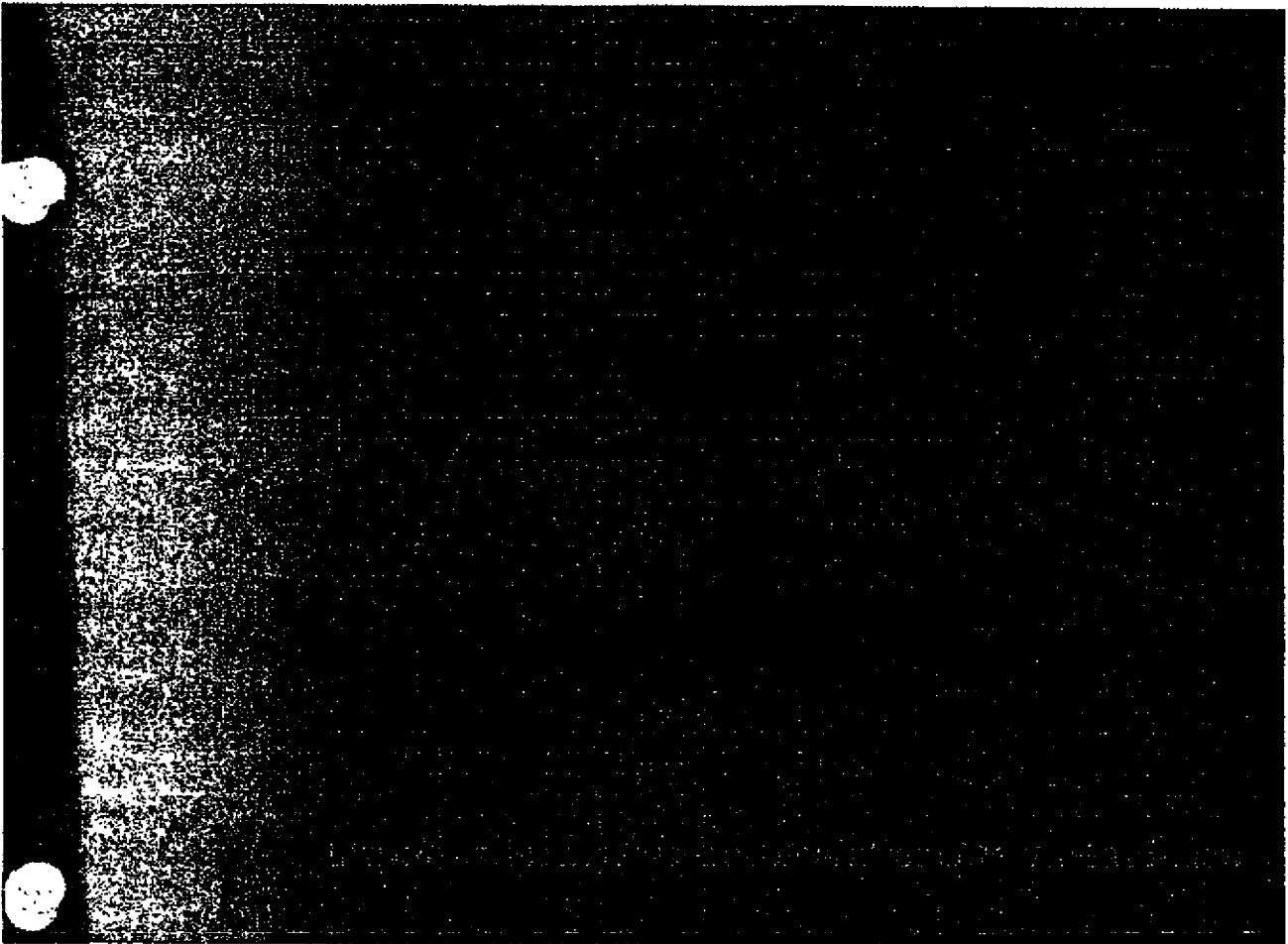
MSSunII 000000010715

Average Crashes Per Week

	<u>May98</u>	<u>Nov98</u>	<u>Jul99</u>	<u>Oct00</u>	<u>Apr01</u>
Office/ODE	1.6	2.0	1.8	7.5	2.0
Access	9.9	3.0	1.8	2.2	1.7
Visual Basic	2.1	2.5	3.0	4.5	1.4
Visual Interdev	2.6	1.2	2.8	1.9	1.2
Visual Studio	4.7	1.9	2.9	3.6	1.1
Visual C++	1.6	2.3	1.7	2.2	1.0

(Q17) You mentioned earlier that you use [INSERT PRODUCT]. On average how many times per week does this tool crash? (Base = Total Professional developers who use the tool) (Base = Total Professional developers who use the tool [Unalder])
 Crashes vary with each tool.

MSSun11 000000010716



MS6un11 000000010717

MS-DEPEX 005772