

Scoreboard

	Margin %		Growth %		Multiples		
	GM	EBITDA	Revenue	5 Yr EPS	EV/Revenue	EV/EBITDA	P/E
IT & IT-ENABLED OUTSOURCED SERVICES							
Commercial IT Professional Services - North America	29.8%	16.1%	10.9%	11.8%	1.86x	12.8x	18.7x
Governmental IT Professional Services - North America	25.1	8.7	17.4	10.6	1.29	14.0	20.0
IT Professional Services - Europe	17.7	11.1	2.5	10.5	1.15	8.5	14.7
IT Professional Services - India	22.5	18.0	20.2	11.8	1.97	10.3	16.3
IT Professional Services - China	22.1	3.0	21.1	NA	0.99	20.1	37.1
IT Staff Augmentation	26.8	6.3	14.8	8.5	0.69	9.7	13.3
IT SUPPLY CHAIN SERVICES							
IT Solution Providers - North America	15.9%	3.9%	5.4%	14.5%	0.34x	8.6x	13.5x
IT Solution Providers - Europe	14.3	3.4	17.6	13.9	0.80	12.1	24.9
IT Products Distributors	11.2	4.1	11.6	9.9	0.35	7.6	9.2
BUSINESS PROCESS OUTSOURCING							
Business Process Outsourcing - North America	42.2%	19.9%	11.8%	11.5%	4.09x	11.4x	19.3x
Business Process Outsourcing - India	25.9	13.5	22.8	10.0	2.25	13.2	17.7
SOFTWARE							
SaaS	71.8%	- 1.8%	25.0%	25.5%	9.23x	51.6x	75.9x
Enterprise Applications	80.5	28.5	15.6	11.4	7.22	22.6	31.1

Commercial IT Professional Services - North America

As of May 1, 2019

\$ in millions except per share data

Company	Current Price	% of 52 Wk. High	Market Value		Revenue		EBITDA		'18 - '19E			Valuation Multiples						EPS
					LTM	2019E	LTM	2019E	Growth Rate	Gross Margin LTM	EBITDA Margin LTM	EV/Rev		EV/EBITDA		P/E		Growth Rate
												LTM	2019E	LTM	2019E	LTM	2019E	
Accenture Plc Class A	\$181.31	98.9%	\$115,646	\$114,863	\$42,541	\$44,111	\$7,031	\$7,363	21.1%	30.4%	16.5%	2.70x	2.60x	16.3x	15.6x	26.4x	24.1x	7.9%
DXC Technology Co.	65.84	62.7	17,663	24,011	21,767	20,803	4,903	4,899	2.1	19.7	22.5	1.10x	1.15x	4.9	4.9	12.2	7.3	6.2
CGI Inc. Class A	71.61	98.0	17,572	21,453	8,711	9,063	1,593	1,671	5.6	13.3	16.6	2.46x	2.37x	13.5	12.8	23.1	20.1	11.5
EPAM Systems, Inc.	178.02	98.6	9,718	9,343	1,843	2,253	287	401	55.3	33.8	15.6	5.07x	4.15x	32.6	23.3	42.0	35.0	19.0
Globant SA	82.92	97.6	3,018	2,956	522	640	91	124	54.8	35.8	17.4	5.66x	4.62x	32.4	23.8	58.9	38.4	NA
Virtusa Corporation	55.02	93.9	1,646	2,055	1,200	1,357	94	133	38.3	29.2	7.8	1.71x	1.51x	21.8	15.5	NA	20.6	NA
Perficient, Inc.	29.34	94.4	968	1,058	498	532	60	83	9.5	31.7	12.1	2.12x	1.99x	17.6	12.8	40.0	17.2	12.0
Unisys Corporation	11.18	53.4	579	912	2,825	2,860	468	435	4.3	24.9	16.6	0.32x	0.32x	1.9	2.1	8.6	5.6	NA
Hackett Group, Inc.	15.50	67.9	463	494	286	286	40	49	-0.1	33.1	14.1	1.73x	1.73x	12.2	10.0	21.0	14.8	16.7
RCM Technologies, Inc.	3.90	71.4	50	75	200	210	7	10	12.2	24.4	3.5	0.38x	0.36x	10.8	7.6	17.8	10.1	NA

Median									10.9%	29.8%	16.1%	1.93x	1.86x	14.9x	12.8x	23.1x	18.7x	11.8%
Mean									20.3%	27.6%	14.3%	2.33x	2.08x	16.4x	12.8x	27.8x	19.3x	12.2%

Source: FactSet; based on consensus estimates.

IT Professional Services - Europe										'18 - '19E		Valuation Multiples						EPS			
As of May 1, 2019										Revenue	Gross	EBITDA	EV/Rev		EV/EBITDA		P/E		Growth		
\$ in millions except per share data										Growth	Margin	Margin	LTM	2019E	LTM	2019E	LTM	2019E	LTM	2019E	Rate
Company	Current Price	% of 52 Wk. High	Market Value		Revenue		EBITDA		Rate	LTM	LTM	LTM	2019E	LTM	2019E	LTM	2019E	LTM	2019E	Rate	
Capgemini SE	\$121.51	86.9%	\$20,328	\$22,197	\$14,828	\$15,887	\$2,049	\$2,283	-0.5%	26.5%	13.8%	1.50x	1.40x	10.8x	9.7x	24.8x	16.8x			9.4%	
Atos SE	103.17	69.1	11,027	16,525	13,773	14,342	1,856	1,955	-8.3	26.4	13.5	1.20x	1.15x	8.9	8.5	15.5	10.4			7.5	
Sage Group plc	9.50	99.2	10,319	11,190	2,406	2,588	686	681	12.4	89.3	28.5	4.65x	4.32x	16.3	16.4	26.8	23.8			9.0	
Alten SA	109.37	97.4	3,700	3,767	2,550	2,893	241	306	18.9	14.5	10.3	1.48x	1.30x	15.7	12.3	20.9	17.8			10.5	
Altran Technologies SA	13.04	81.7	3,353	4,186	3,277	3,641	462	553	30.8	7.1	14.1	1.28x	1.15x	9.1	7.6	37.0	13.2			21.6	
Sopra Steria Group SA	127.92	58.4	2,627	3,342	4,601	4,887	377	471	2.5	17.6	8.2	0.73x	0.68x	8.9	7.1	18.4	11.8			20.9	
Reply S.p.A.	65.19	92.2	2,439	2,365	1,164	1,291	146	181	19.5	46.2	12.5	2.03x	1.83x	16.2	13.1	21.7	21.0			NA	
Tieto Oyj	28.46	78.6	2,109	2,414	1,799	1,843	246	277	-3.3	24.5	12.9	1.34x	1.31x	9.8	8.7	15.5	13.6			NA	
Indra Sistemas, S.A. Class A	11.80	82.7	2,085	2,958	3,487	3,558	325	377	-3.2	23.7	9.3	0.85x	0.83x	9.1	7.8	15.5	13.2			12.9	
EVERY ASA	3.71	91.6	1,374	1,843	1,507	1,533	146	209	-4.6	18.0	9.7	1.22x	1.20x	12.6	8.8	18.3	10.6			NA	
Devoteam SA	117.35	84.5	978	945	733	866	85	104	30.0	12.0	11.5	1.29x	1.09x	11.2	9.1	22.0	18.7			NA	
NNIT A/S	26.71	80.7	668	740	453	479	84	87	-1.5	18.0	18.6	1.64x	1.55x	8.8	8.5	18.5	18.1			NA	
Endava Plc Sponsored ADR Class A	33.22	96.3	586	1,759	344	413	49	77	NA	NA	NA	5.11x	4.26x	36.0	22.9	68.6	32.8			23.6	
Neurones SA	24.05	77.4	584	442	551	579	50	62	-4.1	9.0	9.2	0.80x	0.76x	8.9	7.1	20.0	17.8			NA	
Aubay SA	35.69	72.6	471	471	450	479	48	52	9.9	11.2	10.6	1.05x	0.98x	9.9	9.1	15.2	14.7			5.4	
Allgeier SE	28.66	69.4	289	501	773	886	25	60	25.8	13.9	6.2	0.65x	0.57x	19.7	8.3	29.7	12.8			87.6	
Columbus A/S	2.00	68.8	250	259	282	299	25	35	48.3	17.8	8.7	0.92x	0.87x	10.6	7.5	17.0	15.0			NA	
Prodware SA	11.18	66.6	87	189	198	200	34	39	-3.4	13.6	17.9	0.96x	0.95x	5.5	4.8	8.5	5.8			7.0	
ITS Group SA	5.50	61.0	43	60	151	156	9	10	NA	3.9	4.1	0.40x	0.38x	6.9	5.8	5.9	9.1			NA	
Median									2.5%	17.7%	11.1%	1.22x	1.15x	9.9x	8.5x	18.5x	14.7x			10.5%	
Mean									10.0%	21.8%	12.2%	1.53x	1.40x	12.4x	9.6x	22.1x	15.6x			19.6%	

Source: FactSet; based on consensus estimates.

IT Professional Services - India										'18 - '19E		Valuation Multiples						EPS		
As of May 1, 2019										Revenue	Gross	EBITDA	EV/Rev		EV/EBITDA		P/E		Growth	
\$ in millions except per share data										Growth	Margin	Margin	LTM	2019E	LTM	2019E	LTM	2019E	LTM	2019E
Company	Current Price	% of 52 Wk. High	Market Value		Revenue		EBITDA		Rate	LTM	LTM	LTM	2019E	LTM	2019E	LTM	2019E	LTM	2019E	Rate
Tata Consultancy Services Limited	\$32.42	99.6%	\$121,653	\$116,885	\$21,096	\$22,663	\$5,690	\$6,131	21.1%	35.9%	27.0%	5.54x	5.16x	20.5x	19.1x	27.1x	25.1x	19.9x	16.3x	9.4%
Infosys Limited	10.78	96.6	47,107	43,130	11,908	12,692	3,047	3,142	18.0	34.8	25.6	3.62x	3.40x	14.2	13.7	21.1	19.9	21.1	19.9	10.1
Cognizant Technology Solutions Corp	72.18	86.6	41,090	39,000	16,125	17,342	3,247	3,767	17.1	35.8	20.1	2.42x	2.25x	12.0	10.4	20.1	16.3	20.1	16.3	8.9
Wipro Limited	4.29	99.7	25,890	21,836	8,438	8,771	1,685	1,789	6.5	29.7	20.0	2.59x	2.49x	13.0	12.2	19.9	18.4	19.9	18.4	9.9
HCL Technologies Limited	17.01	99.4	23,075	22,951	8,299	9,512	1,923	2,228	26.6	27.6	23.3	2.77x	2.41x	11.9	10.3	16.8	15.1	16.8	15.1	10.0
Tech Mahindra Limited	12.00	99.5	11,801	10,077	4,883	5,386	880	1,000	18.8	27.0	18.3	2.06x	1.87x	11.5	10.1	16.8	15.8	16.8	15.8	11.8
Oracle Financial Services Software Lir	50.49	77.8	4,331	4,029	694	761	284	331	12.3	53.6	41.5	5.80x	5.30x	14.2	12.2	23.1	19.2	23.1	19.2	NA
L&T Technology Services Ltd.	24.98	98.5	2,598	2,575	690	820	120	148	51.2	20.4	17.6	3.73x	3.14x	21.4	17.4	24.4	23.3	24.4	23.3	16.8
Mphasis Limited	13.88	76.3	2,584	2,549	1,073	1,236	186	216	28.1	11.9	17.5	2.37x	2.06x	13.7	11.8	17.8	15.5	17.8	15.5	13.3
Mindtree Limited	14.11	85.4	2,317	2,186	1,011	1,107	153	178	33.9	12.8	15.2	2.16x	1.97x	14.3	12.3	21.3	19.6	21.3	19.6	24.0
Sonda S.A.	1.56	85.1	1,359	1,596	1,214	1,276	142	161	-10.0	17.8	11.6	1.31x	1.25x	11.2	9.9	85.7	20.4	85.7	20.4	49.5
NIIT Technologies Limited	18.62	93.5	1,150	1,045	503	596	90	107	34.4	34.3	18.1	2.08x	1.75x	11.7	9.8	20.7	17.0	20.7	17.0	27.4
Cyient Limited	8.46	64.1	956	861	665	705	91	102	20.2	24.2	13.6	1.30x	1.22x	9.5	8.4	13.8	12.7	13.8	12.7	8.2
Zensar Technologies Limited	3.36	68.4	757	775	536	632	67	82	34.3	20.8	12.1	1.45x	1.23x	11.6	9.5	17.3	14.9	17.3	14.9	NA
Persistent Systems Limited	9.19	71.9	735	583	473	514	82	89	12.9	20.3	17.8	1.23x	1.13x	7.1	6.5	15.0	12.8	15.0	12.8	15.2
Sonata Software Limited	4.77	80.6	501	458	396	440	45	53	19.7	19.7	11.4	1.16x	1.04x	10.2	8.6	14.4	12.8	14.4	12.8	NA
Birlasoft Limited	1.34	29.6	368	218	522	665	64	89	22.8	1.4	13.1	0.42x	0.33x	3.4	2.4	5.9	7.8	5.9	7.8	NA
Roitla India Limited	0.10	10.2	16	358	344	-	61	-	NA	17.8	18.3	1.04x	NA	5.9	NA	NA	NA	NA	NA	NA
Median									20.2%	22.5%	18.0%	2.12x	1.97x	11.8x	10.3x	19.9x	16.3x	19.9x	16.3x	11.8%
Mean									21.6%	24.8%	19.0%	2.39x	2.24x	12.1x	10.9x	22.4x	16.9x	22.4x	16.9x	16.5%

Source: FactSet; based on consensus estimates.

IT Professional Services - China										'18 - '19E		Valuation Multiples						EPS	
As of May 1, 2019										Revenue	Gross	EBITDA	EV/Rev		EV/EBITDA		P/E		Growth
\$ in millions except per share data										Growth	Margin	Margin	LTM	2019E	LTM	2019E	LTM	2019E	Rate
Company	Current Price	% of 52 Wk. High	Market Value		Revenue		EBITDA		Rate	LTM	LTM	LTM	2019E	LTM	2019E	LTM	2019E	Rate	
Inspur Electronic Information Industry I	\$3.78	82.6%	\$4,878	\$5,077	\$7,290	\$8,822	\$223	\$252	117.7%	11.7%	3.0%	0.70x	0.58x	22.7x	20.1x	47.1x	37.1x	NA	
Neusoft Corporation Class A	2.02	78.7	2,514	2,507	1,059	1,219	56	114	7.5	30.8	2.1	2.37x	2.06x	44.4	22.1	16.6	39.5	NA	
Beijing Teamsun Technology Co., Ltd.	1.55	76.6	1,707	1,992	775	-	21	-	NA	16.8	0.8	2.57x	NA	NA	NA	NA	NA	NA	
Chinasoft International Ltd.	0.57	62.4	1,450	1,761	1,520	1,781	249	177	21.1	30.6	10.8	1.16x	0.99x	7.1	10.0	13.2	12.5	NA	
Beyondsoft Corporation Class A	1.44	74.1	759	641	426	-	34	-	NA	22.1	8.0	1.50x	NA	18.9	NA	23.0	NA	NA	
Median									21.1%	22.1%	3.0%	1.50x	0.99x	20.8x	20.1x	19.8x	37.1x	NA	
Mean									48.8%	22.4%	4.9%	1.66x	1.21x	23.3x	17.4x	25.0x	29.7x	NA	

Source: FactSet; based on consensus estimates.

Gvt. IT Professional Services - North America										'18 - '19E		Valuation Multiples						EPS	
As of May 1, 2019										Revenue	Gross	EBITDA	EV/Rev		EV/EBITDA		P/E		Growth
\$ in millions except per share data										Growth	Margin	Margin	LTM	2019E	LTM	2019E	LTM	2019E	Rate
Company	Current Price	% of 52 Wk. High	Market Value		Revenue		EBITDA		Rate	LTM	LTM	LTM	2019E	LTM	2019E	LTM	2019E	Rate	
Booz Allen Hamilton Holding Corporati	\$58.65	98.7%	\$8,216	\$9,952	\$6,560	\$7,013	\$670	\$711	15.3%	22.9%	10.2%	1.52x	1.42x	14.8x	14.0x	20.5x	20.0x	14.6%	
CACI International Inc Class A	190.03	94.6	4,725	5,799	4,642	5,171	461	503	17.2	31.9	9.9	1.25x	1.12x	12.6	11.5	18.2	17.8	10.0	
Kratos Defense & Security Solutions, I	15.78	88.3	1,671	1,749	618	736	52	73	-2.2	26.5	8.4	2.83x	2.38x	33.6	23.9	NA	76.3	NA	
ManTech International Corporation Cl	62.18	91.3	1,658	2,481	1,959	2,129	165	178	24.0	14.3	8.4	1.27x	1.17x	15.1	14.0	30.2	27.7	8.0	
ICF International, Inc.	76.79	93.4	1,448	1,673	1,338	1,462	119	139	18.9	33.9	8.9	1.25x	1.14x	14.0	12.0	24.2	18.4	11.1	
KEYW Holding Corporation	11.40	99.9	571	823	507	519	41	50	17.6	23.7	8.1	1.62x	1.58x	19.9	16.5	NA	NA	NA	
Median									17.4%	25.1%	8.7%	1.39x	1.29x	15.0x	14.0x	22.4x	20.0x	10.6%	
Mean									15.1%	25.5%	9.0%	1.62x	1.47x	18.3x	15.3x	23.3x	32.0x	10.9%	

Source: FactSet; based on consensus estimates.

IT Staff Augmentation										'18 - '19E															
As of May 1, 2019										Revenue			Gross Margin			EBITDA			Valuation Multiples						EPS
\$ in millions except per share data										Growth		Margin	Margin		EV/Rev		EV/EBITDA		P/E		Growth				
Company	Current Price	% of 52 Wk. High	Market Value		Revenue		EBITDA		Rate	LTM	LTM	LTM	2019E	LTM	2019E	LTM	2019E	LTM	2019E	Rate					
Robert Half International Inc.	\$60.89	76.2%	\$7,214	\$7,183	\$5,873	\$6,095	\$664	\$694	15.7%	40.8%	11.3%	1.22x	1.18x	10.8x	10.4x	16.4x	15.3x	7.9%							
ManpowerGroup Inc.	95.22	97.0	5,717	6,382	21,514	21,344	847	834	1.5	16.3	3.9	0.30x	0.30x	7.5	7.6	11.9	12.2	3.1							
Insperty, Inc.	118.52	89.4	4,890	4,634	3,829	4,327	202	284	31.1	8.8	5.3	1.21x	1.07x	23.0	16.3	36.8	25.3	16.5							
ASGN Inc	62.09	65.9	3,278	4,411	3,638	3,894	372	454	48.3	29.6	10.9	1.21x	1.13x	11.9	9.7	20.1	13.3	9.0							
Kforce Inc.	34.93	80.3	904	956	1,418	1,388	90	93	2.2	29.0	6.3	0.67x	0.69x	10.6	10.2	15.2	14.2	NA							
Kelly Services, Inc. Class A	22.74	73.3	885	856	5,514	5,725	113	124	6.5	17.6	2.1	0.16x	0.15x	7.6	6.9	39.2	9.7	NA							
Heidrick & Struggles International, Inc.	34.27	75.7	655	389	736	735	83	90	14.8	26.8	11.2	0.53x	0.53x	4.7	4.3	13.6	13.2	NA							
Mastech Digital, Inc.	5.32	46.3	59	97	177	-	13	-	NA	22.5	7.6	0.55x	NA	7.2	NA	8.9	NA	NA							
Hudson Global, Inc.	1.60	80.0	47	12	67	-	NA	-	NA	62.9	-7.8	0.18x	NA	NA	NA	NA	NA	NA							
Median									14.8%	26.8%	6.3%	0.55x	0.69x	9.1x	9.7x	15.8x	13.3x	8.5%							
Mean									17.2%	28.2%	5.7%	0.67x	0.72x	10.4x	9.4x	20.3x	14.8x	9.1%							

Source: FactSet; based on consensus estimates.

IT Solution Provider - North America										'18 - '19E		Valuation Multiples						EPS			
As of May 1, 2019										Revenue	Gross	EBITDA	EV/Rev		EV/EBITDA		P/E		Growth		
\$ in millions except per share data										Growth	Margin	Margin	LTM	2019E	LTM	2019E	LTM	2019E	LTM	2019E	Rate
Company	Current Price	% of 52 Wk. High	Market Value		Revenue		EBITDA		Rate	LTM	LTM	LTM	2019E	LTM	2019E	LTM	2019E	LTM	2019E	Rate	
CDW Corp.	\$107.36	96.2%	\$15,707	\$20,135	\$16,241	\$17,358	\$1,253	\$1,392	14.3%	16.7%	7.7%	1.24x	1.16x	16.1x	14.5x	25.6x	18.7x	14.5%			
Insight Enterprises, Inc.	58.29	97.0	2,085	2,481	7,080	7,307	275	306	9.0	14.0	3.9	0.35x	0.34x	9.0	8.1	12.8	12.1	NA			
Presidio, Inc.	14.95	83.9	1,235	2,260	2,949	2,997	214	238	5.6	17.6	7.2	0.77x	0.75x	10.6	9.5	39.3	9.3	83.0			
ePlus inc.	93.72	87.4	1,276	1,263	1,371	1,466	91	110	5.4	22.8	6.2	0.92x	0.86x	13.9	11.5	22.4	17.7	12.4			
PC Connection, Inc.	36.63	85.1	965	899	2,699	2,809	101	104	-3.5	14.7	3.7	0.33x	0.32x	8.9	8.6	15.2	14.9	8.0			
PCM, Inc.	27.71	69.8	340	472	2,155	2,206	57	66	0.6	15.9	2.6	0.22x	0.21x	8.3	7.1	14.3	10.6	20.0			
Pivot Technology Solutions, Inc.	0.90	53.8	36	141	1,331	1,206	15	18	-20.2	11.1	1.1	0.11x	0.12x	9.4	7.7	NA	NA	NA			
Median									5.4%	15.9%	3.9%	0.35x	0.34x	9.4x	8.6x	18.8x	13.5x	14.5%			
Mean									1.6%	16.1%	4.7%	0.56x	0.54x	10.9x	9.6x	21.6x	13.9x	27.6%			

Source: FactSet; based on consensus estimates.

IT Solution Provider - Europe										'18 - '19E		Valuation Multiples						EPS	
As of May 1, 2019										Revenue	Gross	EBITDA	EV/Rev		EV/EBITDA		P/E		Growth
\$ in millions except per share data										Growth	Margin	Margin	LTM	2019E	LTM	2019E	LTM	2019E	Rate
Company	Current Price	% of 52 Wk. High	Market Value		Revenue		EBITDA		Rate	LTM	LTM	LTM	2019E	LTM	2019E	LTM	2019E	Rate	
Bechtle AG	\$102.74	97.1%	\$4,315	\$4,478	\$4,858	\$5,598	\$249	\$321	27.8%	14.3%	5.1%	0.92x	0.80x	18.0x	14.0x	28.0x	23.8x	12.9%	
Softcat Plc	11.91	99.1	2,360	2,297	1,359	1,450	103	107	17.6	18.7	7.7	1.69x	1.58x	22.2	21.6	28.6	27.6	2.0	
Computacenter Plc	16.10	74.5	1,838	1,785	5,673	6,287	193	209	18.5	12.5	3.4	0.31x	0.28x	9.3	8.5	17.3	15.6	NA	
CANCOM SE	50.54	80.6	1,771	1,656	1,549	1,677	115	137	16.9	7.9	7.4	1.07x	0.99x	14.4	12.1	37.1	26.0	17.8	
Atea ASA	14.25	86.4	1,555	1,569	4,052	4,303	124	173	4.3	4.9	3.1	0.39x	0.36x	12.7	9.1	28.2	17.7	14.9	
Datatec Limited	2.27	93.4	498	685	3,743	-	76	-	NA	15.0	2.2	0.18x	NA	9.0	NA	NA	NA	37.8	NA
Plaisio Computers SA	4.61	87.2	102	68	347	-	10	-	NA	20.4	2.8	0.20x	NA	7.1	NA	23.5	NA	NA	
Median									17.6%	14.3%	3.4%	0.39x	0.80x	12.7x	12.1x	28.1x	24.9x	13.9%	
Mean									17.0%	13.4%	4.5%	0.68x	0.80x	13.2x	13.1x	27.1x	24.7x	11.9%	

Source: FactSet; based on consensus estimates.

IT Distributor - North America										'18 - '19E		Valuation Multiples						EPS	
As of May 1, 2019										Revenue	Gross	EBITDA	EV/Rev		EV/EBITDA		P/E		Growth
\$ in millions except per share data										Growth	Margin	Margin	LTM	2019E	LTM	2019E	LTM	2019E	Rate
Company	Current Price	% of 52 Wk. High	Market Value		Revenue		EBITDA		Rate	LTM	LTM	LTM	2019E	LTM	2019E	LTM	2019E	Rate	
Arrow Electronics, Inc.	\$83.50	96.4%	\$7,113	\$10,412	\$29,677	\$29,910	\$1,391	\$1,418	11.6%	11.8%	4.7%	0.35x	0.35x	7.5x	7.3x	10.3x	9.2x	8.6%	
SYNNEX Corporation	108.15	92.9	5,539	8,787	20,751	22,268	929	1,151	28.7	10.3	4.5	0.42x	0.39x	9.5	7.6	13.2	9.1	13.5	
Tech Data Corporation	105.77	95.2	3,903	4,665	37,239	37,870	766	825	5.6	6.1	2.1	0.13x	0.12x	6.1	5.7	11.9	8.8	11.1	
Anixter International Inc.	62.09	82.8	2,091	3,415	8,545	8,853	406	452	11.7	19.4	4.8	0.40x	0.39x	8.4	7.6	13.0	9.9	8.0	
ScanSource, Inc.	37.41	84.4	962	1,313	3,908	4,051	144	156	9.3	10.7	3.7	0.34x	0.32x	9.1	8.4	17.3	10.0	NA	
Wayside Technology Group, Inc.	12.00	82.5	54	37	181	-	5	-	NA	14.6	2.6	0.21x	NA	8.1	NA	15.3	NA	NA	
Median									11.6%	11.2%	4.1%	0.34x	0.35x	8.2x	7.6x	13.1x	9.2x	9.9%	
Mean									13.4%	12.1%	3.7%	0.31x	0.32x	8.1x	7.3x	13.5x	9.4x	10.3%	

Source: FactSet; based on consensus estimates.

Business Process Outsourcing - North America

As of May 1, 2019

\$ in millions except per share data

Company	Current Price	% of 52 Wk. High	Market Value		Revenue		EBITDA		'18 - '19E												
									Revenue			Gross Margin			EBITDA			Valuation Multiples			EPS
									LTM	2019E	LTM	2019E	Rate	LTM	LTM	LTM	2019E	LTM	2019E	LTM	2019E
Automatic Data Processing, Inc.	\$157.48	95.2%	\$68,603	\$69,396	\$13,841	\$14,669	\$3,237	\$3,607	14.1%	46.1%	23.4%	5.01x	4.73x	21.4x	19.2x	38.2x	27.5x	16.4%			
Fidelity National Information Services,	115.22	97.7	37,249	46,542	8,423	8,446	3,129	3,298	-7.5	33.9	37.1	5.53x	5.51x	14.9	14.1	45.2	15.5	9.6			
Paychex, Inc.	81.97	97.0	29,459	29,693	3,663	4,001	1,537	1,630	21.8	69.4	42.0	8.11x	7.42x	19.3	18.2	28.8	27.3	8.0			
Iron Mountain, Inc.	31.96	85.6	9,169	17,592	4,237	4,304	1,415	1,447	11.9	42.2	33.4	4.15x	4.09x	12.4	12.2	31.2	29.8	3.6			
LiveRamp Holdings, Inc.	57.54	91.0	3,964	2,907	617	344	NA	NA	-62.2	55.0	-12.1	4.71x	8.46x	NA	NA	4.1	NA	25.0			
TTEC Holdings, Inc.	36.01	95.9	1,664	1,882	1,527	1,621	189	204	9.7	19.6	12.4	1.23x	1.16x	9.9	9.2	46.6	22.0	14.0			
CSG Systems International, Inc.	44.64	98.2	1,491	1,664	875	916	174	207	16.0	42.7	19.9	1.90x	1.82x	9.5	8.1	22.2	13.8	NA			
Sykes Enterprises, Incorporated	27.69	88.2	1,176	1,130	1,626	1,663	158	185	4.9	29.7	9.7	0.70x	0.68x	7.2	6.1	23.9	12.5	10.0			
CBIZ, Inc.	19.83	81.4	1,089	1,259	926	956	108	119	11.8	13.5	11.6	1.36x	1.32x	11.7	10.6	17.6	16.6	13.0			
Median									11.8%	42.2%	19.9%	4.15x	4.09x	12.1x	11.4x	28.8x	19.3x	11.5%			
Mean									2.3%	39.1%	19.7%	3.63x	3.91x	13.3x	12.2x	28.6x	20.6x	12.5%			

Source: FactSet; based on consensus estimates.

Business Process Outsourcing - India

As of May 1, 2019

\$ in millions except per share data

Company	Current Price	% of 52 Wk. High	Market Value		Revenue		EBITDA		'18 - '19E			Valuation Multiples						EPS Growth Rate
									Growth Rate	Gross Margin LTM	EBITDA Margin LTM	EV/Rev		EV/EBITDA		P/E		
												LTM	2019E	LTM	2019E	LTM	2019E	
Genpact Limited	\$35.71	97.8%	\$6,772	\$7,832	\$3,002	\$3,365	\$447	\$570	22.9%	34.2%	14.9%	2.61x	2.33x	17.5x	13.7x	24.6x	18.0x	8.6%
WNS (Holdings) Limited Sponsored AI	57.16	99.3	2,856	2,878	801	860	142	172	22.7	33.7	18.3	3.59x	3.35x	20.3	16.8	28.6	20.6	11.3
ExlService Holdings, Inc.	61.03	91.0	2,097	2,133	883	986	136	145	29.4	29.8	15.4	2.42x	2.16x	15.7	14.7	37.7	20.9	10.9
eClerx Services Limited	16.47	80.1	638	626	205	220	44	50	9.5	35.4	22.0	3.05x	2.84x	14.1	12.6	18.8	17.4	NA
Firstsource Solutions Limited	0.73	58.5	501	585	541	578	76	78	9.2	21.7	12.1	1.08x	1.01x	7.7	7.5	9.3	8.3	9.0
Hinduja Global Solutions Limited	8.98	61.6	187	199	653	710	57	66	24.1	6.9	8.9	0.30x	0.28x	3.5	3.0	7.6	6.5	NA
Datamatics Global Services Limited	1.45	69.7	85	84	153	-	17	-	NA	22.0	11.2	0.55x	NA	4.9	NA	9.9	NA	NA
R Systems International Limited	0.67	81.7	80	60	101	-	8	-	NA	6.2	8.2	0.60x	NA	7.3	NA	11.2	NA	NA
HOV Services Limited	1.99	55.2	25	25	2	-	0	-	NA	NA	NA	12.76x	NA	NA	NA	72.6	NA	NA
Median									22.8%	25.9%	13.5%	2.42x	2.25x	10.9x	13.2x	18.8x	17.7x	10.0%
Mean									19.6%	23.7%	13.9%	3.00x	2.00x	11.4x	11.4x	24.5x	15.3x	10.0%

Source: FactSet; based on consensus estimates.

SaaS		'18 - '19E																	
As of May 1, 2019																			
\$ in millions except per share data																			
Company	Current Price	% of 52 Wk. High	Market Value		Revenue		EBITDA		Revenue Growth Rate	Gross Margin LTM	EBITDA Margin LTM	Valuation Multiples						EPS Growth Rate	
			Equity	Enterprise	LTM	2019E	LTM	2019E				EV/Rev		EV/EBITDA		P/E			
												LTM	2019E	LTM	2019E	LTM	2019E		
salesforce.com, inc.	\$162.15	96.8%	\$125,629	\$124,700	\$13,282	\$15,875	\$2,157	\$3,650	21.7%	66.7%	16.2%	9.39x	7.86x	57.8x	34.2x	113.4x	59.9x	24.0%	
ServiceNow, Inc.	270.40	98.8	50,164	48,237	2,809	3,446	135	946	32.1	76.3	4.7	17.18x	14.00x	NM	51.0	NM	85.6	26.9	
Workday, Inc. Class A	201.18	96.6	32,390	43,036	2,829	3,489	NA	648	26.2	70.5	-8.2	15.21x	12.33x	NM	66.4	NM	123.1	33.4	
Splunk Inc.	134.81	93.8	20,243	18,520	1,803	2,177	NA	354	23.9	80.9	-10.7	10.27x	8.51x	NM	52.3	NM	81.9	38.8	
Twilio, Inc. Class A	128.57	90.4	14,166	12,176	650	1,106	NA	70	70.2	53.5	-13.5	18.73x	11.01x	NM	175.2	NM	NM	28.7	
Ultimate Software Group, Inc.	331.27	90.5	10,495	10,311	1,141	1,366	133	331	19.8	61.3	11.7	9.04x	7.55x	77.6	31.1	160.6	53.5	22.9	
Zendesk, Inc.	84.77	96.4	9,262	8,979	599	808	NA	55	34.9	69.7	-16.6	15.00x	11.12x	NM	163.9	NM	NM	45.5	
Tableau Software, Inc. Class A	120.74	88.2	9,152	8,955	1,155	1,366	NA	215	18.3	87.7	-3.7	7.75x	6.55x	NM	41.7	NM	70.0	20.0	
HubSpot, Inc.	181.55	97.1	7,632	6,716	513	652	NA	79	27.0	80.4	-4.8	13.09x	10.31x	NM	85.4	NM	159.2	68.0	
New Relic, Inc.	104.70	91.2	6,005	5,660	446	569	6	89	27.7	83.8	0.1	12.70x	9.95x	NM	63.9	NM	131.3	14.0	
LogMeIn, Inc.	81.03	68.2	4,037	4,158	1,232	1,258	372	410	4.2	62.1	29.9	3.37x	3.31x	11.2	10.1	119.9	16.2	5.0	
Cornerstone OnDemand, Inc.	53.92	89.6	3,214	3,083	538	564	38	123	4.8	73.2	7.0	5.73x	5.47x	82.1	25.0	NM	55.3	11.0	
Median									25.0%	71.8%	-1.8%	11.49x	9.23x	67.7x	51.6x	119.9x	75.9x	25.5%	
Mean									25.9%	72.2%	1.0%	11.46x	9.00x	57.2x	66.7x	131.3x	83.6x	28.2%	

Source: FactSet; based on consensus estimates.

Enterprise Applications										'18 - '19E		Valuation Multiples						EPS	
As of May 1, 2019										Revenue	Gross	EBITDA	EV/Rev		EV/EBITDA		P/E		Growth
\$ in millions except per share data										Growth	Margin	Margin	LTM	2019E	LTM	2019E	LTM	2019E	Rate
Company	Current Price	% of 52 Wk. High	Market Value		Revenue		EBITDA		Rate	LTM	LTM	LTM	2019E	LTM	2019E	LTM	2019E	Rate	
Microsoft Corporation	\$127.88	97.3%	\$979,921	\$943,016	\$121,918	\$131,537	\$51,914	\$57,177	27.0%	65.2%	42.3%	7.73x	7.17x	18.2x	16.5x	28.4x	26.5x	13.7%	
Oracle Corporation	54.88	98.8	187,561	215,154	39,620	39,789	16,998	18,460	1.9	75.3	42.8	5.43x	5.41x	12.7	11.7	19.9	15.1	8.8	
SAP SE	128.79	98.5	158,224	163,966	28,694	30,681	7,765	9,550	5.4	69.3	27.1	5.71x	5.34x	21.1	17.2	41.9	23.7	11.4	
Adobe Inc.	283.35	97.1	138,261	140,931	9,496	11,333	3,191	5,008	52.2	84.7	33.6	14.84x	12.44x	44.2	28.1	52.5	35.5	16.8	
Intuit Inc.	243.85	89.6	63,175	63,456	6,431	6,943	1,995	2,577	25.5	83.3	31.0	9.87x	9.14x	31.8	24.6	43.4	35.3	15.2	
Red Hat, Inc.	182.41	99.4	32,424	32,112	3,362	3,787	891	1,017	33.4	77.7	26.5	9.55x	8.48x	36.1	31.6	78.3	46.9	NA	
VMware, Inc. Class A	202.46	98.5	22,360	85,230	8,974	9,946	2,689	3,766	36.2	86.0	30.0	9.50x	8.57x	31.7	22.6	34.6	31.1	13.4	
Symantec Corporation	23.85	81.7	15,245	18,088	4,764	4,910	1,203	2,059	2.9	73.8	25.2	3.80x	3.68x	15.0	8.8	NA	13.8	6.0	
Citrix Systems, Inc.	100.78	86.3	13,313	14,333	2,996	3,089	838	1,132	9.4	85.0	26.8	4.78x	4.64x	17.1	12.7	26.9	16.7	8.7	
Aspen Technology, Inc.	120.44	96.4	8,306	8,604	529	568	230	289	15.6	89.5	43.5	16.28x	15.15x	37.4	29.8	43.5	34.0	3.6	
Manhattan Associates, Inc.	66.70	97.7	4,308	4,244	577	584	143	132	-1.7	54.9	24.6	7.36x	7.26x	29.8	32.1	42.6	46.6	NA	
Tenable Holdings, Inc.	31.57	80.2	3,037	1,411	267	345	NA	NA	NA	83.9	-24.8	5.28x	4.09x	NA	NA	NA	NA	NA	
Median									15.6%	80.5%	28.5%	7.55x	7.22x	29.8x	22.6x	42.3x	31.1x	11.4%	
Mean									18.9%	77.4%	27.4%	8.34x	7.61x	26.8x	21.4x	41.2x	29.6x	10.8%	

Source: FactSet; based on consensus estimates.