BURTON GRAD ASSOCIATES, INC.

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SSI/TIS

Sterling Software, Inc.
300 Crescent Court
Suite 1200
Dallas, Texas 75201-1000

Invoice #2940

July 6, 1999

Project: #133-61

Attention: Paul Baker
Copy: Logan Wray

INVOICE

Project: Reexamination of TIS Valuation

Consulting Services: June 1999

Burton Grad	1 day @ $2,500/day	$2,500.00
	Total Fees	**$2,500.00**
	Total Invoice	**$2,500.00**

Payment Is Due Within 15 Days of Receipt of Invoice

TIS Revaluation

1) need to establish full functionality of each ~~pro~~ planned offering and significance of core technologies (TIS + SSK) contributions to each

2) need to establish development plan for each new offering and costs $ to acquisition to FAS86 qualification and to general delivery.

3) Review current products models: revenue projections, cost estimates, life, ~~dt~~ discount factor.

4) Status of each new product as of acquisition date. Revenue and cost projections; life and discount factor determination.

5) Adjust IPR&D for Core Technologies

6) Adjust IPR&D for percent completion

7. Specifically value other intangibles and determine amortizable life:
   - Assembled work force
   - customer base
   - custom professional services
   - other technologies
   - goodwill / going concern

computation for TIS for Gold : Enterprise

    after core technologies reduction

    and % completion analysis

Core Tech

    NPV for G:E = $124,466,000 (Table IV)

    Core Technologies = 50% = 62,233,000

       balance   62,233,000

% completion

    assume G:E was 80% completed as
    of acquisition date

      20% * 62,233,000 = 12,447,000

    balance - NPV $49,786,000

	A	B	C	D	E	F	G	H	I
1									
2									11
		Summary for New Technology-based Development Products							
3									
4									
5	($000)				Projected				Total
6		1998	1999	2000	2001	2002	2003	2004	1998-2004
7									
8	Gold:Development								
9	Revenue	38250	87579	152361	233973	322966	398637	434215	1667981
10	Cost	36418	80247	133841	196534	261561	309364	330279	1348243
11	Operating Income	1833	7332	18520	37439	61405	89273	103936	319737
12	Net Present Value	1150	4323	10243	19405	29769	40254	43688	148832
13									
14	Gold Components								
15	Revenue	0	5940	10872	18119	26517	33632	36343	131423
16	Cost	0	5049	9241	15401	21213	25224	27257	103386
17	Operating Income	0	891	1631	2718	5303	8408	9086	28037
18	Net Present Value	0	502	866	1354	2446	3594	3601	12363
19									
20	Gold Templates								
21	Revenue	0	3000	9550	16633	23080	27257	28546	108065
22	Cost	0	2820	8691	14637	19618	21806	22836	90407
23	Operating Income	0	180	860	1996	3462	5451	5709	17658
24	Net Present Value	0	96	438	967	1558	2278	2199	7536
25									
26	Total-Americas								
27	Revenue	28500	67164	110169	156130	198677	230712	232803	1024155
28	Cost	27155	61320	96886	131972	161670	179105	177975	836084
29	Operating Income	1345	5844	13282	24158	37007	51607	54828	188071
30	Net Present Value	776	3107	6503	10900	15387	19786	19376	75835
31									
32	Total- International								
33	Revenue	9750	29355	62615	112594	173886	228814	266301	883314
34	Cost	9263	26796	54887	94600	140723	177288	202397	705952
35	Operating Income	488	2559	7728	17994	33163	51526	63904	177361
36	Net Present Value	375	1814	5045	10825	18386	26340	30111	92896
37									
38	Total								
39	Revenue	38250	96519	172783	268724	372562	459526	499104	1907469
40	Cost	36418	88116	151773	226572	302392	356394	380372	1542037
41	Operating Income	1833	8403	21010	42152	70170	103133	118731	365432
42	Net Present Value	1150	4921	11548	21725	33773	46126	49487	168731
43									

	A	B	C	D	E	F	G	H	I
50									
51									12
51	Summary for New Gold Development Products Worldwide								
52									
53									
54	($000)				Projected				Total
55		1998	1999	2000	2001	2002	2003	2004	1998-2004
56	Gold:Enterprise Development								
57	Revenues								
58	New licenses	21000	39750	66375	100406.3	134663	158760	160603	681557
59	Professional services	10500	19875	33187.5	50203	67331	79380	80301	340778
60	Maintenance	2750	9630	20614.5	36626	57203	80059	100962	307845
61	Total revenues	34250	69255	120177	187236	259197	318199	341866	1330179
62									1330179
63	Costs								
64	Cost of revenues	6850	13851	24035	37447	51839	63640	68373	266036
65	Marketing and sales	15413	28395	44465	61788	77759	85914	85467	399200
66	R and D	5138	10388	18027	28085	38879	47730	51280	199527
67	G and A	5138	10388	18027	28085	38879	47730	51280	199527
68	Total costs	32538	63022	104554	155406	207357	245013	256400	1064289
69									1064289
70	Operating Income	1713	6233	15623	31830	51839	73186	85467	265890
71									265890
72	Net Present Value	1081	3686	8671	16567	25239	33138	36083	124466
73									
74	Gold:Component & Appl. Devel.								
75	Revenues								
76	New licenses	3500	14300	23680	33828	43708	52406	56658	228080
77	Professional services	0	1000	1520	1944	2326	2636	2636	12062
78	Maintenance	500	3024	6984	10965	17736	25396	33054	97659
79	Total revenues	4000	18324	32184	46737	63769	80438	92349	337801
80									337801
81	Costs								
82	Cost of revenues	800	3665	6437	9347	12754	16088	18470	67560
83	Marketing and sales	1880	8063	13195	17760	22319	24131	27705	115053
84	R and D	600	2749	4828	7011	9565	12066	13852	50670
85	G and A	600	2748.6	4828	7011	9565	12066	13852	50670
86	Total costs	3880	17225	29287	41129	54204	64350	73879	283954
87									283954
88	Operating Income	120	1099	2897	5608	9565	16088	18470	53847
89									53847
90	Net Present Value	69	637	1572	2837	4530	7116	7605	24366
91									
92	Totals								
93	Revenue	38250	87579	152361	233973	322966	398637	434215	1667981
94	Costs	36418	80247	133841	196534	261561	309364	330279	1348243
95	Operating Income	1833	7332	18520	37439	61405	89273	103936	319737
96	Net Present Value	1150	4323	10243	19405	29769	40254	43688	148832
97									
98									
99									

	A	B	C	D	E	F	G	H	I
100									13
101	Summary for New Gold:Enterprise Development Products - Americas and International								
102									
103									
104	($000)				Projected				Total
105		1998	1999	2000	2001	2002	2003	2004	1998-2004
106	Americas								
107	Revenues								
108	New licenses	15000	26250	39375	53156	63788	70166	63150	330885
109	Professional services	7500	13125	19688	26578	31894	35083	31575	165442
110	Maintenance	2000	6525	12960	21232	30591	40162	47512	160982
111	Total revenues	24500	45900	72023	100967	126272	145411	142237	657309
112									657309
113	Costs								
114	Cost of revenues	4900	9180	14405	20193	25254	29082	28447	131462
115	Marketing and sales	11025	18819	26648	33319	37882	39261	35559	202513
116	R and D	3675	6885	10803	15145	18941	21812	21336	98596
117	G and A	3675	6885	10803	15145	18941	21812	21336	98596
118	Total costs	23275	41769	62660	83802	101018	111966	106678	531167
119									531167
120	Operating Income	1225	4131	9363	17164	25254	33445	35559	126141
121									
122	Net Present Value	706	2196	4584	7745	10501	12823	12567	51121
123									
124	International								
125	Revenues								
126	New licences	6000	13500	27000	47250	70875	88594	97453	350672
127	Professional services	3000	6750	13500	23625	35438	44297	48727	175336
128	Maintenance	750	3105	7655	15394	26612	39898	53450	146863
129	Total revenues	9750	23355	48155	86269	132925	172788	199629	672871
130									672871
131	Costs								
132	Cost of revenues	1950	4671	9631	17254	26585	34558	39926	134574
133	Marketing and sales	4388	9576	17817	28469	39877	46653	49907	196687
134	R and D	1463	3503	7223	12940	19939	25918	29944	100931
135	G and A	1463	3503	7223	12940	19939	25918	29944	100931
136	Total costs	9263	21253	41894	71603	106340	133047	149722	533122
137									533122
138	Operating Income	488	2102	6260	14666	26585	39741	49907	139749
139									
140	Net Present Value	375	1490	4087	8823	14739	20316	23516	73345
141									
142									
143									
144									
145									
146									
147									
148									
149									

	A	B	C	D	E	F	G	H	I
150									14
151	Revenue Sources for New Gold:Enteprise Development Products - World Wide								
152									
153									
154	($000)				Projected				Total
155		1998	1999	2000	2001	2002	2003	2004	1998-2004
156									
157	Americas								
158	New licenses rate		1.75	1.50	1.35	1.20	1.10	0.90	
159	revenue	15000	26250	39375	53156	63788	70166	63150	330885
160	Prof services rate		0.5	0.5	0.5	0.5	0.5	0.5	
161	revenue	7500	13125	19688	26578	31894	35083	31575	165442
162	Maintenance revenue	2000	6525	12960	21232	30591	40162	47512	160982
163	Total	24500	45900	72023	100967	126272	145411	142237	657309
164									657309
165	Maintenance calculation								
166	Previous year maintenance		2000	6525	12960	21232	30591	40162	
167	Erosion rate		0.1	0.1	0.1	0.1	0.1	0.1	
168	Erosion Loss		200	653	1296	2123	3059	4016	
169	Remaining maintenance		1800	5873	11664	19109	27532	36145	102122
170	New licenses		26250	39375	53156	63788	70166	63150	
171	Maint/license price ratio		0.18	0.18	0.18	0.18	0.18	0.18	
172	Initial conversion rate		1.0	1.0	1.0	1.0	1.0	1.0	
173	New licenses-maintenance		4725	7088	9568	11482	12630	11367	56859
174	Maintenance revenue	2000	6525	12960	21232	30591	40162	47512	158982
175									160982
176	International								
177	New licenses rate		2.25	2.00	1.75	1.50	1.25	1.10	
178	revenue	6000	13500	27000	47250	70875	88594	97453	350672
179	Prof services rate		0.50	0.50	0.50	0.50	0.50	0.50	
180	revenue	3000	6750	13500	23625	35438	44297	48727	175336
181	Maintenance revenue	750	3105	7655	15394	26612	39898	53450	146863
182	Total	9750	23355	48155	86269	132925	172788	199629	672871
183									672871
184	Maintenance calculation								
185	Previous year maintenance		750	3105	7655	15394	26612	39898	
186	Erosion rate		0.1	0.1	0.1	0.1	0.1	0.1	
187	Erosion Loss		75	311	765	1539	2661	3990	
188	Remaining maintenance		675	2795	6889	13855	23951	35908	84072
189	New licenses		13500	27000	47250	70875	88594	97453	
190	Maint/license price ratio		0.18	0.18	0.18	0.18	0.18	0.18	
191	Initial conversion rate		1.0	1.0	1.0	1.0	1.0	1.0	
192	New licenses-maintenance		2430	4860	8505	12758	15947	17542	62041
193	Maintenance revenue	750	3105	7655	15394	26612	39898	53450	146113
194									146863
195									
196									
197									
198									
199									

	A	B	C	D	E	F	G	H	I
200									15
201	Costs for New Gold:Enteprise Development Products - World Wide								
202									
203									
204	($000)				Projected				Total
205		1998	1999	2000	2001	2002	2003	2004	1998-2004
206									
207	Americas								
208	Revenues	24500	45900	72023	100967	126272	145411	142237	657309
209									
210	Cost of revenues rate	0.20	0.20	0.20	0.20	0.20	0.20	0.20	
211	cost	4900	9180	14405	20193	25254	29082	28447	131462
212	Marketing and sales rate	0.45	0.41	0.37	0.33	0.30	0.27	0.25	
213	cost	11025	18819	26648	33319	37882	39261	35559	202513
214	R and D rate	0.15	0.15	0.15	0.15	0.15	0.15	0.15	
215	cost	3675	6885	10803	15145	18941	21812	21336	98596
216	G and A rate	0.15	0.15	0.15	0.15	0.15	0.15	0.15	
217	cost	3675	6885	10803	15145	18941	21812	21336	98596
218	Total Costs- Americas	23275	41769	62660	83802	101018	111966	106678	531167
219	Costs/revenue ratio	0.95	0.91	0.87	0.83	0.8	0.77	0.75	0.81
220									
221	International								
222	Revenues	9750	23355	48155	86269	132925	172788	199629	672871
223									
224	Cost of revenues rate	0.20	0.20	0.20	0.20	0.20	0.20	0.20	
225	cost	1950	4671	9631	17254	26585	34558	39926	134574
226	Marketing and sales rate	0.45	0.41	0.37	0.33	0.30	0.27	0.25	
227	cost	4388	9576	17817	28469	39877	46653	49907	196687
228	R and D rate	0.15	0.15	0.15	0.15	0.15	0.15	0.15	
229	cost	1463	3503	7223	12940	19939	25918	29944	100931
230	G and A rate	0.15	0.15	0.15	0.15	0.15	0.15	0.15	
231	cost	1463	3503	7223	12940	19939	25918	29944	100931
232	Total Costs - International	9263	21253	41894	71603	106340	133047	149722	533122
233									533122
234	Costs/revenue ratio	0.95	0.91	0.87	0.83	0.80	0.77	0.75	0.79
235									
236									
237									
238									
239									
240									
241									
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244									
245									
246									
247									
248									
249									

	A	B	C	D	E	F	G	H	I
250									16
251	New Gold:Enteprise Development Products Net Present Value								
252									
253									
254	($000)	1998	1999	2000	2001	2002	2003	2004	Total
255									1998-2004
256	Americas								
257	Revenues	24500	45900	72022.5	100967	126272	145411	142237	657309
258	Operating Income rate	0.05	0.09	0.13	0.17	0.20	0.23	0.25	
259	Operating Income pre tax	1225	4131	9363	17164	25254	33445	35559	126141
260	Tax Rate	0.40	0.40	0.40	0.40	0.40	0.40	0.40	
261	Taxes	490	1652	3745	6866	10102	13378	14224	50457
262	Operating Income after tax	735	2479	5618	10299	15153	20067	21336	75685
263	NPV Factor	0.961	0.886	0.816	0.752	0.693	0.639	0.589	
264	Net Present Value	706	2196	4584	7745	10501	12823	12567	51121
265									
266	International								
267	Revenues	9750	23355	48155	86269	132925	172788	199629	672871
268	Operating Income rate	0.05	0.09	0.13	0.17	0.20	0.23	0.25	
269	Operating Income pre tax	488	2102	6260	14666	26585	39741	49907	139749
270	Tax Rate	0.20	0.20	0.20	0.20	0.20	0.20	0.20	
271	Taxes	98	420	1252	2933	5317	7948	9981	27950
272	Operating Income after tax	390	1682	5008	11733	21268	31793	39926	111799
273	NPV Factor	0.961	0.886	0.816	0.752	0.693	0.639	0.589	
274	Net Present Value	375	1490	4087	8823	14739	20316	23516	73345
275									
276	World Wide								
277	Revenues	34250	69255	120177	187236	259197	318199	341866	1330179
278	Operating Income pre tax	1713	6233	15623	31830	51839	73186	85467	265890
279	Operating Income after tax	1125	4160	10626	22031	36421	51860	61261	187484
280	Net Present Value	1081	3686	8671	16567	25239	33138	36083	124466
281									
282									
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297									
298									
299									

Gold Enterprise Analyses

	% ADD prod contrib ratio	% TIS prod contrib ratio	next weight	weight ADD	weight TIS	New Tech
Specification	~~.~~ .050	0	.20	~~.08~~	0	.198
Analysis	.075	.050	.10	~~.008~~ .01	.05	.04
Design	.500	.250	.20	.10	.05	.05
Implementation	0	.600	.45	0	.27	.18
Test/Delivery	0	0	.05	0	0	.05
			1.00	.12	.37	.51 ~~.45~~

- new technology accounts for 51% of ∧new product technology value

- TIS Composer II accounts for 37% of ∧new product technology value

- ∧previous ADD products account for 12% of new product technology value

per Rich Bodson

	~~Co~~ ADD	Comp II
Bus Mod Tools	10%	0
App Mod Tools	0	0
Inf. Engrg	15%	5%
~~Obj~~ obj orient	0	5%
Inf Engrg Des'n ~~0~~		100%
OO Design	100%	0
Doc	0	0
Reverse	100	0
Code Gen	0	90
Encyclo	0	50
Reniteun /	0	100
Platform	0	2
Testing	0	0
Delivery	0	~~20~~ 0

- Reverse -
① IE -
⑤ OOD -

	Mut significance	
Spec	25	20
Anal.	15	10
Design	25	20
Impl.	65	~~45~~
Test/Del.	5	5
	100	

SECTION II. Description of TIS Products, Technologies and Business Operations

The TIS comprehensive set of application development products enables developers to build and deploy applications that scale across distributed enterprise computing environments with solutions for both traditional client/server and web-based distributed architectures. The set includes tools for both component-based development (CBD) and traditional information engineering (IE) tools.

Component-based development (CBD) is an application development framework for accelerating system delivery through reuse of software components. Lower development costs, increased overall quality and adaptability of the application are particular benefits for large-scale application development.

A component is an independently deliverable, self-contained package of software built to certain defined standards that allows its combination/integration with other such components. Examples would provide interapplication communications protocols, security and authentication services, human resource business functions and project management functions. A component includes specification, logic, interface and database information as well as actual code.

Key to use of the CBD approach are repositories and encyclopedias which provide for storing, cataloging, growing and examining components of multiple types and their design specifications and the underlying architecture for managing, controlling and sharing components.

TIS tools enable applications to be built in-house, purchased and customized from third parties, recovered from component libraries or migrated from legacy applications.

TIS current product offerings consist of four primary tools and a set of application templates.

A. Products

1. **Composer 4** -- A suite of tools utilizing a model-based paradigm in which specifications of a business process are created at a high level of abstraction such that components can be designed, reused and assembled independent of the underlying technology. It is intended for large-scale development. Composer also includes a wide range of traditional information engineering tools.

2. **Performer 1.0** -- Conceptually the same as Composer, but designed for use by groups comprised of 10 or less developers.

3. **Application Templates** -- Three vertical market applications based on using the Composer toolset. These are flexible application models for rapid construction of custom-tailored applications and are the highest form of component in the TIS component hierarchy.

4. **Arranger** -- Enables users to create high-quality functional application enhancements and decision support systems using enterprise standard components, without intervention of a centralized IS department. It is a companion product to Composer and Performer and is packaged with them. It employs a catalog consisting of components developed using Composer development tools and legacy systems repackaged in a component wrapper.

5. **WebCenter** -- Allows enterprises to deploy information systems that combine an Internet-style architecture with applications built using Composer.

The suite of tools in Composer and Performer 1.0 are described in Appendix C-1. The available Templates (InterConnecT, TOPPS, MMS) are described in Appendix C-2.

B. Current and In-Process Technologies

TI has identified primary active product technology development opportunities as:

1. **"Redwood"** -- Would provide an automated interface between Composer-generated applications and SAP R/3.

2. **"BoomBox"** -- A Java-based application assembly tool that would enable the use of Java beans and the Internet to create adaptable applications using components. It is targeted at Web authors seeking to embed application functionality in their sites using applets and components assembled from multiple public network sources.

3. **Microsoft Repository Browser** -- a tool which would enable developers to quickly browse that repository and bring its components into the Composer environment.

4. **"Dynamo"** -- A set of advanced component-based analysis and design functions

5. **Rational Rose** -- A set of functions produced by the Rational Corporation which are licensed to TIS for any form of future use. Rose contains modern, component-oriented specification, analysis and design tools.

The "merger" of TI technology and Sterling Software's product vision would be significant for the Object-Oriented Analysis and Design and Round Trip Engineering phases of SSW's "model" of information systems development. To the extent that CBD facilitates (1) enhancement and extension of existing legacy applications (mostly mainframe-based, written in COBOL), (2) the movement towards client/server architecture on a large scale and (3) the integration of packaged software applications, it will enhance the value of SSW's future ADD product architecture.

B. Related SSW Products

1. **Key:Enterprise** (from ADD) will not be actively sold after the end of FY97, but installed customers will be supported through FY2002. Significant effort will be made to migrate these customers to Composer for traditional IE development and to Gold for CB development.

2. **Key:Workgroup** (from ADD) will be marketed through FY98 and then supported through FY2002. There will be a strong marketing thrust to move these customers to Composer for IE development and Gold for CB development.

3. **Other SSW Application Development Products (STAR, CLEAR, VISION:Legacy)** -- These products are not significantly affected by the TIS acquisition, and their future strategies and plans are described separately in another report.

C. New Product Families

1. **Advanced CB Enterprise Application Development System--Gold:Enterprise Development**

   This comprehensive component-based application development system will incorporate best-of-breed technologies from current TIS and ADD products plus in-process development from TIS (Dynamo, Rational Rose) and from ADD (business modeling).

   This will be targeted principally at enterprises for their component-based application development. It will provide a new application development system focused only on component-based development.

2. **Advanced CB Development System -- Gold:Component Development**

   This will be a set of development functionalities (using a subset of the technologies from #1) but packaged, priced and targeted for third-party component developers. The focus here is on producing very high quality, high performance components, templates or applications by organizations whose goal is to resell these components, templates and applications.

3. **Advanced CB Development System -- Gold:Application Development**

   This will be a subset of the technologies in #1 aimed at those who just want to produce applications using available components. It will only include those functions from #1 (and those technologies) which would be needed by the less sophisticated application developers. This will be packaged and priced differently from #1 and #2.

4. Components

SSW will itself produce and market selected components using the Gold development system, will have third parties produce components under contract and will remarket components developed by third parties or customers. These components would be built using the SSW tools and standards, particularly with the development system specified in #2. The sale and distribution of components is potentially a large and growing market; if SSW can establish itself early and make it attractive for others to use the SSW repository, encyclopedia and marketing channel, then it could build a profitable business. Promoting the licensing of components would also encourage third parties to acquire the SSW component development system (#2).

5. Templates

At an even higher level, SSW may wish to develop, acquire or remarket templates which perform a useful business application. The thought here is that these templates would be modified and customized by end users or by system integrators or VAR's and would not require any ongoing maintenance from SSW. This approach might be akin to the specialized industry directions adopted by various companies (like SAP, etc.) to increase product sales. Use of the templates would encourage companies to acquire the SSW CBD application development system (#3).

D. Technologies Underlying New Product Families

The following table shows the planned use of the available TIS and SSW technologies in the planned future SSW products.

Note: X--Not Used; U--Useful; E--Essential

Development Processes	TIS/ SSW	Technologies	Gold Enter	Gold Comp Dev	Gold App Dev	Com- ponents	Tem- plates
Specification							
Business Modeling Tools	S	Work flow modeling	X	X	X	X	X
	S	Organization flow modeling	X	X	X	X	X
	S	Decomposition modeling	U	U	X	X	U
	S	Activity/job models	X	X	X	X	X
	S	Association matrices	U	U	X	X	U
Application Modeling Tools	T	Use Case Modeling	E	E	X	E	E
	T	Scenario modeling	E	E	X	E	E
	T	State modeling	E	E	U	E	E
Analysis							
Information Engineering Analysis Tools	T	Composer IE analysis tools	U	U	U	U	U

Development Processes	TIS/SSW	Technologies	Gold Enter	Gold Comp Dev	Gold App Dev	Components	Templates
	S	Entity relationship models	U	U	U	U	U
	S	Data flow models	X	X	X	X	X
	S	Association matrices	U	U	U	U	U
	S	Decomposition models	U	U	U	U	U
Object Oriented Analysis Tools	T	Component models	E	E	E	E	E
	T	Rational Rose	U	U	U	U	U
	S	Class models	E	E	E	E	E
	S	State transition models	E	E	U	E	E
	S	Sequence models	E	E	U	E	E
	S	Additional UML models	E	E	U	E	E
	S	Component models	E	E	E	E	E
Design							
Information Engineering Design Tools	S	Relational database design	E	E	U	E	E
	S	Application architecture	E	E	U	E	E
	S	Logic design	E	E	X	E	E
	S	Relational database views	E	E	X	E	E
	S	Triggers/stored procedures	U	U	X	U	U
Object Oriented Design Tools	T	Data/entity design	E	E	X	E	E
	T	Business logic design	U	U	X	U	U
	T	Screen design/dialog flows	U	U	X	U	U
	T	Window design/navigation	U	U	X	U	U
	T	Toolset information repository	E	E	E	E	E
	T	Rational Rose	U	U	U	U	U
Documentation Tools	S	KEY:Document	X	X	X	X	X
Reverse Engineering	S	Relational database reverse engineering	E	E	U	E	E
Implementation							
Code Generators	T	Relational database definition	U	U	X	X	X
	T	Referential Integrity Triggers	U	U	X	X	X
	T	Action blocks/procedures	U	U	U	X	X
	T	Block mode screen	X	X	X	X	X
	T	Dialog flow	X	X	X	X	X
	T	GUI window	U	U	U	X	X
	T	Cooperative server	U	U	X	X	X
	T	Assemble & design toolset	E	E	E	X	X

Development Processes	TIS/ SSW	Technologies	Gold Enter	Gold Comp Dev	Gold App Dev	Components	Templates
	T	Generators	E	E	E	X	X
	T	Rational Rose	U	U	U	X	X
	S	Relational database definition	U	U	X	X	X
	S	Visual development tools	X	X	X	X	X
Encyclopedia	T	Host (MVS) encyclopedia	X	X	X	X	X
	T	Client/server encyclopedia	U	U	X	X	U
	T	Model management server	U	U	X	X	U
	T	Construction generation server	U	U	X	X	X
	T	Encyclopedia client	U	U	X	X	U
	T	Component Explorer	E	E	E	U	U
	T	Interchange Wizard	E	E	E	U	U
	T	Rational Rose	U	U	U	U	U
	T	Team Encyclopedia	U	U	X	X	X
	S	KEY:Team	X	X	X	X	X
	S	KEY:Utilities	X	X	X	X	X
	S	KEY:Coordinate	X	X	X	X	X
Runtime/Communications Functions	T	Transaction enabler	U	U	U	U	U
	T	Referential Integrity runtime	U	U	U	U	U
	T	Block mode runtime	X	X	X	X	X
	T	Server runtime	U	U	U	U	U
	T	GUI runtime	U	U	U	U	U
	T	Action block runtime	U	U	U	U	U
	T	Client mgr. communications	U	U	U	U	U
	T	Communications bridge	U	U	U	U	U
	T	SAP Connector	U	U	U	U	U
Platform Support	T	WebCenter	X	X	X	X	X
	T	JAVA Proxy	E	E	E	E	E
	T	"BoomBox"	X	X	X	X	X
	S	KEY:Webview	U	U	X	X	U
Testing							
High Level Test Tools							
Low Level Test Tools							
Delivery							
Installation/Deployment Tools	T	Installation tools	U	U	U	U	U

As of the date of acquisition, T&S had
a number of in process research and develop-
ment projects as described in Section II. It
was T&S' intent to focus on providing
a first class, comprehensive set of application
development tools built around component-
based ~~analy.~~ ~~modeling~~ specification (modeling),
analysis and design ~~tools~~ ~~concepts~~ methodo-
logies linked to strong implementation,
testing and delivery capabilities. Specifically,
this major new product would draw on
some of the functionality in Composer 4 and on
the in process development work called Redwood,
BoomBox, Microsoft Repository Browser, Dynamo, and
Rational Rose ~~and~~ ~~possibly~~ ~~Redwood~~

SSW intends to build upon this planned
component-based product by producing
Cold: Enterprise Development which will
also incorporate certain specific tools
from ~~SSW's~~ ADD's previous modeling and design
programs.

Re examination of TIS Valuation

Sect I - change discount rate to compute NPV
redo Tables ~~# 36~~ 16, 26, 36
changing NPV factor for ~~U.S.~~ + Intl to
15% from 8.5%

Sect VI - • what new products meet test
of being in process as of avg date
and not having passed FAS 86 test:
  Gold : Enterprise Devel
        ~~Sys~~ Component Devel
        Application Devel
  Components
  Templates
  (see Section III pp 2 + 3 for
  new prod. descriptions)

• For each new product prepare
  acceptable
  Function/Technology matrix
  ~~showing~~ all capabilities to be
  incorporated in new product.
    (see pgs III - 3 thru III - 5)

• Map contributions from
  current (e.g. released) TIS
  products and from ~~US~~ ADD
  products (0 - 100 %) to each
  of new product functions/technology

• Establish market significance of
  each function/technology
  for each new product (H, M, L)
        (see Appendix G-1)

• Compute contribution value (%)
  for ~~US~~ TIS and ~~US~~ ADD
  core technologies versus new
  research + development work
        (see Appendix G-2)

- Establish degree of completion for each new product as of acquisition date (devel cost to acq date vs total devel cost Thru FAS 86 date)

- Set up models ala Interlink as add-ons to ~~the~~ Appendix F; replace Tables 1b, 2b, 3b, 4b + 5b as necessary:
  - change NPV factor for Amer + Fute
  - set up Core Tech deduction
  - set up To net opt deduction

New Section — Valuation of other Intangibles what was Goodwill + its life?
  - retained employees
  - cust base for ADD products
  - other technologies
  - goodwill

  - total acquisition costs

June 23, 1999

Mr. Don McDermett
Sterling Software, Inc.
300 Crescent Court
Suite 1200
Dallas, Texas 75201-1000

Dear Don:

Subject: TIS Valuation Review

At your request, Burton Grad Associates, Inc. (BGAI) has performed a reexamination of the July 15, 1997 Valuation of the acquired TIS intangible assets. The reexamination is a hypothetical one assuming that the SEC rules regarding purchased asset valuation which were formulated in September 1998 were in place in July 1997.

There are four principal differences between the procedures followed on all BGAI valuations prior to September 1998 and those followed since then:

1. The in-process research and development write-offs have been reduced by:

    a. Only using new development projects actually under way at seller at date of acquisition.

    b. Explicitly deducting the value of core technologies incorporated in the new projects

    c. Only including the value for the percentage of development work completed as of the date of acquisition versus the total development work required to meet FAS86 technical feasibility tests.

    d. Only using a risk-related rate-of-return-based discount rate rather than one based primarily on the cost of money.

2. On product forecasts, the discount rate must reflect forecast and profit risk as well as targeted rate of return, rather than just the cost of money.

3. Each of the other intangibles must be explicitly valued and their economic life determined rather than using a single value for goodwill with one appropriate amortization period:

   a. Retained employee cost avoidance
   b. Customer base value for purchases of other buyer products
   c. Other acquired technologies
   d. Going concern/goodwill

4. In addition, buyers have been cautioned that restructuring costs and acquisition related asset write-downs will be more closely examined and may be questioned as to whether they were explicitly related to the acquisition.

The SEC also notified all accounting firms that they would be held responsible for performing a thorough due diligence review of the acquired asset allocations to ensure that the SE guidelines were being followed in detail.

BGAI has carefully reexamined its July 15, 1997 TIS Valuation Report with regard to each of these items and has attached a report which shows what the results might have been for each intangible asset category if these new rules had been followed.

In BGAI's opinion, the original report was correctly done in all regards, based on the procedures then in common use and was consistent with BGAI and Sterling Software, Inc. (SSW) practices and understandings.

Therefore, this should be viewed as a hypothetical exercise to enable SSI to better gauge the effect of the new SEC rules on future acquisition, particularly since FASB is considering eliminating "pooling of interests" and requiring purchased accounting treatment for all future acquisitions.

Sincerely,

Burton Grad

Enclosure
5059
cc: Paul Baker
    Logan Wray

TEXAS INSTRUMENTS SOFTWARE INTANGIBLE ASSETS ACQUIRED BY STERLING SOFTWARE, INC. AS OF JUNE 30, 1997

<u>Hypothetical Reexamination</u>

Prepared for: Sterling Software, Inc.
300 Crescent Court
Suite 1200
Dallas, Texas 75201-1000

Prepared by: Burton Grad Associates, Inc.
101 Post Road East
Westport, Connecticut 06880

Burton Grad
Elizabeth Virgo

Date: June 30, 1999

Table of Contents

EXECUTIVE SUMMARY

At the request of Sterling Software, Inc. (SSW), Burton Grad Associates, Inc. (BGAI) reviewed the procedures used in valuing the intangible assets acquired from Texas Instruments Software (TIS) by SSW on June 30, 1997.

BGAI then reconstructed the models for the existing TIS product families (Composer, Performer and Templates) and for the in-process new TIS application development systems offerings. These were separated by Americas and International.

BGAI used the new SEC rules (9/98) as a hypothetical exercise to determine the impact of these changes.

The assumptions for and results of these calculations for the existing TIS products are shown in Section V. The results are summarized here as changed by the new rules:

Summary of Product Values	New Value	Previous Value	Amortization Life
TIS Products			5 years
Composer		$23,881,000	3 years
Performer		76,000	3 years
Templates		97,000	
Total		$24,054,000	

In any case, these product values should be capitalized and amortized over the periods noted starting with the date of acquisition on a straight-line basis.

The assumptions for and results of these calculations for the TIS technologies as incorporated into SSW's intended application development system offerings are shown in Section VI. The results are summarized here.

	New Value	Previous Value
TIS Technologies		
Advanced Component-Based		$123,033,000
Development Systems (Gold)		9,767,000
Components		5,049,000
Templates		
Total		

In any case, these available and in-process technology values should be expensed per FAS2 as of the date of acquisition since the products which will incorporate these technologies do not meet FAS86 qualifications for capitalization at this time.

The total measured intangibles are $161,903,000. To determine the goodwill to be capitalized, this figure should be deducted from the net intangible asset purchase value, which is computed by adding the acquisition costs to the asset purchase price and then subtracting the net tangible value (tangible assets less tangible liabilities).

<add paragraph on other intangibles and goodwill>

These figures represent BGAI recommendations to SSW for its allocation of the intangible asset purchase value among products, in-process R&D technologies and goodwill.

Sterling Software
Acquisition Expenses - Classification
For the period ended September 30, 1997

	Total Costs	Severance & Related Fees	Retention Costs	Additional Employee Matters/Litigation	Post-Acquisition Expenses	Restructuri Redunda Costs
Sterling Software						
Severance Pay						
U.S.	3,468,000	3,468,000	0	0	0	0
Internt'l.	13,738,000	0	0	0	0	0
Special Terminations	1,340,000	1,340,000	0	0	0	0
Bonuses						
Retention Bonuses	1,320,000	0	1,320,000	0	0	0
Special Bonuses	1,919,000	0	0	0	0	0
Other Employee Matters						
Stock Purchase Plan - U.S.	459,000	0	0	0	0	0
Stock Purchase Plan - Internt'l.	250,000	0	0	0	0	0
Transition Employees & Stay Bonuses - U.S.	478,000	0	0	478,000	0	0
Transition Employees & Stay Bonuses - Internt'l.	1,379,000	0	0	0	0	0
Relocation Costs of Employees - U.S.	1,815,000	0	0	0	1,815,000	0
Relocation Costs of Employees - Internt'l.	466,000	0	0	0	0	0
Potential Employee Litigation - U.S.	250,000	0	0	250,000	0	0
Potential Employee Litigation - Internt'l.	210,000	0	0	0	0	0
Maternity Exceptions	38,000	0	0	38,000	0	0
Outplacement Costs - U.S.	300,000	0	0	300,000	0	0
Outplacement Costs - Internt'l.	306,000	0	0	0	0	0
Other	959,000	959,000	0	0	0	0
Acquisition Planning & Travel						
Announcement Costs - Internt'l.	349,000	0	0	0	0	0
Announcement Costs - Corporate	650,000	0	0	0	0	0
Facility & Equip. Related Costs						
Excess/Duplicate Office Facilities	7,690,000	0	0	0	0	896,00(
Office Relocation Costs	1,864,000	0	0	0	0	840,00(
Excess Equip. Leases	1,025,000	0	0	0	0	0
Duplication/Transfer of Records	165,000	0	0	0	0	165,00(
Termination Costs for Overlapping Distributors	500,000	0	0	0	500,000	0

Sterling Software
Acquisition Expenses - Classification
For the period ended September 30, 1997

	Total Costs	Severance & Related Fees	Retention Costs	Additional Employee Matters/Litigation	Post-Acquisition Expenses	Restructur Redunda Costs
Professional Fees						
Alex Brown	1,560,000	0	0	0	0	0
Anik & Heiberg	80,000	0	0	0	0	13,600
Baker McKenzie	225,000	0	0	0	0	0
Bank Fees	5,000	0	0	0	0	0
Blakely Sokoloff Taylor & Zafman	49,995	0	0	0	0	0
Burton Grad Associates	150,000	0	0	0	0	0
Ernst & Young LLP	874,000	0	0	0	0	0
Expat Fees	60,000	0	0	60,000	0	0
Gardere & Wynne	25,000	9,000	0	0	0	0
Hewitt	1,500,000	0	0	0	0	0
Jones, Day, Reavis & Pogue	2,402,000	0	0	0	450,440	0
Staubach	450,000	0	0	0	0	70,000
Systems Union	17,000	0	0	17,000	0	0
Western Europe Other	108,000	0	0	0	0	0
Other						
Mainframe Software & License Fees	519,000	0	0	0	0	0
Vacation Make Up & Tax Protection	50,000	0	0	50,000	0	0
Employment Costs	61,000	0	0	61,000	0	0
Miscellaneous Business Costs	164,000	0	0	0	164,000	0
India Business Costs	117,000	0	0	0	0	0
Marketing/Performer/UST Termination Costs	171,000	171,000	0	0	0	0
Hart Scott Rodino Filing Fee	45,005	0	0	0	0	0
Travel - Cust Supl Shutdown	15,000	0	0	0	15,000	0
Contractors Notice	188,000	0	0	0	188,000	0
Total Acquisition Expenses	49,774,000	5,947,000	1,320,000	1,254,000	3,132,440	1,984,60

Classification Summary

Costs Deductible under Sections 162 and 165
Organizational Costs Capitalizable under Section 248

Sterling Software
Acquisition Expenses - Classification
For the period ended September 30, 1997

	Total Costs	Severance & Related Fees	Retention Costs	Additional Employee Matters/Litigation	Post-Acquisition Expenses	Restructuri Redunda Costs
Capitalized License Fees						
Capitalized Trademarks						
Cost Capitalized into the Basis of T.I. Assets Acquired (incl. audit fees)						
Total Costs/Expenses						

Sterling Software

Acquisition Expenses - Classifica

For the period ended September

	Organizational Expenses
Sterling Software	
Severance Pay	
U.S.	0
Internt'l.	0
Special Terminations	0
Bonuses	
Retention Bonuses	0
Special Bonuses	0
Other Employee Matters	
Stock Purchase Plan - U.S.	0
Stock Purchase Plan - Internt'l.	0
Transition Employees & Stay Bonuses -	0
Transition Employees & Stay Bonuses -	0
Relocation Costs of Employees - U.S.	0
Relocation Costs of Employees - Internt	0
Potential Employee Litigation - U.S.	0
Potential Employee Litigation - Internt'l.	0
Maternity Exceptions	0
Outplacement Costs - U.S.	0
Outplacement Costs - Internt'l.	0
Other	0
Acquisition Planning & Travel	
Announcement Costs - Internt'l.	0
Announcement Costs - Corporate	0
Facility & Equip. Related Costs	
Excess/Duplicate Office Facilities	0
Office Relocation Costs	0
Excess Equip. Leases	0
Duplication/Transfer of Records	0
Termination Costs for Overlapping Distr	0

Sterling Software
Acquisition Expenses - Classifica
For the period ended September

		Organizational Expenses
40	**Professional Fees**	
41	Alex Brown	0
42	Anik & Heiberg	0
43	Baker McKenzie	0
44	Bank Fees	0
45	Blakely Sokoloff Taylor & Zafman	0
46	Burton Grad Associates	0
47	Ernst & Young LLP	0
48	Expat Fees	0
49	Gardere & Wynne	0
50	Hewitt	0
51	Jones, Day, Reavis & Pogue	0
52	Staubach	0
53	Systems Union	0
54	Western Europe Other	0
55	**Other**	
56	Mainframe Software & License Fees	0
57	Vacation Make Up & Tax Protection	0
58	Employment Costs	0
59	Miscellaneous Business Costs	0
60	India Business Costs	0
61	Marketing/Performer/UST Termination (	0
62	Hart Scott Rodino Filing Fee	0
63	Travel - Cust Supl Shutdown	0
64	Contractors Notice	0
65		
66	**Total Acquisition Expenses**	0

	A	B	AH	AA
1		Sterling Software		
2		Acquisition Expenses - Classifica		
3		For the period ended September		
4				
5				
6				
7				
8			Organizational	
9			Expenses	
72				
73				
74				
75				

Sterling Software
Detail of Foreign Corp. Expenses
For the period ended September 30, 1997

	Total Costs	Investigatory & Due Diligence	Evaluation of Employee Benefit Plans	Severance & Related Fees	Retention Costs	Additional Employee Matters/Litigation	Announcement Costs	Post-E
Sterling Software								
Severance Pay								
Internt'l.	13,738,000	0	0	13,738,000	0	0	0	
Bonuses								
Special Bonuses	1,919,000	0	0	0	1,919,000	0	0	
Other Employee Matters								
Stock Purchase Plan - Internt'l.	250,000	0	250,000	0	0	0	0	
Transition Employees & Stay Bonuses - Internt'l.	1,379,000	0	0	0	0	1,379,000	0	
Relocation Costs of Employees - Internt'l.	466,000	0	0	0	0	0	0	4
Potential Employee Litigation - Internt'l.	210,000	0	0	0	0	210,000	0	
Outplacement Costs - Internt'l.	306,000	0	0	0	0	306,000	0	
Acquisition Planning & Travel								
Announcement Costs - Internt'l.	349,000	0	0	0	0	0	349,000	
Facility & Equip. Related Costs								
Excess/Duplicate Office Facilities	6,794,000	0	0	0	0	0	0	
Office Relocation Costs	1,024,000	0	0	0	0	0	0	
Excess Equip. Leases	1,025,000	0	0	0	0	0	0	
Professional Fees								
Staubach	350,000	105,000	0	0	0	0	0	
Western Europe Other	108,000	0	0	0	0	54,000	0	
Other								
India Business Costs	117,000	0	0	0	0	0	0	
Total Foreign Corp. Reimbursed Expenses	28,035,000	105,000	250,000	13,738,000	1,919,000	1,949,000	349,000	4

Classification Summary

Costs Deductible under Sections 162 an
Organizational Costs Capitalizable under
Capitalized Trademarks
Cost Capitalized into the Basis of T.I. Assets Acquired
Total Costs/Expenses

Note: All foreign reimbursed expenses were determined from the "TIS Dir
Adjustments to Net Book Value" spreadsheet provided by Sterling Soft
acquisition cost with a description of "International" or with a foreign c
foreign reimbursed expense.

Sterling Software
Detail of Foreign Corp. Expenses
For the period ended September 30, 1997

	Organizational Expenses
Sterling Software	
Severance Pay	
Internt'l.	0
Bonuses	
Special Bonuses	0
Other Employee Matters	
Stock Purchase Plan - Internt'l.	0
Transition Employees & Stay Bonuses - Internt'l.	0
Relocation Costs of Employees - Internt'l.	0
Potential Employee Litigation - Internt'l.	0
Outplacement Costs - Internt'l.	0
Acquisition Planning & Travel	
Announcement Costs - Internt'l.	0
Facility & Equip. Related Costs	
Excess/Duplicate Office Facilities	0
Office Relocation Costs	0
Excess Equip. Leases	0
Professional Fees	
Staubach	0
Western Europe Other	54,000
Other	
India Business Costs	0
Total Foreign Corp. Reimbursed Expenses	54,000

Sterling Software
Professional Fees
For the period ended September 30, 1997

Sterling Software
Professional Fees

	Total Costs	Investigatory & Due Diligence	Evaluation of Employee Benefit Plans	Audit Fees	Temporary Accounting Personnel	General Planning & Advice	Severance & Related Fees	Retention Costs	Stock Purchase Plan Payouts	Additional Employee Matters/Litigation	Announcement Costs	Post-Acquisition Expenses	Restructuring & Redundancy Costs	License Fees	Intangible License Transfer Fees	Organization Expenses
Alex Brown	1,590,000	0	0	0	0	1,170,000	0	0	0	0	0	0	0	0	0	0
Anik & Helberg	80,000	40,800	0	0	0	0	0	0	0	0	0	0	13,600	0	0	0
Baker McKenzie	225,000	0	225,000	0	0	0	0	0	0	0	0	0	0	0	0	0
Bank Fees	5,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Blakely Sokoloff Taylor & Zafman	49,996	19,728	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Burton Grad Associates	150,000	61,424	0	0	0	35,051	0	0	0	0	0	0	0	0	0	0
Ernst & Young LLP	874,000	184,545	0	30,761	61,522	165,149	0	0	0	0	0	0	0	0	0	0
Expat Fees	60,000	0	0	0	0	0	0	0	0	60,000	0	0	0	0	0	0
Gardere & Wynne	25,000	0	16,000	0	0	0	9,000	0	0	0	0	0	0	0	0	0
Hewitt	1,500,000	0	1,256,836	0	0	3,764	0	0	0	0	0	0	0	0	0	0
Jones, Day, Reavis & Pogue	2,402,000	679,329	0	0	0	35,000	0	0	0	0	0	450,440	0	0	0	0
Steubach	480,000	135,000	0	0	0	0	0	0	0	0	0	0	315,000	0	0	0
Systems Union	17,000	0	0	0	0	0	0	0	0	17,000	0	0	0	0	0	0
Western Europe Other	108,000	0	0	0	0	0	0	0	0	54,000	0	0	0	0	0	54,000
	7,505,995	1,120,826	1,497,838	30,761	61,522	1,408,994	9,000	0	0	131,000	0	450,440	328,600	0	0	54,000

Classification Summary	
Costs Deductible under Sections 162 and 165	5,013,754
Organizational Costs Capitalizable under Section 248	54,000
Capitalized Trademarks	24,733
Cost Capitalized into the Basis of T.I. Assets Acquired	2,413,508
Total Costs/Expenses	7,505,995

Sterling Software

Detail of Transaction Costs

For the period ended September 30, 1997

	Total Costs	Acquisition Plan	Acquisition Agreement	Tax Advice Acquisition	Closing Matters	SEC Filings	HSR Issues	Untrac Am
Sterling Software								
Alex Brown	390,000	390,000	0	0	0	0	0	(
Anik & Heiberg	25,600	0	0	0	25,600	0	0	(
Bank Fees	5,000	0	0	0	0	0	0	5,0
Burton Grad Associates	53,495	0	0	0	53,495	0	0	(
Ernst & Young LLP	432,023	0	0	328,972	0	103,051	0	(
Hart Scott Rodino Fees	45,005	0	0	0	0	0	45,005	(
Hewitt	239,398	0	0	0	239,398	0	0	(
Jones, Day, Reavis & Pogue	1,237,231	0	1,237,231	0	0	0	0	(
Total Merger Related Expenses	2,427,752	390,000	1,237,231	328,972	318,493	103,051	45,005	5,0

NOTE: Total Costs of $2,580,185 ties to the sum of transaction costs from the Expense
Classification Spreadsheet & the Detail Foreign Corp. Spreadsheet.

Sterling Software
Invoice Comparison
For the period ended September 30, 1997

Professional Fees	Ken	Lyle		Diff.
Alex Brown	1,557,772	1,557,772		0
Anik & Heiberg	53,260	48,386		(4,874)
Baker McKenzie	14,070	9,096		(4,974)
Blakely Sokoloff Taylor & Zafman	10,082	5,478		(4,604)
Burton Grad Associates	106,182	106,291		109
Ernst & Young LLP	667,566	609,066	*	(58,500)
Gardere & Wynne	29,967	29,467		(500)
Hewitt	667,827	666,235		(1,592)
Jones, Day, Reavis & Pogue	1,872,095	1,893,640		21,545
Staubach	80,000	80,000		0
Invoice Total	5,058,821	5,005,431		(53,390)

* Note: EY invoices are off since Ken included in his total a $56K missing invoice.
Consequently, there is only an immaterial diff. between the two invoice totals.

Date: June 22, 1999

To: Don McDermett

Copy: Paul Baker
                Logan Wray

From: Burton Grad

Subject: TIS Valuation Review

At your request, Burton Grad Associates, Inc. (BGAI) has performed a reexamination of the July 15, 1997 Valuation of the acquired TIS intangible assets. The reexamination is a hypothetical one assuming that the SEC rules regarding purchased asset valuation which were formulated in September 1998 were in placed in July 1997.

There are four principal differences between the procedures followed on all BGAI valuations prior to September 19998 and those followed since then:

1. The in-process research and development write-offs have been reduced by requiring:

    a. Can only use new development projects actually under way at seller at dat of acquisition.

    b. Must explicitly deduct the value of core technologies incorporated in the new projects

    c. Must only include value for percentage of development work completed as of the date of acquisition versus the total development work required to meet FAS86 technical feasibility tests.   primarily

    d. Must use a risk-related rate-of-return-based discount rate rather than one based on the cost of money.

2. On product forecasts, the discount rate must reflect forecast and profit risk ~~and~~ *as well as* targeted rate of return, rather than just the cost of money.

3. *Each of them* ~~All~~ other intangibles must *be* explicitly valued and their economic life determined rather than ~~using~~ a single value ~~fro~~ goodwill with ~~an~~ *one* appropriate amortization period:

   a. Retained employee cost avoidance
   b. Customer base value for buyer product purchases *of others*
   c. Other acquired technologies
   d. Going concern/goodwill

4. In addition, buyers have been cautioned that restructuring costs and acquisition related asset write-downs will be more closely examined and questioned *may be as to whether they were explicitly related to the acquisition*

The SEC also notified all accounting firms that they would be held responsible for performing a thorough due diligence review of the acquired asset allocations to ensure that the SEC guidelines were being followed in detail.

BGAI has carefully reexamined its July 15, 1997 TIS Valuation Report with regard to each of these items and has attached a report which shows what the results might have been *for* in each intangible asset category if these new rules had been followed.

In BGAI's opinion, the original report was correctly done in all regards, based on the procedures then in common use and was consistent with BGAI and Sterling Software, Inc. (SSI) practices and understandings.

Therefore, this should be viewed as a hypothetical exercise *on future acquisitions,* to enable SSI to better gauge the effect of the new SEC rules, particularly since FASB is considering eliminating "pooling of interests" and requiring purchased accounting treatment for all future acquisitions.

Sincerely,

Burton Grad

5059

BURTON GRAD ASSOCIATES, INC.

235 MARTLING AVENUE
TARRYTOWN, NEW YORK 10591
(914) 631-1129
(914) 631-1164 FAX

July 15, 1997

Mr. Logan Wray
Sterling Software, Inc.
300 Crescent Court
Suite 1200
Dallas, Texas 75201-1000

Dear Logan:

Subject: **Valuation of Intangible Assets Acquired
from Texas Instruments Software**

At the request of Sterling Software, Inc. (SSW), Burton Grad Associates, Inc. (BGAI) has determined valuations as of June 30, 1997 for the products and technologies acquired from Texas Instruments Software (TIS). This will assist SSW in the allocation of the purchase price (after the tangible net assets have been deducted) to the intangible assets which were part of the purchase of assets by SSW.

This report deals with the acquired TIS products and technologies which will be developed and marketed by SSW after the acquisition.

The analysis and recommendations in this report are based on examination of materials provided by TIS, information on business plans provided by SSW and interviews with selected business, technical and financial executives at TIS and SSW. Some of the materials provided have not been independently verified as to accuracy, but all information has been compared to relevant industry data.

The definitions, methodology and logic used, as well as the results obtained, are described in this report. The enclosed appendices provide additional information supporting the BGAI allocation recommendations.

These figures are based on information provided by SSW regarding their strategic plans and intentions regarding the future development, marketing, distribution and support of the existing TIS products and the available and in-process TIS technologies. Note particularly that valuation of the current TIS products is dependent on how SSW has planned to balance their sale and support with the current ADD products. Even more significant are SSW's decisions on which of the TIS and which of the ADD technologies (KWI-related and new) will be vital to and incorporated into future application development systems products for the combined SSW/TIS organizations.

ITAA

BURTON GRAD ASSOCIATES, INC.

GLIM X

The enclosed TIS Products figures have been built on a product family basis, (not by individual products). They reflect the general and individual assumptions stated on: market; continued enhancement; prices; unit sales; renewal rates; timing of replacement or successor products; cost of money; effective American tax rates; marketing of these products internationally; international tax rates; operating costs, etc.

The enclosed TIS Technologies figures have been built on the intended SSW strategies as of 6/30/97 with particular dependency on the significance of the use of available and in-process TIS technologies in each product relative to the significance of the use of available and in-process SSW technologies. These proposed future product family values reflect the general and individual assumptions stated on: markets; competition; technology advances; acceptance of component-based development; American and international tax rates; cost of money; operating costs, etc.

If you or your staff have any questions on these results, assumptions or logic, please contact me.

Sincerely,

Burton Grad

Enclosure
BG:3513
cc: Laura Appling
    Steve Carey
    Don McDermett

TEXAS INSTRUMENTS SOFTWARE
INTANGIBLE ASSETS ACQUIRED BY
STERLING SOFTWARE, INC.
AS OF JUNE 30, 1997

Hypothetical Reexamination
~~Valuation Report~~

Prepared for:

Sterling Software, Inc.
300 Crescent Court
Suite 1200
Dallas, Texas 75201-1000

Prepared by:

Burton Grad Associates, Inc.
~~235 Martling Avenue~~
~~Tarrytown, New York 10591~~

Burton Grad
Elizabeth Virgo
~~Martin Silberberg~~
~~Sidney Dunayer~~

Date:

June 30, 1999
~~July 15, 1997~~

Table of Contents

EXECUTIVE SUMMARY

<u>**Appendices**</u>

EXECUTIVE SUMMARY

At the request of Sterling Software, Inc. (SSW), Burton Grad Associates, Inc. (BGAI) ~~assembled a small team of consultants to work with the information requested from and provided by Texas Instruments Software (TIS)~~ and SSW. A number of people at TIS and at SSW were interviewed in order to gather additional information and to understand SSW's planned strategies and directions, *reviewed the ~~after~~ procedures used in valuing the intangibles*

BGAI then *re*constructed ~~a set of~~ models for the existing TIS product families (Composer, Performer and Templates) and for the ~~planned new SSW~~ *acquired the TIS* application development systems offerings. These were separated by Americas and International. *assets acquired from Texas Instruments Software (TIS) by SSW on 6/30/97.*

The necessary data on various revenue and cost assumptions were entered into these models. BGAI then constructed appropriate revenue forecasts for each existing and planned product. The models calculated the net present value for the operating income cash flow using the financial assumptions on cost of money and tax rates as provided by SSW. *(9/98) BGAI used the new SEC rules, as a hypothetical exercise to determine the impact of these changes.*

The assumptions for and results of these calculations for the existing TIS products are shown in Section V. The results are summarized here *as changed by the new rules* :

Summary of Product Values	*new value*	*new previous* Value	Amortization Life
TIS Products			
Composer		$23,881,000	5 years
· Performer		76,000	3 years
Templates		97,000	3 years
Total		$24,054,000	

In any case,
These product values should be capitalized and amortized over the periods noted starting with the date of acquisition on a straight-line basis. ~~Previously, the ve~~

The assumptions for and results of these calculations for the TIS technologies as incorporated into SSW's intended application development system offerings are shown in Section VI. The results are summarized here.

	new value	*previous* Value
TIS Technologies		
Advanced Component-Based Development Systems (Gold)		$123,033,000
Components		9,767,000
Templates		5,049,000
Total		$137,849,000

In any case,
These available and in-process technology values should be expensed per FAS2 as of the date of acquisition since the products which will incorporate these technologies do not meet FAS86 qualifications for capitalization at this time.

(need total purchase price)

The total measured intangibles are $161,903,000. To determine the goodwill to be capitalized, this figure should be deducted from the net intangible asset purchase value, which is computed by adding the acquisition costs to the asset purchase price and then subtracting the net tangible value (tangible assets less tangible liabilities).

These figures represent BGAI recommendations to SSW for its allocation of the intangible asset purchase value among products, in-process R&D technologies and goodwill.

(add to our other intangibles and goodwill)

March 10, 1999

Mr. Don McDermett
Sterling Software, Inc.
300 Crescent Court
Suite 1200
Dallas, Texas 75201-1000

4099   <u>Attorney Work Product</u>

Dear Don:

At the request of Sterling Software, Inc. (SSI), Burton Grad Associates, Inc. (BGAI) will reexamine has BGAI's valuation of the TIS intangible assets acquired by SSI July 1997, based on the recent changes in the SEC's recommended allocation rules and procedures and their interpretations.

Work Plan

1. BGAI will use stricter interpretations for analyzing the value of the acquired technologies (which planned products to be included and contribution of core technologies).

2. BGAI will value and determine the life of the other intangibles (such as work force, customer base, other technologies and going concern/goodwill).

3. BGAI will also use the September 15, 1998 valuation rules as proposed by Lynn Turner, SEC chief accountant. This would involve only including the actual IPR&D projects at TIS at the date of acquisition, adjusting for core technologies contributions from TIS and ADD and reducing the value for the percent of development not yet completed.

4. This review will also show the effect of using an ROI figure for NPV computation rather than a cost of money figure.

Staffing and Schedule

All work will be performed by Burton Grad. SSI/ADD will assign a principal liaison. Work will begin in mid-March with a target completion date of mid-April 1999.

SECTION I. Objectives and Work Plan

At SSW's request, Burton Grad Associates, Inc. (BGAI) has performed a valuation of the intangible assets obtained by Sterling Software, Inc. (SSW) in its planned acquisition of the Texas Instruments Software Division (TIS).

TIS is the developer and distributor of a number of application development programs currently used by many companies throughout North America and internationally. The TIS products, components and technologies which are currently available and those under development will be of critical value to SSW in its future development and marketing plans for the U.S. and internationally.

BGAI was requested to determine the value of the products, components and technologies acquired from TIS so that the asset purchase price could be properly allocated and the intangible assets capitalized or written off.

SSW retained BGAI because of its extensive experience over the last 16 years in valuing software companies and their assets. BGAI performed this independent valuation using generally accepted valuation techniques. These valuations may be used by SSW to support financial (book), capitalization/amortization decisions and for selected other business purposes.

Work Plan

BGAI performed this valuation study following these steps:

1. SSW and TIS collected materials as specified by BGAI which provided the basis for the valuation study. A list of the materials obtained is shown in Appendix B-1.

2. BGAI examined these materials and conducted telephone interviews with selected SSW and TIS executives to obtain information not available from the source materials or to amplify or clarify these materials, particularly with regard to future strategies and plans. A list of those interviewed is shown in Appendix B-2.

3. BGAI used selected valuation methodologies (principally net present value of projected cash flow, with limited use of reconstruction costs of technologies) and analyzed the materials and interview notes so as to construct the valuation models needed.

4. For these models, key valuation factors were determined including historic customer revenues, operating costs, maintenance renewal rates, along with NPV factors, projected tax rates, etc. Using these factors, the recommended product and technology values were determined as well as expected goodwill values required for book purposes.

5. A preliminary report has been delivered prior to closing of the acquisition to ensure that the key information used is accurate and complete and that the logic, calculations and explanations are clear. After the closing, the final report was prepared and submitted including more detailed descriptions and explanations and additional appendices.

Staffing

The principal valuation work was supervised and performed by Burton Grad. Elizabeth Virgo, Martin Silberberg and Sidney Dunayer (all BGAI Associates) assisted in the analysis and modeling activities. Grad's professional profile is enclosed as Appendix A-1. Virgo's profile is Appendix A-2; Silberberg's profile is Appendix A-3; Dunayer's profile is Appendix A-4.

SSW and TIS assigned various liaison people to work with BGAI to provide financial, marketing, organizational and technical information as required.

SECTION II. <u>Description of TIS Products, Technologies and Business Operations</u>

The TIS comprehensive set of application development products enables developers to build and deploy applications that scale across distributed enterprise computing environments with solutions for both traditional client/server and web-based distributed architectures. The set includes tools for both component-based development (CBD) and traditional information engineering (IE) tools.

Component-based development (CBD) is an application development framework for accelerating system delivery through reuse of software components. Lower development costs, increased overall quality and adaptability of the application are particular benefits for large-scale application development.

A component is an independently deliverable, self-contained package of software built to certain defined standards that allows its combination/integration with other such components. Examples would provide interapplication communications protocols, security and authentication services, human resource business functions and project management functions. A component includes specification, logic, interface and database information as well as actual code.

Key to use of the CBD approach are repositories and encyclopedias which provide for storing, cataloging, growing and examining components of multiple types and their design specifications and the underlying architecture for managing, controlling and sharing components.

TIS tools enable applications to be built in-house, purchased and customized from third parties, recovered from component libraries or migrated from legacy applications.

TIS current product offerings consist of four primary tools and a set of application templates.

A. <u>Products</u>

1. <u>Composer 4</u> -- A suite of tools utilizing a model-based paradigm in which specifications of a business process are created at a high level of abstraction such that components can be designed, reused and assembled independent of the underlying technology. It is intended for large-scale development. Composer also includes a wide range of traditional information engineering tools.

2. <u>Performer 1.0</u> -- Conceptually the same as Composer, but designed for use by groups comprised of 10 or less developers.

3. <u>Application Templates</u> -- Three vertical market applications based on using the Composer toolset. These are flexible application models for rapid construction of custom-tailored applications and are the highest form of component in the TIS component hierarchy.

4. **Arranger** -- Enables users to create high-quality functional application enhancements and decision support systems using enterprise standard components, without intervention of a centralized IS department. It is a companion product to Composer and Performer and is packaged with them. It employs a catalog consisting of components developed using Composer development tools and legacy systems repackaged in a component wrapper.

5. **WebCenter** -- Allows enterprises to deploy information systems that combine an Internet-style architecture with applications built using Composer.

The suite of tools in Composer and Performer 1.0 are described in Appendix C-1. The available Templates (InterConnecT, TOPPS, MMS) are described in Appendix C-2.

B. Current and In-Process Technologies

TI has identified primary active product technology development opportunities as:

1. **"Redwood"** -- Would provide an automated interface between Composer-generated applications and SAP R/3.

2. **"BoomBox"** -- A Java-based application assembly tool that would enable the use of Java beans and the Internet to create adaptable applications using components. It is targeted at Web authors seeking to embed application functionality in their sites using applets and components assembled from multiple public network sources.

3. **Microsoft Repository Browser** -- a tool which would enable developers to quickly browse that repository and bring its components into the Composer environment.

4. **"Dynamo"** -- A set of advanced component-based analysis and design functions

5. **Rational Rose** -- A set of functions produced by the Rational Corporation which are licensed to TIS for any form of future use. Rose contains modern, component-oriented specification, analysis and design tools.

The "merger" of TI technology and Sterling Software's product vision would be significant for the Object-Oriented Analysis and Design and Round Trip Engineering phases of SSW's "model" of information systems development. To the extent that CBD facilitates (1) enhancement and extension of existing legacy applications (mostly mainframe-based, written in COBOL), (2) the movement towards client/server architecture on a large scale and (3) the integration of packaged software applications, it will enhance the value of SSW's future ADD product architecture.

In order to understand and compare the technologies in the products and the new technologies from TIS and from SSW's related product divisions (ADD, DAD, DID, IMD (KWI-related), we have identified and structured the TIS products and technologies by the primary application development phases.

Application Development Processes -- A Functional View

1. Specification
   - Business Modeling
   - Application Modeling

2. Analysis
   - Information Engineering Analysis
   - Object-Oriented Analysis

3. Design
   - Information Engineering Design
   - Object-Oriented Design
   - Documentation
   - Reverse Engineering

4. Implementation
   - Code Generation
   - Encyclopedia Implementation
   - Runtime/Communications Functions
   - Platform Support

5. Testing

6. Delivery/Deployment

1. **Specification**

   Definition: Enterprise-scale business modeling and application modeling to support business improvement and business process reengineering. Provides a model-based approach to understand all aspects of an organization (people, process, technology) and applications. Includes technology to enable efficient user access to corporate data. The TIS technologies relate to application modeling and are identified as:

   > Use-Case Modeling
   > Scenario Modeling
   > State Modeling.

2. **Analysis**

   Definition: Provides customers with the ability to analyze their data and business processes. The technologies include those in Composer for information engineering analysis and component models and technologies in Rational Rose for object-oriented analysis.

3. **Design**

   Definition: Provides customers with the ability to design data and business processes and to migrate the relevant portions of their business modeling and information engineering models to object-oriented models. The TI technologies are for object-oriented design and are identified as:

   > Data/entity design
   > Business logic design
   > Screen design/dialog flows
   > Window design/navigation
   > Toolset Information Repository
   > Rational Rose technologies

4. **Implementation**

   Definition: ① Generate application/code for client/server and communications application components from platform-independent models

       ② Assist in delivery of client/server applications which integrate desktop systems with an operational host.

       ③ Provide platform support, with current focus on Intranet environments.

       TIS has multiple technologies for this phase of development as follows:

Code Generators	Runtime/Communications Functions
Relational database definition	Transaction enabler
Referential Integrity Triggers	Referential integrity runtime
Action blocks/procedures	Block mode runtime
Block mode screen	Server runtime
Dialog flow	GUI runtime
GUI window	Action block runtime
Cooperative server	Client manager communications
Assemble & design toolset	Communications bridge
Composer generators	"Redwood"
Rational Rose technologies	
Encyclopedia Implementation	**Platform Support**
Host (MVS) encyclopedia	Internet component
Client/server encyclopedia	WebCenter
Model management server	JAVA Proxy
Construction generation server	"BoomBox"
Encyclopedia client	
Component Explorer	
Interchange Wizard	
Rational Rose technologies	

5. Testing

   Definition: Check performance and validity of the implementation results. TIS does
   not provide support for this phase.

6. Delivery/Deployment

   Definition: Mechanisms for getting the resulting applications to end users for their
   purpose. TI has tools for this purpose.

C. TIS Financials

TIS has significant revenues historically derived from product sales, maintenance and professional services. It recorded a gain in 1994 and losses in both 1995 and 1996.

$M	1994	1995	1996
Revenues	231.2	240.6	245.0
Cost of Sales	113.5	128.0	131.1
Revenue - Cost of Sales	117.7	112.6	113.9
Operating Costs	104.5	132.8	138.1
Operating Profit (Loss)	13.2	(20.2)	(24.2)

Revenue analysis shows that professional services had increased so that, by 1996, revenues from that source equaled software sales at over $80 million each. Maintenance had increased to nearly $60 million, while a significant government contract accounted for the balance (see Appendix D-1).

More than one-half of the company's revenues have been generated outside the Americas since 1995. Both license sales and professional service revenues have been growing internationally and declining in the Americas, while maintenance revenue is slowly growing in both regions. Full details are shown in Appendix D-2.

D. Costs

As a group within a larger parent, TIS has not been in a position to produce "standalone" financial results. Appendix D-3 shows a summary of the historic data recorded, indicating operating losses for 1995 and 1996.

The group has taken steps more recently to reduce costs, downsizing its development personnel, amalgamating U. S. sales regions from four down to two and cutting its international distribution costs in Scandinavia by amalgamating three Scandinavian trading operations to one.

However, there is much more to be done to bring the profit margins to a more normal level for a software company with significant professional services. The future forecast assumes that the losses will be eliminated and the company returned to a profit position.

SECTION III.   SSW Strategic Plans for Use of TIS Products and Technologies

In acquiring the Texas Instrument Software (TIS) assets, Sterling Software, Inc. (SSW) was interested primarily in the TIS technologies which would permit SSW to enter the new field of component-based development (CBD) in a professional, timely fashion. While the TIS Composer product was of substantial value (including Arranger and WebCenter), the other current products (Performer and the various Templates) had little interest to SSW since they did not focus on the new CBD style of designing and constructing new applications. The object-oriented TIS technologies, along with the TIS program generation tools and the rights to use the Rational Rose technical capabilities, provide a solid base on which to build a full-function CBD system which can be used by the Fortune 500 companies for their new application development projects.

SSW will need to work further on its integrated strategy to be sure that it focuses properly on the present information engineering products for those current (and future) customers who want to follow traditional development methodologies. But most important, SSW needs to plan how to architect, structure, design and implement its new product line to take best advantage of the available and in-process technologies from TIS and from SSW to deliver state-of-the-art capabilities embedded in an ~~individual~~ _industrial_ strength, supportable company-based development system.

As of the asset acquisition date, SSW has an initial strategy and plan for pursuing or discontinuing the current TIS and related SSW products and for producing future products/offerings which will depend upon and utilize the available and in-process TIS and related SSW technologies.

The following statements summarize the initial SSW strategy and plan and provide the basis for the assumptions made in valuing the TIS current products and technologies:

A. TIS Products

1. **Composer**(including Arranger and WebCenter) -- This product will continue to be marketed and enhanced to the enterprise market for performing traditional information engineering (IE) type development. The component-based (CB) development modules will be separated and incorporated in a new product offering code named Gold.

2. **Performer**-- Will not be pursued as a marketable product after the end of FY97, but installed customers will continue to be supported through the end of FY98. These customers will be migrated to Composer for traditional IE development and to Gold for CB development.

3. **Templates (InterConnecT, TOPPS, MMS)** -- These current template offerings will not be pursued after the end of FY97. However, the InterConnecT installed base will be supported through FY2000.

B. Related SSW Products

1. **Key:Enterprise** (from ADD) will not be actively sold after the end of FY97, but installed customers will be supported through FY2002. Significant effort will be made to migrate these customers to Composer for traditional IE development and to Gold for CB development.

2. **Key:Workgroup**(from ADD) will be marketed through FY98 and then supported through FY2002. There will be a strong marketing thrust to move these customers to Composer for IE development and Gold for CB development.

3. **Other SSW Application Development Products (STAR, CLEAR, VISION:Legacy)** -- These products are not significantly affected by the TIS acquisition, and their future strategies and plans are described separately in another report.

C. New Product Families

1. Advanced CB Enterprise Application Development System--Gold:Enterprise Development

This comprehensive component-based application development system will incorporate best-of-breed technologies from current TIS and ADD products plus in-process development from TIS (Dynamo, Rational Rose) and from ADD (business modeling).

This will be targeted principally at enterprises for their component-based application development. It will provide a new application development system focused only on component-based development.

2. Advanced CB Development System -- Gold:Component Development

This will be a set of development functionalities (using a subset of the technologies from #1) but packaged, priced and targeted for third-party component developers. The focus here is on producing very high quality, high performance components, templates or applications by organizations whose goal is to resell these components, templates and applications.

3. Advanced CB Development System -- Gold:Application Development

This will be a subset of the technologies in #1 aimed at those who just want to produce applications using available components. It will only include those functions from #1 (and those technologies) which would be needed by the less sophisticated application developers. This will be packaged and priced differently from #1 and #2.

4. Components

SSW will itself produce and market selected components using the Gold development system, will have third parties produce components under contract and will remarket components developed by third parties or customers. These components would be built using the SSW tools and standards, particularly with the development system specified in #2. The sale and distribution of components is potentially a large and growing market; if SSW can establish itself early and make it attractive for others to use the SSW repository, encyclopedia and marketing channel, then it could build a profitable business. Promoting the licensing of components would also encourage third parties to acquire the SSW component development system (#2).

5. Templates

At an even higher level, SSW may wish to develop, acquire or remarket templates which perform a useful business application. The thought here is that these templates would be modified and customized by end users or by system integrators or VAR's and would not require any ongoing maintenance from SSW. This approach might be akin to the specialized industry directions adopted by various companies (like SAP, etc.) to increase product sales. Use of the templates would encourage companies to acquire the SSW CBD application development system (#3).

D. Technologies Underlying New Product Families

The following table shows the planned use of the available TIS and SSW technologies in the planned future SSW products.

Note: X--Not Used; U--Useful; E--Essential

Development Processes	TIS/ SSW	Technologies	Gold Enter	Gold Comp Dev	Gold App Dev	Com- ponents	Tem- plates
Specification							
Business Modeling Tools	S	Work flow modeling	X	X	X	X	X
	S	Organization flow modeling	X	X	X	X	X
	S	Decomposition modeling	U	U	X	X	U
	S	Activity/job models	X	X	X	X	X
	S	Association matrices	U	U	X	X	U
Application Modeling Tools	T	Use Case Modeling	E	E	X	E	E
	T	Scenario modeling	E	E	X	E	E
	T	State modeling	E	E	U	E	E
Analysis							
Information Engineering Analysis Tools	T	Composer IE analysis tools	U	U	U	U	U

Development Processes	TIS/ SSW	Technologies	Gold Enter	Gold Comp Dev	Gold App Dev	Com- ponents	Tem- plates
	S	Entity relationship models	U	U	U	U	U
	S	Data flow models	X	X	X	X	X
	S	Association matrices	U	U	U	U	U
	S	Decomposition models	U	U	U	U	U
Object Oriented Analysis Tools	T	Component models	E	E	E	E	E
	T	Rational Rose	U	U	U	U	U
	S	Class models	E	E	E	E	E
	S	State transition models	E	E	U	E	E
	S	Sequence models	E	E	U	E	E
	S	Additional UML models	E	E	U	E	E
	S	Component models	E	E	E	E	E
Design							
Information Engineering Design Tools	S	Relational database design	E	E	U	E	E
	S	Application architecture	E	E	U	E	E
	S	Logic design	E	E	X	E	E
	S	Relational database views	E	E	X	E	E
	S	Triggers/stored procedures	U	U	X	U	U
Object Oriented Design Tools	T	Data/entity design	E	E	X	E	E
	T	Business logic design	U	U	X	U	U
	T	Screen design/dialog flows	U	U	X	U	U
	T	Window design/navigation	U	U	X	U	U
	T	Toolset information repository	E	E	E	E	E
	T	Rational Rose	U	U	U	U	U
Documentation Tools	S	KEY:Document	X	X	X	X	X
Reverse Engineering	S	Relational database reverse engineering	E	E	U	E	E
Implementation							
Code Generators	T	Relational database definition	U	U	X	X	X
	T	Referential Integrity Triggers	U	U	X	X	X
	T	Action blocks/procedures	U	U	U	X	X
	T	Block mode screen	X	X	X	X	X
	T	Dialog flow	X	X	X	X	X
	T	GUI window	U	U	U	X	X
	T	Cooperative server	U	U	X	X	X
	T	Assemble & design toolset	E	E	E	X	X

Development Processes	TIS/ SSW	Technologies	Gold Enter	Gold Comp Dev	Gold App Dev	Com- ponents	Tem- plates
	T	Generators	E	E	E	X	X
	T	Rational Rose	U	U	U	X	X
	S	Relational database definition	U	U	X	X	X
	S	Visual development tools	X	X	X	X	X
Encyclopedia	T	Host (MVS) encyclopedia	X	X	X	X	X
	T	Client/server encyclopedia	U	U	X	X	U
	T	Model management server	U	U	X	X	U
	T	Construction generation server	U	U	X	X	X
	T	Encyclopedia client	U	U	X	X	U
	T	Component Explorer	E	E	E	U	U
	T	Interchange Wizard	E	E	E	U	U
	T	Rational Rose	U	U	U	U	U
	T	Team Encyclopedia	U	U	X	X	X
	S	KEY:Team	X	X	X	X	X
	S	KEY:Utilities	X	X	X	X	X
	S	KEY:Coordinate	X	X	X	X	X
Runtime/Communi- cations Functions	T	Transaction enabler	U	U	U	U	U
	T	Referential Integrity runtime	U	U	U	U	U
	T	Block mode runtime	X	X	X	X	X
	T	Server runtime	U	U	U	U	U
	T	GUI runtime	U	U	U	U	U
	T	Action block runtime	U	U	U	U	U
	T	Client mgr. communications	U	U	U	U	U
	T	Communications bridge	U	U	U	U	U
	T	SAP Connector	U	U	U	U	U
Platform Support	T	WebCenter	X	X	X	X	X
	T	JAVA Proxy	E	E	E	E	E
	T	"BoomBox"	X	X	X	X	X
	S	KEY:Webview	U	U	X	X	U
Testing							
High Level Test Tools							
Low Level Test Tools							
Delivery							
Installation/Deploy- ment Tools	T	Installation tools	U	U	U	U	U

SECTION IV. Selection of Valuation Methodologies

The general asset valuation process for acquired intangible assets (after deducting tangible assets) is:

1. Determine valuation of intangible assets (current products, non-compete agreements) to be amortized over their economic life

2. Determine valuation of incomplete/in-process (non-capitalizable) research and development to be written off at acquisition

3. Allocate the remainder to goodwill

This valuation of the intangible assets relates primarily to Software Products in #1 and Technologies in #2.

There are three principal valuation techniques which are typically used for valuing the intangible assets of computer software and services company assets such as products and technologies:

- **Valuation of Projected Operating Profit Stream**

  What would an independent buyer pay for the projected profit stream from the assets to produce a fair rate of return on the investment, considering the risk involved? Valuation is based on revenue, cost and profit projections using revenue history, competitive position, market opportunities and realistic profitability expectations.

- **Resale Value of the Assets**

  What would an independent buyer pay for similar products and other assets based on current market values and recent acquisitions? Valuation is based on: comparable private and public asset acquisitions; price/earnings and price/revenue ratios of public companies in comparable businesses. These values need to have appropriate adjustments for special circumstances and balance sheet tangible values.

- **Reconstruction Costs**

  What would a third party have to pay to reconstruct equivalent products or technologies given reasonable technical skills and market knowledge? Valuation is based on design concept, number and size of programs, complexity of programs, languages and operating systems used. The actual costs incurred to acquire or develop the products and technologies is considered along with estimated reconstruction costs.

Each of these methods has to be used with appropriate consideration of business history, future risk, market direction, product and service quality and balance sheet elements. In each case, there are specific procedures to be followed so as to produce consistent valuations.

A. Software Products Valuation

Often, neither reconstruction cost nor comparable company market value would provide an appropriate valuation methodology for the value of the current products acquired.

Therefore, for software products, BGAI usually uses the net present value of the projected profit stream over the expected economic life of the specific products which the Seller was marketing as of the acquisition date and which the Buyer expects to continue to market and support.

There are four primary steps in determining the net present value of the projected profit to be earned by sales and recurring revenues from the current products to be marketed.

1. Establish the Available Market Opportunity

Information is collected regarding the application development market opportunities with consideration of prospective growth and competition on different platforms for various applications and different markets.

2. Prepare Product Unit Forecasts and Estimate Revenue

Using management information and financial records as a basis, the sales history for the available products is examined. From this work, a profile of each product is built and used as a basis for forecasting. To make realistic future sales projections, this is overlaid with the data derived from the market opportunity analysis and specific Buyer marketing plans.

3. Project Operating Costs and Pre-Tax Operating Profits

Seller, Buyer and industry historic operating costs are analyzed to project future costs. This yields a projected operating profit stream.

4. Determine Economic Life and Compute Net Present Value

The NPV calculations are based on the use of a predetermined cost of money, adjusted to the investment being made at the midpoint of each year. The figure selected has been based on the pre-tax prime rate as of the acquisition date plus a borrowing premium to reflect unusual risk.

The marketable economic life for each product is determined, based on the market opportunity, sales history and experience, product currency, competition, expected technological developments and Buyer strategy. We believe that a three to five-year life is realistic for each of these products, as noted in the analysis in Section V.

The effective tax rates for American profits (Federal and state) and for International profits are projected by the Buyer's financial management.

The NPV calculations are made based on projected cash flow after tax adjustment over the economic life of the products. A straight line (or revenue-ratio) amortization method is used for each product, based on its marketable economic life.

B. Acquired Technologies Valuation

Whether particular acquired technologies are included in the products being capitalized and amortized over the expected economic life of the products or whether they are expensed as in-process research and development depends on the intended use by the acquirer and whether technological feasibility has already been demonstrated for future product releases including these technologies per FAS86 rules. The technology values are not limited to the actual cost of development to date, but should reflect the value to the acquirer for the acquirer's intended use.

BGAI analyzes the planned future products to determine if they meet the FASB86 proven technology feasibility rules for capitalization. If not, the value must be written off at the acquisition date because of FAS2 rules on not capitalizing and amortizing in-process research and development costs.

There are two primary methods for valuing acquired technologies intended for future use: projected profit-based and reconstruction-based valuations.

The projected profit stream approach requires identification of specific future products to be produced and marketed using the acquired technologies; a projection is then made of the revenues, costs and profits from these future products. The net present value of the resulting operating profit stream is calculated over a realistic economic life to produce the valuation figures. The procedure is similar to that described in Section IV A.

1. Establish the available market opportunity
2. Prepare product unit forecasts and estimate revenue
3. Project operating costs and pretax operating profits
4. Determine economic life and compute net present value

The same figures for cost of money and for effective tax rates are used for the technologies as for the software products. We have used seven years as the marketable economic life for the future products using the acquired technologies.

The reconstruction cost-based valuation of acquired technologies for future use depends on the actual and/or the estimated cost of producing, reconstructing or acquiring the technologies plus the enhanced value from more timely product delivery, lower maintenance costs, etc.

The following procedure is used for reconstruction cost-based valuation:

1. Determine the cost to date for acquiring and developing the relevant product technologies. Project the cost and time required to have reconstructed the technologies as a cross-check.

2. Compute the additional market value or reduced future development cost from:

   ▸ add-on sales from more timely delivery of the new products by using the acquired technologies
   ▸ add-on sales to the established installed base migrating to new products
   ▸ reduced risk of failure (functions, usability and performance)
   ▸ reduced maintenance cost because of proven initial quality

In our view, reconstruction cost-based valuation is only useful for the technologies assessment in order to confirm the reasonableness of the projected profit-based valuation.

SECTION V. Valuation of TIS Products

A. TIS Product Plans

TIS currently markets three primary software product families:

- Composer -- which includes, from a forecasting standpoint, Arranger and WebCenter
- Performer -- aimed at smaller customers
- Templates -- which covers three offerings: InterConnecT, TOPPS and MMS

Composer accounts for by far the largest amount of revenues; it is aimed at large and very large companies, institutions and governmental agencies world-wide. However, new sales for Composer have dropped recently, even in the international marketplace.

Performer is a relatively recent release (late 1996) and has been targeted for use by mid-size organizations and smaller development groups. TIS has been seeking other channels (VARs, distributors, etc.) to reach the planned market on a more efficient basis for this new product.

The three existing Templates have a mixed heritage. InterConnecT is owned by TIS and provides telephone billing services to telcos. TOPPS is an EDS-developed product for use by hospital management organizations; TIS has a marketing license for the product from EDS. MMS is a Materials Management System designed for public utility companies. None of these three have yet done well, although InterConnecT has made some significant sales.

In addition, TIS has a few third party-developed components available at its Internet Web Storefront. But, since these are quite limited, they have been omitted from the current product projections.

Finally, TIS has a U.S. government contract for a special project, MDP. Since this can be canceled by the government agency with limited notice and the deliveries do not constitute a software product, this substantial income stream has been omitted from the product valuation. It will be considered as part of the TIS goodwill.

B. Valuation Procedure

Based on historic and planning information from TIS documents and people, from SSW due diligence documents and from SSW strategic planning statements, BGAI has constructed its own revenue and cost projections covering SSW's next five fiscal years starting October 1, 1997. These projections cover the three primary current TIS product families: Composer, Performer and Templates.

From the operating income cash flow projections, BGAI has determined the net present value for each of these product families for the Americas (Commercial and Government) and for International (principally Europe and Asia).

The net present values have been used as the basis for the BGAI value assessment of the current TIS products.

C. General Assumptions Used in Valuations

1. SSW will continue to actively market the Composer product but only for traditional information engineering development projects; it will continue to enhance Composer for three years and support it for two more years. SSW will discontinue new sales of Performer and the three available templates, but will continue support for InterConnecT.

2. SSW will introduce significant new component-based development products within one year which will, for most customers, replace the current products used for component-based development.

3. The market for traditional application development systems will stabilize, and SSW will be able to retain the historic TIS market share for information engineering.

4. The Americas will lead International in retaining and continuing to accept the application development products, so that declines in sales and erosion of the installed base will occur more slowly internationally.

5. Prices for new sales and for maintenance of the current products will be constant during the projected period with no inflation-caused increases and no competitively-induced decreases in price.

6. Professional services will continue to be a significant revenue source for new sales and installations of Composer, but the relative value of the professional services per installation will decline over the years.

7. Operating costs will improve dramatically over past TIS financial performance, but operating income will not reach as high a level as traditional SSW operating income levels during the forecast period. The operating income rates for Americas and International will be the same.

8. A tax rate of 40% will be applied against all Americas operating income and a tax rate of 20% applied against all International operating income.

9. The current U.S. prime rate of 8.5% will be used as the cost of money and applied to the after tax operating income to compute the net present value.

D. Specific Assumptions

There are additional specific assumptions for Americas and International for each product family as shown in the following tables:

- **Composer** *Table 14*
  - New sales rate against previous year sales rate
  - Professional services rate versus new sales revenues
  - Erosion, initial conversion and maintenance fee to license fee ratios

  Table 15
  - Cost ratios for cost of revenues, marketing and sales, R&D and G&A; these are assumed to be the same for Americas and International.

- **Performer** *Table 24*
  - New sales rate against previous year sales rate
  - Professional services rate versus new sales revenues
  - Erosion, initial conversion and maintenance fee to license fee ratios

  Table 25
  - Cost ratios for cost of revenues, marketing and sales, R&D and G&A; these are assumed to be the same for Americas and International.

- **Templates** *Table 34*
  - New sales rate against previous year sales rate
  - Professional services rate versus new sales revenues
  - Erosion, initial conversion and maintenance fee to license fee ratios

  Table 35
  - Cost ratios for cost of revenues, marketing and sales, R&D and G&A; these are assumed to be the same for Americas and International.

E. Forecasts and Calculations

The tables for the product lines are numbered as follows:

	Composer	Performer	Templates
World-wide Summary	12	22	32
Americas and International Summary	13	23	33
Revenue Sources	14	24	34
Cost Calculations	15	25	35
Net present Value - Americas & Int'l	16	26	36

All of the product valuation tables are included in Appendix E with the table numbers noted in the upper right-hand corner.

The overall summary for all of the TIS products is shown in Table 11 in Appendix E.

Based on this projection and analysis procedure, BGAI has determined that the product valuations are:

($000)	Americas	International	Total	Amortizable Life
Composer	7,860	16,021	23,881	5 years
Performer	46	30	76	3 years
Templates	32	65	97	3 years
Total	7,938	16,117	24,054	

SECTION VI. Valuation of TIS Technologies

A. TIS Technologies Assessment Principles

TIS has developed a number of significant application and system technologies over the past ten years as it has become a premier participant in the application development systems marketplace. Many of these technologies have been used in the currently marketed TIS products. Their value, as they are embedded in the current TIS products, has been fully valued as part of the TIS Products Valuation (see Section V). However, some of these technologies have significant additional value, enabling SSW to build future new products and offerings at much lower cost and in a much more timely fashion than if SSW had to specify, design, build and test the comparable technologies needed to construct the new products and offerings.

TIS also has a number of new technologies still in the research and development process which have not yet been incorporated in products or offerings which have met the FAS86 technology and marketing tests of feasibility for capitalization.

SSW determined the price it was willing to pay for the TIS assets not just by considering the value of the current products and the TIS infrastructure, but also by considering what it believed would be the value of the embedded and in-process technologies in future SSW products and offerings.

Therefore, in the allocation of the purchase price, BGAI has assessed the projected value of these embedded and in-process technologies based on SSW's current intentions regarding strategies for use of these technologies and BGAI's projections of the operating income from new products and offerings using these technologies.

Based on the rules of FAS2, any research and development values which cannot meet appropriate technical and market tests (as in FAS86) must be expensed on a current year basis. Since these new products using the TIS technologies have not yet been detail designed or prototyped, they cannot meet the FAS86 tests and the technology values must be expensed as of the date of acquisition.

B. Specific TIS Technologies

BGAI has worked with materials provided and with representatives from TIS and SSW to understand the current and in-process technologies and to determine their significance in future new SSW products and offerings.

A list of all of these TIS technologies has been prepared and mapped against the planned new products with a professional measurement of expected significance, if any. Since the new SSW products may also use previous SSW technologies, these too have been listed, mapped and their relative significance determined.

The application development technologies are grouped in the following primary categories as shown in Section II B:

1. Specification
   - Business Modeling
   - Application Modeling

2. Analysis
   - Information Engineering Analysis
   - Object-Oriented Analysis

3. Design
   - Information Engineering Design
   - Object-Oriented Design
   - Documentation
   - Reverse Engineering

4. Implementation
   - Code Generation
   - Encyclopedia Implementation
   - Runtime/Communications Functions
   - Platform Support

5. Testing

6. Delivery/Deployment

Within each category there are specific technologies available for future use. These have been individually examined and analyzed in terms of their applicability to the planned new SSW products and offerings described in Section III D.

C. Valuation Procedure

Each planned new product family is separately valued for Americas and International, as described in Section IV. The revenues and costs are projected and the net present value of the operating income is determined. This is used as the basis for the TIS Technologies valuation.

The overall value is split between TIS and SSW for each new product family using the relative significance as described in this Section based on the technologies' use identified in Section III B.

In producing the revenue forecasts and the operating cost estimates, a number of business assumptions have been made. These are separated between general and product family-specific assumptions.

D. General Assumptions

1. SSW will introduce its new Gold development system within one year to replace the component-based functions in Composer. This will become the target system to sell to all customers and prospects who wish to do component-based development. There will be substantial parallel use and migration from current TIS and SSW customers.

2. The market for component-based development will grow rapidly, and SSW will get a substantial portion of this marketplace.

3. The Americas will lead international in adopting the new component-based products and other related offerings (components, templates).

4. Professional Services will be a significant revenue source for component-based development product sales, but at a somewhat lower level than TIS has experienced previously.

5. Operating income will gradually increase over the seven-year planning horizon, reaching levels above industry averages, but still slightly below current SSW margins by the end of the planning period.

6. A tax rate of 40% will be applied against all Americas operating income and a tax rate of 20% applied against all International operating income.

7. The current U.S. prime rate of 8.5% will be used as the cost of money and applied to the after tax operating income to compute the net present value.

E. Specific Assumptions

There are additional specific assumptions for Americas and International for each future product family as shown in the following tables:

- **Gold: Enterprise Development**
  Table 14
    - New sales rate against previous year sales rate
    - Professional services rate versus new sales revenues
    - Erosion, initial conversion and maintenance fee to license fee ratios

  Table 15
    - Cost ratios for cost of revenues, marketing and sales, R&D and G&A; these are assumed to be the same for Americas and International.

- **Gold: Component Development**
  Table 24
  - New sales rate against previous year sales rate
  - Professional services rate versus new sales revenues
  - Erosion, initial conversion and maintenance fee to license fee ratios

  Table 25
  - Cost ratios for cost of revenues, marketing and sales, R&D and G&A; these are assumed to be the same for Americas and International.

- **Gold: Application Development**
  Table 34
  - New sales rate against previous year sales rate
  - Professional services rate versus new sales revenues
  - Erosion, initial conversion and maintenance fee to license fee ratios

  Table 35
  - Cost ratios for cost of revenues, marketing and sales, R&D and G&A; these are assumed to be the same for Americas and International.

- **Components**
  Table 44
  - New sales rate against previous year sales rate
  - Professional services rate versus new sales revenues
  - Erosion, initial conversion and maintenance fee to license fee ratios

  Table 45
  - Cost ratios for cost of revenues, marketing and sales, R&D and G&A; these are assumed to be the same for Americas and International.

- **Templates**
  Table 54
  - New sales rate against previous year sales rate
  - Professional services rate versus new sales revenues
  - Erosion, initial conversion and maintenance fee to license fee ratios

  Table 55
  - Cost ratios for cost of revenues, marketing and sales, R&D and G&A; these are assumed to be the same for Americas and International.

F. Forecasts and Calculations

The tables for the future product families are numbered as follows:

	Gold: Enterprise Development	Gold: Component Development	Gold: Application Development	Components	Templates
Worldwide Summary	12	22	32	42	52
Americas and International Summary	13	23	33	43	53
Revenue Sources	14	24	34	44	54
Cost Calculations	15	25	35	45	55
Net Present Value Americas & International	16	26	36	46	56

All of the technologies valuation tables are included in Appendix F with the table numbers noted in the upper right-hand corner of each table.

The overall summary for all of the new SSW component-based development products and offerings is shown in Table 11 in Appendix F.

Based on this projection and analysis procedure, BGAI has determined that the technology valuations are:

($000)	Americas	International	Total
Gold:Enterprise Development	51,121	73,345	124,466
Gold:Component Development	7,748	9,667	17,415
Gold:Application Development	4,253	2,698	6,951
Gold: Components Development	7,464	4,899	12,363
Gold: Templates Development	5,250	2,286	7,536
Total	75,836	92,895	168,731

G. Allocation of Value between TIS and SSW Technologies

Based on the extensive analysis shown in Section III mapping currently available and in-process technologies from TIS and from SSW to the future product families, we determined the relative significance of these technologies as shown in the following table (see Appendix G):

	Value	% TIS	Value TIS	% SSW	Value SSW
Gold:Enterprise Development	124,466	84	104,551	16	19,915
Gold:Component Development	17,415	71	12,363	29	5,050
Gold:Application Development	6,951	88	6,117	12	834
Gold Components	12,365	79	4,767	21	2,596
Gold Templates	7,536	67	5,049	33	2,487
TOTAL	168,731		137,849		30,882

Therefore, the total value of the TIS technologies, using the net present value of the operating income cash flow of the planned future products is $137,849,000.

H. Reconstruction Value

Reconstruction cost is not an effective measure, in this case, of the value of the acquired technologies. However, as a reasonableness test, TIS has spent well over $200,000,000 in developing the technologies in its current in-process technologies.

Reconstruction cost would be over $100,000,000, but, more important, the necessity for reconstruction would cost SSW valuable time in entering and prospectively leading the component-based development market.

In our opinion, the reconstruction cost approach confirms the NPV-based TIS Technologies valuation.

SECTION VII. Summary of Valuations and Recommendations

In Section V, we determined that the net present value of the current TIS products was $24,054,000, to be amortized from the date of acquisition over five years for Composer and three years for Performer and the InterconnecT Template.

In Section VI, we determined that the net present value of the available and in-process technologies was $137,849,000, to be expensed under FAS2 rules as of the date of acquisition. This figure was confirmed by the reconstruction cost/value analysis.

SSW will determine the effective asset purchase price including appropriate costs associated with the acquisition. SSW will also determine the net value of tangible assets less tangible liabilities.

Based on these figures, the goodwill value will be determined by subtracting the products and technologies values from the total price paid for all the intangible assets.

Under the logic and calculations in this report, with appropriate guidelines from FASB, AICPA, etc., BGAI recommends that SSW use the following valuations for the acquired intangible assets:

	($000) Valuation	Amortization Period	Amortization Method
Products			
Composer	23,881	5 years	S/L or Revenue ratio
Performer	76	3 years	S/L or Revenue ratio
Template:InterconnecT	97	3 years	S/L or Revenue ratio
Total Product Value	24,054		
Technologies			
TIS	137,849	Write off at acquisition	
Grand Total	161,903		

The total valuation of the TIS intangible assets, excluding goodwill, is $161,903,000. This concludes the TIS intangible assets valuation and allocation report.
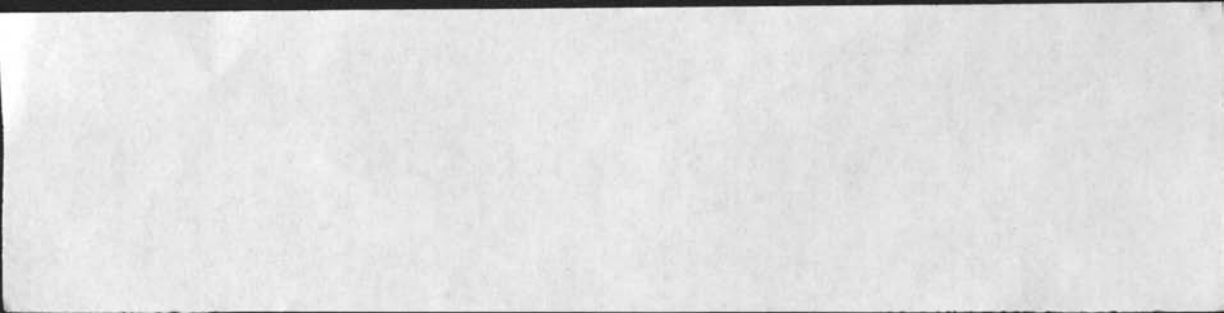
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Information Memorandum

March 1997

■ BROADVIEW ASSOCIATES

Table Of Contents   **Page**

1.0 Executive Summary

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1.1 Corporate Overview

Texas Instruments Software ("TI Software" or the "Company") is a leading provider of enterprise client/server application development software and related consulting and education services. TI Software was founded in the mid 80's as a division of Texas Instruments Incorporated. dedicated to providing development tools and methods for large-scale application development.

Since its inception, TI Software has targeted mission-critical application development and as a result, has established a strong presence in Fortune 1000 organizations worldwide. Today, the Company's software products and services are currently being used by over 700 active enterprise customers. Over 90% of these customers are considered referenceable.

In 1991, TI Software acquired James Martin Associates, a UK-based consulting services organization and one of the Company's distributors. The acquisition brought significant consulting service experience to TI Software and enabled the Company to build a leading sales and services presence in Europe. In 1996, approximately 54% of revenues were derived from the Company's international sales operations which include Europe, Africa, the Middle East, and Asia Pacific.

Look at acquisition docs.

In 1994, TI Software began working on and promoting a new approach to application development called component-based development ("CBD"), which offers major improvements in the speed of software systems delivery while preserving flexibility to adapt to changing business conditions.

CBD is an application development framework for greatly accelerating systems delivery through large-scale reuse. Today, TI Software offers modeling, construction, and assembly tools for CBD, as well as component libraries and comprehensive documented methods for the CBD approach. Moreover, as an integral part of its CBD strategy, the Company has spearheaded a significant industry effort to drive standards for component definition and interchange. TI Software has partnered with leading companies such as Microsoft, Rational Software, and Oracle to develop both open technologies such as the joint TI/Microsoft repository and establish open standards such as the Unified Modeling Language ("UML"), a component modeling language standard recently proposed to the Object Management Group ("OMG").

Look at these docs

TI Software provides a comprehensive software and services product suite which delivers on its CBD vision:

- **Composer**—TI Software's flagship development environment enabling component-based application development. Designed for large applications built by large development teams, *Composer* provides full lifecycle support for the development of software applications for multi-tier, heterogeneous environments. The toolset includes a highly-advanced repository for storing sophisticated design models. *Composer 4*, released in February 1997, is a rearchitected product that implements the Company's CBD paradigm.

- **Performer**—Workgroup application development environment targeting teams of less than ten developers. Released in December 1996, this is the Company's first entry into the departmental application development tools market. *Performer* combines the ease-of-use of a visual development environment with the sophistication of a model-based development tool. Application models designed with *Performer* can be seamlessly moved into *Composer* and vice versa. This "bi-directional scalability" enables developers to easily scale departmental applications up to the enterprise or bring enterprise applications (or certain modules) down to the department or workgroup level.

- **Templates/Component Software**—Vertical market application software and packaged component software. TI Software markets three software applications based on its *Composer* development environment. These applications ship as "templates" that enable customers to rapidly customize and implement a software solution using *Composer* models. The Company sells these templates, essentially large-scale components in TI Software's CBD framework, in order to drive additional sales of its development tools and services. As part of its CBD strategy, the Company also provisions software components for reuse and assembly in a variety of custom developed applications. These components are available on TI Software's *Internet StoreFront* (www.cbdstore.com).

Need to examine any I/P issues →

- **Arranger/WebCenter**—Add-on products which are bundled with both *Composer* and *Performer*. *Arranger* enables access from OLE clients to applications built with *Composer* or *Performer*. *WebCenter* facilitates access to applications from clients running standard Web browsers.

- **Professional Services**—TI Software also provides a wide range of consulting, education, and technical support services to assist customers in creating applications using the Company's software products. Due to the technical complexity of the Company's development tools, TI Software focuses on the high-end services, such as project management and technology transfer consulting services, which are essential to ensuring the success of projects using TI Software's development tools.

Review Microsoft Docs →

A key enabler of TI Software's CBD product strategy is a shared repository which was jointly designed by TI Software and Microsoft as a result of an alliance formed between the two companies in 1994. This repository will facilitate access and widespread sharing of components from multiple development environments. The initial release of this repository product is expected from Microsoft in March 1997. The Company will release products compatible with the Microsoft Repository shortly after it ships.

For the fiscal year ended December 31, 1996, TI Software achieved revenues of $245.0 million with an operating loss of $24.2 million. For the last three years, revenues have grown only modestly, from $231.2 million in 1994. Management believes that its new CBD software tools and strategy should position the Company for future growth as application construction using component software becomes more pervasive. TI Software is forecasting total revenues of $249 million in 1997 with operating profit in excess of $2 million. The Company anticipates that its leading position in CBD will begin to generate positive financial results in the latter part of 1997 with $15 million operating profit for the second half of 1997 on revenues of $137 million.

TI Software, headquartered in Plano, Texas, is a division of Texas Instruments Incorporated, a publicly-held company traded on the New York Stock Exchange under the symbol TXN. As of February 28, 1997, the Company had 1,370 employees worldwide, of which 419 are directly involved in product development, systems, and technical support. TI Software has built a global distribution infrastructure supporting thirty countries throughout Europe, Asia, North America, and Latin America, and Africa.

• Int'l tax issues?
• Foreign country filings
req'd to consummate
asset or stock
acquisition?

1.2 Investment Considerations

The following merit consideration in contemplation of this opportunity:

- **Enterprise Presence**—Since its inception in the mid 80's, TI Software has consistently been one of the leading companies in the market for enterprise application development tools. For the last six years, the Gartner Group has placed TI Software in the upper right "Leader" quadrant for Enterprise AD Technology, a distinction afforded no other company. Moreover, Mike Blecher from the Gartner Group predicts that, "TI Software will remain the leader in this category for at least the next two years."

- **Critical Mass/Scale**—With approximately $245 million in revenues and over 1,300 employees worldwide, TI Software is one of the largest software vendors and one of the leading development tool vendors in the world today. The Company has over 700 enterprise-class customers and is the market share leader in high-end analysis, modeling, and design tools according to IDC.

- **CBD Technology/Vision**—TI Software's flagship product, *Composer 4*, is a leading CBD tool designed to facilitate enterprise application design and construction through the assembly of reusable, large-scale components. The Company has established itself as a market leader and technical visionary in redefining methods and tools for component-based development, a paradigm that many industry analysts consider to be the preferred method for enterprise application development in the future.[1] Forrester Research estimates that CBD tools will represent approximately 40% of the development tools market by 2000.

- **Global Distribution**—TI Software has built a global sales and marketing organization with direct sales and <u>distributors operating in 30 countries worldwide</u>. In addition, the Company is currently building an <u>indirect VAR channel in the U.S.</u> for its recently released workgroup product, *Performer*. In 1996, international markets accounted for approximately 54% of sales.

- **High-end Services**—The Company typically sells consulting and education services with new software license sales. Due to the technical complexity of the product and of enterprise application development in general, the Company's project management and technology transfer consulting services are essential to ensuring the success of projects using TI Software's tools. The Company's professional services organization employs over 400 consultants worldwide, and in 1996, professional services generated nearly 33% of total revenues.

- **Recurring Maintenance Revenues**—TI Software benefits from a steady, recurring revenue stream from software maintenance, which accounted for nearly 24% of total revenue in 1996. Historically, 94% of the Company's customers renew maintenance annually.

- **Industry Alliances/Partnerships**—TI Software is prominent and visible in driving standards and innovation in application development technology. The Company has

Review Distl/or + VAR agreements →

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[1] Includes analysts from Gartner Group, Meta Group, Forrester Research, and IDC.

[handwritten: → IP issues → Microsoft agreements]

established a number of high-profile alliances with leaders in the industry, including Microsoft with whom TI Software has co-designed an open repository for storing and sharing design information. Microsoft will bundle this product, the Microsoft Repository, with Visual Studio. By co-owning the repository design the Company believes it will have a time-to-market advantage in supporting Microsoft's repository initiatives. TI Software has also co-authored the UML 1.0 standard (recently submitted to OMG) which defines a standard way in which tools from different vendors can exchange repository design information. Partners in this initiative include Oracle, H-P, Rational Software, and Microsoft, among others.

- **Accelerated Development/New Products Releases**—With the introduction of *Performer* in December 1996, TI Software for the first time significantly broadened its product portfolio with a new product offering for the workgroup and departmental markets. Throughout 1997, the Company will release additional new products (such as new templates and a Java assembly tool) which will complete TI Software's CBD tool suite and complement the *Composer* development environment. These new CBD products, along with *Composer*, are expected to be the platform for the Company's future growth.

2.1 Market Overview

Application development tools are software environments used by professional developers to model, design, and construct software systems which can be deployed at various levels within an enterprise. The market for development tools is served by products such as high-end analysis, design, and modeling tools ("ADM") and object-oriented ("OO") tools; language and implementation tools such as fourth-generation tools ("4GLs") and third-generation tools ("3GLs"); and cross-platform GUI builders ("GUI").

The shift in enterprise computing towards complex, distributed applications has highlighted the need for advanced developer tools to assist in analysis, modeling, and design of next-generation client/server applications. ADM tools are used to create data definitions and programming specifications, along with automated code generation. However, the distinction between ADM tools, OO tools, 4GLs, and 3GLs is becoming less significant as tools vendors continue to expand the functionality of their products. In fact, a distinguishing characteristic of CBD environments is that they blend the high-level modeling capabilities of ADM tools with the non-procedural, visual capabilities of 4GLs.

Component technologies hold the greatest promise for the growth of application development tools. Gartner Group predicts that component-based development will be instrumental in the future of application development:

> *By 2001, at least 60% of all new applications development will be based on assemblies of componentware, increasing both speed to market and the ability to cope with change...*[2]

Many industry analysts predict that CBD environments are far more effective for developing and maintaining scaleable client/server applications than traditional 3GL or 4GL tools. As client/server computing becomes increasingly tied to the mission-critical business processes and capabilities of an organization, IS departments are increasingly faced with the need to deliver high-quality applications in a compressed time frame throughout the organization. CBD tools allow them to work in teams on discrete components and reuse application pieces saved in repositories or recovered from other applications. Since applications can be assembled from reused and swapped components which are compatible across platforms, IS managers are given unparalleled flexibility in creating and modifying their designs. The resulting time-to-market and cost advantages are expected to fuel growth in this segment through the turn of the century.
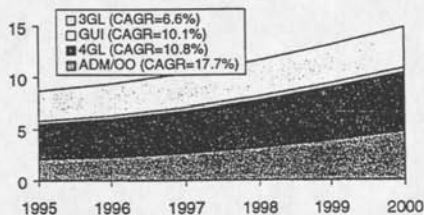
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[2] Gartner Group, October 14, 1996.

The total market for application development environments represented a $9.4 billion opportunity in 1996, according to IDC estimates. The 4GL space, where component-based development tools originated, accounted for 40% of this total market, or $3.7 billion. Component technology is supported by advanced modeling and object-oriented design tools, which represented another 24% of the market, or $2.3 billion. Finally, 3GL environments and GUI builders which are expected to be absorbed and supplanted by component technologies comprised the remaining $3.4 billion.[3]

1996 Tools Market
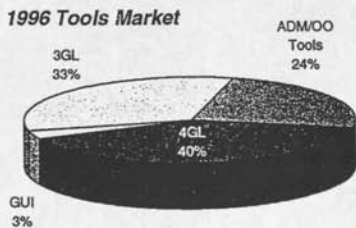
The market for enterprise application development tools is projected to expand from $8.7 billion in 1995 to $14.9 billion in 2000, representing a compound annual growth rate ("CAGR") of 11.4%.[4] This growth is expected to be driven in part by the use of component technologies for analysis and design of next-generation client/server applications.

Segments associated with component technologies are expected to grow faster than the overall market. Specifically, IDC predicts that the market for ADM and OO tools will grow at a CAGR of 17.7% to $4.7 billion in 2000 as these technologies subsume functionality of 4GL and 3GL tools to become the dominant platform for component-based development. Forrester Research forecasts that by the year 2000, component-based development tools will account for 40% of the total market for application development tools. As an emerging technology, CBD tool sales are thus expected to show explosive growth in the market, from virtually zero revenues in 1995 to $6.0 billion in 2000.
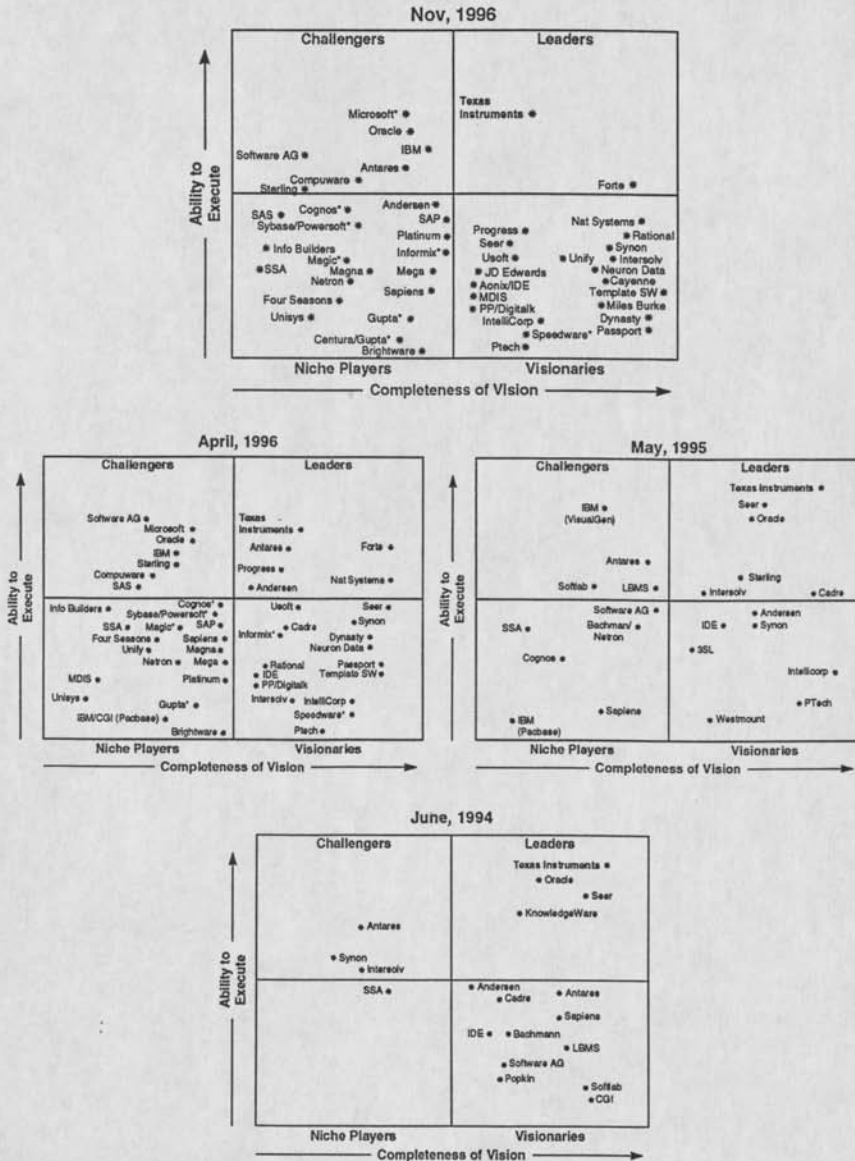

Market Size 1995-2000
(dollars in billions)

Competition

The Gartner Group identifies over 40 vendors competing in the enterprise application development market. TI Software is one of only two vendors placed in the Leader quadrant based on the Company's "Completeness of Vision" and "Ability to Execute." These criteria are comprehensive and incorporate considerations ranging from financial and technical resources to sales and support capability.

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[3] International Data Corporation, 1996
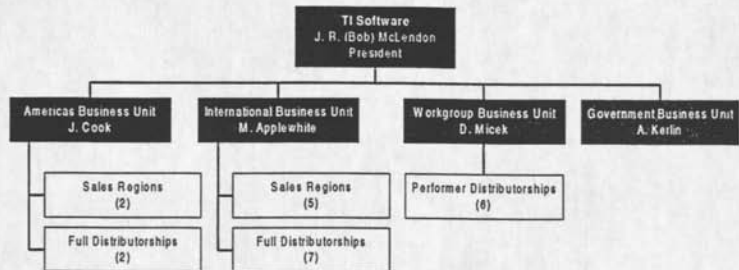[4] International Data Corporation, 1996.

TI Software is the only vendor who has succeeded in being listed in the Leader quadrant for six consecutive years (the four most recent rankings are shown).

Nov, 1996

Ability to Execute (vertical axis) — Completeness of Vision (horizontal axis)

Challengers | Leaders | Niche Players | Visionaries

Microsoft*, Oracle, IBM, Software AG, Antares, Compuware, Starling, Texas Instruments, Forte, SAS, Cognos*, Andersen, SAP, Sybase/Powersoft*, Platinum, Info Builders, Magic*, Informix*, SSA, Magna, Mega, Netron, Sapiens, Four Seasons, Unisys, Gupta*, Centura/Gupta*, Brightware, Progress, Seer, Usoft, JD Edwards, Aonix/IDE, MDIS, PP/Digitalk, IntelliCorp, Ptech, Nat Systems, Rational, Synon, Unify, Intersolv, Neuron Data, Cayenne, Template SW, Miles Burke, Dynasty, Speedware*, Passport

April, 1996

Ability to Execute (vertical axis) — Completeness of Vision (horizontal axis)

Challengers | Leaders | Niche Players | Visionaries

Software AG, Microsoft, Oracle, IBM, Starling, Compuware, SAS, Texas Instruments, Antares, Progress, Andersen, Forte, Nat Systems, Info Builders, Cognos*, Sybase/Powersoft*, SSA, Magic*, SAP, Four Seasons, Sapiens, Unify, Magna, Netron, Mega, MDIS, Platinum, Unisys, Gupta*, IBM/CGI (Pacbase), Brightware, Usoft, Seer, Synon, Informix*, Cadre, Dynasty, Neuron Data, Rational, IDE, Passport, Template SW, PP/Digitalk, Intersolv, IntelliCorp, Speedware*, Ptech

May, 1995

Ability to Execute (vertical axis) — Completeness of Vision (horizontal axis)

Challengers | Leaders | Niche Players | Visionaries

IBM (VisualGen), Texas Instruments, Seer, Oracle, Antares, Softlab, LBMS, Starling, Intersolv, Cadre, SSA, Software AG, Bachman/Netron, IDE, Andersen, Synon, Cognos, 3SL, Intellicorp, IBM (Pacbase), Sapiens, PTech, Westmount

June, 1994

Ability to Execute (vertical axis) — Completeness of Vision (horizontal axis)

Challengers | Leaders | Niche Players | Visionaries

Texas Instruments, Oracle, Seer, KnowledgeWare, Antares, Synon, Intersolv, SSA, Andersen, Cadre, Antares, Sapiens, IDE, Bachmann, LBMS, Software AG, Popkin, Softlab, CGI

2.3 Sales & Marketing

TI Software distributes its products on a worldwide basis through a direct sales force and distributors. TI Software has established a local presence in all major geographies and is currently operating in 30 countries. The following is the Company's sales structure:

TI Software Sales Organization

TI Software's Americas business unit is headquartered in Plano, Texas, and provides coverage through 21 sales offices in the U.S. and Canada. In North America, the Company sells through a direct sales organization consisting of 6 sales managers, 26 sales representatives, and 17 presales support personnel. In Latin America, TI Software markets its full line of products through distributors based in Argentina and Brazil.

TI Software's international business unit is headquartered in London and manages a widely-deployed direct sales force and seven distributors in Europe, Asia Pacific, Africa, and the Middle East. The international business unit includes a total of 11 sales managers, 48 sales representatives, and 14 presales support personnel. In February 1997, the Company converted its subsidiaries in Denmark, Norway, and Sweden, into a single distributorship in order to reduce fixed cost in its European sales operation. These subsidiaries were spun out to the local management team. As a result of this arrangement, TI Software expects to pass all services revenues to these new distributors while receiving a percentage of license and maintenance revenues. Management is contemplating similar transactions in certain other countries where having distributors would be preferable to a direct local presence.

The Company has recently formed a workgroup business unit which is focused on building and managing a network of VAR distributors dedicated to selling its *Performer* product. TI Software first invested in developing this channel in 1996, and as of February 1997, the Company had signed six VAR distributors to market *Performer* in the U.S. TI Software expects to scale up its indirect distribution efforts in 1997 since *Performer* is more suited for this method of distribution given its target customer and price point.

Review R/E leases

Review dist'or agents

Review docs. / Investigate int'l tax implications

Review agents

Investigate
GSA contracts; other
govt. contracts

TI Software's government business unit sells the Company's software products to federal, state, and local government agencies in the U.S. Based in Falls Church, Virginia, the group employs 2 sales managers, 14 sales representatives, and 5 presales support people.

Customer Base

TI Software's target customer is a large, Fortune 1000 class organization with a propensity towards in-house systems development. Generally the Company is highly successful in sales situations where prospects are planning a major enterprise application development project and seeking a complete solution including software development tools, hardware systems, and services from its vendors. Thus, TI Software often partners with systems and services vendors such as IBM, H-P, EDS, and Andersen Consulting. Furthermore, in the typical TI Software sales situation, the Company finds that customer decisions are influenced significantly by customer references. Thus, management emphasizes "solution selling" in order to ensure a higher probability of customer success and future referenceability. In addition, one of the key metrics that TI Software tracks is referenceability. Management estimates that over 90% of the Company's customers are referenceable.

As a further example of TI Software's success in selling complete solutions to the enterprise, in 1996, 63% of the Company's software license revenues were driven by transactions greater than $500,000, where TI Software's tools were to be utilized in significant enterprise application development projects.

Another important consideration for targeting customer success is the fact that TI Software generates significant repeat business from its existing customer base through additional license sales (for example, when a pilot project moves to a rollout phase), annual maintenance, and additional professional services. In fact, a typical account often generates two to three times the value of the original sale in subsequent years. Thus, TI Software places a value on a new account which is substantially more than the initial sale would suggest, and as a result, the Company encourages its sales force to generate sales from new accounts as well as from the existing customer base. In 1996, almost 38% of the Company's software license revenues came from new customers who spent more than $100,000.

The following is a partial list of the hundreds of customers who have built large-scale client/server systems using TI Software's products:

Selected TI Software Customers

	North America	International
Insurance/ Financial	Blue Cross Blue Shield (FL) Equitable Travelers Insurance	Zurich Group Kredietbank Bank of Ireland
Telecom	AT&T Bell South	British Telecom Deutsche Telecom
Government	State of Missouri U.S. Dept. of Education U.S. Dept. of State	Australian Dept. of Education Swiss Police Swedish Student Loans
Utilities	Arizona Public Service Cinergy Pacific Corp.	British Gas Transco Midlands Electricity plc Electrabel
Other	Burlington EDS Monsanto McDonnell Douglas	Volvo Swiss Rail Air France Thai Airlines

Alliances/Partnerships

The TI Software/Microsoft technology alliance is an important part of the Company's CBD vision. This alliance was formed in 1994 after initial discussions in late 1993. The strategic objective of the alliance was for both parties to design and develop a robust, industry-standard enterprise repository which would be the key enabler for component design and sharing of CBD tools from a variety of vendors. Management believes that TI Software's considerable repository design skills and Microsoft's ability to distribute the product and drive standards are important factors in ensuring the success of this repository project.

The initial Microsoft product launch based on this effort is expected in March 1997. While TI Software co-owns the design, it does not currently have plans to develop its own repository product based on the jointly authored design. The Company's strategy of being a design insider is to be first to market with CBD tools that are compatible with the first and ensuing subsequent versions of the Microsoft Repository. Furthermore, TI Software believes that through its joint Microsoft repository design work, the Company has been able to develop a closer working relationship with an important partner and formulate a strategy that is highly complementary with Microsoft's tools strategy. Currently, TI Software continues to support the alliance and new repository initiatives with a dedicated staff who remain onsite at Microsoft's headquarters.

TI Software is also a member of a consortium, along with leading companies such as Microsoft, Rational Software, Oracle, and others, that has proposed UML 1.0, a
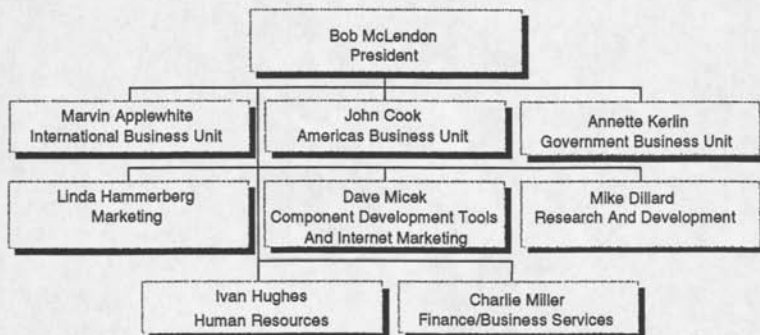
component modeling language standard, to the OMG. UML is a standard for modeling components and describing their interfaces. Management believes that its UML efforts in conjunction with its Microsoft technology alliance are key components to ultimately delivering on its CBD product strategy.

3.1 Management/Employees

TI Software's senior management team possesses extensive experience in the development and marketing of enterprise application development software and in managing large, multi-national technology organizations. The Company's management is composed of veterans both from within Texas Instruments and from large software development companies outside Texas Instruments. These senior executives form a "leadership team", with each member responsible both for leading a particular area and contributing as a team member to the overall direction of the business. Each member of the leadership team reports to the President.

Texas Instruments Software Management

Bob McLendon
President

Marvin Applewhite
International Business Unit

John Cook
Americas Business Unit

Annette Kerlin
Government Business Unit

Linda Hammerberg
Marketing

Dave Micek
Component Development Tools
And Internet Marketing

Mike Dillard
Research And Development

Ivan Hughes
Human Resources

Charlie Miller
Finance/Business Services

Bob McLendon, President (55)—Mr. McLendon came to TI Software with 30 years of experience at Texas Instruments, most recently as CIO of Texas Instruments and Manager of all Corporate Information Systems and Services. He has held a variety of business management and technology management roles within the Defense Systems Group. Mr. McLendon holds a Ph.D. in Electrical Engineering from Southern Methodist University, a Masters Degree in E.E. from The University of California at Los Angeles, and a Bachelors Degree in E.E. from Lamar University.

Marvin Applewhite, Senior Vice President, International Business Unit (55)—Mr. Applewhite is based in London, England, and is responsible for managing the sales and support organization outside of the Americas. He has been with the Company for over two years and brings 27 years of Texas Instruments experience in computer technology with him to the management team. Mr. Applewhite was most recently the Development Manager for TI Software, and prior to that, he was the Managing Director for the TI Computer Systems Division. He has held various other program and software management positions within the TI Defense Systems Group, and holds a Ph.D. and Masters Degree in Electrical Engineering from Oklahoma State University. He received his Bachelors Degree in E.E. from The University of Texas, Arlington.

John Cook, Vice President, Americas Business Unit (52)—Mr. Cook has recently taken this position, having previously served as the Director of Strategy and New Business Creation at TI Software. In his new role, he is responsible for sales and support activities in North and South America. He has been with the Company for one and one-half years, joining from outside Texas Instruments. Prior to TI Software, Mr. Cook was Chief Executive Officer in the BancA Enterprise Unit of Andersen Consulting, and has held a number of other executive and sales management positions both at BancA and UCCEL. He holds an MBA from Harvard University and a Bachelors Degree in Economics from Vanderbilt.

Mike Dillard, Vice President, Worldwide Research and Development (49)—Mr. Dillard was recently given the responsibility for managing the R&D centers in both Texas and in the United Kingdom, having served as the General Manager of the Government Solutions Business Unit at TI Software for a year and a half. Mr. Dillard brings extensive experience in managing global development teams, including the position as CIO of the United States Central Intelligence Agency, and as Director of the Applications Software Group of the CIA. Mr. Dillard holds a Masters Degree in Management Systems from George Washington University, and a Bachelors Degree in Engineering Mathematics from the University of Georgia.

Facilities docs. →

Dave Micek, Vice President, Component Development Tools and Internet Products (43)—Mr. Micek has taken this position after having served for over a year with TI Software as General Manager of the Workgroup Business Unit. He previously served as the Vice President of Marketing at Neuron Data, and the Director and General Manager of the dBASE Business Unit at Borland International. Mr. Micek has also held various general management, sales, and marketing positions with Ashton-Tate, Calcomp, and Systonetics. He holds an MBA from the University of Southern California.

Annette Kerlin, Vice-President, Government Business Unit (51)—Ms. Kerlin joined TI Software approximately one year ago as Sales Director, Government Business Unit, and assumed her current responsibility three months ago. Prior to joining the Company, Ms. Kerlin was Director, North American Operations and Strategic Business Development at Sybase, and the Director of Federal Operations at Sybase. She brings with her experience from Federal Data Corporation, Wang Federal Systems Division, and SMS Data Products Group. She holds a Bachelors Degree in English from Ohio State University.

Charlie Miller, Manager, Finance & Operations (42)—Mr. Miller has 20 years of experience at Texas Instruments, and has served in this role for the past year. He has held a number of financial management, operations, and compliance positions throughout Texas Instruments, most recently as the Business and Financial Planning Manager at the TI Defense Systems Group. Mr. Miller holds a Bachelors Degree in Accounting from The University of Texas at Austin.

Ivan Hughes, Director, Human Resources (44)—Mr. Hughes has eighteen years of experience in Human Resources at Texas Instruments, and has held his current position for two years. Previously, he was HR Director for TI Software in Europe, and with

Texas Instruments, he was European Compensation and Benefits Manager, and before that, Corporate Compensation Manager. Mr. Hughes holds a Masters in Industrial Relations as well as a Masters in German from Michigan State University, and a Bachelors in German and Math from Clarion University of Pennsylvania. Mr. Hughes speaks German and French fluently.

Linda Hammerberg, Director, Global Marketing (47)—Ms. Hammerberg has been with TI Software for four years, most recently as Director of Marketing, Workgroup Business Unit before assuming global responsibility for the Company's marketing in 1997. She has 26 years of experience in sales and sales management in software companies such as Control Data, TRW, and Knowledgeware. Ms. Hammerberg holds a Masters Degree in Marketing from University of Wisconsin at Oshko, and a Bachelors in Mathematics from University of Wisconsin at Stout.

Employees by Geography

Employees

As of February 28, 1997, TI Software had 1,370 employees worldwide. Almost 40% of these employees are located in Europe, with another 7% located in Asia. In addition, the Company employs 56 outside contractors, primarily in the development organization. The functional breakdown of employees is listed in the following table:
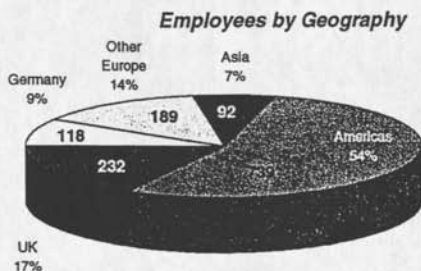
Need to get comfort that these are properly treated as indp. contractors

Function	Number	Percent
Consulting and Training	432	32%
Development, Systems	316	23
Customer Service	103	8
Sales, Sales Management, Presales	154	11
Marketing	88	6
Operations, Administration	277	20
Total	1,370	100%

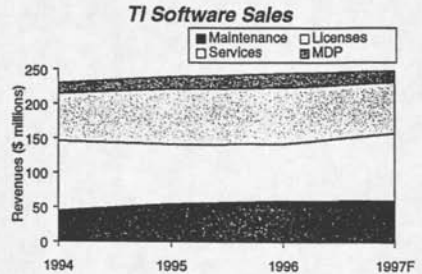*Do we need to look at this documentation if we're buying only assets? (Probably not)*

In the past two months, the Company has undergone two separate restructurings, reducing its total workforce from 1,521 employees to the current 1,370. The most significant reductions included a 15% reduction in worldwide sales and marketing and 15% reduction in administrative and operations personnel. The reduction in sales and marketing was enabled by the centralization of TI Software's previously distributed marketing and product management organization. By consolidating the Company's marketing function, management expects to reduce redundancy and increase efficiency of its marketing organization. TI Software was also able to reduce sales management by reorganizing its four U.S. sales regions into two.

A reduction of 10% was effected in the professional services area to adapt to the organization's increased business focus on high-end services. Moreover, the successful completion of significant software development milestones such as the initial introduction of *Performer* in December 1996 and the release *Composer 4* in February 1997 allowed the development organization headcount to be decreased by 9%.
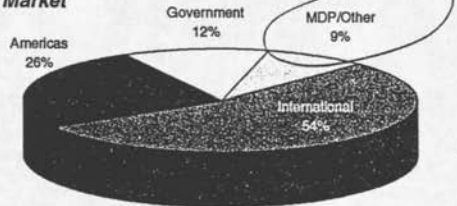
Management believes that these headcount reductions will be a major factor in returning TI Software to profitability in 1997 since over 67% of the Company's actual cash outlay in 1996 was directly related to people costs.

4.1 Financial Discussion

TI Software's revenues are derived from new software license sales, software maintenance, and professional services, which include consulting and training associated with software application development using the Company's tools. For the fiscal year ending December 31, 1996, TI Software reported total revenue of $245.0 million.[5] Total sales from international markets (Europe, the

TI Software Sales

Middle East, Africa, and Asia Pacific) accounted for approximately $132 million or 54% of revenues in 1996. Sales from the Americas (North America and Latin America) generated 26% of revenues in 1996. The MDP contract and sales from U.S. federal, state, and local governments made up the remaining 20% of revenues in 1996. Management has projected that total revenue will reach $249 million in 1997. The Company's current operating plan assumes a substantially lower cost base than in 1996 due to two restructurings that occurred in December 1996 and January 1997. Through renewed license revenue growth and reduced costs, management projects

1996 TI Software Revenue by Market

approximately $2 million operating profit for 1997. TI Software expects to achieve $15 million operating profit for the second half of 1997 on revenues of $137 million.

The MDP contract generated $21.2 M of revenue in 1996 -- see p. 28. Must review this!

License Revenue by Product

In 1996 new license sales reached $82.2 million, accounting for 34% of total revenue. This represents a decrease in license revenues of 4% from 1995. Management believes that this flat license revenue performance is the result of a delay in the release of *Composer 4* and isolated sales management and execution problems in three specific sales territories: western U.S., northeastern U.S., and eastern Europe. As a part of the Company's recent restructurings, management believes that it has corrected these sales-related execution problems. TI Software believes it is poised to grow license revenues and is forecasting total license sales to rise 18% to $97.2 million in 1997. Management has developed the Company's 1997 forecast based on its expectation of sales for newly released versions of *Composer* and *Performer*, as well as its component-based

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[5] Includes a large, ongoing U.S. government professional services contract ("MDP") managed by TI Software.

application templates. This revenue target has potential upside since sales of new TI Software products (such as a component explorer for the Microsoft Repository and "Redwood," a product which facilitates customization and the development of extensions to SAP R/3 using *Composer*) have not been factored into management's assumptions.

Composer 4's market position as a next-generation, component-based enterprise application development environment continues to make this product the Company's major source of revenues going forward. In 1997, management forecasts new *Composer* licenses to account for approximately $72 million in sales.

Management estimates that $7.5 million of license revenues in 1996 were derived from sales of *Composer*-based vertical market application templates which were marketed exclusively in Europe. These application templates are essentially large-grain components, and therefore represent a natural extension of the Company's component-based development and component provisioning strategy. The Company maintains its focus on selling development tools and related services, and markets "componentware" and application templates primarily to leverage application development tools and related services sales. Revenues from application template products are expected to reach $15 million in 1997.

TI Software Licenses Sales

Revenues ($ millions)

1994	1995	1996	1997F
101.1	85.6	82.2	97.2

The Company's new *Performer* product resulted in no material revenues in fiscal 1996 as the product introduction occurred in December 1996. Sales of *Performer* are expected to contribute to the Company's anticipated license revenue growth, resulting in approximately $10 million in sales in 1997.

License Revenue by Market

Much of TI Software's license revenue growth in 1997 is expected to come from the U.S. Sales derived from the Americas are anticipated to rise 23% or by $4.6 million in 1997 as the Company starts to benefit from the introduction of TI Software's new *Performer* product and the first availability of application templates in the U.S. Furthermore, management anticipates that an increasing U.S. market shift to component-based development could result in license revenue upside as *Composer* becomes the vehicle by which many of TI Software's customers transition to the new component-based development paradigm. *Composer*, through its tight integration with the Microsoft Repository, has been designed to accommodate and facilitate this transition through it ability to interchange design information with numerous other development tools.
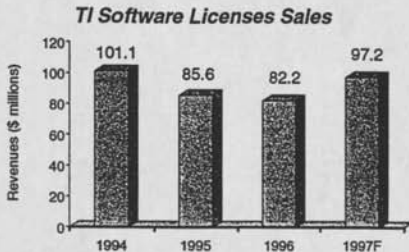
Management anticipates additional license sales growth to come from the Asia Pacific region. Sales derived from Asia Pacific markets are expected to reach nearly $14 million in 1997, an increase of 92% over the previous year. This sales growth is expected to be driven by the first quarter release of a Kanji (double-byte) version of *Composer*. The 1997 projections do not include the targeted summer release of a Kanji version of *Performer*.

TI Software Licenses By Market
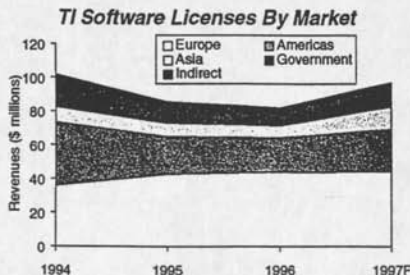
Review channel agmts →

TI Software has established a new business unit dedicated to building indirect channels of distribution for workgroup-oriented products such as *Performer*. Management expects these indirect channels to generate $4 million in additional software license revenue in 1997, primarily from sales of *Performer*.

Sales in Europe, including the Middle East and Africa, are forecasted to remain flat at $44 million. This conservatism is in part driven by the expectation that the softness experienced in the U.S. tools market will transition to Europe, especially since Europe tends to trail U.S. trends by 1-2 years. Furthermore, management has intentionally developed a conservative forecast of $10 million for its government business unit, and believes that upside potential exists in this revenue target.

Maintenance Revenues

Software maintenance represent a stable, recurring source of revenue for the Company. Maintenance revenues were $59.9 million in 1996, representing an increase of approximately 8% over the prior year. Moreover, in 1996, nearly 94% of the Company's customers on maintenance renewed their maintenance contracts, demonstrating management's belief that the majority of the Company's customers are using and will continue to use *Composer* for strategic, mission-critical application development and enhancement. As a result of the Company's high historical renewal rates, management conservatively expects maintenance revenues to remain stable at just over $60 million in 1997.

Professional Services Revenues

The Company achieved professional services revenues of $81.7 million in 1996, representing nearly 33% of total revenues. Management forecasts services revenues to reach $74 million, or 30% of total revenue, in 1997. This decrease in services revenues is due in part to TI Software's conscious effort to promote its higher level service offerings and increasingly pass on implementation related services to its partners (such as EDS and Andersen). Management believes that professional services continue to represent a significant revenue source for TI Software. Furthermore, TI Software

expects to realize substantial services revenues not only as part of new software license sales, but also from its established base of *Composer* customers who are initiating new application development projects using *Composer* or seeking to maintain or upgrade existing applications.

Cost of Sales

Cost of sales includes software product costs, amortization of software R&D capitalization, royalties for application templates, license fees for third-party bundled products, and direct labor and other direct costs associated with professional services and technical support services related to maintenance agreements.

Review these docs.

Cost of sales also includes an expense of $3.3 million per year for the amortization of goodwill associated with the acquisition of James Martin Associates in the UK in 1991. TI Software is amortizing this goodwill on a straight-line basis over fifteen years.

In addition, in 1996 cost of sales includes an additional $1.8 million corporate charge from Texas Instruments' central R&D lab.

Sales and Marketing

Sales and marketing, which include direct sales costs, marketing and advertising, sales commissions and indirect channel management costs, has traditionally represented the Company's largest single expense category at 32% of sales in 1996. Sales and marketing expenses are forecasted to decline as a percentage of sales to 23% in 1997, primarily as a result of two restructurings in December 1996 and January 1997, during which total sales and marketing headcount was reduced by approximately 15%. Moreover, by centralizing certain marketing and product management functions and consolidating its U.S. sales regions, the Company has been able to streamline its sales and marketing operations and further reduce its cost base. Management believes this new structure will be more efficient and will enable the Company to return to profitability in the third and fourth quarters of 1997.

Research and Development

The Company capitalizes software development costs in accordance with FASB No. 86. Capitalized software development expenditures were approximately $5.7 million and $13.7 million in 1995 and 1996, respectively. Amortization of capitalized development costs was approximately $13.5 million and $8.4 million in 1995 and 1996, respectively.[6] The Company amortizes capitalized software development costs straight-line over a three year period.

Since TI Software has substantially completed its R&D investment in *Composer 4* and *Performer* development, management forecasts gross R&D expenses to decrease to approximately $19.9 million in 1997 from a high of $26.7 million the previous year.

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[6] Includes writeoffs and other adjustments.

The following is a summary of the Company's actual and projected capitalized R&D costs and related amortization:

(dollars in millions)		Fiscal Year Ending December 31		
	1994	1995	1996	1997F
Research and Devel.				
Expensed R&D	$4.9	$11.0	$13.0	$16.3
Capitalized R&D Costs	10.5	5.7	13.7	3.6
Gross R&D	15.4	16.7	26.7	19.9
Beg. Cap R&D Balance	19.7	21.5	13.7	19.0
R&D Costs Capitalized	10.5	5.7	13.7	3.6
Amortization & Writeoffs	8.7	13.5	8.4	9.6
Ending Cap R&D Balance	21.5	13.7	19.0	13.0

General and Administrative

General and administrative expenses, excluding one-time restructuring charges of $3.2 million, were 19% of revenues in 1996. Management expects general and administrative expenses to rise slightly to 21% of revenues in 1997. This increase is largely associated with planned investments in information systems infrastructure specifically dedicated to TI Software.

In 1995, Texas Instruments Incorporated. changed its pricing structure for its centralized information systems activity and started passing on just variable costs to individual cost centers. As a result, beginning in 1995, TI Software's general and administrative expenses include central information systems charges from corporate of $8.8 million, $6.1 million, and an estimated $6.4 million for 1995, 1996, and 1997, respectively.

[Handwritten annotations: We will have to figure out how to transition their use of TI info systems. If necessary, would TI enter into an interim contract w/ us to keep providing TIS w/ these services for some transition period? Need to understand any other infrastructure or support provided by TI, Inc.]

4.2 Financial Statements

Texas Instruments Software
Actual and Projected Statements of Income
(dollars in millions)

	Fiscal Year Ending December 31			
	1994	1995	1996	1997F
Revenue:[1]				
Software	101.1	85.6	82.2	97.2
Maintenance	44.7	55.7	59.9	60.4
Services[2]	69.2	80.5	81.7	74.1
MDP[3]	15.4	18.2	21.2	17.3
Other	0.8	0.6	0.0	0.0
Total Revenue	231.2	240.6	245.0	249.0
Cost of Sales[4]	113.5	128.0	131.1	122.9
Gross Profit	117.7	112.6	113.9	126.1
Gross Margin	*51%*	*47%*	*46%*	*51%*
Operating Expenses:				
Sales and Marketing	60.2	78.8	79.4	56.4
Research and Development	4.9	11.0	13.0	16.3
General and Administrative[5]	39.4	43.0	45.7	51.2
Total Operating Expenses	104.5	132.8	138.1	123.9
Operating Profit	13.2	(20.2)	(24.2)	2.2
Operating Margin	*6%*	*-8%*	*-10%*	*1%*
Profit excl. TI Corp. Charges[6]	13.3	(11.3)	(16.3)	8.6

Notes:

F = Forecasted

1. Excludes 1994-96 revenue and cost associated with TI Software's Scandinavian subsidiaries which were converted into a distributorship in early 1997.
2. Excludes $5.5 million revenue in 1996 associated with the funding of R&D for certain application templates.
3. MDP is a U.S. government professional services contract managed by TI Software.
4. Excludes one-time writeoffs of $6.0 million and $0.8 million in 1995 and 1996, respectively.
5. Excludes restructuring charges of $8.5 million and $3.2 million in 1995 and 1996, respectively.
6. Texas Instruments corporate allocations were $8.9, $7.9, and an estimated $6.4 million in 1995, 1996, and 1997.

Texas Instruments Software
1997 Projected Statement of Income
(dollars in millions)

	Quarter Ending				Total
	31-Mar	30-Jun	30-Sep	31-Dec	1997F
Revenue:[1]					
Software	14.2	21.9	24.9	36.2	97.2
Maintenance	14.5	14.4	15.9	15.6	60.4
Services	19.0	19.4	17.8	18.0	74.1
MDP[2]	4.3	4.4	4.3	4.3	17.3
Other	0.0	0.0	0.0	0.0	0.0
Total Revenue	52.0	60.1	62.8	74.1	249.0
Cost of Sales	32.1	30.6	30.5	29.7	122.9
Gross Profit	19.9	29.5	32.3	44.3	126.1
Gross Margin	*38%*	*49%*	*51%*	*60%*	*51%*
Operating Expenses:					
Sales and Marketing	13.7	14.3	14.2	14.2	56.4
Research and Development	4.6	4.0	4.1	3.6	16.3
General and Administrative	13.1	12.8	12.5	12.9	51.2
Total Operating Expenses	31.4	31.1	30.8	30.7	123.9
Income before Taxes	(11.5)	(1.6)	1.5	13.7	2.2
Operating Margin	*-22%*	*-3%*	*2%*	*18%*	*1%*
Profit excl. TI Corp. Charges[3]	(9.9)	0.0	3.1	15.3	8.6

Note:
F = Forecasted
1. Reflects the spin out of TI Software's Scandinavian subsidiaries into a distributorship in early 1997.
2. MDP is a U.S. government professional services contract managed by TI Software.
3. Assumes Texas Instruments corporate allocations of $6.4 million in 1997.

Texas Instruments Software
Revenue Breakdown by Product and Market
(dollars in millions)

	Fiscal Year Ending December 31			
	1994	1995	1996	1997F
Software Revenue:				
Europe[1]	35.9	42.8	44.1	44.3
Americas	37.4	22.3	20.4	25.0
Government[2]	18.7	12.4	10.4	10.3
Asia/Pacific	9.1	8.0	7.1	13.6
Other/Indirect	0.0	0.0	0.1	4.0
Total Software Revenue	101.1	85.6	82.2	97.2
Maintenance Revenue:				
Europe[1]	19.0	22.4	24.3	26.2
Americas	21.5	23.8	24.7	24.1
Government[2]	1.2	5.4	6.3	5.4
Asia/Pacific	3.0	4.1	4.7	4.7
Other	0.0	0.0	0.0	0.0
Total Maintenance Revenue	44.7	55.7	59.9	60.4
Services Revenue:				
Europe[1]	29.8	39.6	46.6	41.8
Americas[3]	26.3	24.1	17.6	13.8
Government[2]	11.1	13.7	12.7	14.0
Asia/Pacific	2.0	3.2	4.8	4.5
Other	0.0	0.0	0.0	0.0
Total Services Revenue	69.2	80.5	81.7	74.1
MDP:[4]	15.4	18.2	21.2	17.3
Other Revenue:	0.8	0.6	0.0	0.0
Total Revenue:	231.2	240.6	245.0	249.0

Notes:
F = Forecasted
1. Excludes 1994-96 revenue and cost associated with TI Software's Scandinavian subsidiaries which were converted into a distributorship in early 1997.
2. Includes U.S. federal, state, and local governments.
3. Excludes $5.5 million revenue in 1996 associated with the funding of R&D for certain application templates.
4. MDP is a U.S. government professional services contract managed by TI Software.
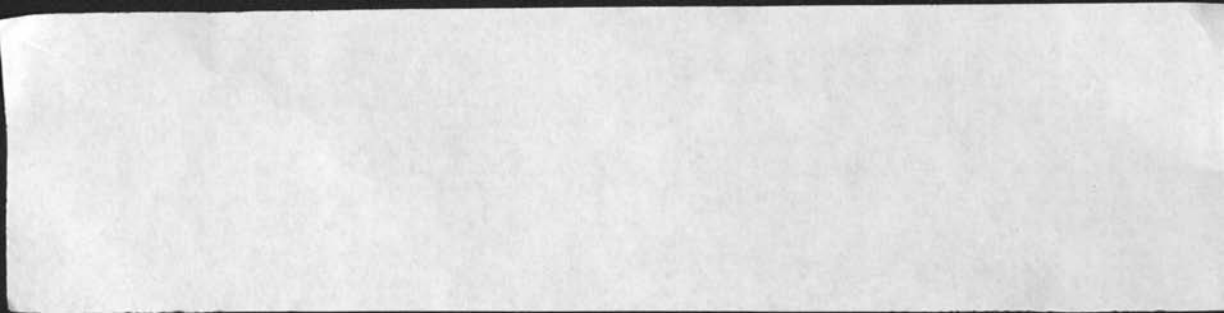
Texas Instruments Software
Balance Sheet
(dollars in millions)

ASSETS	Fiscal Year Ending December 31			
	1994	1995	1996	1997F
Current Assets:				
Accounts Receivable	$70.8	$77.1	$56.0	$65.0
Prepaid Expenses	6.7	3.1	3.8	6.0
Total Current Assets	77.5	80.2	59.8	71.0
Net Fixed Assets[1]	7.9	8.1	7.7	8.2
Capitalized Software Development	21.5	13.7	19.0	13.0
Goodwill[2]	38.5	33.3	29.9	26.5
Notes/Other	0.3	3.1	3.2	4.6
Total Assets	145.7	138.4	119.6	123.2

LIABILITIES

	1994	1995	1996	1997F
Current Liabilities:				
Accounts Payable	$7.5	$10.0	$10.6	$9.5
Accrued Expenses	45.7	45.4	38.8	45.0
Total Current Liabilities	53.2	55.4	49.4	54.5

Notes:
F = Forecasted
1. Goodwill associated with the acquisition of James Martin Associates in 1991.

March 10, 1999

Mr. Don McDermett   **Attorney Work Product**
Sterling Software, Inc.
300 Crescent Court
Suite 1200
Dallas, Texas 75201-1000

Dear Don:

At the request of Sterling Software, Inc. (SSI), Burton Grad Associates, Inc. (BGAI) will reexamine BGAI's valuation of the TIS intangible assets acquired by SSI July 1997, based on the recent changes in the SEC's recommended allocation rules and procedures and their interpretations.

Work Plan

1. BGAI will use stricter interpretations for analyzing the value of the acquired technologies (which planned products to be included and contribution of core technologies).

2. BGAI will value and determine the life of the other intangibles (such as work force, customer base, other technologies and going concern/goodwill).

3. BGAI will also use the September 15, 1998 valuation rules as proposed by Lynn Turner, SEC chief accountant. This would involve only including the actual IPR&D projects at TIS at the date of acquisition, adjusting for core technologies contributions from TIS and ADD and reducing the value for the percent of development not yet completed.

4. This review will also show the effect of using an ROI figure for NPV computation rather than a cost of money figure.

Staffing and Schedule

All work will be performed by Burton Grad. SSI/ADD will assign a principal liaison. Work will begin in mid-March with a target completion date of mid-April 1999.

Cost and Payments

Burton Grad's rate is $2,500/day. BGAI will also be reimbursed for authorized out-of-pocket expenses such as travel, accommodations, telephone/fax and express delivery.
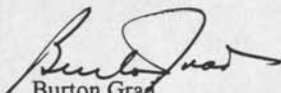
Based on the assignment as described, it should take around 4-6 days to prepare the new values with appropriate backup tables and documentation. This includes the effort needed to collect additional data, conduct detailed technical discussions with Rick Bodson and John Mecke, construct the revised logic and valuation models and produce an internally usable report for SSI. If a more formal report is wanted, it would add one to two days to the estimate and one week to the schedule.

The total cost for this project should be around $15,000 including $500 in expenses.

I look forward to performing this project for you. If the above project description is satisfactory, please sign below to indicate acceptance of the scope, terms, conditions and price.

Sincerely,

Accepted for Sterling Software, Inc.

Burton Grad
President

by _____
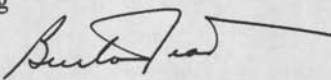   Signature

BG:4099
cc: Paul Baker
       Logan Wray

_____
                Title

_____
                Date

Date: February 11, 1999

To: Logan Wray

Copy: Laura Appling

From: Burton Grad

Subject: Review of TIS Acquisition Valuation (July 15, 1997)

At your request, I have taken a preliminary look at what work would be required to determine the effect of revaluing the acquired TIS intangible assets based on the recent changes in the SEC's recommended rules and procedures and their interpretations.

There are two possible levels of revaluation which you may wish BGAI to do:

Level 1 Use stricter interpretation for analysis of acquired technologies (what future products may be included, use of core technologies, valuation of other intangibles such as work force, customer base, other technologies and going concern/goodwill). This would also consider using an ROI figure for NPV computation rather than a cost of money figure.

Level 2 Use of September 15, 1998 valuation rules as proposed by Lynn Turner, SEC chief accountant. This would involve only including the actual IPR&D at TIS at the date of acquisition, adjusting for core technologies contributions from TIS and ADD, reducing the value for the percent of development not yet completed and valuing other intangibles with their expected life.

1. If you wish to have BGAI perform Level 1 only, then we could probably re-use the TIS products value with no change, recalculate the technologies values for each planned product which meets the SEC criteria for inclusion, after determining the percent contribution of TIS and ADD core technologies.

   Separately, BGAI would have to perform analyses of the retained work force, the customer base value related to revenue for other ADD products, arms-length value of remaining technologies not covered under IPR&D and the residual goodwill/going concern value. The "proper" discount factor would have to be determined.

As a first estimate, it should take no more than 3-4 days to prepare the new values with appropriate backup tables and documentation. It would take 2-3 calendar weeks to collect the additional data, conduct detailed technical discussions with Rick Bodson and John Mecke, construct the revised logic and valuation models and produce an internally usable report. If a formal report is wanted, then add two days to the estimate and one week to the schedule.

2. If you wish to have BGAI also perform the Level 2 study, then we might need to further reduce the number of new products for IPR&D. For those remaining products, we would need to determine percent completed as of the acquisition date, but could reuse all of the Level 1 work on core technologies, on other intangibles and on determining the proper discount factor.

This would be a relatively small amount of additional work, requiring around 1-2 days to complete. It would take less than one calendar week to complete.

My rate is still $2,500/day, so we are talking about $10,000 in fees for Level 1 and $5,000 additional for Level 2.

However, I need to remind you that information from the TIS valuation report was used for other purposes than just the allocation of the purchase price. Specifically, it was used to help construct the price paid for the exclusive international marketing rights. It may also have been used for certain tax purposes by Steve Carey. This may require some further work by BGAI.

Furthermore, BGAI also valued AMG & IMG products and technologies and performed a KWI-related revaluation. While I think it is unlikely, changing the TIS valuation might require that we reexamine those other reports to see if they are dependent on TIS figures or logic and, therefore, would require revaluation.

Please call me to discuss this at your convenience.