

## Scoreboard

	Margin %		Growth %		Multiples		
	GM	EBITDA	Revenue	5 Yr EPS	EV/Revenue	EV/EBITDA	P/E
<b>IT &amp; IT-ENABLED OUTSOURCED SERVICES</b>							
Commercial IT Professional Services - North America	29.6%	15.6%	6.3%	15.3%	1.95x	12.6x	18.4x
Governmental IT Professional Services - North America	22.7	8.6	6.9	10.0	1.20	13.5	18.6
IT Professional Services - Europe	16.3	11.6	-3.3	10.9	1.17	9.9	17.0
IT Professional Services - India	26.1	17.2	10.3	15.0	2.04	10.7	17.1
IT Professional Services - China	24.8	5.1	8.2	25.7	1.18	17.7	30.1
IT Staff Augmentation	27.4	6.1	9.6	13.8	0.74	10.6	15.3
<b>IT SUPPLY CHAIN SERVICES</b>							
IT Solution Providers - North America	16.1%	4.7%	0.2%	12.7%	0.54x	9.4x	13.2x
IT Solution Providers - Europe	14.6	3.9	3.8	9.0	0.44	11.5	21.6
IT Products Distributors	10.4	3.6	5.9	11.4	0.33	7.1	8.9
<b>BUSINESS PROCESS OUTSOURCING</b>							
Business Process Outsourcing - North America	42.7%	18.3%	7.0%	12.8%	4.21x	12.3x	20.4x
Business Process Outsourcing - India	21.8	11.8	9.7	11.9	2.20	8.9	13.5
<b>SOFTWARE</b>							
SaaS	72.4%	- 3.1%	32.0%	28.6%	10.04x	31.8x	65.7x
Enterprise Applications	83.6	29.6	7.6	10.8	6.82	17.5	26.9

## Commercial IT Professional Services - North America

As of December 3, 2018

\$ in millions except per share data

Company	Current Price	% of 52 Wk. High	Market Value		Revenue		EBITDA		'17 - '18E			Valuation Multiples						EPS
					LTM	2018E	LTM	2018E	Growth Rate	Gross Margin LTM	EBITDA Margin LTM	EV/Rev		EV/EBITDA		P/E		Growth Rate
												LTM	2018E	LTM	2018E	LTM	2018E	
Accenture Plc Class A	\$166.82	95.0%	\$106,488	\$104,637	\$41,603	\$40,657	\$6,861	\$6,965	11.6%	30.1%	16.5%	2.52x	2.57x	15.3x	15.0x	26.3x	24.2x	9.8%
DXC Technology Co.	63.50	58.9	17,787	22,731	22,775	21,771	5,072	4,687	6.8	19.9	22.5	1.00x	1.04x	4.5	4.9	9.9	7.8	7.1
CGI Group Inc. Class A	64.44	96.9	16,069	19,854	8,715	8,831	1,444	1,614	2.9	13.2	16.6	2.28x	2.25x	13.8	12.3	21.2	19.7	10.3
EPAM Systems, Inc.	134.43	93.2	7,260	6,997	1,737	1,835	260	341	26.5	33.6	14.6	4.03x	3.81x	27.0	20.5	51.5	31.3	21.5
Globant SA	59.67	89.9	2,142	2,116	498	526	56	97	27.2	33.5	19.0	4.25x	4.02x	38.1	21.9	41.7	35.4	24.1
Virtusa Corporation	44.77	76.4	1,339	1,597	1,147	1,195	83	96	21.8	29.0	7.2	1.39x	1.34x	19.3	16.7	NA	21.2	20.0
Perficient, Inc.	25.45	81.9	844	930	500	495	57	72	2.0	30.4	11.4	1.86x	1.88x	16.4	12.9	36.4	16.6	14.0
Unisys Corporation	13.56	64.7	692	867	2,811	2,814	460	396	2.6	25.2	16.6	0.31x	0.31x	1.9	2.2	9.0	7.7	NA
Hackett Group, Inc.	17.98	78.7	531	584	292	290	39	50	1.3	32.8	13.5	2.00x	2.02x	15.0	11.8	17.3	17.2	16.7
RCM Technologies, Inc.	3.98	53.1	51	73	196	197	9	9	5.7	24.5	3.8	0.37x	0.37x	8.2	8.2	20.4	11.1	NA

<b>Median</b>									<b>6.3%</b>	<b>29.6%</b>	<b>15.6%</b>	<b>1.93x</b>	<b>1.95x</b>	<b>15.1x</b>	<b>12.6x</b>	<b>21.2x</b>	<b>18.4x</b>	<b>15.3%</b>
<b>Mean</b>									<b>10.8%</b>	<b>27.2%</b>	<b>14.2%</b>	<b>2.00x</b>	<b>1.96x</b>	<b>15.9x</b>	<b>12.6x</b>	<b>25.9x</b>	<b>19.2x</b>	<b>15.4%</b>

Source: FactSet; based on consensus estimates.

IT Professional Services - Europe										'17 - '18E		Valuation Multiples						EPS	
As of December 3, 2018										Revenue	Gross	EBITDA	EV/Rev		EV/EBITDA		P/E		Growth
\$ in millions except per share data										Growth	Margin	Margin	LTM	2018E	LTM	2018E	LTM	2018E	Rate
Company	Current Price	% of 52 Wk. High	Market Value		Revenue		EBITDA		Rate	LTM	LTM	LTM	2018E	LTM	2018E	LTM	2018E	Rate	
Capgemini SE	\$120.34	86.1%	\$20,315	\$23,229	\$14,600	\$14,890	\$1,993	\$2,120	-6.7%	26.1%	13.7%	1.59x	1.56x	11.7x	11.0x	23.4x	18.1x	7.1%	
Atos SE	85.49	52.9	9,119	9,289	14,075	13,933	1,887	1,947	-10.9	26.0	13.4	0.66x	0.67x	4.9	4.8	12.8	9.3	10.1	
Sage Group plc	7.37	63.7	8,003	8,877	2,381	2,405	679	668	4.5	89.3	28.5	3.73x	3.69x	13.1	13.3	21.0	18.0	3.6	
Alten SA	92.03	82.7	3,113	3,179	2,377	2,537	243	264	4.3	14.5	10.3	1.34x	1.25x	13.1	12.1	18.2	17.2	11.0	
Altran Technologies SA	9.73	57.5	2,501	3,924	2,845	3,284	360	440	18.0	14.1	12.7	1.38x	1.19x	10.9	8.9	17.6	12.3	13.6	
Tieto Oyj	30.25	80.6	2,242	2,472	1,804	1,817	243	243	-4.6	25.0	13.7	1.37x	1.36x	10.2	10.2	15.8	15.0	2.1	
Reply S.p.A.	57.02	80.6	2,133	2,074	1,069	1,167	126	160	8.0	46.6	11.8	1.94x	1.78x	16.4	13.0	21.2	20.8	NA	
Sopra Steria Group SA	102.64	46.9	2,108	2,889	4,496	4,609	374	383	-3.3	17.5	8.1	0.64x	0.63x	7.7	7.5	12.7	10.2	11.1	
Indra Sistemas, S.A. Class A	10.58	69.3	1,868	2,861	3,422	3,438	343	343	-6.5	28.7	10.0	0.84x	0.83x	8.3	8.3	12.6	13.9	16.1	
EVERY ASA	3.62	86.2	1,342	1,924	1,523	1,503	216	191	-6.5	21.4	16.4	1.26x	1.28x	8.9	10.1	20.4	10.8	NA	
Devoteam SA	108.14	77.8	901	857	671	734	72	86	10.1	15.1	10.8	1.28x	1.17x	11.8	9.9	26.9	21.1	NA	
GFI Informatique SA	11.91	97.2	793	1,152	1,358	-	106	-	NA	7.2	7.8	0.85x	NA	10.9	NA	19.2	NA	NA	
NNIT A/S	29.11	93.7	728	792	456	457	82	80	-5.9	19.4	17.9	1.74x	1.73x	9.7	10.0	19.7	19.9	1.9	
Neurones SA	22.47	63.3	546	403	549	554	50	59	-8.2	9.0	9.2	0.73x	0.73x	8.0	6.8	18.1	17.9	NA	
Aubay SA	36.54	68.3	480	496	432	454	43	48	4.2	10.5	9.9	1.15x	1.09x	11.5	10.2	17.0	15.1	10.9	
Allgeier SE	31.66	76.6	317	470	770	797	26	49	13.3	13.9	6.2	0.61x	0.59x	18.3	9.6	39.3	17.0	101.1	
Endava Plc Sponsored ADR Class A	24.50	77.8	271	1,265	293	320	49	56	NA	31.8	17.9	4.32x	3.95x	25.9	22.6	50.9	32.1	22.0	
Columbus A/S	2.00	68.9	244	262	186	292	21	28	44.7	8.2	11.4	1.41x	0.90x	12.3	9.2	16.4	17.4	NA	
Prodware SA	10.67	63.1	83	184	194	193	35	36	-6.6	13.6	17.9	0.95x	0.95x	5.3	5.1	5.8	6.5	7.0	
ITS Group SA	5.38	59.2	42	59	203	177	9	9	NA	3.9	4.1	0.29x	0.33x	6.7	6.3	13.6	12.2	NA	
<b>Median</b>									<b>-3.3%</b>	<b>16.3%</b>	<b>11.6%</b>	<b>1.27x</b>	<b>1.17x</b>	<b>10.9x</b>	<b>9.9x</b>	<b>18.1x</b>	<b>17.0x</b>	<b>10.9%</b>	
<b>Mean</b>									<b>2.8%</b>	<b>22.1%</b>	<b>12.6%</b>	<b>1.40x</b>	<b>1.35x</b>	<b>11.3x</b>	<b>9.9x</b>	<b>20.1x</b>	<b>16.0x</b>	<b>16.7%</b>	

Source: FactSet; based on consensus estimates.

IT Professional Services - India										'17 - '18E		Valuation Multiples						EPS	
As of December 3, 2018										Revenue	Gross	EBITDA	EV/Rev		EV/EBITDA		P/E		Growth
\$ in millions except per share data										Rate	Margin	Margin	LTM	2018E	LTM	2018E	LTM	2018E	Rate
Company	Current Price	% of 52 Wk. High	Market Value		Revenue		EBITDA												
			Equity	Enterprise	LTM	2018E	LTM	2018E		LTM	LTM	LTM	2018E	LTM	2018E	LTM	2018E		
Tata Consultancy Services Limited	\$28.17	90.3%	\$105,694	\$103,094	\$18,663	\$20,646	\$5,050	\$5,633	10.3%	32.2%	27.1%	5.52x	4.99x	20.4x	18.3x	26.9x	24.1x	12.2%	
Cognizant Technology Solutions Corp	71.93	84.5	41,649	37,680	15,824	16,112	3,154	3,526	8.8	35.6	19.9	2.38x	2.34x	11.9	10.7	29.4	15.9	14.4	
Infosys Limited	9.52	90.9	41,581	37,916	10,524	11,701	2,845	3,069	8.8	35.8	27.0	3.60x	3.24x	13.3	12.4	18.2	17.5	10.7	
Wipro Limited	4.66	89.2	21,099	18,083	7,788	8,440	1,354	1,624	2.5	28.6	17.4	2.32x	2.14x	13.4	11.1	19.8	17.1	9.0	
HCL Technologies Limited	14.48	86.9	20,157	19,722	7,616	8,384	1,741	1,955	11.6	27.0	23.0	2.59x	2.35x	11.3	10.1	15.6	14.0	8.5	
Tech Mahindra Limited	10.11	92.2	9,922	8,422	4,556	4,922	787	864	8.5	25.7	17.5	1.85x	1.71x	10.7	9.7	15.6	15.1	11.2	
Oracle Financial Services Software Lir	48.78	71.0	4,182	3,883	653	724	264	305	6.9	46.7	40.7	5.95x	5.36x	14.7	12.7	23.4	19.8	15.0	
Mphasis Limited	14.14	77.7	2,734	2,488	994	1,080	172	184	12.0	17.6	17.5	2.50x	2.30x	14.5	13.5	20.0	18.6	22.0	
L&T Technology Services Ltd.	22.03	87.6	2,291	2,264	618	680	103	119	25.3	20.1	15.2	3.66x	3.33x	21.9	19.0	24.1	24.5	29.0	
Mindtree Limited	12.70	76.8	2,085	1,978	868	968	131	146	17.0	31.6	15.1	2.28x	2.04x	15.1	13.5	21.7	20.3	24.3	
Sonda S.A.	1.56	72.5	1,361	1,584	1,180	1,196	144	139	-15.6	17.5	12.2	1.34x	1.32x	11.0	11.4	19.3	38.3	5.6	
Cyient Limited	8.67	65.8	980	867	600	659	80	92	12.3	23.9	13.5	1.44x	1.32x	10.8	9.4	16.9	14.5	16.0	
NIIT Technologies Limited	15.70	78.9	967	882	456	506	79	89	14.3	33.4	17.0	1.93x	1.74x	11.2	9.9	19.3	17.4	36.5	
Zensar Technologies Limited	3.20	65.2	721	738	485	533	61	70	13.2	22.3	12.4	1.52x	1.38x	12.0	10.5	16.9	15.0	NA	
Persistent Systems Limited	8.54	63.1	683	544	447	490	74	82	7.7	22.2	16.9	1.22x	1.11x	7.3	6.6	14.4	13.1	16.6	
KPIT Technologies Limited	3.00	66.0	592	549	553	601	67	75	10.9	22.5	11.9	0.99x	0.91x	8.3	7.3	13.8	12.4	NA	
Sonata Software Limited	4.29	72.6	451	409	372	380	38	42	3.4	18.5	9.4	1.10x	1.08x	10.6	9.8	14.3	13.8	18.8	
Roit India Limited	0.19	14.9	32	374	369	-	101	-	NA	26.5	27.3	1.01x	NA	3.7	NA	NA	NA	NA	
<b>Median</b>									<b>10.3%</b>	<b>26.1%</b>	<b>17.2%</b>	<b>2.11x</b>	<b>2.04x</b>	<b>11.6x</b>	<b>10.7x</b>	<b>19.3x</b>	<b>17.1x</b>	<b>15.0%</b>	
<b>Mean</b>									<b>9.3%</b>	<b>27.1%</b>	<b>18.9%</b>	<b>2.40x</b>	<b>2.28x</b>	<b>12.3x</b>	<b>11.5x</b>	<b>19.4x</b>	<b>18.3x</b>	<b>16.6%</b>	

Source: FactSet; based on consensus estimates.

IT Professional Services - China										'17 - '18E		Valuation Multiples						EPS		
As of December 3, 2018										Revenue	Gross	EBITDA	EV/Rev		EV/EBITDA		P/E		Growth	
\$ in millions except per share data										Growth	Margin	Margin	LTM	2018E	LTM	2018E	LTM	2018E	LTM	2018E
Company	Current Price	% of 52 Wk. High	Market Value		Revenue		EBITDA		Rate	LTM	LTM	LTM	2018E	LTM	2018E	LTM	2018E	LTM	2018E	Rate
Inspur Electronic Information Industry (	\$2.69	62.2%	\$3,463	\$4,847	\$6,119	\$6,130	\$142	\$199	51.2%	10.8%	2.8%	0.79x	0.79x	34.2x	24.3x	43.7x	37.2x	25.8%		
Neusoft Corporation Class A	1.66	61.5	2,065	2,058	1,025	1,102	55	117	-2.8	31.5	5.1	2.01x	1.87x	37.7	17.7	14.1	30.1	NA		
Chinasoft International Ltd.	0.61	62.1	1,483	1,874	1,523	1,591	250	169	8.2	30.6	10.8	1.23x	1.18x	7.5	11.1	14.1	14.3	25.5		
Beijing Teamsun Technology Co., Ltd.	0.97	46.1	1,068	1,411	753	-	30	-	NA	17.5	3.9	1.87x	NA	47.0	NA	78.7	NA	NA		
Beyondsoft Corporation Class A	1.24	59.3	651	559	378	-	37	-	NA	24.8	12.3	1.48x	NA	15.0	NA	17.7	NA	NA		
<b>Median</b>									<b>8.2%</b>	<b>24.8%</b>	<b>5.1%</b>	<b>1.48x</b>	<b>1.18x</b>	<b>34.2x</b>	<b>17.7x</b>	<b>17.7x</b>	<b>30.1x</b>	<b>25.7%</b>		
<b>Mean</b>									<b>18.9%</b>	<b>23.0%</b>	<b>7.0%</b>	<b>1.48x</b>	<b>1.28x</b>	<b>28.3x</b>	<b>17.7x</b>	<b>33.7x</b>	<b>27.2x</b>	<b>25.7%</b>		

Source: FactSet; based on consensus estimates.

## Gvt. IT Professional Services - North America

As of December 3, 2018

\$ in millions except per share data

Company	Current Price	% of 52 Wk. High	Market Value		Revenue		EBITDA		'17 - '18E			Valuation Multiples						EPS
					LTM	2018E	LTM	2018E	Growth Rate	Gross Margin LTM	EBITDA Margin LTM	EV/Rev		EV/EBITDA		P/E		Growth Rate
												LTM	2018E	LTM	2018E	LTM	2018E	
Booz Allen Hamilton Holding Corporat	\$51.02	96.5%	\$7,262	\$8,776	\$6,397	\$6,510	\$625	\$637	7.0%	22.6%	9.8%	1.37x	1.35x	14.0x	13.8x	21.2x	20.6x	14.4%
CACI International Inc Class A	164.43	81.9	4,086	5,201	4,548	4,638	448	429	5.1	31.9	9.8	1.14x	1.12x	11.6	12.1	12.3	14.9	10.0
ManTech International Corporation Clz	57.01	83.7	1,513	2,262	1,924	1,955	160	168	13.9	14.5	8.3	1.18x	1.16x	14.1	13.5	17.4	27.4	8.0
Kratos Defense & Security Solutions, I	13.42	83.4	1,392	1,534	656	642	53	59	-14.6	25.3	8.1	2.34x	2.39x	28.8	25.9	NA	NA	NA
ICF International, Inc.	70.28	85.4	1,325	1,584	1,281	1,314	110	123	6.9	34.3	8.6	1.24x	1.20x	14.4	12.9	19.3	18.6	10.0
Engility Holdings, Inc.	31.24	81.1	1,155	2,045	1,901	1,899	164	171	-1.7	11.5	8.6	1.08x	1.08x	12.5	12.0	NA	14.9	5.0
KEYW Holding Corporation	9.91	99.1	494	759	507	509	44	48	15.2	22.7	8.3	1.49x	1.49x	17.3	15.7	NA	NA	NA
<b>Median</b>									<b>6.9%</b>	<b>22.7%</b>	<b>8.6%</b>	<b>1.24x</b>	<b>1.20x</b>	<b>14.1x</b>	<b>13.5x</b>	<b>18.4x</b>	<b>18.6x</b>	<b>10.0%</b>
<b>Mean</b>									<b>4.6%</b>	<b>23.3%</b>	<b>8.8%</b>	<b>1.41x</b>	<b>1.40x</b>	<b>16.1x</b>	<b>15.1x</b>	<b>17.5x</b>	<b>19.3x</b>	<b>9.5%</b>

Source: FactSet; based on consensus estimates.

<b>IT Staff Augmentation</b>										'17 - '18E		Valuation Multiples						EPS	
<i>As of December 3, 2018</i>										Revenue	Gross	EBITDA	EV/Rev		EV/EBITDA		P/E		Growth
<i>\$ in millions except per share data</i>										Growth	Margin	Margin	LTM	2018E	LTM	2018E	LTM	2018E	Rate
Company	Current Price	% of 52 Wk. High	Market Value		Revenue		EBITDA		Rate	LTM	LTM	LTM	2018E	LTM	2018E	LTM	2018E	Rate	
Robert Half International Inc.	\$62.87	78.7%	\$7,637	\$7,274	\$5,665	\$5,771	\$628	\$647	9.6%	40.2%	11.1%	1.28x	1.26x	11.6x	11.2x	21.0x	17.8x	15.7%	
ManpowerGroup Inc.	81.11	59.2	5,015	5,753	22,236	22,120	944	882	5.2	16.3	4.2	0.26x	0.26x	6.1	6.5	8.8	9.5	8.5	
Insperty, Inc.	103.09	85.1	4,310	3,979	3,688	3,822	191	235	15.8	9.7	5.2	1.08x	1.04x	20.8	16.9	34.6	27.8	16.5	
ASGN Inc	69.52	73.8	3,648	4,800	3,149	3,403	349	404	29.6	28.1	11.1	1.52x	1.41x	13.8	11.9	20.6	15.8	11.8	
Kelly Services, Inc. Class A	22.20	68.7	869	850	5,522	5,528	108	-	2.9	17.7	2.0	0.15x	0.15x	7.8	NA	13.6	9.9	NA	
Kforce Inc.	31.87	73.2	831	889	1,403	1,412	86	89	4.0	29.0	6.1	0.63x	0.63x	10.4	10.0	16.9	14.5	NA	
Heidrick & Struggles International, Inc.	35.57	78.5	674	525	719	711	75	80	11.1	27.4	10.4	0.73x	0.74x	7.0	6.5	NA	15.3	NA	
Mastech Digital, Inc.	6.48	56.4	71	113	173	-	14	-	NA	22.3	7.9	0.65x	NA	8.3	NA	10.7	NA	NA	
Hudson Global, Inc.	1.45	59.4	46	9	172	-	NA	-	NA	46.4	-1.8	0.06x	NA	NA	NA	NA	NA	NA	
<b>Median</b>									<b>9.6%</b>	<b>27.4%</b>	<b>6.1%</b>	<b>0.65x</b>	<b>0.74x</b>	<b>9.3x</b>	<b>10.6x</b>	<b>16.9x</b>	<b>15.3x</b>	<b>13.8%</b>	
<b>Mean</b>									<b>11.1%</b>	<b>26.4%</b>	<b>6.2%</b>	<b>0.71x</b>	<b>0.78x</b>	<b>10.7x</b>	<b>10.5x</b>	<b>18.0x</b>	<b>15.8x</b>	<b>13.1%</b>	

Source: FactSet; based on consensus estimates.

IT Solution Provider - North America										'17 - '18E		Valuation Multiples						EPS	
As of December 3, 2018										Revenue	Gross	EBITDA	EV/Rev		EV/EBITDA		P/E		EPS
\$ in millions except per share data										Growth	Margin	Margin	LTM	2018E	LTM	2018E	LTM	2018E	Growth
Company	Current Price	% of 52 Wk. High	Market Value		Revenue		EBITDA		Rate	LTM	LTM	LTM	2018E	LTM	2018E	LTM	2018E	Rate	
CDW Corp.	\$95.97	100.0%	\$14,394	\$18,122	\$16,004	\$16,196	\$1,231	\$1,280	6.6%	16.4%	7.7%	1.13x	1.12x	14.7x	14.2x	21.8x	19.0x	15.0%	
Insight Enterprises, Inc.	45.68	80.3	1,621	2,038	7,132	7,107	264	277	6.0	13.7	3.7	0.29x	0.29x	7.7	7.3	12.6	10.3	NA	
Presidio, Inc.	14.19	71.9	1,168	2,326	2,843	2,865	209	226	0.9	17.7	7.3	0.82x	0.81x	11.2	10.3	10.6	10.1	8.0	
ePlus inc.	81.90	76.4	1,122	1,098	1,369	1,385	84	104	-0.4	22.5	5.7	0.80x	0.79x	13.1	10.5	19.5	16.8	12.7	
ConvergeOne Holdings, Inc. Class A	12.46	97.7	939	1,638	1,102	1,572	89	162	71.1	25.9	8.0	1.49x	1.04x	18.5	10.1	NA	13.2	NA	
PC Connection, Inc.	31.56	73.3	844	747	2,752	2,685	95	97	-7.8	14.2	3.4	0.27x	0.28x	7.9	7.7	13.3	14.1	8.0	
PCM, Inc.	19.48	77.2	237	409	2,163	2,111	44	59	-3.7	15.7	2.0	0.19x	0.19x	9.3	6.9	17.4	8.7	20.0	
Pivot Technology Solutions, Inc.	0.86	45.0	34	147	1,429	1,448	21	17	-4.2	10.8	1.5	0.10x	0.10x	6.9	8.8	NA	NA	NA	
<b>Median</b>									<b>0.2%</b>	<b>16.1%</b>	<b>4.7%</b>	<b>0.54x</b>	<b>0.54x</b>	<b>10.2x</b>	<b>9.4x</b>	<b>15.4x</b>	<b>13.2x</b>	<b>12.7%</b>	
<b>Mean</b>									<b>8.6%</b>	<b>17.1%</b>	<b>4.9%</b>	<b>0.64x</b>	<b>0.58x</b>	<b>11.2x</b>	<b>9.5x</b>	<b>15.9x</b>	<b>13.2x</b>	<b>12.7%</b>	

Source: FactSet; based on consensus estimates.



IT Solution Provider - Europe										'17 - '18E		Valuation Multiples						EPS	
As of December 3, 2018										Revenue	Gross	EBITDA	EV/Rev		EV/EBITDA		P/E		Growth
\$ in millions except per share data										Growth	Margin	Margin	LTM	2018E	LTM	2018E	LTM	2018E	Rate
Company	Current Price	% of 52 Wk. High	Market Value		Revenue		EBITDA		Rate	LTM	LTM	LTM	2018E	LTM	2018E	LTM	2018E	Rate	
Bechtle AG	\$82.16	77.7%	\$3,451	\$3,692	\$4,592	\$4,778	\$243	\$262	9.1%	14.6%	5.3%	0.80x	0.77x	15.2x	14.1x	24.2x	22.5x	16.2%	
Softcat Plc	7.86	68.0	1,556	1,468	1,395	1,463	91	95	18.7	16.2	6.5	1.05x	1.00x	16.2	15.5	21.9	20.7	2.0	
Computacenter Plc	13.45	62.2	1,535	1,492	5,291	5,448	185	185	2.7	12.7	3.5	0.28x	0.27x	8.1	8.1	14.7	14.3	NA	
Atea ASA	14.03	81.5	1,525	1,773	4,075	4,027	137	132	-2.4	5.2	3.6	0.44x	0.44x	13.0	13.5	24.3	25.0	NA	
CANCOM SE	39.97	63.8	1,401	1,376	1,495	1,507	114	120	5.0	8.1	7.7	0.92x	0.91x	12.0	11.5	28.6	24.5	9.0	
Datatec Limited	1.88	40.0	448	589	3,759	3,909	76	61	-6.5	15.0	2.2	0.16x	0.15x	7.7	9.7	NA	NA	NA	
Plaisio Computers SA	4.54	77.0	100	73	336	352	13	17	NA	21.3	3.9	0.22x	0.21x	5.7	4.4	17.1	10.9	NA	
<b>Median</b>									<b>3.8%</b>	<b>14.6%</b>	<b>3.9%</b>	<b>0.44x</b>	<b>0.44x</b>	<b>12.0x</b>	<b>11.5x</b>	<b>23.0x</b>	<b>21.6x</b>	<b>9.0%</b>	
<b>Mean</b>									<b>4.4%</b>	<b>13.3%</b>	<b>4.7%</b>	<b>0.55x</b>	<b>0.54x</b>	<b>11.1x</b>	<b>11.0x</b>	<b>21.8x</b>	<b>19.7x</b>	<b>9.1%</b>	

Source: FactSet; based on consensus estimates.

IT Distributor - North America										'17 - '18E		Valuation Multiples						EPS	
As of December 3, 2018										Revenue	Gross	EBITDA	EV/Rev		EV/EBITDA		P/E		Growth
\$ in millions except per share data										Growth	Margin	Margin	LTM	2018E	LTM	2018E	LTM	2018E	Rate
Company	Current Price	% of 52 Wk. High	Market Value		Revenue		EBITDA		Rate	LTM	LTM	LTM	2018E	LTM	2018E	LTM	2018E	Rate	
Arrow Electronics, Inc.	\$78.40	89.8%	\$6,834	\$10,033	\$29,392	\$29,698	\$1,373	\$1,411	10.8%	11.8%	4.7%	0.34x	0.34x	7.3x	7.1x	12.9x	8.9x	8.3%	
SYNNEX Corporation	81.90	57.7	4,190	4,842	19,743	19,873	718	799	15.0	8.4	3.6	0.25x	0.24x	6.7	6.1	11.8	8.0	NA	
Tech Data Corporation	89.64	82.5	3,438	4,219	37,867	37,380	668	800	4.2	6.0	1.8	0.11x	0.11x	6.3	5.3	15.4	8.3	12.9	
Anixter International Inc.	65.51	73.7	2,193	3,428	8,295	8,395	391	398	5.9	19.2	4.7	0.41x	0.41x	8.8	8.6	19.4	11.4	11.4	
ScanSource, Inc.	39.35	88.8	1,008	1,276	3,895	3,914	142	147	5.6	10.5	3.6	0.33x	0.33x	9.0	8.7	23.3	11.7	NA	
Wayside Technology Group, Inc.	11.51	66.7	52	44	259	-	5	-	NA	10.3	2.9	0.17x	NA	8.8	NA	17.6	NA	NA	
<b>Median</b>									<b>5.9%</b>	<b>10.4%</b>	<b>3.6%</b>	<b>0.29x</b>	<b>0.33x</b>	<b>8.0x</b>	<b>7.1x</b>	<b>16.5x</b>	<b>8.9x</b>	<b>11.4%</b>	
<b>Mean</b>									<b>8.3%</b>	<b>11.0%</b>	<b>3.6%</b>	<b>0.27x</b>	<b>0.29x</b>	<b>7.8x</b>	<b>7.2x</b>	<b>16.7x</b>	<b>9.7x</b>	<b>10.9%</b>	

Source: FactSet; based on consensus estimates.

## Business Process Outsourcing - North America

As of December 3, 2018

\$ in millions except per share data

Company	Current Price	% of 52 Wk. High	Market Value		Revenue		EBITDA		'17 - '18E		Valuation Multiples						EPS	
					LTM	2018E	LTM	2018E	Growth Rate	Gross Margin LTM	EBITDA Margin LTM	EV/Rev		EV/EBITDA		P/E		Growth Rate
												LTM	2018E	LTM	2018E	LTM	2018E	
Automatic Data Processing, Inc.	\$147.41	96.0%	\$64,526	\$65,684	\$13,570	\$13,764	\$3,058	\$3,145	7.1%	45.5%	22.6%	4.84x	4.77x	21.5x	20.9x	37.8x	30.1x	14.2%
Fidelity National Information Services,	109.12	98.5	35,735	44,610	8,585	8,474	3,146	3,172	-7.2	33.7	36.6	5.20x	5.26x	14.2	14.1	23.8	21.4	12.8
Paychex, Inc.	71.01	93.4	25,498	25,204	3,427	3,515	1,437	1,478	7.0	69.3	41.9	7.35x	7.17x	17.5	17.1	27.1	26.1	8.4
Iron Mountain, Inc.	33.90	82.5	9,703	17,847	4,156	4,236	1,403	1,442	10.1	42.7	33.8	4.29x	4.21x	12.7	12.4	42.3	31.3	7.2
LiveRamp Holdings, Inc.	47.94	93.1	3,723	3,852	771	438	54	9	-51.8	53.1	2.2	4.99x	8.80x	NA	NA	84.7	NA	NA
TTEC Holdings, Inc.	29.06	68.7	1,342	1,533	1,536	1,500	194	192	1.5	20.2	12.7	1.00x	1.02x	7.9	8.0	NA	18.0	14.0
CSG Systems International, Inc.	35.28	72.3	1,176	1,319	833	864	151	196	9.4	47.7	18.3	1.58x	1.53x	8.7	6.7	19.4	13.0	NA
Sykes Enterprises, Incorporated	27.45	85.4	1,174	1,070	1,629	1,628	153	167	2.6	29.5	9.4	0.66x	0.66x	7.0	6.4	79.4	13.0	10.0
CBIZ, Inc.	21.03	86.3	1,167	1,326	918	925	105	109	8.2	13.0	11.5	1.44x	1.43x	12.6	12.1	17.6	19.5	13.0
<b>Median</b>									<b>7.0%</b>	<b>42.7%</b>	<b>18.3%</b>	<b>4.29x</b>	<b>4.21x</b>	<b>12.6x</b>	<b>12.3x</b>	<b>32.5x</b>	<b>20.4x</b>	<b>12.8%</b>
<b>Mean</b>									<b>-1.4%</b>	<b>39.4%</b>	<b>21.0%</b>	<b>3.48x</b>	<b>3.87x</b>	<b>12.8x</b>	<b>12.2x</b>	<b>41.5x</b>	<b>21.5x</b>	<b>11.4%</b>

Source: FactSet; based on consensus estimates.

## Business Process Outsourcing - India

As of December 3, 2018

\$ in millions except per share data

Company	Current Price	% of 52 Wk. High	Market Value		Revenue		EBITDA		'17 - '18E			Valuation Multiples						EPS
					LTM	2018E	LTM	2018E	Growth Rate	Gross Margin LTM	EBITDA Margin LTM	EV/Rev		EV/EBITDA		P/E		Growth Rate
												LTM	2018E	LTM	2018E	LTM	2018E	
Genpact Limited	\$30.25	87.0%	\$5,750	\$6,778	\$2,902	\$2,976	\$396	\$482	8.8%	34.0%	13.6%	2.34x	2.28x	17.1x	14.1x	21.9x	17.3x	10.6%
WNS (Holdings) Limited Sponsored AI	48.32	88.9	2,413	2,494	773	780	128	145	11.3	32.8	17.3	3.23x	3.20x	19.5	17.2	25.3	19.8	11.9
ExlService Holdings, Inc.	57.66	86.0	1,975	2,082	846	882	104	125	15.7	29.9	15.3	2.46x	2.36x	20.1	16.7	46.9	21.0	12.0
eClerx Services Limited	14.47	57.2	560	456	196	207	46	52	3.0	36.2	23.5	2.33x	2.20x	9.9	8.9	16.0	13.5	NA
Firstsource Solutions Limited	0.75	60.2	516	602	509	546	71	73	3.2	21.8	11.8	1.18x	1.10x	8.5	8.3	9.9	9.9	NA
Hinduja Global Solutions Limited	9.19	56.7	191	204	590	632	51	59	10.6	11.2	8.3	0.35x	0.32x	4.0	3.5	7.5	6.8	NA
Datamatics Global Services Limited	1.54	64.3	91	90	141	144	15	18	NA	21.6	10.7	0.64x	0.63x	6.1	5.1	9.7	8.9	NA
R Systems International Limited	0.68	85.3	85	60	92	-	6	-	NA	21.2	5.2	0.65x	NA	9.7	NA	18.0	NA	NA
HOV Services Limited	2.42	39.1	30	30	2	-	0	-	NA	16.0	1.7	16.04x	NA	NA	NA	91.5	NA	NA
<b>Median</b>									<b>9.7%</b>	<b>21.8%</b>	<b>11.8%</b>	<b>2.33x</b>	<b>2.20x</b>	<b>9.8x</b>	<b>8.9x</b>	<b>18.0x</b>	<b>13.5x</b>	<b>11.9%</b>
<b>Mean</b>									<b>8.8%</b>	<b>25.0%</b>	<b>11.9%</b>	<b>3.25x</b>	<b>1.73x</b>	<b>11.9x</b>	<b>10.5x</b>	<b>27.4x</b>	<b>13.9x</b>	<b>11.5%</b>

Source: FactSet; based on consensus estimates.

SaaS										'17 - '18E		Valuation Multiples						EPS	
As of December 3, 2018										Revenue	Gross	EBITDA	EV/Rev		EV/EBITDA		P/E		Growth
\$ in millions except per share data										Growth	Margin	Margin	LTM	2018E	LTM	2018E	LTM	2018E	Rate
Company	Current Price	% of 52 Wk. High	Market Value		Revenue		EBITDA		Rate	LTM	LTM	LTM	2018E	LTM	2018E	LTM	2018E	Rate	
salesforce.com, inc.	\$144.15	89.4%	\$110,275	\$114,099	\$12,530	\$13,005	\$1,379	\$2,922	26.3%	72.6%	11.0%	9.11x	8.77x	NA	39.0x	NA	57.7x	24.6%	
ServiceNow, Inc.	188.09	91.2	33,725	35,335	2,440	2,611	84	673	35.1	75.9	3.5	14.48x	13.53x	NA	NA	NA	79.6	32.2	
Workday, Inc. Class A	167.80	100.0	24,531	36,134	2,619	2,749	NA	455	31.3	70.5	-9.5	13.80x	13.14x	NA	NA	NA	NA	30.9	
Splunk Inc.	110.07	84.7	16,139	15,057	1,601	1,698	NA	217	36.6	79.5	-15.4	9.41x	8.87x	NA	NA	NA	98.6	38.9	
Tableau Software, Inc. Class A	127.43	99.8	9,118	9,654	1,068	979	NA	NA	11.7	86.9	-7.9	9.04x	9.86x	NA	NA	NA	NA	56.8	
Ultimate Software Group, Inc.	262.83	79.1	8,218	8,223	1,087	1,136	121	276	20.8	62.3	11.2	7.56x	7.24x	NA	29.8	NA	48.7	25.0	
Twilio, Inc. Class A	95.62	96.7	7,572	9,056	561	630	NA	16	57.8	52.9	-12.1	16.14x	14.38x	NA	NA	NA	NA	28.7	
Zendesk, Inc.	61.39	84.4	6,571	6,517	550	592	NA	35	37.5	70.0	-16.6	11.85x	11.01x	NA	NA	NA	NA	28.5	
HubSpot, Inc.	139.94	86.3	5,490	5,171	475	506	NA	53	34.8	80.2	-6.0	10.88x	10.21x	NA	NA	NA	NA	50.0	
New Relic, Inc.	87.70	76.4	4,995	4,641	413	441	5	54	32.7	83.7	-0.1	11.23x	10.52x	NA	NA	NA	NA	14.0	
LogMeIn, Inc.	92.71	68.8	4,743	4,859	1,170	1,204	361	443	17.5	63.3	30.8	4.15x	4.04x	13.5	11.0	34.9	17.4	15.0	
Cornerstone OnDemand, Inc.	54.12	91.4	3,172	3,074	532	529	28	91	9.9	72.3	5.7	5.78x	5.81x	NA	33.8	NA	73.7	14.0	
<b>Median</b>									<b>32.0%</b>	<b>72.4%</b>	<b>-3.1%</b>	<b>10.14x</b>	<b>10.04x</b>	<b>13.5x</b>	<b>31.8x</b>	<b>34.9x</b>	<b>65.7x</b>	<b>28.6%</b>	
<b>Mean</b>									<b>29.3%</b>	<b>72.5%</b>	<b>-0.5%</b>	<b>10.29x</b>	<b>9.78x</b>	<b>13.5x</b>	<b>28.4x</b>	<b>34.9x</b>	<b>62.6x</b>	<b>29.9%</b>	

Source: FactSet; based on consensus estimates.

Enterprise Applications										'17 - '18E		Valuation Multiples						EPS		
As of December 3, 2018										Revenue	Gross	EBITDA	EV/Rev		EV/EBITDA		P/E		Growth	
\$ in millions except per share data										Growth	Margin	Margin	LTM	2018E	LTM	2018E	LTM	2018E	LTM	2018E
Company	Current Price	% of 52 Wk. High	Market Value		Revenue		EBITDA		Rate	LTM	LTM	LTM	2018E	LTM	2018E	LTM	2018E	LTM	2018E	Rate
Microsoft Corporation	\$112.09	96.5%	\$860,427	\$815,515	\$114,740	\$117,440	\$47,738	\$49,296	13.4%	64.6%	41.3%	7.11x	6.94x	17.1x	16.5x	46.5x	26.9x	12.9%		
Oracle Corporation	49.83	93.2	188,754	197,802	39,836	39,911	17,071	18,626	2.2	75.5	42.8	4.97x	4.96x	11.6	10.6	53.6	15.3	8.5		
SAP SE	104.98	82.3	128,963	129,361	27,371	27,831	7,511	8,942	-4.4	69.8	27.4	4.73x	4.65x	17.2	14.5	26.0	21.7	10.8		
Adobe Inc.	255.26	91.9	124,601	123,760	8,553	9,146	3,071	4,045	22.8	86.2	35.9	14.47x	13.53x	40.3	30.6	52.7	36.9	17.0		
Intuit Inc.	213.52	92.1	55,416	55,462	6,094	6,277	1,789	2,309	13.4	83.0	29.4	9.10x	8.84x	31.0	24.0	44.3	35.1	16.0		
Red Hat, Inc.	178.36	99.4	31,488	32,090	3,157	3,303	602	893	16.4	84.8	19.1	10.17x	9.72x	NA	36.0	NA	52.6	16.7		
VMware, Inc. Class A	163.63	96.9	17,974	58,534	8,691	8,744	2,598	3,340	19.8	85.7	29.9	6.73x	6.69x	22.5	17.5	45.8	26.8	13.3		
Citrix Systems, Inc.	110.29	94.4	14,863	16,618	2,950	2,963	932	1,081	4.9	85.0	31.0	5.63x	5.61x	17.8	15.4	NA	19.8	9.7		
Symantec Corporation	22.36	75.2	14,286	16,690	4,762	4,795	1,228	2,054	0.5	74.1	25.7	3.50x	3.48x	13.6	8.1	12.1	14.2	4.9		
Aspen Technology, Inc.	87.89	73.9	6,220	6,447	491	529	200	258	7.6	89.6	40.8	13.13x	12.19x	32.2	25.0	41.9	31.1	4.3		
Manhattan Associates, Inc.	49.50	79.3	3,236	3,168	559	554	152	155	-6.8	56.1	27.2	5.67x	5.72x	20.8	20.4	32.1	29.1	NA		
Tenable Holdings, Inc.	29.81	75.7	2,774	1,950	246	265	NA	NA	NA	84.1	-22.5	7.92x	7.35x	NA	NA	NA	NA	9.8		
<b>Median</b>									<b>7.6%</b>	<b>83.6%</b>	<b>29.6%</b>	<b>6.92x</b>	<b>6.82x</b>	<b>19.3x</b>	<b>17.5x</b>	<b>44.3x</b>	<b>26.9x</b>	<b>10.8%</b>		
<b>Mean</b>									<b>8.2%</b>	<b>78.2%</b>	<b>27.3%</b>	<b>7.76x</b>	<b>7.47x</b>	<b>22.4x</b>	<b>19.9x</b>	<b>39.5x</b>	<b>28.1x</b>	<b>11.3%</b>		

Source: FactSet; based on consensus estimates.