

INPUT®

**INFORMATION SERVICES
VENDOR
FINANCIAL WATCH**

**QUARTER 1, 1987
PERFORMANCE**

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VENDOR FINANCIAL WATCH

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I INTRODUCTION

- The Vendor Financial Watch (VFW) is a quarterly INPUT comparison of up-to-date financial reports of public information processing/network services, professional services, software products, and turnkey systems companies, both for comparative purposes (vendor to vendor) and to enable participants in a given sector of the information services market to monitor the overall growth of their sector.
- Each sector of the information services market is analyzed separately, from both a revenue and a net income standpoint. The growth trends are analyzed in the last three columns of each data sheet in increasing calendar sequence.
- Each information services market sector is also commented on separately, highlighting individual company successes and failures and the trend in the market sector as a whole. Footnotes emphasizing extraordinary quarterly results are explained at the end of each section.
- The summary analysis at the back of the VFW report analyzes the comparative trends between sectors and comments on the trend of the total information services market. This section is particularly important since it identifies growth patterns very clearly.
- This quarterly Vendor Financial Watch report is intended as a planning tool for market planning executives and as an information newsletter for company executives. The data contained herein are extracted from published sources, annual reports, and 10-K reports, supplemented by INPUT's estimates (denoted by a * following a value) where data was not yet available from the company.
- This issue covers 136 information services vendors.



II DATA REPORTED

- The VFW report is divided into two sections:
 - Information services delivery mode analysis.
 - Total information services industry financial performance.
- Financial data provided includes each vendor's revenue and net income, reported on a calendar quarterly basis, and comparisons on performance provided for:
 - 1986 versus 1985 (year on year).
 - Last nine months' results compared to the year earlier period.
 - Last six months' results compared to the year earlier period.
- Fiscal quarterly revenue is approximated to calendar quarterly revenue as follows:
 - Quarterly revenue reported as of February, March, and April is reported as first quarter.
 - Quarterly revenue reported as of May, June, and July is reported as second quarter.
 - Quarterly revenue reported as of August, September, and October is reported as third quarter.
 - Quarterly revenue reported as of November, December, and January is reported as fourth quarter.
- Fiscal year-end dates are provided in column 2 so that actual quarters for each company can be identified. Values that are followed by an asterisk (*) are INPUT estimates, pending release of the final results from the vendor. These are included so that the overall totals for each sector may be as complete as possible.

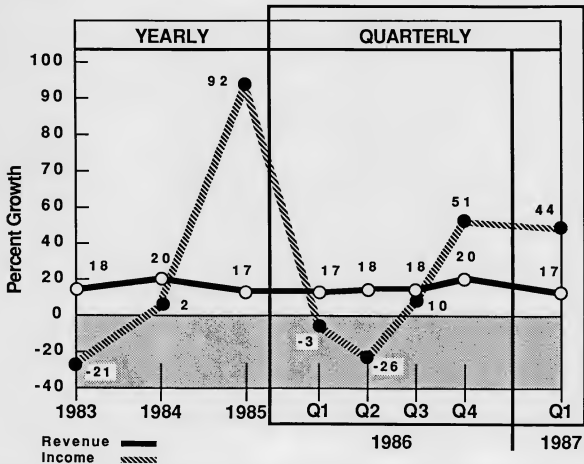


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PUBLIC PROCESSING/NETWORK SERVICES VENDORS





III PROCESSING/NETWORK SERVICES TRENDS ANALYSIS

- The processing/network services sector continued steady growth during the first quarter, demonstrating a 17% increase over first quarter 1987. The 1986 annual growth rate was 18%.
- Note that our list of public processing/network services companies now includes Financial Data Planning (FDP) and Total System Services.
- The highest first quarter revenue growth rates were exhibited by Certified Collateral (86%), CCX Network (85%), First Financial Management (83%), Worlco Data Systems (78%), and Comp-U-Card (68%).
- Companies with the most significant drops in revenue during first quarter were Hale Systems (-22%), Epsilon (-15%), Cycare Systems (-13%), and FDP (-11%).
- First quarter net income results for the processing/network services sector showed a 44% increase over first quarter 1986.
 - Major contributors to the improvement were ADP, Anacomp, COMNET, Comp-U-Card, DST, and Telerate.
- Companies that experienced a substantial decrease in net income during the period included Cycare, FDP, Information Resources, and Worlco Data Systems.
- For the quarter, the most profitable companies in this sector were SCS/Compute (32%), Hale Systems (25%), Telerate (21%), COMNET (17%), and Comdata Network (16%).
 - SCS/Compute's results are footnoted at the end of this section.
- Profit margin for the group improved during first quarter 1987, reaching 11%. Profits for the year 1986 were 8% of revenue.
- The total sample was 42 public processing/network services companies.



REVENUES OF PUBLIC PROCESSING/NETWORK SERVICES COMPANIES

COMPANY NAME	FISCAL YEAR END	REVENUE (\$ Thousands)										GROWTH (Percent)		
		1985				1986				1987	1986/ %(+/-)	LAST 3 ROLLING QUARTERS	LAST 2 ROLLING QUARTERS	
		Q2	Q3	Q4	TOTAL	Q1	Q2	Q3	Q4	TOTAL	Q1			
ADP	06-30	266310	270710	290258	1100806	324259	318571	321110	334162	1298102	373700	18	16	15
ANACOMP	09-30	32183	27620	28283	119868	30021	27896	22720	26998	107635	31379	-10	-6	0
CCX NETWORK	12-31	3969	3899	4641	15828	4530	5047	5068	9221 ¹	23866	8398	51	74	92
CERT. COLLAT.	12-31	1592	1913	2404	7268	2909	3052	3631	4188	13780	5414	90	83	81
CITIZENS FIN.	09-30	2551	2494	2735	10463	2773	2662	2731	2917	11083	2992	6	8	7
COMDATA NTKW	12-31	23842	23275	22242	91759	22149	21668	21752	20984	86553	25180	-6	0	4
COMNET	03-31	8726	9056	8952	35534	10469	9165	10170	10188	39992	11231	13	11	10
COMPUCARD	01-31	11263	23302	24104	77950	26842	35208	37801	41908	141759	45153	82	68	71
COMPUTER LAN	12-31	24770	17798	19574	98729	33498 ²	20700	18288	20919	93405	33352	-5	2	2
COMPUTER RES	08-31	1789	1837	1936	7590	2559	2306	2345	2335	9545	2530	26	14	8
COMPUTER SER	02-28	2717	2766	2866	10953	3006	2813	3034	2926	11779	3279	8	7	6
COMSHARE	06-30	16010	16879	18179	65914	16920	16894	16808	17389	68011	17402	3	-1	-1
CONCORD COMP	09-30	2264	2820	2840	9574	2974	3336	3664	4417	14391	4373	50	44	51
CYCARD	12-31	11611	13281	14361	49191	12800	14695	14347	15344	57186	11183	16	1	-2
DST SYSTEMS	12-31	18941	18401	20170	74942	22868	24716	25715	26901	100200	31889	34	38	37
DYATRON	12-31	9574	10568	10369	40103	7719	7710	8389	9285	33103	8291	-17	-9	-3
ENDATA	12-31	9165	8858	9808	37137	9005	9595	9266	10424	38390	9936	3	7	8
EPSILON	05-31	14020	11227	13410	50729	13686	14896	11805	13121	53508	11680	5	-4	-8
FDP	11-30	3561	4574	4663	16039	3367	3866	3087	3149	13469	2983	-16	-27	-24
FIRST DATA MGT	12-31	9281	9054	8609	36218	8035	8174	8697	8104	33010	12152	-9	13	22
FIRST FIN MGT	12-31	11723	13160	16944	52355	14463	15158	15469	24604 ³	69694	26502	33	49	63
GTECH	02-25	13163	12717	27092	75008	26883 ⁴	17900 ⁵	26293	60374 ⁶	131450	25011	75	67	58
GENESEE	05-31	402	222	260	1235	262	284	253	354	1153	249	-7	15	16
HALE SYSTEMS	03-31	1458	1383	1555	6150	1375	1102	1127	786	4390	1079	-29	-31	-36
INFO RESOURCES	12-31	18332	18261	21007	75058	21319	21773	23824	26718	93634	26030	25	26	25
* KEYDATA	07-31	987	912	1279	4285	950	1049	683	646	3328	650	-22	-37	-42
LCS INDUST.	09-30	4936	8939	8613	27069	9201	7981	10529	8883	36594	9193	35	7	1
M/A/R/C	03-31	11093	11874	16884	48293	12995	12183	13447	15800	54425	12679	13	0	-5
NATL DATA	05-31	36103	38136	37067	147882	39056	37790	37607	39263	153716	39663	4	2	8
NETWORK D.P.	03-31	763	694	780	2994	763	700	814	895	3172	857	6	15	14
PAYCHEX	05-31	10936	11700	12077	45213	13131	13766	14958	15328	57183	16594	26	27	27
PAY-FONE	06-30	1614	1686	1980	6993	1581	1707	1746	1998	7032	1568	1	1	0
SCICOM DATA	06-30	3669	3030	3622	14017	3268	3687	3356	3890	14201	3279	1	6	4
SCS/COMPUTE	04-30	1132	1157	1816	13912	11157	1283	1425	1930	15795	13380 ⁷	14	18	18
SEI	12-31	26984	26890	26929	105832	28683	30353	27571	31933	118540	29947	12	8	11
SHARED MED.	12-31	76876	80292	82332	312208	87281	92494	96418	98687	374880	96630	20	17	15
SYSTEMATICS	05-31	26893	28235	30908	110479	31627	31830	31348	34184	128989	37373	17	15	15
TELECREDIT	04-30	22743	23233	29769	97384	26567	27765	29945	35070	119347	32096	23	22	19
TELERATE	09-30	40661	41757	44986	164330	50068	54300	61001	66908	232277	72767	43	47	47
TOTAL SYS SVC	12-31	6464	7311	8504	28354	8367	8964	9060	9962	36353	9729	28	19	17
TSR	05-31	4893	4569	4844	18726	4794	5299	6037	6351	22481	5852	20	28	27
WORLCO DATA	03-31	1634	2270	2088	7306	1788	2326	2658	2717	9489	3191	30	39	52
TOTALS		797598	818760	891720	3321678	955968	942664	966097	1072161	3936890	1117496	19	18	19

* INPUT ESTIMATE

NET INCOME OF PUBLIC PROCESSING/NETWORK SERVICES COMPANIES

		NET AFTER TAX INCOME (\$ Thousands)										GROWTH (Percent)		
COMPANY NAME	FISCAL YEAR END	1985				1986					1987	1986/ 1985 %(+/-)	LAST 3 ROLLING QUARTRS	LAST 2 ROLLING QUARTRS
		Q2	Q3	Q4	TOTAL	Q1	Q2	Q3	Q4	TOTAL				
ADP	06-30	26178	18685	24590	95593	31860	30960	22690	30010	115520	39300	21	22	23
ANACOMP	09-30	666	745	99	7977	487	398	3089	2824	6798	4512	-15	683	1152
CCX NETWORK	12-31	352	418	448	1390	333	463	543	512	1851	401	33	21	17
CERT. COLLAT.	12-31	248	234	831	1545	475	466	586	679	2206	733	43	30	8
CITIZENS FIN.	09-30	307	297	351	1355	312	307	310	339	1268	421	-6	11	15
COMDATA NTWK	12-31	3092	3353	2877	12722	3819	2080	3040	3264	12203	3954	-4	2	8
COMNET	03-31	56	115	-1591	-907	7	136	251	303	697	1942 ^B	177	270	242
COMPUCARD	01-31	786	1542	1299	4499	1342	1988	2451	2723	8504	3309	89	103	128
COMPUTER LAN	12-31	1784	-1785	-2516 ⁹	4647	5097	-1334	-513	-3035	215	4344	-95	0	-49
COMPUTER RES	08-31	-33	-27	21 ¹⁰	461	153	92	-15	82	312	218	661	94	72
COMPUTER SER	02-28	220	229	241	875	335	190	276	281	1082	329	24	10	6
COMSHARE	06-30	350	720	721	2368	-229	130	503	656	1060	444	-55	32	124
CONCORD COMP	09-30	-528	-214	2	-930	2	4	22	177	205	178	122	280	8775
CYCARE	12-31	309	993	1281	2864	715	789	697	665	2866	213	0	-47	-56
DST SYSTEMS	12-31	2352	2089	1298	8268	1840	2709	3148	5492 ¹¹	13189	4298	60	148	212
DYATRON	12-31	301	445	1158 ¹²	2259	191	26 ¹³	246	1456	1919	515	-15	24	46
ENDATA	12-31	-354	-219	-5597	-6971 ¹⁴	828	832	493	301	2454	660	135	129	120
EPSILON	05-31	396	-338	158	359	37	-1108 ¹⁵	87	320	-664	-86	-285	324	20
FDP	11-30	279	433	550	1355	114	84	-22	133	309	-172	-77	-106	-106
FIRST DATA MGT	12-31	1777	1551	740	5889	-293	-505	-188	-1810	-2796 ¹⁶	1178	-147	-141	-241
FIRST FIN MGT	12-31	609	521	602	2179	1033	1428	1443	1619	5523	1919	153	131	116
GETECH	02-25	207	457	1863	5250	-554 ¹⁷	-839 ¹⁸	174	7566 ¹⁹	6347	941	21	392	550
GENESEE	05-31	22	4	14	67	25	29	16	27	97	8	45	19	-10
HALE SYSTEMS	03-31	-254	-160	-111	-312	-4504 ²⁰	-205	-180	-498	-5387	270	-1627	91	95
INFO RESOURCES	12-31	2087	1971	2938	10185	2200	2500	2637	2665	10002	1420	-2	-5	-20
* KEYDATA	07-31	64	-309	176	-51	-85	49	-285	-183	-504	-200	-888	-206	-521
LCS INDUST.	09-30	407	435	377	1541	382	-100	593	310	1185	372	-23	7	-10
M/A/R/C	03-31	686	698	791	2653	610	427	325	597	1959	779	-26	-19	-2
NATL DATA	05-31	2340	2539	2635	9734	2971	-1388 ²¹	3113	3406	8102	3516	-17	23	23
NETWORK D.P.	03-31	72	-120	51	-46	23	-48	-14	80	41	52	189	357	78
PAYCHEX	05-31	905	1017	959	3489	875	1319	1472	959	4625	1109	33	24	13
PAY-FONE	06-30	87	-17	138	141	80	104	198	328	710	-79	404	122	14
SCICOM DATA	06-30	192	1	41	418	-270 ²²	142	194	277	343	190	-18	390	304
SCS/COMPUTE	04-30	-1006	-1062	-969	163	4344	-857	-874	-890	1723	4278	957	9	0
SEI	12-31	955	1016	1087	3943	1236	916	-10189 ²³	940	-7097	1701	-280	-326	14
SHARED MED.	12-31	10050	10868	11471	41748	11531	-7350 ²⁴	13533	14254	31968	12847	-23	20	18
SYSTEMATICS	05-31	2632	2522	2841	10225	2981	3019	1765	2490	10255	3588	0	-6	4
TELECREDIT	04-30	870	783	2224	3942	1413	1414	2067	3454	8348	2563	112	83	65
TELERATE	09-30	8227	8335	8444	33663	9181	10053	11073	12915	43222	15492	28	52	61
TOTAL SYS SVC	12-31	853	1167	1547	4338	1041	1173	1297	1727	5238	1356	21	17	19
TSR	05-31	388	281	222	1481	107	37	186	206	536	161	-64	-9	12
WORLCO DATA	03-31	-271	112	247	-1744	357	57	103	152	669	18	138	-62	-72
TOTALS		68660	60325	64549	278205	82402	50587	66341	97773	297103	118992	7	37	48

* INPUT ESTIMATE

42 COMPANIES

FOOTNOTES

- 1 CCX Network's revenue includes the acquisitions of BSA (NJ) and Southwark Computer Services (London, England).
- 2 Computer Language's seasonal results are skewed by income tax business.
- 3 First Financial Management's increase in revenue reflected acquisitions of American Information Services, American Data Technology, and Mid-Continent Computer Services.
- 4 GTECH realized sales of Ohio system in fiscal 1986.
- 5 GTECH's revenue decrease from previous quarters was a result of fewer terminal sales and lower services revenue from the Oregon lottery contract.
- 6 GTECH's improvement in operating results was attributed to the sale of a major lottery network to the state of California.
- 7 SCS/Compute generates most of its revenue and all of its profits during the fourth quarter of its fiscal year.
- 8 COMNET's net income included a tax benefit of \$331,000 resulting from tax loss carryforwards.
- 9 See Footnote 2.
- 10 COMNET's loss represents nonrecurring charges and balance sheet write-downs in goodwill associated with an acquisition made several years earlier.
- 11 DST Systems' income included a pre-tax gain of \$3.65 million from the sale of partnership interests.
- 12 Dyatron's results reflected a net gain on the sale of Dyatron Australia.
- 13 Dyatron's net income results for the past two quarters were attributed to internal training costs for new IBM System/36 software.
- 14 Endata's results represent a loss on discontinued operations from the divestiture of turnkey systems and software products.
- 15 Epsilon's net loss reflects the recognition of costs associated with the termination of the company's role as servicing agent for Pan American's World Pass program.
- 16 First Data Management reported that 1986 losses were the result of accelerated costs associated with the implementation of its new delivery system, ESCAPE 2000, and lower transaction volumes due to economic conditions in the marketplace. In addition, fourth quarter loss reflected the expenses associated with its stock offering.



- 17 GTECH's loss included a \$1.2 million write-off of its investment in Videoway.
- 18 GTECH's loss was the result of lower product sales and lottery contract services revenue as well as higher selling, general, and administrative expenses and interest expenses.
- 19 See Footnote 7.
- 20 Hale Systems' losses for fiscal 1986 included a write-down of computer equipment and related software products as well as a nonrecurring charge associated with a litigation involving one of its subsidiaries.
- 21 National Data's net loss includes a write-off of its discontinued Rapidata time-sharing operation.
- 22 Scientific Computer's loss involved a write-off of its investment in a small software company. The write-off totaled approximately \$500,000 for the fiscal year; \$350,000 was taken third quarter fiscal 1986.
- 23 SEI's loss included a one-time charge to operations consisting primarily of capitalized software costs and goodwill that were originally recorded as part of the 1982 acquisition of TMI Systems and the 1984 acquisition of the Financial Services Group of Index Systems.
- 24 Shared Medical Systems' loss was due to a write-off of its investments related to Shared Medical Systems International's (SMSI) Japanese subsidiary Ni Hon. SMSI has discontinued the Japanese operation.



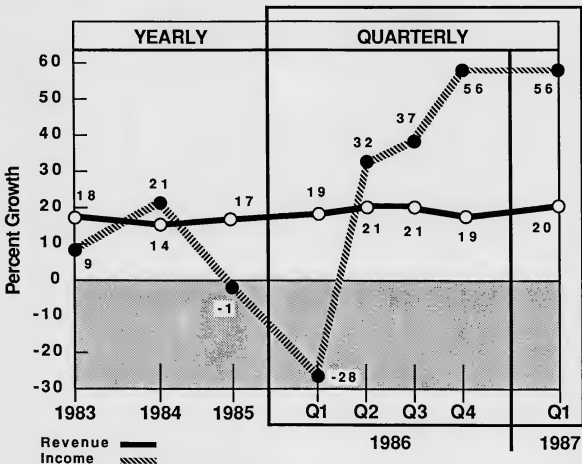


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IV PROFESSIONAL SERVICES TRENDS ANALYSIS

- The professional services sector has continued to grow at approximately the same rate each quarter for the past two years. Revenue grew 20% from first quarter 1986 to first quarter 1987.
- Note that Teknowledge and Telos have been added to our list of public professional services companies. Auxton Computer Enterprises was removed due to its acquisition by Cincinnati Bell. Syscon was removed due to its acquisition by Harnischfeger Industries.
- Companies in this sector demonstrating the highest first quarter growth rates were NSA (42%), AGS Computers (39%), Analysts International (32%), and BBN (31%).
- Companies demonstrating a significant decrease in revenues during first quarter 1987 were Rand Information Systems (-39%) and Scientific Systems Services (-21%).
- Net income for the professional services sector grew 56% during first quarter 1987. The 1986 annual growth rate for this group of companies was 22%.
- Companies exhibiting the highest first quarter growth in net income were C.A.C.I. (518%), Telow (476%), NSA (365%), Analysts International (227%), and Scientific Systems Services (212%).
- Professional services vendors with the most significant drop in net incomes during first quarter were Rand Information Systems, Softech, Teknowledge, Logicon, and Intermetrics.
- Professional services vendors achieving the highest profitability during first quarter were 202 Data Systems (21%) and Advanced Systems (13%). Profits averaged 3% of revenues for the group during both first quarter 1987 and the year of 1986.
- The total sample was 26 public professional services companies.

REVENUES OF PUBLIC PROFESSIONAL SERVICES COMPANIES

COMPANY FISCAL NAME YEAR END		REVENUE (\$ Thousands)										GROWTH (Percent)			
		1985					1986					1987	1986/ LAST 3		LAST 2
		Q2	Q3	Q4	TOTAL	Q1	Q2	Q3	Q4	TOTAL	Q1	%(+/-)	QUARTRS	QUARTRS	QUARTRS
202 DATA SYS	10-31	562	487	494	2032	503	446	2287	569	3805	453	87	123	3	
ACT	12-31	3526	4050	4064	14676	3452	3979	4392	3356	15179	3238	3	-5	-12	
ADV. SYSTEMS	10-31	11254	18175	12973	53931	13151	14628	22492	14003	64274	16014	19	19	15	
AGS COMPUTER	12-31	70327	67617	75496	279182	82571	89290	95398	114445 ¹	381704	114895	37	44	45	
AM. MGT. SYS	12-31	27260	26750	31560	112217	29663	32798	35943	37117	135521	38089	21	26	23	
ANLYSTS INT.	06-30	12549	11792	11228	47523	11586	12126	12048	13862	49622	15296	4	19	28	
BDM INTERN'L	12-31	62021	63727	73786	250298	70663	79815	89535	82185	322198	80043	29	21	12	
BBN	06-30	41614	39211	44511	160630	45003	49324	48631	53653	196611	59100	22	25	26	
C.A.C.I.	06-30	23990	22818	24335	96104	24912	26635	26097	29199	106843	29738	11	18	20	
COMP DATA	06-30	13097	13828	13813	53404	13684	13245	11839	12995	51763	13258	-3	-8	-5	
COMP HORIZ	02-28	12507	12605	12901	49986	12879	14151	14350	14633	56013	16400	12	18	20	
CSC	04-01	187565	209286	204949	800687	236787	233998	249428	257489	977702	290500	22	22	24	
COMP TASK GR	12-31	28166	29565	31945	115711	32711	35463	36518	38738	143430	39328	24	22	21	
DATA ARCHTS	11-30	5347	5415	5919	20945	5883	6650	6740	7812	27085	7492	29	28	30	
DYNAMICS RES	12-25	14242	14448	20916	64239	17160	17819	17803	22410	75192	18363	17	12	7	
INTERMETRICS	02-28	11324	12273	10123	44307	10184	11991	12714	11622	46511	11420	5	10	13	
KEANE	12-31	10341	9462	9947	39701	9821	9593	10438	10500	40352	10137	2	6	4	
LOGICON	03-31	44100	50277	50438	188504	53587	50242	51598	49120	204547	53813	9	0	-1	
NSA	09-30	1620	1629	1522	6156	1465	1795	2096	2087	7443	2078	21	36	39	
RAND INFO.	02-28	2611	2600	4600	12735	2641	1900	1557	2443	8541	1620	-33	-43	-44	
SCI SYS SVC	12-31	1608 ²	8584	5601	22512	5126	5362	5278	4717	20483	4060	-9	-27	-18	
SOFTTECH	05-31	10391	9520	11096	40005	11327	13205	10691	10537	45760	9920	14	-2	-9	
SYST. & COMP.	09-30	11874	10792	10693	45871	10469	10137	10224	10110	40940	9082	-11	-8	-9	
TECHNALYSIS	12-31	3142	3176	3299	12745	3077	3213	3517	3719	13526	3564	6	13	14	
TEKNOLEDGE	06-30	2927	3049	3193	10816	4019	4302	5357	5520	19198	4569	77	51	40	
TELOS	03-31	16667	17107	17506	66577	17920	19186	19509	19617	76232	20476	15	13	13	
TOTALS		630632	668243	696908	2611494	730244	761293	806480	832458	3130475	872946	20	20	19	



NET INCOME OF PUBLIC PROFESSIONAL SERVICES COMPANIES

COMPANY NAME		FISCAL YEAR END		NET AFTER TAX INCOME (\$ Thousands)										GROWTH (Percent)			
				1985					1986					1987	1986/	LAST 3	LAST 2
				Q2	Q3	Q4	TOTAL	Q1	Q2	Q3	Q4	TOTAL	Q1	1985	ROLLING	ROLLING	
													%(+/-)	QUARTRS	QUARTRS		
202 DATA SYS	10-31	3	52	126	186	141	56	315	101	613	94	230	60	-27			
ACT	12-31	135	191	117	526	136	289	215	60	700	124	33	-10	-27			
ADV. SYSTEMS	10-31	1204	2489	1170	6029	1355	1379	3528	1539	7801	2022	29	41	41			
AGS COMPUTER	12-31	1734	1854	1980	7493	1580	2133	2310	2729	8752	2741	17	44	54			
AM. MGT. SYS	12-31	1658	1031	1432	5390	902	1122	1488	1719	5231	1068	-3	27	19			
ANLYSTS INT.	06-30	546	102	-142	960	-569	-345	-890	713 ³	-1091	724	-214	190	302			
BDM INTERN'L	12-31	2512	2600	3314	10556	2861	3490	3050	4184	13585	4564	29	34	42			
BBN	06-30	2446	2349	2592	9577	2973	3418	3177	3364	12932	3735	35	30	28			
C.A.C.I.	06-30	553	297	175	1795	105	477	455	706	1743	649	-3	214	384			
COMP DATA	06-30	582	638	642	2585	545	514	356	401	1816	387	-30	-37	-34			
COMP HORIZ	02-28	666	500	537	2346	508	513	526	616	2163	475	-8	5	4			
CSC	04-01	5199	4928	4958	22317	8863	6652	7168	7580	30263	10835	36	36	33			
COMP TASK GR	12-31	893	1096	1259	4021	1331	1331	1160	1260	5082	1443	26	5	4			
DATA ARCHTS	11-30	364	291	281	1242	344	401	353	537	1635	487	32	50	64			
DYNAMICS RES	12-25	252	-1049 ⁴	668	308	514	546	590	806	2456	673	697	1456	25			
INTERMETRICS	02-28	183	-2615	-2834 ⁵	-5111	383	247	43	157	830	30	116	105	108			
KEANE	12-31	191	141	201	766	231	-181	4	229	283	271	-63	-12	16			
LOGICON	03-31	2378	2511	2484	9583	2541	2382	2162	2248	9333	-721 ⁶	-3	-51	-70			
NSA	09-30	-10	-14	77	-24	-17	106	170	104	363	45	1613	593	148			
RAND INFO.	02-28	-307	-402	674 ⁷	-271	46	-673	-813	-572	-2012	-917	-642	-824	-307			
SCI SYS SVC	12-31	-2113	-412	-1867 ⁸	-4507	-210	59	75	160	84	235	102	119	119			
SOFTTECH	05-31	-1757 ⁹	442	500	-617	579	635	475	490	2179	-1627 ¹⁰	453	-144	-205			
SYST. & COMP.	09-30	97	-1082 ¹¹	-128	-486	-9610	-749	-4323	-467	-15149 ¹²	-2228	-3017	35	72			
TECHNALYSIS	12-31	289	311	334	1191	207	244	294	311	1056	279	-11	4	9			
TEKNOLEDGE	06-30	333	264	357	-154	358	-310	308	503	859	-721	658	-91	-130			
TELOS	03-31	500	164	326	1214	87	776	698	611	2172	501	79	214	169			
TOTALS		18531	16677	19233	76915	16184	24512	22894	30089	93679	25168	22	50	56			

26 COMPANIES



FOOTNOTES

- 1 AGS Computer attributed its revenue improvement to its banking software products group and its microcomputer distribution subsidiary, Microamerica. During fourth quarter, the company completed the following acquisitions: Advanced Programming, Systemtech, and Vista Concepts.
- 2 Scientific Systems Services' decreased revenue in second quarter 1985 was due to a two-year project that overran budget. Since the company books revenue on the basis of project completion/budget spent, the project forced the company to debook revenues this quarter. Revenues were booked during third quarter fiscal 1985.
- 3 Analysts International attributed the improvement in net income to cost-cutting efforts and an infusion of new business. In addition, because of income tax credit carryforwards and a loss for the first part of the year, a tax credit was applied to pre-tax income during fourth quarter.
- 4 Dyanamic Research's loss resulted from discontinued operations. Two product lines, Backage and Digital Readout, were divested.
- 5 Intermetrics took losses on Ada contract.
- 6 Logicon's loss was due to its decision to provide an additional \$5 million reserve for contract loss against fiscal 1987 earnings.
- 7 Rand Information Systems sold a subsidiary and a software product.
- 8 Scientific Systems Services' substantial losses during second and fourth quarters 1985 were attributed to revisions of management's estimates of the cost to complete several large projects and by the Northern States Power Company contract termination.
- 9 At fiscal year end, SofTech shut down its microcomputer software subsidiary, SofTech Microsystems, and wrote it off as a loss.
- 10 SofTech's loss included a \$2.9 million write-off of a lease commitment related to previously divested SofTech Microsystems.
- 11 Systems and Computer Technology's fiscal 1985 fourth quarter loss was due to lower than projected revenues combined with increased costs associated with the company's reorganization, adjustments for a contractual dispute, and increased expenses for legal and professional services.
- 12 Systems and Computer Technology's first quarter loss included a \$14.9 million charge to operations for a class action litigation settlement, legal fees, and related expenses. This result largely accounted for the decrease in net income of the whole sector in Q1 1986. The company's remaining losses were attributed to lower than expected revenues, particularly from new sales, due to the litigation and a changing marketplace.

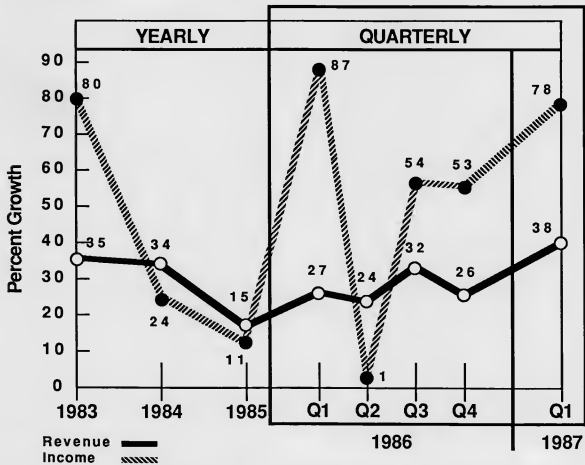


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V SOFTWARE PRODUCTS TRENDS ANALYSIS

- During first quarter 1987, revenue generated by the software products sector grew 38%.
- Note that the following companies have been added to our list of public software products companies: Automated Language, Cognos, ECAD, Informix Software, Intellicorp, and National FSI. BPI was removed due to its acquisition by Computer Associates.
- Software products companies achieving the highest growth rates during first quarter 1986 were Adobe Systems (189%), On-Line Software (124%), Oracle (118%), Microsoft (95%), Hogan Systems (86%), and Duquesne (81%).
- Growth in earnings for the software products sector was 78% for the quarter. Annual growth in earnings for this group was 47% in 1986.
- The highest first quarter income growth rates were demonstrated by the following companies: MSA, Software Services of America, Software Publishing, Timberline Software, Scientific Software, Adobe Systems, Hogan Systems, and Continuum.
 - Each of these companies exhibited growth in excess of 150%.
- The largest decreases in net income were felt by Cullinet (-213%), Intellicorp (-89%), Software AG (-88%), and Duquesne (-65%).
- Profitability for the software products sector rose to 11% for the quarter with the leaders being Hogan Systems (28%), MacNeal-Schwendler (25%), Adobe Systems (23%), Duquesne (23%), and Autodesk (22%).
 - Profitability averaged 9% for the group in 1986.
- The total sample was 45 public software products companies.



REVENUES OF PUBLIC SOFTWARE PRODUCTS COMPANIES

COMPANY FISCAL NAME YEAR END		REVENUE (\$ Thousands)										GROWTH (Percent)		
		1985				1986				1987	1985 ROLLING ROLLING			
		Q2	Q3	Q4	TOTAL	Q1	Q2	Q3	Q4	TOTAL	Q1	%(+/-)	QUARTERS	QUARTERS
ADBE SYSTEMS	11-30	943	1648	1952	4603	2392	3498	4932	5200	16022	6901	248	184	179
AMERICAN S/W	04-30	8828	10188	8937	35766	10336	10005	10819	13087	44247	12817	24	25	34
ASHTON TATE	01-31	27501	28590	41509	121571	41171	48989	57741	62900	210801	60211	73	63	49
AUTODESK	01-31	6761	7709	9995	29531	11027	12172	13651	15531	52381	17292	77	62	56
AUTOMATED LAM.	12-31	250	35	796	1281	1041	923	882	1511	4357	1131	240	88	44
* BGS SYSTEMS	01-31	3157	3396	4585	14024	3325	3465	2907	2885	12582	3000	-10	-22	-26
BOOLE & BABB.	09-30	7255	7877	7838	30302	8612	8705	9365	9259	35941	9964	19	18	17
COGNOS	02-28	11361	10874	12998	45340	15478	17629	16583	18743	68433	19500	51	39	34
COMPUTER AS.	03-31	31257	41994	60101	170521	57680	50091	63559	93618	264948	102047	55	62	66
CONTINUUM	03-31	13945	14035	12447	58254	12247	14063	14077	14465	54852	15596	-6	14	22
CULLINET	04-30	42277	43167	44631	182803	54221	31289	34236	43018	162764	61056 ²	-11	-3	5
CYBERTEK	03-31	4529	5408	6655	22074	7387	6544	6407	6517	26855	6407	22	-1	-8
DUQUESNE SYS.	09-30	2870	3070	4040	12643	5390	7374	7432	8635	28831	9766	128	107	95
ECAD	12-31	3135	3117	3295	12057	3763	4257	4006	4565	16591	4944	38	33	35
HEALTH SYS.	06-30	714	1516	863	3193	664	333	679	776	2452	776	-23	-27	2
HOGAN SYS.	03-31	4066	6586	9184	25440	7177	10803	9889	10019	37888	13380	49	45	43
INFODATA SYS.	12-31	2789	2210	2932	11235	2623	2233	2759	3616	11231	3155	0	23	22
* INFO. SCIENCE	04-30	6589	4389	4469	22296	4666	3562	4181	3719	16188	4000	-27	-12	-15
INFORMIX S/W	12-31	2166	2778	4036	10578	4152	4617	5693	6646	21108	7149	100	78	68
INNOVATIVE	06-30	1382	2594	2829	8300	3622	4419	3442	3593	15076	5871 ³	82	43	47
INTELLICORP	06-30	3373	3275	4465	13796	5412	5445	4084	4932	19873	5546	44	11	6
LOTUS DEV.	12-31	59276	49724	71847	225526	69270	66195	65560	81839	282864	84788	25	22	18
MSA	12-31	38124	30919	57644	151661	29421	47572	38764	77692 ⁴	193449	46513	28	38	43
MACNEAL-SCHW	01-31	5182	5431	5887	21101	6216	6517	6980	7365	27078	7833	28	26	26
MICROPRO INT'L	08-31	10275	10736	10357	41327	10500	6898	10484	8376	36254	11400	-12	-4	-5
MICROSOFT	06-30	36918	35153	49897	162630	50505	61959	66780	80985 ⁵	260229	98400	60	82	79
NATL FSI	12-31	3572	3638	5545	16632	3630	4402	3639	3772	15443	4130	-7	-10	-14
NCA CORP	12-31	6054	5869	4626	21743	4024	5424	5069	6264	20781	6475	-4	23	47
ON-LINE S/W	05-31	8226	7751	8566	31865	8850	11298	9688	12704	42540	19819 ⁶	34	68	87
ORACLE	05-31	8458	7070	11447	32491	16031	20835	17611	28352	82829	34911	155	134	130
PANSOPHIC	04-30	16257	18883	25076	78333	21943	20117	24312	34607 ⁷	100979	34900	29	42	48
POLICY MGMT	12-31	25725	25736	26338	102831	32033	35225	39739	43558	150555	41503	46	48	46
SAGE SOFTWARE	04-30	1259	2401	3135	8145	3651	2964	3402	3825	13842	4312	70	26	20
SCIENTIFIC S.	12-31	8144	7907	5762	29242	7565	6413	5774	8505	28257	6502	-3	-2	13
SILVAR-LISCO	04-30	4352	4393	4534	17686	6240	5923	6300	6082	24545	7680	39	32	28
SOFTWARE AG	05-31	14110	16036	16353	58554	14642	18727	15397	17087	68583	15274	12	2	4
SOFTWARE PUB.	09-30	9030	7121	6944	31664	5684	4606	6429	8710	25429	10854	-20	32	55
S/W SVC. AM.	05-31	405	228	1502	2741	646	424	1907	3151	6128	2229	124	207	150
STERLING S/W	09-30	62194	42456	69498	230109	58883 ⁸	56512	48900	45308	209603	45953	-9	-18	-29
STOCKHLD R SYS.	03-31	2595	3735	2958	12556	3375	2403	3411	3349	12538	4814	0	15	29
SYSTEM SOFT.	10-31	2375	3558	3558	11409	3903	3470	5275	5010	17658	6364	55	51	52
* SYNERCOM TECH.	10-31	4502	4364	4610	17663	5140	3694	3881	1441 ⁹	14156	2000	-20	-48	-65
TIMBERLINE S/W	12-31	2404	2689	3357	10912	2142	1606	1348	2104	7200	1940	-34	-34	-26
UCCEL	12-31	33155	30210	39475	134810	34101	34189	31011	42921	142222	42820	5	12	17
VM SOFTWARE	12-31	4206	4258	6376	18031	4313	6249	6038	10426	27026	6296	50	52	56
TOTALS		551946	534722	693849	2305270	665094	684038	705023	876724	2930879	918219	27	32	32

* INPUT ESTIMATE



NET INCOME OF PUBLIC SOFTWARE PRODUCTS COMPANIES

		NET AFTER TAX INCOME (\$ Thousands)										GROWTH (Percent)		
COMPANY NAME	FISCAL YEAR END	1985				1986				1987	1986/ LAST 3 LAST 2 1985 ROLLING ROLLING			
		Q2	Q3	Q4	TOTAL	Q1	Q2	Q3	Q4	TOTAL	Q1	%(+/-)	QUARTRS	QUARTRS
ADOBE SYSTEMS	11-30	-63	438	487	495	550	868	1168	980	3566	1584	620	153	147
AMERICAN S/W	04-30	1282	1495	1307	5472	1830	1690	2146	2903	8569	2065	57	54	58
ASHTON T/W	01-31	3456	4800	5967	16567	5124	6471	7935	10600	30130	9098	82	74	78
AUTODESK	01-31	1437	1766	2204	6521	2428	2714	3018	3461	11621	3880	78	62	58
AUTOMATED LAN.	12-31	-970	-1160	-896	-4196	170	51	-84	351	488	181	112	124	173
* BGS SYSTEMS	01-31	363	477	893	2087	402	221	28	-243	408	200	-80	-101	-103
WOOLE & BABB.	09-30	-1022	-4077 ¹⁰	266	-5240	297	236	328	410	1271	490	124	135	60
COGNOS	02-28	-13	230	809	902	1886	1882	1413	2449	7630	1500	746	83	47
COMPUTER AS.	03-31	1397	3196	8613	16768	5326	2360	6547	16351 ¹¹	30584	11236	82	99	98
CONTINUUM	03-31	169	98	-737	1594	-1354 ¹²	630	636	938	850	10263	-47	230	194
CULLINET	04-30	4233	3638	3846	18617	3632	-10612	-5914	-4949	-17843 ¹³	-4116	-196	-235	-221
CYBERTEK	03-31	-334	-141	720	724	905	609	416	456	2386	315	230	-20	-53
DUQUESNE SYS.	09-30	564	640	941	2727	1122	1460	1487	1920	5989	2202	120	108	100
ECAD	12-31	384	285	250	1258	269	541	269	417	1496	503	19	48	77
HEALTH SYS.	06-30	-1299	-883	-1560	-4980	-2907	-3614	-442	-367	-7330	-367	-47	78	84
HOGAN SYS.	03-31	-2992	-443	816	-14637 ¹⁴	-4233	544	1080	2907	298	3682 ¹⁵	102	299	293
INFODATA SYS.	12-31	-100	-353	45	-394	94	-356	268	376	382	146	197	469	276
* INFO. SCIENCE	04-30	-847	-2791 ¹⁶	106	-6479	-2827	-2569 ¹⁷	-3169	-268	-8833	-3000	-36	-17	-20
INFORMIX S/W	12-31	192	356	603	1174	349	456	728	930	2463	804	110	88	82
INNOVATIVE	06-30	-584	550	620	288	719	-341	255	111	744	931	158	-31	-22
INTELLICORP	06-30	340	287	447	1124	609	3563	-850	-501	2821	69	151	-195	-141
LOTUS DEV.	12-31	10744	6361	11414	38150	11371	11820	9528	15581	48300	13707	27	33	29
MSA	12-31	3063	-3493	10011	6860	-410	5937	260	12954 ¹⁸	18741	5168	173	201	89
MACNEAL-SCHW	01-31	-1064 ¹⁹	1207	1307	2529	1667	1627	1823	1888	7005	1955	177	36	29
MICROPRO INT'L	08-31	468	1229	657	1484	900	-2409 ²⁰	-342	26	-1825	1551	-223	-56	1
MICROSOFT	06-30	5608	6170	10948	31223	10629	11507	15824	19697	57657	19100	85	97	80
NATL FSI	12-31	-28	127	580	2142	-281	27	30	-166	-390	89	-118	-111	-126
NCA CORP	12-31	-55	-528	-3621	-5406	-1437	144	46	-1240 ²¹	-2487	52	54	80	77
ON-LINE S/W	05-31	646	446	578	2050	686	938	735	1018	3377	1487	65	89	98
ORACLE	05-31	1472	111	1147	2871	2052	2586	127	3045	7810	4834 ²²	172	142	146
PANSOPHIC	04-30	2038	3355	4880	13539	4028	2356	3644	6197	16225	4627	20	18	22
POLICY MGMT	12-31	3994	3513	3053	14387	3063	3190	3580	3927	13760	3902	-4	18	28
SAGE SOFTWARE	04-30	-31	304	424	375	532	43	420	581	1576	724	320	37	37
SCIENTIFIC S.	12-31	147	601	-2527 ²³	-2121	23	-13272 ²⁴	133	-739 ²⁵	-13855	67	-553	72	73
SILVAR-LISCO	04-30	44	145	26	237	255	64	12	-217	114	385	-52	-58	-40
SOFTWARE AG	05-31	990	2880	2134	7280	1598	1933	1103	986	5620	194	-23	-65	-68
SOFTWARE PUB.	09-30	1139	845	617	3905	365	-737 ²⁶	454	1236	1318	1584 ²⁷	-66	79	187
S/W SVC. AM.	05-31	-480	-191 ²⁸	301	-195	-67	-603	375	471	176	312	190	2593	235
STERLING S/W	09-30	576	1459	890	3566	1924	2154	-2457 ²⁹	1907	3528	1196	-1	-85	10
STOCKHLDR SYS.	03-31	350	710	363	1937	729	234	708	576	2247	822	16	17	28
SYSTEM SOFT.	10-31	309	424	362	1266	393	325	680	507	1905	693	50	59	59
* SYNERCOM TECH.	10-31	413	731	-744	666	1106	1448	-127	-1895 ³⁰	532	-500	-20	-331	-762
TIMBERLINE S/W	12-31	-191	-105	318	-72	-66	-124	-218	256	-152	65	-111	-30	27
UNCEL	12-31	3560	2249	7355	15526	2830	3376	3346	10376 ³¹	19928	5876	28	58	60
VM SOFTWARE	12-31	591	669	1563	3142	642	966	845	2475	4928	786	57	43	48
TOTALS		39896	37627	77783	185733	56923	40334	57792	118679	273728	101102	47	61	63

* INPUT ESTIMATE

45 COMPANIES



FOOTNOTES

- 1 Computer Associates' revenue included results of the ISSCO and Software International acquisitions made during fourth quarter.
- 2 Cullinet's revenue reflects the 1987 business combination with Distribution Management Systems.
- 3 Innovative Software's revenue gain was attributed to the release of the network-ready version of Smart. Also this quarter, NCR placed a major order for SmartWare products.
- 4 MSA's revenues reflect its acquisition of Conserv.
- 5 Microsoft attributes its increased revenue to the strength of its retail position, which put the company into a good position to take advantage of strong computer shipments.
- 6 On-Line Software's revenue reflected the products acquired from Martin Marietta in October 1986.
- 7 Pansophic's increased revenue reflects the Professional Computer Resources and Remote Data Systems acquisitions, as well as an improvement in domestic operations, especially product and license revenue contributions by TELON, EASYTRIEVE PLUS, and EASYTRIEVE PLUS PC.
- 8 Subsequent to Sterling Software's acquisition of Informatics, the company began divesting four of its divisions that no longer fit with its long-term objectives.
- 9 Synercom Technology's decreased revenues have reportedly been the result of earlier disappointments in the automated mapping system market and the conservative nature of the company's target market--state and local governments.
- 10 Loss for Boole & Babbage in fourth quarter fiscal 1985 reflects high operating expenses combined with write-offs for the following: a new product, lease costs of unoccupied facilities, goodwill related to the sales of the educational services division, and purchased software and prepaid royalties.
- 11 See Footnote 1.
- 12 Continuum's third and fourth quarter fiscal 1986 losses resulted from the under-estimation of cost and time to complete the Client/Contract Administration System.
- 13 Cullinet Software's first fiscal quarter loss included a \$7 million write-off of the remaining assets acquired from Computer Pictures. The company attributes its remaining losses to decreased revenues due to a sluggish mainframe market and increased competition.



- 14 Hogan Systems' loss included a \$7 million write-off on a discontinued product line and \$1 million for product enhancements.
- 15 Hogan Systems' results were attributed to increases in all revenue categories coupled with cost control measures implemented during the year. In addition, Hogan acquired Systems 4, Inc.
- 16 Information Sciences' loss included the loss on the sale of Dyer, Wells & Associates, Inc.
- 17 Information Sciences' losses in 1986 resulted from decreased revenue from integrated payroll/personnel/benefits software due to the tax reform announcement and from increased operating reserves and revalued capitalized software. The loss for quarter ended October 1986 included a \$1.1 million provision for restructuring costs.
- 18 MSA generates approximately 40% of revenue and essentially all of its income during fourth quarter.
- 19 MacNeal-Schwendler's second quarter loss was due to the write-off of the company's holdings in Modular Data Systems.
- 20 Micropro's loss was due to increased uncollectable receivables resulting from First Software's Chapter 11 filing.
- 21 NCA's losses reflect divested business activities, increased sales and marketing expenses, costs associated with IRS adjustments to the company's 1980 federal tax return, and write-offs of certain customer receivables.
- 22 Oracle's earnings increase reflects significant gains in revenue, which the company attributes to the acceptance of SQL as an industry standard.
- 23 Scientific Software's loss included a non-recurring pretax loss of \$2.3 million that resulted from a transaction that terminated the company's future lease obligations on unoccupied office space.
- 24 Scientific Software's loss included net charges of \$13 million for the write-down of assets and a provision for losses on accounts receivable.
- 25 Scientific Software's loss includes an \$848,000 charge representing the termination of a lease obligation.
- 26 Software Publishing attributed \$500,000 of the loss to First Software, a major customer that filed for bankruptcy during the quarter. The remaining losses were due to investments in new product development and to a severe sales decline.
- 27 Software Publishing's increased net income during the past two quarters was due to improved sales of all products, especially the new products pfs:First Publisher and pfs:First Choice and the revised version of Harvard Graphics.



- 28 Software Services of America's losses have been attributed to the decline in revenue stemming from delays in customers signing license agreements and in shipments of hardware. Small operating profits in these quarters were offset by non-operating interest and other related expenses.
- 29 Sterling Software's loss included a one-time charge against earnings of \$84.5 million for prepayment on debt.
- 30 See Footnote 9.
- 31 UCCEL's fourth quarter income included an extraordinary tax credit of \$2.53 million from carryforwards of prior years' net operating losses; however, operating income of \$7.66 million stemmed from excellent results in banking software and systems software.

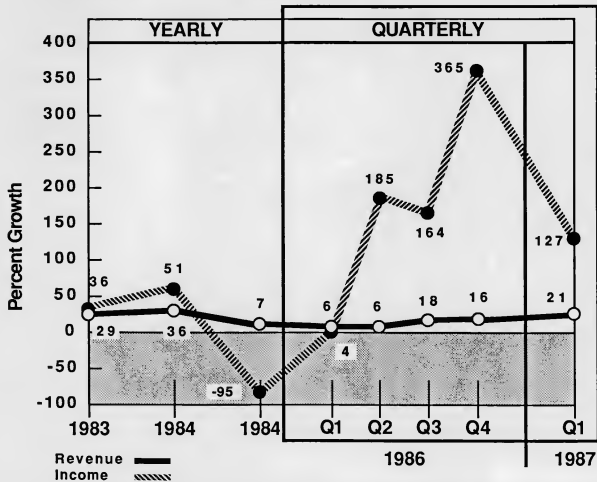


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VI TURNKEY SYSTEMS TRENDS ANALYSIS

- Revenue for the turnkey systems sector grew 21% during first quarter 1987. Growth averaged 11% for the group in 1986.
- Note that Cerner has been added to our list of public turnkey systems companies. Dimis has been removed since revenue and net income figures have been unavailable for the past two quarters.
- Turnkey systems companies displaying the highest growth in revenues for the quarter were Cerner (601%), Baron Data Systems (149%), C3 (113%), Interleaf (72%), Computer Consoles (68%), and Reynolds and Reynolds (62%).
- The biggest drops in revenues during first quarter were experienced by Penta Systems (-26%), Computer Design (-21%), CompuTrac (-19%), and Intergraph (-13%).
- After the tremendous gains made in 1986, the net income situation continued to improve during first quarter 1987. Net income growth was 127% for the quarter.
- Companies with the highest growth in earnings during first quarter were C3, Comtek Research, Tenera, Computervision, and Cerner.
- Turnkey systems companies with the most significant decrease in net income during first quarter were Penta Systems (-215%), Computer Design (-82%), ISC Systems (-70%), CompuTrac (-59%), and Intergraph (-44%).
- Companies exhibiting the highest profit margins during first quarter were Tenera (22%), Cerner (12%), Barrister Information Systems (11%), and Gerber Scientific (11%). During first quarter, profits averaged 4% of revenues for the turnkey systems sector.
 - See footnote at the end of this section for details on Barrister Information Systems.
- The sample was 23 turnkey systems companies.



REVENUES OF PUBLIC TURNKEY SYSTEMS COMPANIES

		REVENUE (\$ Thousands)										GROWTH (Percent)		
COMPANY NAME	FISCAL YEAR END	1985				1986				1987	1986/ 1985	LAST 3 ROLLING	LAST 2 ROLLING	
		Q2	Q3	Q4	TOTAL	Q1	Q2	Q3	Q4		TOTAL	Q1	QUARTRS	QUARTRS
ASK COMPUTER	06-30	20761	12780	19051	71779	17601	26587	20344	21159	85691	25400	19	35	27
AUTO-TROL TECH	12-31	16383	14286	15790	65360	15595	14860	15400	16494	62349	17961	-5	9	10
* AVANT-GARDE	04-30	5555	3118	3631	15994	4005	4449	4629	4986	18069	5000	13	36	31
BARON DATA SYS	03-31	4951	5479	7182	21826	6712	5805	13632	15648	41797	16719	92	137	133
BARRISTER INFO	03-31	5558	6367	6529	26494	10877	5563	8152	8583	33175	10971	25	17	12
C3	03-31	19068	23300	11200	72326	11700	14700	21420	25297	73117	24900	1	55	119
CERNER	12-31	1316	2363	3506	10342	794	3994	5390	7178	17356	5566	68	172	196
COMTEK RESEARCH	03-31	6723	7185	6797	27390	7825	7151	7952	9219	32147	10131	17	25	32
COMPTR CONSOLES	12-31	35076	25386	25442	111880	21184	33085	34009	41279 ¹	129557	35572	16	54	65
COMPTR DESIGN	08-31	639	967	760	3134	940	846	894	694	3374	746	8	-12	-15
COMPUTERVISION	12-31	112288	105752	117226	441137	112918	119339	125920	136495	494672	139818	12	20	20
COMPUTRAC	01-31	2194	2012	2076	8139	2405	2884	2911	2176	10376	1950	27	8	-8
DAISY SYSTEMS	09-30	32511	35511	36573	133637	22488	23089	24999	25380	95956	23829	-28	-22	-17
GERBER SCI.	04-30	48341	45089	49420	207277	48936	54405	56314	53351	213006	58784	3	17	14
HBO	12-31	46400	49320	48944	188835	41198	37567	35962	40095	154822	37406	-18	-19	-14
INTERGRAPH	12-31	130556	131406	155470	526405	147016	150371	150967	157383	605737	128478 ²	15	1	-5
INTERLEAF	03-31	2789	3775	5242	16072	6840	6405	8578	10405	32228	11785	101	94	84
ISC SYSTEMS	06-30	44900	37779	40947	161724	41000	46360	40223	34797 ³	162380	43617	0	-1	-4
* NATL DATA COMM	10-31	1667	1385	1281	5939	1259	1246	1281	1071	4857	1250	-18	-8	-9
PENTA SYSTEMS	12-31	5484	4959	4817	19655	5849	5191	5475	5049	21564	4355	10	-5	-12
REYNOLDS & R.	09-30	83215	85012	80560	331288	87662	102140	133649	128999	452450	141637	37	60	61
TENERA	12-31	5773	5892	6899	23917	6536	9247	9590	9800	35173	9800	47	51	46
TRIAD SYSTEMS	09-30	27522	33400	27700	111053	25600	26321	32045	27200	111166	26384	0	-1	1
TOTALS		659670	642523	677043	2601603	666940	701605	759736	782738	2891019	782059	11	18	18

* INPUT ESTIMATE



NET INCOME OF PUBLIC TURNKEY SYSTEMS COMPANIES

		NET AFTER TAX INCOME (\$ Thousands)										GROWTH (Percent)		
COMPANY NAME	FISCAL YEAR END	1985				1986					1987	1986/1985	LAST 3 QUARTRS	LAST 2 QUARTRS
		Q2	Q3	Q4	TOTAL	Q1	Q2	Q3	Q4	TOTAL	Q1	%(+/-)	ROLLING	ROLLING
ASK COMPUTER	06-30	2317	694	1839	6638	1371	1985	1775	1995	7126	1681	7	40	15
AUTO-TROL TECH	12-31	-4974	-3897	-2557	-11679	-1603	-1778	-691	-2966	-7038	515	40	61	41
* AVANT-GARDE	04-30	-269	-1293	-1279	-2449	-2313	-774	-895	-541	-4523	-500	-85	60	71
BARON DATA SYS	03-31	157	287	571	1304	331	233	277	425	1266	467	-3	-2	-1
BARRISTER INFO	03-31	-86	195	272	1705	1264	-574	16	302	1008	1220 ⁴	-41	-11	-1
C3	03-31	768	1400	-335	2706	-327	518	4 ⁸	1681	1876	2000	-31	399	656
CERNER	12-31	9	87	121	708	-805	728	926	1442	2291	654	224	606	406
COMTEK RESEARCH	03-31	268	240	5	846	82	124	201	283	690	373	-18	162	654
COMPTR CONSOLES	12-31	-4610	-4216	-27580 ⁶	-41911	-5624	-886	1633	1894	-2983	528	93	111	107
COMPTR DESIGN	08-31	74	63	87	297	56	112	-80	20	108	10	-64	-124	-79
COMPUTERVISION	12-31	-19510	-20723	-21778 ⁷	-80777	-7006	-3404	1165	3471	-5774	5804	93	121	132
COMPUTRAC	01-31	360	286	271	1116	379	514	633	455	1981	154	78	33	-6
DAISY SYSTEMS	09-30	5532	5882	6312	22411	-4705	-1828	-860	1293	-6100	-4904 ⁸	-127	-160	-325
GERBER SCI.	04-30	4331	4206	4657	19740	4996	4689	4789	5226	19700	6353	0	18	20
HBO	12-31	6107	5903	2965	20842	746	-6256 ⁹	924	974	-3612	835	-117	-72	-51
INTERGRAPH	12-31	16735	18018	18686	67779	18003	17343	15496	19520	70362	10011	4	-18	-20
INTERLEAF	03-31	-1362	-963	-376	-2264	258	-1154	-251	353	-794	642	65	169	943
ISC SYSTEMS	06-30	3289	2649	3289	11327	3700	4217	2809	29	10755	1114	-5	-59	-84
* NATL DATA COMM	10-31	-1073	-638	-331	-2314	-406	634 ¹⁰	-331	7	-96	-400	96	47	47
PENTA SYSTEMS	12-31	-1307	-1870	-4003	-7662 ¹¹	252	223	331	-194 ¹²	612	-291	108	97	87
REYNOLDS & R.	09-30	4984	7182	4901	21852	5419	6512	7024	4494	23449	5042	7	-5	-8
TENERA	12-31	-4037 ¹³	292	-2000	-7134	519	663	-1414 ¹⁴	1100	868	2200	112	259	323
TRIAD SYSTEMS	09-30	207	-517	403	-3481	551	689	1538	833	3611	853	204	638	77
TOTALS		7910	13267	-15860	19600	15138	22530	35019	42096	114783	34361	486	789	10690

* INPUT ESTIMATE

23 COMPANIES

FOOTNOTES

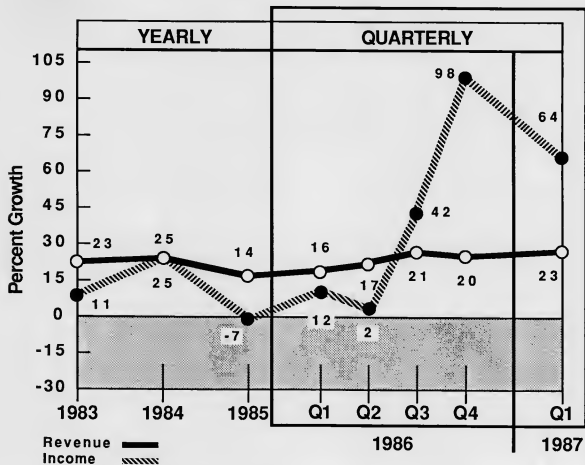
- 1 Computer Consoles reported that sales to its customers in the communications systems industry contributed to improved fourth quarter revenues, including the shipment of \$13 million of add-on directory assistance equipment for British Telecom.
- 2 Intergraph's shipments were down during the quarter, resulting in lower revenue and earnings due to a temporary shortage in the microprocessor used in the company's new workstation products.
- 3 ISC Systems reported that the reduced level of revenue for the quarter was the result of the rescheduling of installation dates for several major projects into the next quarter and reduced rates of add-on business to existing customers and distributors.
- 4 Barrister Information Systems recognizes higher revenue and most of its profits during the last quarter of its fiscal year.
- 5 C3's earnings reflected a charge of \$7.6 million resulting from a contract settlement and a \$3.7 million pretax gain on the sale of land.
- 6 Computer Consoles' loss reflected a decline in revenues, changes in product mix, provisions for excess and obsolete inventory and spares, and costs related to a program of internal restructuring and functional consolidation. The company has now returned to profitability.
- 7 Computervision sustained heavy losses starting first quarter 1985 due to a decline in revenue after facilities, staff, and other resources had been expanded to meet expected growth. Since the company has brought its expenses more in line with revenues, profitability has returned.
- 8 Daisy Systems' losses have been attributed to a weak capital spending environment combined with delayed shipments, product transition, and severance payments resulting from layoffs.
- 9 HBO's loss in second quarter 1986 reflects \$9.4 million in write-offs due to (1) internal reorganization, (2) dissolution of its holding company, (3) a write-off of capitalized software, and (4) write-downs of computer hardware to market value.
- 10 National Data Communications formed a new company through a joint venture agreement. The extraordinary gain resulted from the difference between the market and book values of the preferred stock exchanged in the agreement.
- 11 Penta Systems' loss was a result of declining sales combined with an increase in cost of sales as a percentage of sales. The company also incurred charges associated with restructuring corporate operations.

- 12 Penta Systems' loss was primarily due to a write-off for obsolete inventory.
- 13 Tena attributed losses in 1985 to fixed-price development contracts for computer management systems and to related marketing efforts.
- 14 Tena's results included a \$2.3 million loss from discontinued wind energy operations.

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VENDORS**

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VII PUBLIC INFORMATION SERVICES TRENDS ANALYSIS

- The comparison of the quarter growth rates (e.g., 1987 growth in first quarter compared to 1986 growth in first quarter for a given service sector) enables the rate of growth recovery, or lack thereof, to be clearly observed for each industry sector.
- Steady revenue growth continued for the processing/network services sector. Growth in income remained high for the second consecutive quarter as this sector continued to recover from the early 1986 decline in earnings.
- Steady growth in revenues also continued for the professional services sector while growth in earnings remained high. This sector is also recovering from early 1986 declines in net income which occurred after a year of flat growth.
- Revenues for the software products sector continue to grow, as in 1986, at an above average rate for the industry. Net income has also improved substantially throughout 1986 and first quarter 1987 after declining in 1985.
- Turnkey systems revenue growth accelerated over a period of several quarters, reaching 21% during first quarter 1987. At the same time, net income continued to skyrocket for the fourth consecutive quarter.
- Revenues from public information services vendors as a whole have been steadily climbing and are currently growing at pre-1985 levels. During first quarter, revenues for the industry grew 23%. In addition, net income growth continued to be excellent for the third consecutive quarter. Earnings growth was 64% for the quarter. The 1986 growth rate for the industry was 39%.
- The total sample was 136 public information services companies.

**PUBLIC INFORMATION SERVICES VENDORS'
REVENUE GROWTH RATES (Percent)**

		Q1	Q2	Q3	Q4	PUBLIC ANNUAL TOTAL
PROCESSING/NETWORK SERVICES VENDORS (42 COMPANIES)	1982/1981	17	13	21	18	17
	1983/1982	19	16	17	19	18
	1984/1983	23	23	18	17	20
	1985/1984	15	17	16	18	17
	1986/1985	17	18	18	20	18
	1987/1986	17				
PROFESSIONAL SERVICES VENDORS (26 COMPANIES)	1982/1981	19	18	20	17	18
	1983/1982	14	18	22	18	18
	1984/1983	16	16	12	14	14
	1985/1984	15	16	20	19	17
	1986/1985	19	21	21	19	20
	1987/1986	20				
SOFTWARE PRODUCT VENDORS (45 COMPANIES)	1982/1981	45	29	30	29	32
	1983/1982	29	30	41	40	35
	1984/1983	54	38	34	20	34
	1985/1984	16	22	6	17	15
	1986/1985	27	24	32	26	27
	1987/1986	38				
TURNKEY SYSTEMS VENDORS (23 COMPANIES)	1982/1981	24	18	11	21	18
	1983/1982	16	24	37	36	29
	1984/1983	39	46	33	29	36
	1985/1984	14	10	5	1	7
	1986/1985	4	6	18	16	11
	1987/1986	21				
TOTAL PUBLIC INFORMATION SERVICES VENDORS (136 COMPANIES)	1982/1981	23	18	19	20	20
	1983/1982	18	20	26	26	23
	1984/1983	29	29	23	20	25
	1985/1984	15	16	12	14	14
	1986/1985	16	17	21	20	19
	1987/1986	23				

**PUBLIC INFORMATION SERVICES VENDORS'
NET INCOME GROWTH RATES (Percent)**

		Q1	Q2	Q3	Q4	PUBLIC ANNUAL TOTAL
PROCESSING/NETWORK SERVICES VENDORS (42 COMPANIES)						
	1982/1981	51	2	20	32	25
	1983/1982	18	-1	-12	-93	-21
	1984/1983	-34	23	-93	848	2
	1985/1984	112	31	1218	36	92
	1986/1985	-3	-26	10	51	7
	1987/1986	44				
PROFESSIONAL SERVICES VENDORS (26 COMPANIES)						
	1982/1981	50	19	94	20	39
	1983/1982	-1	-10	18	30	9
	1984/1983	20	19	-8	52	21
	1985/1984	25	9	6	-30	-1
	1986/1985	-28	32	37	56	22
	1987/1986	56				
SOFTWARE PRODUCT VENDORS (45 COMPANIES)						
	1982/1981	51	-1	13	-53	-12
	1983/1982	7	28	60	220	80
	1984/1983	138	12	18	-4	24
	1985/1984	-32	47	-6	38	11
	1986/1985	87	1	54	53	47
	1987/1986	78				
TURNKEY SYSTEMS VENDORS (23 COMPANIES)						
	1982/1981	24	35	-19	-9	5
	1983/1982	-22	1	93	80	36
	1984/1983	121	91	20	26	51
	1985/1984	-74	-88	-76	-135	-95
	1986/1985	6	185	164	365	486
	1987/1986	127				
TOTAL PUBLIC INFORMATION SERVICES VENDORS (136 COMPANIES)						
	1982/1981	41	14	10	-9	13
	1983/1982	4	2	31	10	11
	1984/1983	28	38	-14	51	25
	1985/1984	1	-8	16	-24	-7
	1986/1985	12	2	42	98	39
	1987/1986	64				



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