

August 2018

The Lighthouse

Software
Online & Digital
Tech Enabled Business Services

Pharus Observations

The Air Travel Software Market Continues Ascent

Air travel is increasing at a rapid clip. As more people take flight, the demand for air travel software solutions and travel management software has also grown. The emergence of power players such as Expedia Group and Booking Holdings, reflects the overall shift in the industry towards consolidation of bookings sites across the travel customer journey. Companies are increasingly expanding their offerings to hotel booking, car rental, restaurant reservation and even excursions to capitalize on higher commissions found in these businesses. Flight booking remains a strategic focus, despite its low flat-fee model, as flights tend to generate further business in the other travel segments (especially when bundled as a package deal). As a result, M&A activity in the travel and destination management spaces has exploded.

One of the most notable deals in the space during 2018 was the acquisition of **Hogg Robinson Group**, a corporate travel management solutions provider, by **American Express Global Business Travel** (GBT III) on February 2nd. The transaction valued HRG at \$523.8 million and 1.2x revenue. HRG provides outsourced corporate travel management services and software for businesses globally.

The largest transaction was announced on August 10, when **Amadeus IT Group** disclosed that it would acquire hotel management SaaS company, **TravelClick**, from private equity group Thoma Bravo for \$1.5 billion at 17.7x EBITDA. TravelClick provides online booking, reservations management, property marketing and business intelligence and reporting SaaS for hotel and hospitality-focused enterprises.

On March 28, **TUI Group** acquired the destination management business of **HotelBeds** for \$136.5 million. This online travel distribution asset provides excursions and transfers, tours and activities, and offers the handling for cruise companies in ports globally.

Last year, on October 31, 2017, **Ebix** (then Delphi Information) acquired online travel booking site **Via.com** for \$74 million. Via.com provides online travel booking and exchange services for consumers through their website and the related app.

On February 12, **Travisca Solutions**, a travel booking SaaS company, was acquired by **Affinion Group** for \$10.2 million. Travisca provides online travel booking SaaS and application development services for travel agencies.

Other notable transactions include **Garmin**'s acquisition of flight scheduling & trip management website provider **Flight Plan**; the acquisition of **Mezi**, an Al-based personal travel assistant app, by **American Express**; the acquisition of **Flyin.com** by **Cleartrip**; **Booking Holdings**' acquisition of **FareHarbor**; and **TripAdvisor**'s acquisition of **Bokun**.



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Capital market trends



Capital market trends

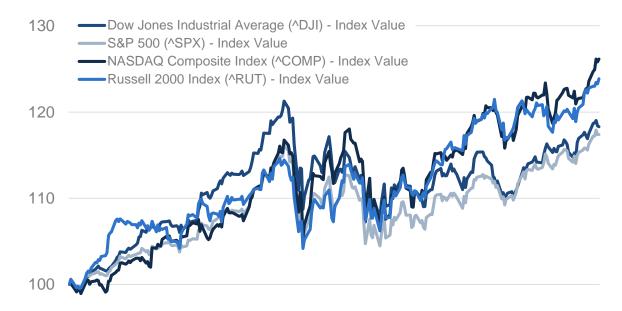






Relative Performance of Major Indices

Through August 31, 2018 (Base = 100, 09/1/2018)





			Change %	
Index	As of 31-Aug-18	1 Year	3 Months	1 Month
Dow Jones	25,964.82	18.3%	6.3%	2.2%
Nasdaq	8,109.54	26.2%	9.0%	5.7%
S&P 500	2,901.52	17.4%	7.3%	3.0%
Russell 2000	1,740.75	23.9%	6.6%	4.2%



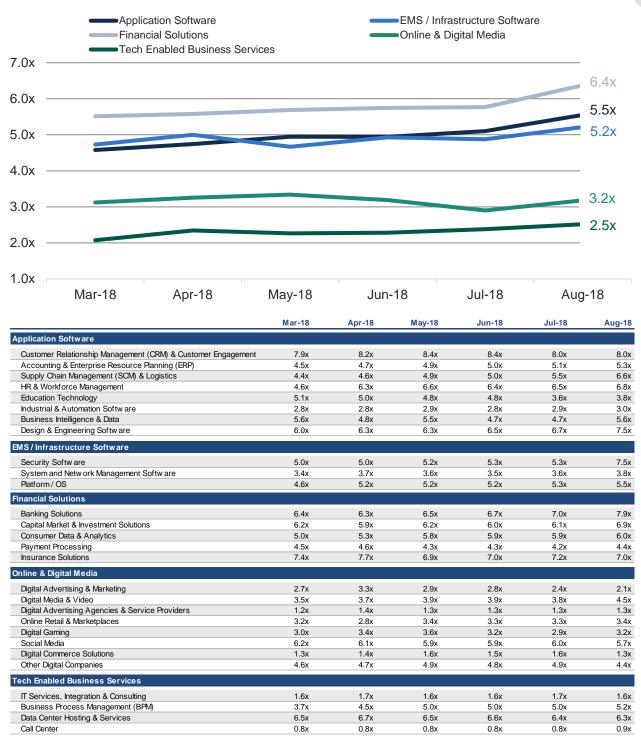








Historical Median TEV / Revenue Multiples







Current & Forward Market Multiples

	Median TEV/Rev	/enue	Median TEV/EB	ITDA
	LTM	NTM	LTM	NTM
Application Software				
Customer Relationship Management (CRM) & Customer Engagement	8.0x	6.2x	20.7x	42.0x
Accounting & Enterprise Resource Planning (ERP)	5.3x	4.9x	31.7x	22.9x
Supply Chain Management (SCM) & Logistics	6.6x	6.4x	34.1x	29.0x
HR & Workforce Management	6.8x	6.8x	42.2x	31.8x
Education Technology	3.8x	3.0x	23.6x	13.1x
Industrial & Automation Software	2.6x	2.3x	14.6x	12.7x
Business Intelligence & Data	6.2x	6.0x	20.0x	14.9x
Design & Engineering Software	8.2x	6.5x	28.1x	19.4x
EMS / Infrastructure Software				
Security Software	7.8x	6.7x	17.4x	26.7x
System and Network Management Software	3.8x	3.5x	13.4x	12.0x
Platform / OS	5.5x	5.4x	18.1x	14.9x
Financial Solutions				
Banking Solutions	7.9x	6.8x	24.9x	19.1x
Capital Market & Investment Solutions	6.9x	6.6x	23.7x	18.8x
Consumer Data & Analytics	6.0x	5.2x	19.3x	15.3x
Payment Processing	4.1x	4.0x	11.3x	13.1x
Insurance Solutions	7.0x		18.6x	17.2x
Online & Digital Media				
Digital Advertising & Marketing	2.3x	1.7x	14.6x	14.6x
Digital Media & Video	5.9x	4.5x	29.7x	23.6x
Digital Advertising Agencies & Service Providers	1.3x	1.3x	9.2x	8.5x
Online Retail & Marketplaces	3.5x	2.4x	34.5x	16.7x
Digital Gaming	3.2x	2.8x	16.7x	10.4x
Social Media	5.7x	4.5x	28.8x	15.7x
Digital Commerce Solutions	1.3x	1.6x	9.9x	10.7x
Other Digital Companies	4.6x	4.1x	20.7x	14.1x
Tech Enabled Business Services				
IT Services, Integration & Consulting	1.6x	1.5x	13.3x	11.6x
Business Process Management (BPM)	5.2x	4.9x	18.4x	13.5x
Data Center Hosting & Services	8.0x	6.7x	21.1x	18.2x
Call Center	0.9x	0.9x	7.5x	6.9x
Med				04:
Application Software	5.5x	5.1x	22.3x	21.1x
EMS / Infrastructure Software	5.4x	5.2x	14.9x	15.4x
Financial Solutions	6.4x	5.6x	19.8x	16.4x
Online & Digital Media	3.5x	2.9x	18.6x	14.1x
Tech Enabled Business Services	2.5x	2.2x	14.4x	11.7x





Application Software

(C in milliona)	(\$ in millions)		Market Con		TEV/Revenue		TDA NTM
		TEV	Market Cap	LIW	IN I IVI	LTM	IN I IVI
Customer Relationship Manag	gement (CRM) & Customer Enga	gement					
Five9	NasdaqGM:FIVN	\$2,733	\$2,802	12.1x	10.3x	NM	67.6x
LivePerson	NasdaqGS:LPSN	\$1,609	\$1,679	6.9x	6.2x	NM	60.4x
MINDBODY	NasdaqGM:MB	\$1,691	\$1,771	8.0x	6.0x	NM	NM
NICE Systems	TASE:NICE	\$7,003	\$7,062	5.0x	4.7x	20.7x	15.9x
Pegasystems	NasdaqGS:PEGA	\$4,766	\$5,010	5.7x	5.1x	NM	42.0x
Salesforce.com	NYSE:CRM	\$116,504	\$115,533	9.9x	8.0x	NM	33.2x
SDL	LSE:SDL	\$533	\$563	1.4x	1.2x	14.2x	11.5x
Veeva	NYSE:VEEV	\$13,959	\$14,969	18.3x	15.2x	75.5x	43.7x
Zendesk	NYSE:ZEN	\$7,061	\$7,300	14.0x	10.6x	NM	NM
Median				8.0x	6.2x	20.7x	42.0x
Accounting & Enterprise Reso	ource Planning (FRP)						
Avalara, Inc.	NYSE:AVLR	\$2,315	\$2,459	9.7x	8.2x	NM	NM
BasWare	HLSE:BAS1V	\$568	\$560	3.4x	3.3x	49.0x	74.5x
Blackline	NasdagGS:BL	\$2,731	\$2,846	13.4x	10.9x	NM	NM
Coupa Software	NasdagGS:COUP	\$3,823	\$4,087	18.9x	14.1x	NM	NM
Intuit	NasdaqGS:INTU	\$55,035	\$56,313	9.2x	8.3x	31.7x	22.9x
Kingdee International	SEHK:268	\$3,432	\$3,750	9.0x	7.5x	67.7x	27.7x
Model N	NYSE:MODN	\$532	\$531	3.5x	3.5x	NM	46.1x
Oracle	NYSE:ORCL	\$187,419	\$193,405	4.7x	4.6x	11.5x	9.7x
QAD	NasdaqGS:QADA	\$1,010	\$1,136	3.1x	3.0x	NM	55.2x
Sage	LSE:SGE	\$9,233	\$8,382	4.0x	3.7x	15.2x	13.1x
SAP	DB:SAP	\$146,270	\$143,010	5.3x	4.9x	20.3x	14.7x
Upland Software	NasdaqGM:UPLD	\$942	\$802	7.8x	6.3x	37.0x	17.7x
Median				5.3x	4.9x	31.7x	22.9x
Supply Chain Management (S	SCM) & Logistics						
Amber Road	NYSE:AMBR	\$255	\$240	3.1x	2.9x	NM	56.5x
Descartes Systems Group	TSX:DSG	\$2,690	\$2,676	11.0x	9.3x	34.1x	26.8x
Manhattan Associates	NasdagGS:MANH	\$3,730	\$3,813	6.6x	6.8x	22.3x	28.7x
SPS Commerce	NasdaqGS:SPSC	\$1,545	\$1,717	6.6x	6.1x	62.5x	29.3x
Median				6.6x	6.4x	34.1x	29.0x





Application Software (continued)

			. –	TEV/Revenue		TEV/EBITDA	
(\$ in millions)		TEV	Market Cap	LTM	NTM	LTM	NTM
HR & Workforce Management							
Atlassian Corporation	NasdaqGS:TEAM	\$20,267	\$21,181	23.2x	17.6x	NM	64.5x
Benefit Focus	NasdaqGM:BNFT	\$1,481	\$1,406	5.5x	5.5x	NM	88.2x
CastLight Health	NYSE:CSLT	\$344	\$413	2.4x	2.2x	NM	NM
Ceridian HCM	NYSE:CDAY	\$5,799	\$5,299	7.3x	7.6x	55.7x	36.5x
Cornerstone OnDemand	NasdaqGS:CSOD	\$3,222	\$3,324	6.2x	6.0x	NM	28.8x
Dice Holdings	NYSE:DHX	\$125	\$116	0.7x	0.8x	4.6x	4.1x
Paycom	NYSE:PAYC	\$9,075	\$9,094	18.2x	14.6x	77.2x	35.6x
Paylocity	NasdaqGS:PCTY	\$4,055	\$4,192	10.7x	9.0x	NM	31.8x
TriNet Group	NYSE:TNET	\$4,359	\$4,167	1.3x	4.9x	15.4x	13.3x
Ultimate Software	NasdaqGS:ULTI	\$9,477	\$9,652	9.2x	7.6x	88.6x	31.4x
Verint Systems	NasdaqGS:VRNT	\$3,502	\$3,108	3.0x	2.8x	28.7x	11.4x
Workday	NasdaqGS:WDAY	\$31,524	\$33,381	13.8x	10.1x	NM	63.0x
Median				6.8x	6.8x	42.2x	31.8x
Industrial & Automation Softwa	are						
3M	NYSE:MMM	\$135,142	\$123,729	4.1x	4.0x	15.8x	13.9x
ABB	SWX:ABBN	\$57,335	\$50,239	1.6x	1.5x	11.8x	10.7x
American Software	NasdaqGS:AMSW.A	\$477	\$556	4.2x	4.0x	29.8x	26.9x
Aspen Technology	NasdaqGS:AZPN	\$8,286	\$8,212	16.6x	15.1x	38.1x	30.6x
Dassault	ENXTPA:DSY	\$39,629	\$41,999	10.3x	9.4x	37.9x	28.0x
Endava	NYSE:DAVA	\$1,410	\$1,390	5.0x	4.4x	31.3x	25.9x
Emerson	NYSE:EMR	\$50,846	\$48,222	3.0x	2.7x	14.3x	12.6x
Fanuc Corporation	TSE:6954	\$31,684	\$38,078	4.7x	5.2x	12.3x	14.5x
General Electric	NYSE:GE	\$234,692	\$112,463	1.9x	1.9x	41.2x	12.4x
HollySys Automation Tech	NasdaqGS:HOLI	\$932	\$1,309	1.7x	1.5x	7.3x	6.3x
Honeywell	NYSE:HON	\$125,532	\$118,120	3.0x	2.8x	14.4x	12.9x
Johnson Controls	NYSE:JCI	\$47,874	\$34,934	1.5x	1.5x	9.3x	9.1x
KUKA	DB:KU2	\$4,296	\$4,086	1.1x	1.0x	23.5x	12.9x
Materialise	NasdaqGS:MTLS	\$851	\$794	4.4x	3.8x	41.3x	28.6x
Metso	HLSE:METSO	\$5,484	\$5,267	1.6x	1.4x	14.8x	10.8x
OMRON Corp	TSE:6645	\$8,437	\$9,408	1.1x	1.0x	8.2x	7.8x
Parametric Technology	NasdaqGS:PTC	\$12,180	\$11,776	9.9x	9.2x	86.2x	32.8x
Rockwell Automation	NYSE:ROK	\$22,027	\$22,288	3.3x	3.1x	16.2x	13.6x
Schneider Electric	ENXTPA:SU	\$54,244	\$45,495	1.9x	1.8x	11.4x	10.3x
Siemens	DB:SIE	\$135,339	\$108,221	1.4x	1.4x	12.4x	10.3x
YASKAWA Electric Corp	TSE:6506	\$8,827	\$8,877	2.2x	1.9x	14.0x	12.1x
Yokogawa Electric Corp.	TSE:6841	\$5,060	\$5,494	1.4x	1.3x	10.4x	9.8x

Median

12.7x

14.6x





				TEV/Rev	venue	TEV/EBITDA	
(\$ in millions)		TEV	Market Cap	LTM	NTM	LTM	NTM
Education Technology							
Blackbaud	NasdaqGS:BLKB	\$5,399	\$4,949	6.5x	5.9x	38.0x	25.1x
Cambium Learning Group	NasdaqCM:ABCD	\$683	\$632	4.3x	4.0x	23.6x	13.1x
Instructure	NYSE:INST	\$1,310	\$1,426	7.1x	5.7x	NM	NM
K12	NYSE:LRN	\$450	\$655	0.5x	0.5x	9.7x	4.1x
Rosetta Stone	NYSE:RST	\$341	\$360	1.9x	1.9x	NM	NM
Sunlands Online Education Group	NYSE:STG	\$748	\$1,102	3.3x	1.6x	NM	NM
Median				3.8x	3.0x	23.6x	13.1x
Business Intelligence & Data							
Alteryx	NYSE:AYX	\$3,371	\$3,534	20.8x	15.0x	NM	NM
AppFolio	NasdagGM:APPF	\$2,870	\$2,923	17.4x	13.9x	NM	52.9x
Apptio	NasdaqGM:APTI	\$1,588	\$1,730	7.5x	6.4x	NM	NM
Cardylitics	NasdaqGM:CDLX	\$431	\$434	3.1x	2.5x	NM	NM
Cloudera	NYSE:CLDR	\$1,795	\$2,224	4.6x	3.7x	NM	NM
Corelogic	NYSE:CLGX	\$5,837	\$4,115	3.1x	3.2x	14.2x	12.0x
CoStar Group	NasdaqGS:CSGP	\$15,124	\$16,091	14.1x	11.7x	52.8x	33.6x
Domo, Inc.	NasdaqGM:DOMO	\$611	\$587	5.3x	NM	NM	NM
Gridsum Holding	NasdaqGS:GSUM	\$185	\$184	2.3x	1.4x	NM	14.9x
Hortonworks	NasdaqGS:HDP	\$1,734	\$1,816	5.6x	4.6x	NM	NM
Inovalon Holdings	NASDAQ:INOV	\$2,565	\$1,679	5.4x	4.1x	32.7x	13.3x
MicroStrategy	NasdaqGS:MSTR	\$1,009	\$1,709	2.0x	2.0x	24.8x	NA
MongoDB	NasdaqGM:MDB	\$3,372	\$3,643	19.8x	12.6x	NM	NM
NantHealth	NasdaqGS:NH	\$411	\$243	4.7x	3.8x	NM	NM
New Relic	NYSE:NEWR	\$5,477	\$5,807	14.3x	11.2x	NM	NM
Open Text	NasdaqGS:OTEX	\$12,425	\$10,486	4.4x	4.3x	15.3x	11.5x
PROS Holdings	NYSE:PRO	\$1,424	\$1,347	7.8x	6.9x	NM	NM
Sabre	NasdaqGS:SABR	\$10,250	\$7,184	2.7x	2.6x	14.0x	9.0x
Splunk	NasdaqGS:SPLK	\$17,691	\$18,582	12.1x	9.5x	NM	55.4x
Tableau	NYSE:DATA	\$8,366	\$9,278	8.4x	8.0x	NM	NM
TrueCar	NasdaqGS:TRUE	\$1,143	\$1,313	3.4x	2.9x	NM	26.1x
Varonis Systems	NasdaqGS:VRNS	\$2,001	\$2,159	8.2x	7.0x	NM	NM
Workiva	NYSE:WK	\$1,534	\$1,596	6.8x	6.0x	NM	NM
Yext	NYSE:YEXT	\$2,326	\$2,451	11.7x	8.9x	NM	NM
Median				6.2x	6.0x	20.0x	14.9x





					TEV/Revenue		TDA
(\$ in millions)		TEV	Market Cap	LTM	NTM	LTM	NTM
Design & Engineering Softwar	е						
Ansys	NasdaqGS:ANSS	\$14,982	\$15,678	12.8x	11.6x	31.9x	25.3x
Altair Engineering	NasdaqGS:ALTR	\$2,722	\$2,920	7.5x	6.7x	NM	63.8x
Aurora Mobile	NasdaqGM:JG	\$1,260	\$1,206	20.8x	9.7x	NM	NM
Autodesk	NasdaqGS:ADSK	\$34,161	\$33,743	15.2x	12.2x	NM	53.7x
Aveva Group	LSE:AVV	\$5,818	\$5,942	9.0x	6.2x	48.9x	25.1x
Cadence Design Systems	NasdaqGS:CDNS	\$13,123	\$13,303	6.5x	6.2x	28.1x	19.4x
Hexagon	OM:HEXA B	\$23,689	\$21,427	5.8x	5.3x	19.1x	16.2x
Pivotal Software	NYSE:PVTL	\$6,492	\$7,137	11.9x	9.5x	NM	NM
Progress Software	NasdaqGS:PRGS	\$1,817	\$1,842	4.5x	4.5x	12.4x	11.2x
RIB Software AG	DB:RIB	\$711	\$1,015	5.2x	4.9x	20.2x	14.7x
Synopsys	NasdaqGS:SNPS	\$15,063	\$15,177	5.0x	4.6x	29.3x	18.8x
Twilio	NYSE:TWLO	\$7,488	\$7,860	15.2x	11.3x	NM	NM
Median				8.2x	6.5x	28.1x	19.4x





EMS / Infrastructure Software

			_	TEV/Rev	venue	TEV/EBITDA	
(\$ in millions)		TEV	Market Cap	LTM	NTM	LTM	NTM
Security Software							
Carbon Black	NasdaqGS:CBLK	\$1,540	\$1,718	8.2x	6.8x	NM	NM
Check Point Software	NasdaqGS:CHKP	\$16,469	\$18,150	8.8x	8.5x	17.4x	16.1x
Cheetah Mobile	NYSE:CMCM	\$1,006	\$1,402	1.4x	1.3x	8.5x	10.5x
Cyber-Ark Software	NasdaqGS:CYBR	\$2,363	\$2,720	8.0x	6.8x	69.5x	30.2x
Everbridge	NasdaqGM:EVBG	\$1,755	\$1,769	14.3x	10.7x	NM	NM
FireEye	NasdaqGS:FEYE	\$3,046	\$3,181	3.9x	3.6x	NM	26.5x
ForeScout	NasdaqGM:FSCT	\$1,308	\$1,509	5.1x	4.3x	NM	NM
Fortinet	NasdaqGS:FTNT	\$12,733	\$14,167	7.8x	6.7x	59.1x	26.7x
Gemalto	ENXTAM:GTO	\$5,997	\$5,259	1.7x	1.7x	14.4x	9.6x
Imperva	NasdaqGS:IMPV	\$1,255	\$1,650	3.6x	3.4x	NM	31.9x
Link Motion	NYSE:LKM	-\$4	\$105	NM	NA	NM	NA
Mimecast	NasdaqGS:MIME	\$2,407	\$2,483	8.5x	6.9x	NM	45.1x
MobileIron	NasdaqGS:MOBL	\$405	\$503	2.2x	2.0x	NM	64.3x
Okta	NasdaqGS:OKTA	\$6,304	\$6,591	21.6x	16.5x	NM	NM
Palo Alto Networks	NYSE:PANW	\$20,392	\$21,469	9.6x	7.9x	NM	30.4x
Proofpoint	NasdaqGM:PFPT	\$6,306	\$6,236	10.3x	7.9x	NM	56.4x
Qualys	NasdaqGS:QLYS	\$3,228	\$3,551	12.6x	10.6x	48.3x	29.2x
Rapid7	NasdaqGM:RPD	\$1,668	\$1,783	7.5x	6.4x	NM	NM
SecureWorks	NasdaqGS:SCWX	\$1,011	\$1,087	2.1x	1.9x	NM	NM
Symantec	NasdaqGS:SYMC	\$15,237	\$12,530	3.2x	3.2x	12.3x	7.9x
Tenable	NasdaqGS:TENB	\$3,329	\$3,074	16.1x	11.3x	NM	NM
Trend Micro	TSE:4704	\$7,468	\$8,768	5.3x	4.9x	15.4x	14.8x
Zix	NasdaqGS:ZIXI	\$283	\$301	4.2x	3.9x	20.7x	12.9x
Zscaler	NasdaqGS:ZS	\$4,831	\$5,118	28.3x	18.7x	NM	NM
Median				7.8x	6.7x	17.4x	26.7x
System and Network Manag	ement Software						
oysicm and Network Manay	ement ookware						

System and Network Manag	gement Software						
A10 Networks	NYSE:ATEN	\$379	\$507	1.7x	1.6x	NM	43.6>
CA	NasdaqGS:CA	\$17,907	\$18,316	4.3x	4.2x	14.3x	10.9x
CommVault Systems	NasdaqGS:CVLT	\$2,724	\$3,185	3.8x	3.6x	NM	21.6x
Micro Focus	LSE:MCRO	\$11,475	\$7,383	3.8x	3.1x	12.4x	7.9x
Netscout Systems	NasdaqGS:NTCT	\$2,154	\$2,013	2.2x	2.2x	14.5x	9.9x
Nutanix	NasdaqGS:NTNX	\$9,108	\$9,613	7.9x	6.7x	NM	NM
One Stop Systems	NasdaqCM:OSS	\$37	\$46	1.4x	0.8x	NM	12.7x
Presidio	NasdaqGS:PSDO	\$2,261	\$1,401	0.8x	0.8x	10.4x	10.1x
SailPoint	NYSE:SAIL	\$2,638	\$2,711	12.2x	10.3x	NM	NM
ServiceNow	NYSE:NOW	\$34,049	\$34,941	15.0x	11.5x	NM	43.3x
Software	XTRA:SOW	\$3,559	\$3,650	3.6x	3.5x	11.9x	11.3x
Vmware	NYSE:VMW	\$53,456	\$62,518	6.4x	5.8x	23.6x	14.4x
Median				3.8x	3.5x	13.4x	12.0x







EMS / Infrastructure Software (continued)

					TEV/Revenue		TDA
(\$ in millions)		TEV	Market Cap	LTM	NTM	LTM	NTM
Platform / OS							
Citrix Systems	NasdaqGS:CTXS	\$16,106	\$15,468	5.5x	5.4x	18.1x	14.9x
Hewlett-Packard	NYSE:HPQ	\$39,132	\$39,006	0.7x	0.7x	8.3x	8.0x
IBM	NYSE:IBM	\$167,704	\$133,702	2.1x	2.1x	9.8x	8.4x
Microsoft Corp.	NasdaqGS:MSFT	\$815,210	\$861,371	7.4x	6.6x	18.1x	15.8x
Red Hat	NYSE:RHT	\$24,855	\$26,203	8.1x	7.1x	41.5x	25.4x
Median				5.5x	5.4x	18.1x	14.9x





Financial Solutions

				TEV/Revenue		TEV/EBITDA	
(\$ in millions)		TEV	Market Cap	LTM	NTM	LTM	NTM
Banking Solutions							
Black Knight	NYSE:BKI	\$9,431	\$7,978	8.7x	8.1x	24.9x	16.7x
Bottomline Technologies	NasdaqGS:EPAY	\$2,592	\$2,575	6.6x	6.1x	61.6x	25.0x
Fidelity National	NYSE:FIS	\$43,883	\$35,569	4.9x	5.1x	17.2x	13.5x
Fiserv	NasdaqGS:FISV	\$36,881	\$32,423	6.4x	6.2x	19.8x	16.4x
GreenSky	NasdaqGS:GSKY	\$1,251	\$1,167	3.4x	2.4x	7.8x	5.4x
Jack Henry & Associates	NasdaqGS:JKHY	\$12,197	\$12,228	7.9x	7.4x	25.7x	21.5x
Q2 Holdings	NYSE:QTWO	\$2,570	\$2,671	11.9x	9.7x	NM	91.1x
Senmiao Technology Limited	NasdaqCM:AIHS	\$126	\$135	226.8x	NA	NM	NA
Temenos Group	SWX:TEMN	\$12,929	\$12,502	15.8x	14.6x	55.7x	38.7x
Median				7.9x	6.8x	24.9x	19.1x
Capital Market & Investment Sc	olutions						
Envestnet	NYSE:ENV	\$3,187	\$2,868	4.2x	3.7x	38.9x	18.8x
FactSet Research Systems	NYSE:FDS	\$9,130	\$8,799	6.9x	6.5x	21.1x	18.8x
IRESS	ASX:IRE	\$1,790	\$1,655	5.5x	5.2x	24.3x	18.6x
Moodys	NYSE:MCO	\$38,302	\$34,162	8.5x	8.0x	17.8x	16.5x
Morningstar	NasdaqGS:MORN	\$5,841	\$6,068	6.0x	NA	22.3x	NΑ
MSCI	NYSE:MSCI	\$17,219	\$16,013	12.6x	11.5x	23.7x	20.9x
SimCorp	CPSE:SIM	\$3,694	\$3,709	8.7x	7.9x	29.9x	28.4x
SS&C Technologies Holdings	NasdaqGS:SSNC	\$20,345	\$14,220	9.4x	4.9x	28.5x	14.7x
Thomson Reuters	TSX:TRI	\$38,533	\$31,062	3.4x	6.7x	15.4x	33.4x
Median				6.9x	6.6x	23.7x	18.8x
Consumer Data & Analytics							
Equifax	NYSE:EFX	\$18,494	\$16,132	5.4x	5.2x	18.8x	15.3x
Experian	LSE:EXPN	\$25,724	\$22,505	6.0x	5.2x	19.3x	15.2x
Fair Isaac	NYSE:FICO	\$7,371	\$6,732	7.3x	6.7x	32.8x	27.7x
Median				6.0x	5.2x	19.3x	15.3x





Financial Solutions (continued)

			_	TEV/Revenue		TEV/EBITDA	
(\$ in millions)		TEV	Market Cap	LTM	NTM	LTM	NTM
Payment Processing							
ACI Worldwide	NasdaqGS:ACIW	\$3,910	\$3,289	3.9x	3.7x	26.7x	13.7x
Cielo	BOVESPA:CIEL3	\$11,658	\$9,925	4.1x	4.0x	9.9x	9.6x
Euronet Worldwide	NasdaqGS:EEFT	\$4,833	\$4,990	2.0x	1.8x	11.3x	9.5x
EVO Payments	NasdaqGM:EVOP	\$715	\$407	1.3x	1.2x	6.0x	4.8x
First Data Corporation	NYSE:FDC	\$44,991	\$24,016	5.3x	5.0x	14.0x	13.1x
Global Payments	NYSE:GPN	\$23,668	\$19,707	6.4x	5.7x	19.4x	16.1x
i3 Verticals, Inc.	NasdaqGS:IIIV	\$272	\$169	0.9x	2.3x	11.3x	8.4x
Net 1 Ueps Technologies	NasdaqGS:UEPS	\$468	\$412	0.8x	0.8x	3.7x	NA
PagSeguro Digital	NYSE:PAGS	\$8,688	\$9,438	15.6x	7.3x	NM	19.0x
Square	NYSE: SQ	\$35,830	\$36,380	13.3x	19.4x	NM	NM
Total System Services	NYSE:TSS	\$21,335	\$17,720	4.7x	5.4x	19.8x	15.2x
Median				4.1x	4.0x	11.3x	13.1x
Insurance Solutions							
CorVel	NasdaqGS:CRVL	\$1,049	\$1,122	1.8x	NA	14.7x	NA
Ebix	NasdaqGS:EBIX	\$3,032	\$2,508	7.0x	5.4x	21.1x	15.8x
Guidewire Software	NYSE:GWRE	\$7,380	\$8,072	12.4x	9.8x	NM	51.8x
Sapiens International	NasdaqCM:SPNS	\$620	\$600	2.2x	2.1x	16.1x	14.1x
Verisk	NasdaqGS:VRSK	\$22,260	\$19,615	9.7x	9.0x	21.3x	18.6x
Median				7.0x	7.2x	18.6x	17.2x





Online & Digital

				TEV/Rev	enue	TEV/EBITDA	
(\$ in millions)		TEV	Market Cap	LTM	NTM	LTM	NTM
Digital Advertising & Marketi	ng						
Alphabet	NasdaqGS:GOOG.L	\$753,901	\$852,174	6.1x	5.0x	19.7x	13.5x
Baidu	NasdaqGS:BIDU	\$70,124	\$79,292	4.9x	4.2x	14.6x	15.2x
Criteo	NasdaqGS:CRTO	\$1,204	\$1,662	0.5x	1.3x	4.7x	4.2x
Hubspot	NYSE:HUBS	\$5,333	\$5,575	12.1x	9.6x	NM	91.5x
iClick Interactive	NasdaqGM:ICLK	\$266	\$282	1.8x	1.3x	NM	29.5x
Perion Network	NasdaqGS:PERI	\$99	\$93	0.4x	0.4x	4.8x	3.1x
QuinStreet	NasdaqGS:QNST	\$650	\$715	1.6x	1.4x	27.8x	14.1x
SendGrid	NYSE:SEND	\$1,517	\$1,682	11.8x	9.5x	NM	73.0x
SINA Corp	NasdaqGS:SINA	\$4,373	\$5,072	2.3x	1.7x	9.2x	6.6x
Sogou	NYSE:SOGO	\$2,140	\$3,184	2.0x	1.6x	14.5x	11.7x
Telaria	NYSE:TLRA	\$151	\$216	3.0x	2.4x	NM	18.6x
The Rubicon Project	NYSE:RUBI	\$97	\$201	0.8x	0.8x	NM	NM
Yandex	NasdaqGS:YNDX	\$9,770	\$10,529	5.7x	4.8x	24.7x	15.5x
Median				2.3x	1.7x	14.6x	14.6x

Digital Media & Video							
Adobe Systems	NasdaqGS:ADBE	\$124,581	\$129,031	15.3x	12.8x	42.8x	27.9x
Bilibili	NasdaqGS:BILI	\$2,973	\$3,573	5.9x	4.0x	NM	24.6x
Blucora	NasdaqGS:BCOR	\$1,913	\$1,725	3.5x	3.3x	18.2x	15.3x
Brightcove	NasdaqGS:BCOV	\$267	\$295	1.6x	1.5x	NM	56.6x
Digimarc	NasdaqGS:DMRC	\$279	\$336	11.4x	11.1x	NM	NM
Dropbox, Inc.	NasdaqGS:DBX	\$9,988	\$10,802	8.0x	6.7x	NM	31.7x
HUYA Inc.	NYSE:HUYA	\$4,879	\$5,712	10.1x	5.9x	NM	69.1x
IAC/Interactive	NasdaqGS:IAC	\$17,378	\$16,410	4.5x	3.9x	34.1x	15.9x
iQIYI	NasdaqGS:IQ	\$18,775	\$20,605	6.0x	4.5x	18.7x	12.6x
Leaf Group	NYSE:LEAF	\$228	\$260	1.6x	1.3x	NM	NM
Netflix	NasdaqGS:NFLX	\$164,545	\$160,109	11.9x	9.3x	NM	70.4x
Pandora Media	NYSE:P	\$2,796	\$2,461	1.9x	1.7x	NM	NM
Pluralsight	NasdaqGS:PS	\$2,069	\$2,150	10.7x	8.0x	NM	NM
RhythmOne	AIM:RTHM	\$211	\$199	0.9x	0.5x	39.0x	3.7x
Roku	NasdaqGS:ROKU	\$6,136	\$6,311	10.1x	7.2x	NM	NM
Sonic Foundry	NasdaqCM:SOFO	\$13	\$9	0.4x	NA	NM	NA
TiVo	NasdaqGS:TIVO	\$2,370	\$1,679	3.1x	3.4x	13.0x	11.1x
VeriSign	NasdaqGS:VRSN	\$19,950	\$19,338	16.8x	16.1x	25.4x	22.6x
Xunlei	NasdaqGS:XNET	\$292	\$639	1.1x	NA	38.8x	NA
Median				5.9x	4.5x	29.7x	23.6x

NasdaqGS:GRPN

NasdaqGM:EVER

NasdaqGM:OSTK

NYSE:GRUB

LSE:OCDO





Online & Digital (continued)

				TEV/Rev	/enue	TEV/EBI	TDA
(\$ in millions)		TEV	Market Cap	LTM	NTM	LTM	NTM
Digital Advertising Agencie	es & Service Providers						
Dentsu	TSE:4324	\$15,462	\$13,199	1.8x	1.7x	9.4x	9.1x
IPG	NYSE:IPG	\$10,704	\$8,961	1.3x	1.3x	9.2x	7.9x
M&C Saatchi	AIM:SAA	\$407	\$408	1.2x	1.2x	16.6x	9.4x
MDC Partners	NasdaqGS:MDCA	\$1,477	\$279	1.0x	1.0x	9.0x	6.4x
Omnicom	NYSE:OMC	\$19,316	\$15,554	1.3x	1.3x	8.2x	7.8x
Publiclis	ENXTPA:PUB	\$18,390	\$14,805	1.7x	1.7x	9.3x	9.1x
WPP	LSE:WPP	\$27,128	\$20,701	1.4x	1.3x	8.4x	8.5x
Median				1.3x	1.3x	9.2x	8.5x
Online Retail & Marketplac	ces						
1-800-Flowers.com	NasdagGS:FLWS	\$734	\$778	0.6x	0.6x	10.0x	9.4x
Alibaba	NYSE:BABA	\$455,015	\$450,113	10.7x	7.1x	46.8x	21.4x
Amazon	NasdaqGS:AMZN	\$1,000,421	\$981,682	4.8x	3.9x	48.5x	27.2x
ASOS	AIM:ASC	\$6,560	\$6,609	2.3x	1.8x	50.9x	25.8x
Blue Apron	NYSE:APRN	\$403	\$389	0.5x	0.6x	NM	NM
boohoo.com	AIM:BOO	\$2,480	\$2,641	3.3x	2.2x	37.3x	23.3x
Booking Holdingings	NasdaqGS:BKNG	\$94,075	\$92,644	6.9x	6.2x	17.2x	16.0x
Cango	NYSE:CANG	\$1,927	\$1,571	11.9x	6.7x	34.5x	13.8x
CarGurus	NasdaqGS:CARG	\$5,257	\$5,399	13.7x	10.8x	NM	NM
Carvana	NYSE:CVNA	\$2,743	\$2,218	2.1x	1.1x	NM	NM
Ebay	NasdaqGS:EBAY	\$39,482	\$34,248	3.9x	3.5x	13.2x	10.6x
Expedia	NasdaqGS:EXPE	\$20,776	\$19,503	1.9x	1.8x	17.9x	10.5x

Median	<u> </u>		<u> </u>	3.5x	2.4x	34.5x	16.7x
Wowo	NASDAQ:JMU	\$27	\$12	0.3x	NA	NM	NA
Wayfair	NYSE:W	\$12,030	\$12,122	2.1x	1.6x	NM	NM
TripAdvisor	NasdaqGS:TRIP	\$6,792	\$7,470	4.3x	4.0x	40.2x	17.6x
The Trade Desk	NasdaqGM:TTD	\$5,947	\$6,089	15.6x	11.3x	65.8x	37.4x
Stamps.com	NasdaqGS:STMP	\$4,309	\$4,511	8.3x	NA	21.1x	14.7x
Shutterstock	NYSE:SSTK	\$1,635	\$1,924	2.7x	2.5x	34.4x	15.0x
RumbleON	NasdaqCM:RMBL	\$135	\$132	4.6x	1.1x	NM	NM
Rakuten	TSE:4755	\$13,994	\$10,350	1.5x	1.4x	8.4x	8.3x
Quotient Technology	NYSE:QUOT	\$1,215	\$1,422	3.5x	2.8x	76.0x	17.4x
Pinduoduo Inc.	NasdaqGS:PDD	\$21,529	\$21,436	25.0x	NA	NM	NA

\$1,989

\$12,677

\$9,270

\$423

\$776

\$2,427

\$13,036

\$9,364

\$330

\$847

0.7x

15.1x

2.9x

4.6x

0.4x

0.8x

11.4x

2.4x

4.2x

0.4x

Groupon

Grubhub

EverQuote, Inc.

Ocado Group

Overstock

15.5x

72.3x

NM

NM

NM

6.6x

NM

 NM

41.5x

76.8x





Online & Digital (continued)

				TEV/Rev	venue	TEV/EBI	TDA
(\$ in millions)		TEV	Market Cap	LTM	NTM	LTM	NTM
Digital Gaming							
Activision	NasdaqGS:ATVI	\$54,392	\$54,970	7.5x	6.9x	24.3x	16.7x
Capcom	TSE:9697	\$2,234	\$2,559	2.5x	2.5x	10.0x	9.5x
Changyou.com	NasdaqGS:CYOU	\$128	\$693	0.2x	0.3x	0.7x	1.1x
Electronic Arts	NasdaqGS:EA	\$30,591	\$34,569	6.3x	5.6x	27.0x	15.5x
Gree	TSE:3632	\$410	\$1,197	0.6x	0.6x	4.2x	4.7x
Konami	TSE:9766	\$4,583	\$5,679	2.1x	1.9x	8.7x	7.4x
NetDragon WebSoft	SEHK:777	\$1,013	\$1,111	1.5x	1.3x	19.4x	14.1x
Net Entertainment	OM:NET B	\$933	\$954	5.1x	4.6x	12.6x	9.9x
Nintendo	TSE:7974	\$36,146	\$43,522	3.7x	3.1x	19.2x	13.3x
Playtech	LSE:PTEC	\$2,636	\$2,175	2.8x	1.5x	10.1x	6.1x
Square Enix	TSE:9684	\$4,508	\$5,451	2.1x	1.8x	14.1x	10.1x
Take-Two Interactive	NasdaqGS:TTWO	\$14,106	\$15,203	8.0x	4.6x	60.7x	17.2x
Ubisoft	ENXTPA:UBI	\$12,718	\$12,082	6.3x	5.1x	37.2x	10.7x
Zynga	NasdaqGS:ZNGA	\$3,186	\$3,578	3.6x	3.2x	40.6x	15.2x
Median				3.2x	2.8x	16.7x	10.4x

Social Media							
Facebook	NasdaqGS:FB	\$465,183	\$507,371	9.6x	7.6x	17.0x	12.8x
LINE	TSE:3938	\$10,172	\$11,000	6.0x	5.1x	NM	36.8x
Mail.ru Group	LSE:MAIL	\$4,473	\$4,603	4.7x	3.9x	39.9x	11.8x
Match Group	NasdaqGS: MTCH	\$14,822	\$13,859	9.6x	8.0x	28.8x	21.3x
MeetMe	NasdaqCM:MEET	\$401	\$373	2.6x	2.3x	17.4x	14.0x
Mixi	TSE:2121	\$642	\$1,921	0.4x	0.4x	1.0x	1.5x
Momo	NasdaqGS:MOMO	\$9,043	\$9,466	5.4x	3.9x	17.7x	16.9x
Renren	NYSE:RENN	\$229	\$119	0.7x	0.5x	NM	NM
Snap	NYSE:SNAP	\$12,370	\$13,923	12.5x	9.3x	NM	NM
Twitter	NYSE:TWTR	\$23,594	\$26,559	8.7x	7.7x	40.3x	20.9x
XING	XTRA:O1BC	\$2,058	\$2,094	8.5x	7.1x	33.9x	22.4x
Yelp	NYSE:YELP	\$3,139	\$3,943	3.5x	3.0x	79.9x	14.5x
Median				5.7x	4.5x	28.8x	15.7x





Online & Digital (continued)

				TEV/Rev	venue	TEV/EBI	TDA
(\$ in millions)		TEV	Market Cap	LTM	NTM	LTM	NTM
Digital Commerce Solutions							
Gk Software AG	DB:GKS	\$241	\$230	2.0x	1.9x	35.3x	13.8x
Intershop	XTRA:ISH2	\$50	\$60	1.3x	1.3x	NM	NM
NCR	NYSE:NCR	\$6,968	\$3,350	1.1x	1.1x	7.9x	6.7x
PFS Web	NasdaqCM:PFSW	\$198	\$166	0.7x	0.6x	9.9x	7.6x
Shopify	NYSE:SHOP	\$13,932	\$15,506	16.3x	11.6x	NM	NM
Wincor Nixdorf	XTRA:WIN	\$2,141	\$1,976	0.8x	NA	7.3x	NA
Worldline S.A	ENXTPA:WLN	\$7,842	\$8,110	4.1x	3.7x	21.1x	16.0x
Median				1.3x	1.6x	9.9x	10.7x
Other Digital Companies							
Akamai	NasdaqGS:AKAM	\$12,410	\$12,737	4.7x	4.4x	18.5x	11.2x
Box	NYSE:BOX	\$3,367	\$3,478	6.1x	5.0x	NM	88.3x
Endurance International	NasdaqGS:EIGI	\$3,167	\$1,385	2.7x	2.8x	10.3x	10.2x
GoDaddy	NYSE:GDDY	\$15,299	\$13,512	6.2x	5.5x	40.5x	19.4x
Just Eat	LSE:JE.	\$6,684	\$6,738	7.8x	6.1x	31.6x	24.8x
Limelight Networks	NasdaqGS:LLNW	\$526	\$571	2.7x	2.5x	23.0x	13.8x
Moneysupermarket.com	LSE:MONY	\$1,945	\$1,976	4.4x	4.2x	12.9x	11.3x
NetEase	NasdaqGS:NTES	\$21,459	\$25,965	2.5x	2.0x	16.1x	14.1x
Opera	NasdaqGS:OPRA	\$1,257	\$1,295	8.0x	NA	34.0x	NA
Otello Corporation	OB:OTELLO	\$289	\$329	0.9x	0.9x	NM	10.6x
Phoenix New Media	NYSE:FENG	\$265	\$372	1.1x	1.2x	47.3x	20.2x
Redfin Corporation	NasdaqGS:RDFN	\$1,566	\$1,757	3.7x	2.9x	NM	NM
Sea	NYSE:SE	\$4,446	\$4,774	8.0x	4.1x	NM	NM
Tencent Holdings	SEHK:700	\$418,695	\$409,424	9.9x	7.9x	25.3x	21.3x
United Internet	DB:UTDI	\$12,857	\$10,465	2.3x	2.1x	10.4x	8.8x
Web.com	NasdaqGS:WEB	\$1,965	\$1,352	2.6x	2.6x	13.8x	10.4x
Wix	NasdaqGS:WIX	\$5,022	\$5,372	9.8x	7.4x	NM	34.3x
Zillow	NasdaqGS:ZG	\$9,185	\$9,691	7.7x	5.7x	NM	33.3x

Median

20.7x

14.1x



IV

Tech Enabled Business Services

				TEV/Rev	/enue	TEV/EBI	TDA
(\$ in millions)		TEV	Market Cap	LTM	NTM	LTM	NTM
IT Services, Integration & Con	sulting						
Accenture	NYSE:ACN	\$104,783	\$108,331	2.7x	2.5x	16.7x	14.9x
Atos Origin	ENXTPA:ATO	\$12,879	\$12,592	0.9x	0.9x	7.0x	5.9x
Bechtle	XTRA:BC8	\$4,403	\$4,371	1.0x	0.9x	18.6x	14.9x
CACI International	NYSE:CACI	\$5,813	\$4,818	1.3x	1.2x	14.2x	13.2x
Cancom	XTRA:COK	\$1,477	\$1,556	1.0x	0.9x	14.3x	11.6x
Cap Gemini	ENXTPA:CAP	\$24,233	\$21,429	1.6x	1.5x	12.9x	11.0x
CGI Group	TSX:GIB.A	\$19,430	\$18,107	2.2x	2.2x	13.4x	11.7x
CLPS Incorporation	NasdaqCM:CLPS	\$189	\$188	4.3x	NA	83.5x	NA
Cognizant Technology	NasdaqGS:CTSH	\$42,010	\$45,508	2.7x	2.5x	13.1x	11.6x
ComputaCenter	LSE:CCC	\$1,918	\$1,983	0.4x	0.3x	11.2x	10.2x
DXC Technology	NYSE:DXC	\$30,428	\$25,611	1.2x	1.4x	5.6x	6.4x
ePlus	NasdaqGS:PLUS	\$1,549	\$1,422	1.1x	1.0x	15.1x	13.5x
FDM Group	LSE:FDM	\$1,288	\$1,327	4.2x	4.1x	20.9x	19.0x
Fujitsu	TSE:6702	\$17,598	\$14,993	0.5x	0.5x	4.4x	6.1x
HCL Technologies	NSEI:HCLTECH	\$19,736	\$20,560	2.6x	2.4x	11.1x	10.2x
Infosys	NSEI:INFY	\$41,112	\$44,411	3.8x	3.6x	14.3x	13.8x
Luxoft Holdings	NYSE:LXFT	\$1,484	\$1,563	1.6x	1.5x	14.7x	10.6x
ManTech International	NasdaqGS:MANT	\$2,647	\$2,625	1.4x	1.3x	17.7x	15.0x
MAXIMUS	NYSE:MMS	\$4,027	\$4,272	1.6x	1.7x	11.0x	11.5x
NCC Group	LSE:NCC	\$829	\$793	2.7x	2.5x	17.0x	13.6x
Nomura Research Institute	TSE:4307	\$11,479	\$11,823	2.6x	2.5x	12.8x	12.2x
NSD	TSE:9759	\$693	\$876	1.3x	1.2x	8.8x	8.4x
OBIC	TSE:4684	\$7,408	\$8,378	11.9x	11.2x	21.2x	22.0x
Perficient	NasdaqGS:PRFT	\$1,046	\$1,000	2.1x	2.0x	18.4x	12.6x
SCSK Corporation	TSE:9719	\$4,488	\$4,946	1.5x	1.4x	10.5x	9.8x
Sopra Group	ENXTPA:SOP	\$4,411	\$3,603	1.0x	0.9x	11.1x	9.2x
Syntel	NasdaqGS:SYNT	\$3,520	\$3,381	3.6x	3.6x	13.3x	14.5x
Talend	NasdaqGM:TLND	\$1,747	\$1,839	9.9x	7.5x	NM	NM
Tata Consultancy Services	NSEI:TCS	\$106,990	\$112,272	5.9x	5.2x	22.2x	19.0x
The Hackett Group	NasdaqGS:HCKT	\$603	\$603	2.3x	2.0x	14.4x	11.7x
Tieto	HLSE:TIETO	\$2,642	\$2,396	1.4x	1.4x	10.1x	10.2x
Unisys	NYSE:UIS	\$1,044	\$949	0.4x	0.4x	3.9x	2.7x
Virtusa	NasdaqGS:VRTU	\$1,944	\$1,733	1.8x	1.5x	23.6x	17.1x
Wipro	BSE:507685	\$16,374	\$19,255	2.1x	2.0x	11.4x	10.6x
Xerox	NYSE:XRX	\$11,319	\$7,107	1.1x	1.1x	8.2x	6.7x
Median				1.6x	1.5x	13.3x	11.6x





Tech Enabled Business Services (continued)

			_	TEV/Revenue		TEV/EBI	TDA
(\$ in millions)		TEV	Market Cap	LTM	NTM	LTM	NTM
Business Process Management	(BPM)						
Appian	APPN	\$2,165	\$2,215	10.5x	9.8x	NM	NM
Broadridge Financial Solutions	NYSE:BR	\$16,510	\$15,720	3.8x	3.7x	20.5x	17.7x
Cardtronics	NasdaqGS:CATM	\$2,451	\$1,617	1.7x	1.9x	7.6x	8.9x
Cass Information Systems	NasdaqGS:CASS	\$753	\$879	5.2x	NA	14.7x	NA
Computershare	ASX:CPU	\$8,490	\$7,520	3.8x	3.6x	15.5x	12.3x
CSG Systems International	NasdaqGS:CSGS	\$1,427	\$1,252	1.7x	1.6x	10.2x	7.5x
DocuSign	NasdaqGS:DOCU	\$10,056	\$9,777	17.9x	13.1x	NM	NM
EVERTEC	NYSE:EVTC	\$2,205	\$1,691	5.2x	4.8x	15.3x	10.5x
ExIservice Holdings	NasdaqGS:EXLS	\$2,034	\$2,199	2.5x	2.1x	18.0x	12.3x
Genpact	NYSE:G	\$6,723	\$5,820	2.4x	2.2x	16.2x	11.6x
Smartsheet	NYSE:SMAR	\$3,063	\$2,992	24.4x	15.6x	NM	NM
SS&C Technologies	NasdaqGS:SSNC	\$20,345	\$14,220	9.4x	4.9x	28.5x	14.7x
Tabula Rasa Healthcare	NasdaqGM:TRHC	\$1,777	\$1,775	10.5x	8.1x	NM	48.9x
Trans Cosmos	TSE:9715	\$894	\$1,005	0.4x	0.3x	18.7x	9.0x
WEX	NYSE:WEX	\$10,401	\$8,197	7.5x	6.7x	20.8x	16.4x
Wirecard	XTRA:WDI	\$26,088	\$27,438	12.4x	9.7x	48.6x	33.7x
WNS	NYSE:WNS	\$2,591	\$2,616	3.3x	3.1x	22.0x	17.6x
Worldpay	NYSE:WP	\$37,099	\$28,965	9.4x	9.0x	31.7x	18.3x
Zuora	NYSE:ZUO	\$2,803	\$2,964	13.6x	11.0x	NM	NM
Median				5.2x	4.9x	18.4x	13.5x
Data Center Hosting & Services							
Dropbox	NasdagGS:DBX	\$9,988	\$10,802	8.0x	6.7x	NM	31.7x
Equinix	NasdaqGS:EQIX	\$45,100	\$34,676	9.3x	8.5x	21.1x	17.7x
Interxion Holding	NYSE:INXN	\$5,828	\$4,721	9.5x	8.3x	22.2x	18.2x
Pure Storage	NYSE:PSTG	\$5,527	\$6,197	4.7x	3.6x	NM	40.7x
Switch	NYSE:SWCH	\$1,644	\$602	4.1x	3.8x	10.0x	7.8x
Median				8.0x	6.7x	21.1x	18.2x
Call Center							
Convergys	NYSE:CVG	\$2,309	\$2,253	0.9x	0.9x	7.0x	6.9x
Sykes Enterprises	NasdaqGS:SYKE	\$1,205	\$1,277	0.7x	0.7x	7.5x	6.6x
TeleTech Holdings	NasdaqGS:TTEC	\$1,435	\$1,210	1.0x	0.9x	8.0x	7.2x
Median				0.9x	0.9x	7.5x	6.9x





IV

Application Software

Date Announced	Period	Target	Buyer	Enterprise Value	Revenue Multiple
Aug-18	Q3'2018	Digium, Inc.	Sangoma Technologies Corporation (TSXV:STC)	\$27.9	0.9x
Aug-18	Q3'2018	DHI Group, Inc. (NYSE:DHX)	TCS Capital Management, LLC	\$152.6	0.8x
Aug-18	Q3'2018	Virtual Calibre SDN. BHD. / Virtual Calibre MSC SDN. BHD.	Japan System Techniques Co., Ltd. (TSE:4323)	\$15.5	1.3x
Aug-18	Q3'2018	Smartbox Assistive Technology Ltd	Tobii Dynavox LLC	\$14.0	1.2x
Aug-18	Q3'2018	Trinium Technologies, LLC	Wisetech Global Limited (ASX:WTC)	\$49.9	6.0x
Aug-18	Q3'2018	TravelClick, Inc.	Amadeus Americas, Inc.	\$1,520.0	4.1x
Aug-18	Q3'2018	Taric S.A.	Wisetech Global Limited (ASX:WTC)	\$34.7	5.3x
Aug-18	Q3'2018	Esize Netherlands B.V.	Proactis Holdings Plc (AIM:PHD)	\$17.6	3.0x
Jul-18	Q3'2018	Eze Software Group LLC	SS&C Technologies Holdings, Inc. (NasdaqGS:SSNC)	\$1,450.0	5.2x
Jul-18	Q3'2018	Hangzhou Worth Technology Co., Ltd.	Leon Technology Co., Ltd. (SZSE:300603)	\$175.8	5.0x
Jul-18	Q3'2018	Indus Software Technologies Pvt. Ltd.	Ebix, Inc. (NasdaqGS:EBIX)	\$29.0	1.3x
Jul-18	Q3'2018	Jilin Jincai Technology Co., Ltd.	Fujian Boss Software Corp. (SZSE:300525)	\$6.1	3.0x
Jul-18	Q3'2018	Shenzhen Youluo Technology Co., Ltd.	China High-Speed Railway Technology Co., Ltd. (SZSE:000008)	\$270.0	41.2x
Jul-18	Q3'2018	PerfectCard DAC	EML Payments Limited (ASX:EML)	\$7.1	3.3x
Jul-18	Q3'2018	Shire Systems Ltd.	Elecosoft plc (AIM:ELCO)	\$8.3	3.0x
Jul-18	Q3'2018	B2 Group S.a.R.L	Gresham Technologies plc (LSE:GHT)	\$9.9	4.9x
Jul-18	Q3'2018	Savoye SA	Noblelift Intelligent Equipment Co.,Ltd. (SHSE:603611)	\$37.6	0.4x
Jul-18	Q3'2018	Electronic Data Processing PLC (LSE:EDP)	Kerridge Commercial Systems Group Limited	\$15.4	1.0x
Jul-18	Q3'2018	Taliance Group	Altus Group Limited (TSX:AIF)	\$23.3	4.3x
Jul-18	Q3'2018	SUSE International Holdings GmbH, SUSE GmbH, and SUSE LLC	Eqt Fund Management S.A.R.L	\$2,535.0	7.3x
Jul-18	Q3'2018	Link Mobility Group ASA (OB:LINK)	ABRY Partners, LLC	\$537.1	2.7x
Jun-18	Q2'2018	RO Innovation, Inc.	RO Innovation, Inc.	\$14.3	2.4x





IV

Date Announced	Period	Target	Buyer	Enterprise Value	Revenue Multiple
Jun-18	Q2'2018	Convergys Corporation (NYSE:CVG)	Concentrix Corporation	\$2,534.0	0.9x
Jun-18	Q2'2018	Cheleo SRL	TXT e-solutions S.p.A. (BIT:TXT)	\$8.8	2.7x
Jun-18	Q2'2018	Pierbridge, Inc.	Wisetech Global Limited (ASX:WTC)	\$59.4	6.4x
Jun-18	Q2'2018	Constructionline	Warburg Pincus LLC	\$210.9	11.4x
Jun-18	Q2'2018	Artilium plc (AIM:ARTA)	Pareteum Corporation (AMEX:TEUM)	\$100.6	7.9x
May-18	Q2'2018	A2iA S.A.	Mitek Systems, Inc. (NasdaqCM:MITK)	\$49.7	3.3x
May-18	Q2'2018	Ulukom Bilgisayar Yazilim Donanim Danismanlik ve Ticaret AS	Wisetech Global Limited (ASX:WTC)	\$5.6	4.0x
May-18	Q2'2018	True North Consulting, LLC	GSE Systems, Inc. (NasdaqCM:GVP)	\$9.8	0.9x
May-18	Q2'2018	Unicommerce eSolutions Private Limited	Infibeam Incorporation Limited (BSE:539807)	\$17.9	5.9x
Apr-18	Q2'2018	Metrologic Group	Sandvik Machining Solutions AB	\$435.8	8.3x
Apr-18	Q2'2018	Beijing Unibeacon Testing Technology Co., Ltd.	Beijing Watertek Information Technology Co., Ltd. (SZSE:300324)	\$8.7	6.6x
Apr-18	Q2'2018	PeopleFluent, Inc.	Learning Technologies Group plc (AIM:LTG)	\$150.0	1.4x
Apr-18	Q2'2018	Desarrollo de Productos Informáticos S.A.	CAD IT S.p.A. (BIT:CAD)	\$5.9	1.4x
Apr-18	Q2'2018	PB & Asoc. S.A. and Softcargo and EasyLog S.A.	Wisetech Global Limited (ASX:WTC)	\$19.0	3.7x
Apr-18	Q2'2018	Viewpoint, Inc.	Trimble Inc. (NasdaqGS:TRMB)	\$1,200.0	0.5x
Apr-18	Q2'2018	Fidessa group plc (LSE:FDSA)	Ion Investment Group Limited	\$2,021.8	4.1x
Apr-18	Q2'2018	Socrata, Inc.	Tyler Technologies, Inc. (NYSE:TYL)	\$150.0	6.0x
Apr-18	Q2'2018	Actian Corporation	(NSEI:HCLTECH); Sumeru Equity	\$330.0	3.1x
Apr-18	Q2'2018	Priori Data GmbH	appScatter Group plc (AIM:APPS)	\$19.9	15.4x
Mar-18	Q1'2018	FreeAgent Holdings plc (AIM:FREE)	National Westminster Bank Plc	\$66.1	5.2x
Mar-18	Q1'2018	Shanghai Chengqi Information Technology Co., Ltd.	Shanghai Yaoji Playing Card Co., Ltd. (SZSE:002605)	\$198.1	9.2x



W

Date Announced	Period	Target	Buyer	Enterprise Value	Revenue Multiple
Mar-18	Q1'2018	ltecgyn Informática Ltda.	Linx Sistemas E Consultoria Ltda.	\$7.8	2.4x
Mar-18	Q1'2018	MuleSoft, Inc.	salesforce.com, inc. (NYSE:CRM)	\$6,607.4	22.3x
Mar-18	Q1'2018	LSP Solutions B.V.	Wisetech Global Limited (ASX:WTC)	\$6.2	2.5x
Mar-18	Q1'2018	Booker Software, Inc.	MINDBODY, Inc. (NasdaqGM:MB)	\$150.0	6.0x
Mar-18	Q1'2018	Tecnotree Oyj (HLSE:TEM1V)	-	\$41.8	0.6x
Mar-18	Q1'2018	United Luck Group Holdings Limited	Zhejiang Jinke Culture Industry Co., Ltd. (SZSE:300459)	\$156.5	2.0x
Feb-18	Q1'2018	Pivot Software Limited	Elmo Software Limited (ASX:ELO)	\$8.8	2.5x
Feb-18	Q1'2018	Openwave Mobility Inc.	Enea AB (publ) (OM:ENEA)	\$90.0	3.3x
Feb-18	Q1'2018	RealDolmen NV (ENXTBR:REA)	GFI Informatique SA (ENXTPA:GFI)	\$203.1	0.7x
Feb-18	Q1'2018	CAD IT S.p.A. (BIT:CAD)	Quarantacinque Srl	\$41.6	0.5x
Feb-18	Q1'2018	WebDAM, Inc.	Bynder LLC	\$49.1	3.0x
Feb-18	Q1'2018	Xively, Ltd.	Google LLC	\$50.0	16.7x
Feb-18	Q1'2018	Unified Messaging Systems ASA	Everbridge Holdings Limited	\$33.3	2.5x
Feb-18	Q1'2018	Fraedom Holdings Limited	Visa Inc. (NYSE:V)	\$195.7	4.3x
Feb-18	Q1'2018	Tryumph21 Co.,Ltd.	As One Corp. (TSE:7476)	\$26.4	0.2x
Feb-18	Q1'2018	Escher Group Holdings plc	Hanover Investors Management LLP	\$49.1	2.7x
Feb-18	Q1'2018	LiquidHub, Inc.	Capgemini SE (ENXTPA:CAP)	\$500.0	2.0x
Feb-18	Q1'2018	e-Builder, Inc.	Trimble Inc. (NasdaqGS:TRMB)	\$500.0	9.4x
Feb-18	Q1'2018	Financial Performance Solutions and Banking Businesses of BasWare	Verdane Capital	\$43.5	2.3x
Feb-18	Q1'2018	Travel Compensation Services Ltd and Delay Repay Sniper Limited	Tracsis plc (AIM:TRCS)	\$9.8	9.8x
Jan-18	Q1'2018	Angoss Software Corp.	Datawatch Corporation (NasdaqCM:DWCH)	\$28.9	2.8x
Jan-18	Q1'2018	Shenzhen Yilian Technology Co., Ltd.	Shenzhen MUP Industrial Co., Ltd.	\$22.6	4.0x







Date Announced	Period	Target	Buyer	Enterprise Value	Revenue Multiple
Jan-18	Q1'2018	Lombard Risk Management plc	Vermeg N.V.	\$70.5	1.6x
Jan-18	Q1'2018	Northgate Public Services Limited	NEC Corporation (TSE:6701)	\$642.0	2.9x
Dec-17	Q4'2017	Clavis Technology	Ascentia	\$219.0	16.9x
Dec-17	Q4'2017	Aconex (ASX:ACX)	Vantive Australia	\$1,234.8	10.0x
Dec-17	Q4'2017	Gemalto (ENXTAM:GTO)	Thales	\$6,521.4	1.8x
Dec-17	Q4'2017	Microlistics	Wisetech Global	\$30.4	5.9x
Dec-17	Q4'2017	Gemalto (ENXTAM:GTO)	Atos	\$5,994.9	1.7x
Dec-17	Q4'2017	Healthcare Communications UK	IMImobile	\$20.1	4.2x
Nov-17	Q4'2017	Bazaarvoice (NasdaqGS:BV)	Marlin Equity Partners	\$456.0	2.2x
Nov-17	Q4'2017	Anisa Group	Sanderson Group	\$15.9	1.2x
Nov-17	Q4'2017	Reckon, Reckon Accountants Practice Management Business	MYOB Group	\$136.6	5.6x
Nov-17	Q4'2017	IGE+XAO Group (ENXTPA:IGE)	Schneider Electric Industries	\$172.2	5.1x
Nov-17	Q4'2017	Klavis	Money Forward	\$7.0	8.0x
Oct-17	Q4'2017	Trayport	TMX Group (TSX:X)	\$721.3	9.5x
Oct-17	Q4'2017	Netmessage	Link Mobility Group (OB:LINK)	\$11.6	1.0x
Oct-17	Q4'2017	BroadSoft (NasdaqGS:BSFT)	Cisco Systems (NasdaqGS:CSCO)	\$1,917.0	5.3x
Oct-17	Q4'2017	Silverlake Digitale Sdn Bhd	Silverlake Axis (SGX:5CP)	\$11.0	2.4x
Oct-17	Q4'2017	Sback Tecnologia Da Informacao	Linx Sistemas E Consultoria	\$17.8	3.8x
Oct-17	Q4'2017	Resource Connect	SmartTrans Holdings (ASX:SMA)	\$13.1	2.2x
Oct-17	Q4'2017	Onvia	Project Diamond Intermediate Holdings Corporation	\$65.6	2.7x
Oct-17	Q4'2017	Vendman Systems	Vianet Group (AIM:VNET)	\$5.6	2.4x
Sep-17	Q3'2017	Intermarketing	Loomis (OM:LOOMB)	\$22.4	2.0x
Sep-17	Q3'2017	Exa Corporation (NasdaqGM:EXA)	Dassault Systèmes Simulia	\$385.9	5.3x







Date Announced	Period	Target	Buyer	Enterprise Value	Revenue Multiple
Sep-17	Q3'2017	Chengdu E-store Technology	Besttone Holding (SHSE:600640)	\$37.5	2.1x
Sep-17	Q3'2017	Silver Spring Networks (NYSE:SSNI)	Itron (NasdaqGS:ITRI)	\$840.4	1.9x
Sep-17	Q3'2017	Planet Traders	Wisetech Global (ASX:WTC)	\$9.2	2.9x
Sep-17	Q3'2017	Cargoguide International	Wisetech Global (ASX:WTC)	\$5.5	3.5x
Sep-17	Q3'2017	Integrity Group Consulting / Asset Controls	Updater (ASX:UPD)	\$27.0	3.8x
Sep-17	Q3'2017	eg solutions (AIM:EGS)	Verint Ws Holdings	\$30.3	2.2x
Sep-17	Q3'2017	NemusTech	Naver (KOSE:A035420)	\$8.0	1.6x





EMS / Infrastructure Software

Date Announced	Period	Target	Buyer	Enterprise Value	Revenue Multiple
Aug-18	Q3'2018	Shift F7 Group Limited	AdEPT Telecom plc (AIM:ADT)	\$10.1	1.6x
Aug-18	Q3'2018	Infonet Bilgi Teknolojileri Ticaret Anonim Sirketi	Cyber Security 1 AB (OM:CYB1)	\$9.8	0.4x
Aug-18	Q3'2018	Sunjesoft Inc.	Kelan Software Systems (Hong Kong) Co., Ltd	\$10.7	5.3x
Jul-18	Q3'2018	Basefarm AS	Orange Business Services SAS	\$409.8	3.5x
Jul-18	Q3'2018	iSYS RTS GmbH	Minda Industries Limited (BSE:532539)	\$5.8	1.1x
Jul-18	Q3'2018	Tangelo Games Corp. (TSXV:GEL)	Third Eye Capital Corporation	\$75.1	2.7x
Jul-18	Q3'2018	CA, Inc. (NasdaqGS:CA)	Broadcom Inc. (NasdaqGS:AVGO)	\$21,777.0	4.3x
Jun-18	Q2'2018	MWR InfoSecurity Limited	F-Secure Oyj (HLSE:FSC1V)	\$139.2	4.9x
Apr-18	Q2'2018	Advantio Limited	Cognosec AB (publ) (OM:COGS)	\$14.8	4.3x
Mar-18	Q1'2018	Secure Thingz, Inc.	IAR Systems Group AB (publ) (OM:IAR B)	\$31.0	62.1x
Feb-18	Q1'2018	CSRA Inc.	General Dynamics Corporation (NYSE:GD)	\$9,871.1	2.0x
Nov-17	Q4'2017	Barracuda Networks	Thoma Bravo	\$1,405.6	3.8x
Nov-17	Q4'2017	CYREN (54.31% Stake)	Warburg Pincus	\$72.9	2.3x
Oct-17	Q4'2017	Gigamon (93% Stake)	Elliott Management	\$1,329.1	4.4x
Oct-17	Q4'2017	IntraLinks Holdings	Siris Capital Group	\$1,020.8	3.5x
Oct-17	Q4'2017	Quantum Storage (Hong Kong)	Kronologi Asia Berhad	\$10.6	1.1x
Sep-17	Q3'2017	Deltagon (77.35% Stake)	UTIB INVL Technology	\$7.5	2.4x



IV O

Tech Enabled Services

Date Announced	Period	Target	Buyer	Enterprise Value	Revenue Multiple
Aug-18	Q3'2018	G-AsiaPacific Sdn Bhd	K-One Technology Berhad (KLSE:K1)	\$5.0	2.0x
Aug-18	Q3'2018	Hangzhou Yowant Network Co., Ltd	Saturday Co., Ltd. (SZSE:002291)	\$281.9	3.7x
Aug-18	Q3'2018	NSS Holding AS	NRC Group ASA (OB:NRC)	\$12.3	0.4x
Aug-18	Q3'2018	Apogee Corporation Limited	HP Inc. (NYSE:HPQ)	\$498.5	1.8x
Jul-18	Q3'2018	MetaPack Limited	Stamps.com Inc. (NasdaqGS:STMP)	\$224.7	4.8x
Jul-18	Q3'2018	Syntel, Inc. (NasdaqGS:SYNT)	Atos SE (ENXTPA:ATO)	\$3,669.2	3.7x
Jul-18	Q3'2018	Charles River Systems, Inc.	State Street Corporation (NYSE:STT)	\$2,600.0	8.4x
Jul-18	Q3'2018	ASHITA-TEAM Co., Ltd.	Vector Inc. (JASDAQ:2656)	\$28.6	2.3x
Jun-18	Q2'2018	Hönigsberg & Düvel Datentechnik GmbH	HCL Technologies Limited (NSEI:HCLTECH)	\$34.8	0.4x
Jun-18	Q2'2018	Web.com Group, Inc. (NasdaqGS:WEB)	Siris Capital Group, LLC	\$1,864.3	2.5x
Jun-18	Q2'2018	Time Channel Information Technology Co.,Ltd.	Zhong Fu Tong Group Co., Ltd. (SZSE:300560)	\$57.0	5.0x
Jun-18	Q2'2018	Guangzhou Ruiling Network Technology Co., Ltd	Honz Pharmaceutical Co., Ltd. (SZSE:300086)	\$50.0	1.6x
May-18	Q2'2018	IESA Limited	Electrocomponents plc (LSE:ECM)	\$117.7	0.4x
May-18	Q2'2018	Card Processing Businesses in Seven Countries of First Data Corporation	SIA S.p.A.	\$439.7	3.8x
May-18	Q2'2018	Coasin Chile S.A.	Logicalis Latin America	\$20.2	0.2x
Apr-18	Q2'2018	Digitas Limited	Madison Future Games Limited	\$117.6	76.2x
Apr-18	Q2'2018	Mattersight Corporation (NasdaqGM:MATR)	NICE Systems Inc.	\$112.9	2.3x
Apr-18	Q2'2018	Seisma Pty Ltd	PS&C Limited (ASX:PSZ)	\$9.7	0.6x
Apr-18	Q2'2018	RMG Networks Holding Corporation (NasdaqCM:RMGN)	SCG Digital, LLC	\$15.4	0.4x
Apr-18	Q2'2018	Jiangsu Lanchuang Intelligent Technology Co., Ltd.	Ningbo BaoSi Energy Equipment Co., Ltd. (SZSE:300441)	\$74.8	6.1x
Apr-18	Q2'2018	Southport Services Group, LLC	Perficient, Inc. (NasdaqGS:PRFT)	\$21.4	1.3x
Mar-18	Q1'2018	Element Solutions LLC	Hinduja Global Solutions UK limited	\$8.8	1.0x







Tech Enabled Services (continued)

Date Announced	Period	Target	Buyer	Enterprise Value	Revenue Multiple
Mar-18	Q1'2018	TNT Business Solutions Division of TNT UK Limited	Restore plc (AIM:RST)	\$125.3	3.8x
Mar-18	Q1'2018	Xiangjiang Technology Co., Ltd.	Shanghai Chengdi Construction Corporation Ltd (SHSE:603887)	\$369.7	2.6x
Mar-18	Q1'2018	Cartesian, Inc. (OTCPK:CRTN)	Blackstreet Capital Management, LLC	\$10.6	0.2x
Mar-18	Q1'2018	Vipera Plc (AIM:VIP)	Sella Open Fintech Platform S.P.A.	\$33.2	2.7x
Mar-18	Q1'2018	Cynosure, Inc	Zensar Technologies, Inc.	\$33.0	1.7x
Mar-18	Q1'2018	Helius Technologies Pte Ltd.	TechnoPro Holdings, Inc. (TSE:6028)	\$47.6	1.0x
Mar-18	Q1'2018	FIS System	DB Inc. (KOSE:A012030)	\$88.8	2.0x
Mar-18	Q1'2018	Wipro Data Centre and Cloud Services, Inc.	Ensono, LP	\$405.0	1.7x
Feb-18	Q1'2018	Financière Soft SAS	Computer Task Group IT Solutions S.A.	\$16.9	0.5x
Feb-18	Q1'2018	Asian Link Co., Ltd.	LAC Co., Ltd. (JASDAQ:3857)	\$6.9	0.6x
Jan-18	Q1'2018	SingleHop, LLC	Internap Corporation (NasdaqGS:INAP)	\$132.0	2.8x
Jan-18	Q1'2018	Bulletproof Group Limited (ASX:BPF)	Australian Centre For Advanced Computing And Communication	\$21.7	0.6x
Jan-18	Q1'2018	Blaynmail Co., Ltd.	Rakus Co., Ltd. (TSE:3923)	\$14.0	2.4x
Jan-18	Q1'2018	Blackhawk Network Holdings, Inc. (NasdaqGS:HAWK)	Silver Lake; P2 Capital Partners, LLC	\$3,019.2	1.4x
Jan-18	Q1'2018	Probizmo CO.,LTD	TechnoPro, Inc.	\$15.8	1.4x
Jan-18	Q1'2018	DST Systems, Inc.	SS&C Technologies Holdings, Inc. (NasdaqGS:SSNC)	\$5,671.1	2.6x
Jan-18	Q1'2018	Eagle International Institute, Inc.	NIIT (USA), Inc.	\$8.1	0.8x
Jan-18	Q1'2018	Lotte Data Communication Company	LOTTE Corporation (KOSE:A004990)	\$683.4	0.9x
Dec-17	Q4'2017	Metronode	Equinix (REIT) (NasdaqGS:EQIX)	\$791.4	17.3x
Dec-17	Q4'2017	SQS Software Quality Systems (AIM:SQS)	Assystem Technologies	\$418.0	1.1x
Dec-17	Q4'2017	IO Data Centers	Iron Mountain (NYSE:IRM)	\$1,375.0	9.6x
Nov-17	Q4'2017	Aricent	Altran US	\$2,000.0	2.9x







Tech Enabled Services (continued)

Date Announced	Period	Target	Buyer	Enterprise Value	Revenue Multiple
Nov-17	Q4'2017	iStone (51% Stake)	Columbus (CPSE:COLUM)	\$27.6	0.3x
Nov-17	Q4'2017	Fess	Information Development (TSE:4709)	\$17.9	0.6x
Nov-17	Q4'2017	Leapforce	Appen (ASX:APX)	\$80.0	1.7x
Nov-17	Q4'2017	Shenzhen Topevery Technology (51% Stake)	Shenzhen Ta'aiwei Information Technology	\$12.3	1.9x
Nov-17	Q4'2017	Bulletproof Group (ASX:BPF) (83.8% Stake)	Macquarie Cloud Services	\$15.7	0.4x
Nov-17	Q4'2017	Nsecure	Unica Groep	\$29.4	1.0x
Nov-17	Q4'2017	Rockford IT	SysGroup (AIM:SYS)	\$5.2	0.9x
Oct-17	Q4'2017	Shanghai Yungoal Info Tech (70% Stake)	Digital China Group (SZSE:000034)	\$54.2	8.9x
Oct-17	Q4'2017	Vedang Cellular Services (70% Stake)	Quess Corp (BSE:539978)	\$8.8	0.7x
Oct-17	Q4'2017	Dada (BIT:DA) (69.43 % Stake)	HgCapital Mercury 2 Nominees	\$107.3	1.4x
Oct-17	Q4'2017	Avega Group (OM:AVEG B)	Tieto Sweden	\$57.0	1.0x
Oct-17	Q4'2017	Evolve Technologies and Services	TeamLease Staffing Services	\$5.7	0.3x
Oct-17	Q4'2017	Equinix IS2	Equinix (REIT) (NasdaqGS:EQIX)	\$93.0	37.2x
Oct-17	Q4'2017	QSight IT Holding	Koninklijke KPN (ENXTAM:KPN)	\$100.2	1.7x
Sep-17	Q3'2017	RecoBell	Futurestream Networks (KOSDAQ:A214270)	\$12.8	8.9x
Sep-17	Q3'2017	Shenzhen Juqent Information Technology (80% Stake)	Guangdong Zhengye Technology (SZSE:300410)	\$18.0	9.3x
Sep-17	Q3'2017	Beyondwinet Information Technology	Beijing Holystone Technology	\$17.5	0.3x



IV

Online & Digital

Date Announced	Period	Target	Buyer	Enterprise Value	Revenue Multiple
Aug-18	Q3'2018	Oryx Gaming International LLC	AA Acquisition Group Inc.	\$8.7	1.3x
Aug-18	Q3'2018	Wazee Digital, Inc.	Veritone, Inc. (NasdaqGM:VERI)	\$15.0	0.8x
Jul-18	Q3'2018	10bis.Co.ll Ltd.	Takeaway.com N.V. (ENXTAM:TKWY)	\$157.3	10.2x
Jul-18	Q3'2018	FFG FINANZCHECK Finanzportale GmbH	Scout24 AG (DB:G24)	\$333.1	8.1x
Jul-18	Q3'2018	KeyDrive S.A.	CentralNic Group Plc (AlM:CNIC)	\$55.0	0.9x
Jul-18	Q3'2018	TapInfluence, Inc.	IZEA, Inc. (NasdaqCM:IZEA)	\$7.1	1.2x
Jul-18	Q3'2018	LifeWorks Corporation Ltd.	Morneau Shepell Ltd	\$326.2	3.9x
Jul-18	Q3'2018	Comas S.r.l./Webber S.r.l.	Innolva S.P.A.	\$10.9	2.5x
Jun-18	Q2'2018	Hainan Hong Kong and Macao Information Industry Co., Ltd.	Shenzhen Quanxinhao Co., Ltd. (SZSE:000007)	\$179.7	2.7x
Jun-18	Q2'2018	GET Holdings Limited (SEHK:8100)	-	\$14.4	0.7x
May-18	Q2'2018	Webpro AS	ZetaDisplay AB (OM:ZETA)	\$6.1	2.1x
May-18	Q2'2018	Cybird Co., Ltd.	Aeria Inc. (JASDAQ:3758)	\$64.0	0.7x
May-18	Q2'2018	Magento, Inc.	Adobe Systems Incorporated (NasdaqGS:ADBE)	\$1,680.0	11.2x
May-18	Q2'2018	iZettle AB	PayPal (NasdaqGS:PYPL)	\$2,200.0	19.8x
May-18	Q2'2018	Linkable Inc.	AJ Rent A Car Co., Ltd. (KOSE:A068400)	\$16.2	20.1x
May-18	Q2'2018	Cyanide SA	BigBen Interactive (ENXTPA:BIG)	\$25.3	3.5x
May-18	Q2'2018	ZPG Plc (LSE:ZPG)	Silver Lake	\$3,377.4	8.8x
May-18	Q2'2018	Mitula Group Limited (ASX:MUA)	Lifull Co., Ltd. (TSE:2120)	\$128.3	5.1x
May-18	Q2'2018	Shenzhen Whale Banner World Network Technology Co., Ltd.	Keda Group Co., Ltd. (SHSE:600986)	\$142.8	5.4x
May-18	Q2'2018	ICM Registry, LLC	Minds + Machines Group Limited (AIM:MMX)	\$40.7	5.6x
May-18	Q2'2018	Findify AB	Namaste Technologies Inc. (TSXV:N)	\$10.8	21.4x
Apr-18	Q2'2018	Beijing Icoou Technology Co., Ltd	Shenzhen Hifuture Electric Co., Ltd (SZSE:002168)	\$301.1	15.0x
Apr-18	Q2'2018	FIO SYSTEMS AG	Hypoport AG (DB:HYQ)	\$84.7	9.9x







Online & Digital (continued)

Date Announced	Period	Target	Buyer	Enterprise Value	Revenue Multiple
Apr-18	Q2'2018	Tata Interactive Systems	MPS Limited (BSE:532440)	\$12.0	0.6x
Apr-18	Q2'2018	Sanzhi Xiaoxiong Technology Limited	Madison Future Games Limited	\$140.1	8.1x
Apr-18	Q2'2018	Edmodo, Inc.	Best Assistant Education Online Limited	\$137.5	136.3x
Apr-18	Q2'2018	CM2.Com, Inc.	Zix Corporation (NasdaqGS:ZIXI)	\$16.1	5.4x
Apr-18	Q2'2018	Shenzhen Maiyou Interactive Technology Co., Ltd.	China Media Group (SZSE:000793)	\$58.0	11.1x
Mar-18	Q1,2018	eTouch Systems Corp.	Virtusa Corporation (NasdaqGS:VRTU)	\$115.4	1.3x
Mar-18	Q1,2018	NameSilo, LLC	Brisio Innovations Inc. (OTCPK:NTCE.F)	\$9.5	0.9x
Mar-18	Q1,2018	CommerceHub, Inc.	GTCR, LLC; Sycamore Partners	\$1,055.9	9.5x
Feb-18	Q1,2018	Pipeworks Inc	St. Cloud Capital, LLC; DGB Investments; Northern Pacific Group	\$18.2	1.4x
Feb-18	Q1,2018	Dealer Inspire, Inc. and Launch Digital Marketing, LLC	Cars.com Inc. (NYSE:CARS)	\$205.0	5.0x
Jan-18	Q1,2018	Callidus Software Inc.	SAP America, Inc.	\$2,425.9	9.6x
Jan-18	Q1,2018	auFeminin.com (ENXTPA:FEM)	Télévision Française 1 SA (ENXTPA:TFI)	\$378.9	2.7x
Jan-18	Q1,2018	Paymark Limited	Ingenico Group - GCS (ENXTPA:ING)	\$120.4	2.2x
Jan-18	Q1,2018	Gambling related informational websites of Good Game Ltd	XLMedia PLC (AIM:XLM)	\$18.4	9.0x
Jan-18	Q1,2018	HubPages Inc.	theMaven, Inc. (OTCPK:MVEN)	\$10.0	2.0x
Jan-18	Q1,2018	Real Estate 114 Inc.	Hyundai Development Co Engineering & Construction (KOSE:A012630)	\$64.1	4.5x
Sep-17	Q3'2017	YuMe	RhythmOne (AIM:RTHM)	\$111.0	0.7x









Infosys Acquires Fluido, **Largest Salesforce Consulting Partner in the Nordics**

Transaction Summary

- Pharus served as the exclusive financial advisor to Fluido Oy in their sale to Infosys Limited (NSEI:INFY).
- · Executing on its strategy to help clients navigate the next in their digital transformation journey, this acquisition strengthens Infosys' position as a leading Salesforce enterprise cloud services provider, and enhances its ability to provide clients an unparalleled cloud-first transformation.
- Pharus was mandated by Fluido's shareholders to execute a comprehensive process, that involved identifying and approaching a targeted set of strategic and financial buyers, spearheading marketing and due-diligence, and negotiating the terms of the transaction.
- Infosys acquired Fluido for all-cash purchase price of up to €65 million (\$76 million), including earnout and bonuses.

Key Profiles

- Fluido is the leading Salesforce Consultancy and Partner in the Nordics. Fluido offers consulting, development and integration services tailored for customer needs to make customer data meaningful in the moments that matter the most. Fluido's headquarters are in Espoo, Finland, with additional offices in Denmark, Norway, Slovakia and Sweden.
- Infosys is a global leader in next-generation digital services and consulting. They provides business information technology services, including application development and maintenance, independent validation, infrastructure management, and business process management services, as well as engineering services, such as engineering and life cycle solutions; and consulting and systems integration services comprising consulting, enterprise solutions, systems integration, and advanced technologies.
- Infosys was founded in 1981 and is headquartered in Bengaluru, India.





The undersigned acted as the exclusive financial advisor to Fluido Oy in connection with the transaction









Domino Media Group Acquired by Multiply Media

Transaction Summary

- Pharus served as the exclusive strategic advisor to Domino Media Group, Inc. in its transaction with Multiply Media. Transaction terms were not disclosed.
- · With this transaction, Multiply reinforces its focus on creating and cultivating enduring, digital-first brands in its sizeable lifestyle categories. Domino joins Multiply's family of brands, which includes FashionBeans, HealthyWay, and Urbo. The Domino brand stands to expand its core audience with additional support centered on analytics and technology.
- Pharus was retained by the shareholders of Domino (including Launch Capital and iNovia) due to our extensive knowledge of and M&A experience in the digital media and eCommerce sectors.
- · In its role as an advisor, Pharus was mandated to execute a comprehensive M&A process, that involved identifying and approaching a targeted set of strategic buyers, spearheading marketing activities, leading due-diligence, and negotiating transaction terms.

Key Profiles

- · Domino is a Millennial-focused women's lifestyle media and eCommerce company with roots in home, design, DIY, and entertaining. Established in 2005, the company quickly solidified its position as an editorial leader in the home décor space through its publications. Domino relaunched in 2013, introducing their expanded content across print, digital and commerce platforms.
- Multiply is a premium digital publisher fluent in technology and analytics platforms built to support and invest in editorial leaders in high value consumercentric content categories. The Company operates a number of notable digital properties including FashionBeans, HealthyWay, and Urbo.



The undersigned acted as the exclusive financial advisor to Domino Media Group, Inc. in connection with the transaction

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Idean Enterprises OY Acquired By Capgemini

Transaction Summary

- Pharus served as the exclusive financial advisor to Idean Enterprises Oy in its sale to Capgemini. Transaction terms were not disclosed.
- This transaction will reinforce Cappemini's usercentered and digital-first experience design and strategy services, particularly in North America, and extend its network of Digital studios. This transaction is geared to meet growing customer demand for the Group's end to end digital services.
- · The shareholders of Idean retained Pharus due to our knowledge of the design and strategy services sector, as well as our M&A advisory experience with digital, innovation and cloud services businesses. We executed a comprehensive M&A process that involved identifying and approaching a broad set of strategic buyers, spearheading marketing activities, leading due-diligence, and negotiating transaction terms.

Key Profiles

- · Idean Enterprises, a fast-growing digital strategy and experience design consultancy focuses, primarily on digital user experience (UX), customer experience (CX), and digital strategy. Their client list extends from disruptive Bay Area start-ups, global tech leaders to prominent brands in automotive and consumer electronics, looking to reinvent themselves for the digital era. Clients include LG, Mercedes-Benz, Sony, Volkswagen, 23andMe, Airbus, Cole Haan, Ericsson, IBM, Intel, and Kesko.
- · Capgemini provides consulting, technology, and outsourcing services. Its consulting services include strategy and transformation, finance and technology transformation, human resources consulting, supply chain management, solutions environment, and innovation. It serves manufacturing, retail, consumer products, distribution and transportation, aerospace and defense, and financial services industries across the world.



The undersigned acted as the exclusive financial advisor to Idean Enterprises Oy in connection with the transaction

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Risto Lähdesmäki, Chief Executive Officer of Idean, said about Pharus:

"These guys just rock! I could not be happier with having chosen Pharus as our investment banking advisor. Since I knew this would be once-in-a-lifetime deal for me and whole team, I wanted to set multiple records and Pharus accepted the challenge - and boy we set many. At every step Pharus added immense value and astutely guided us to the most optimal outcome for the shareholders and for everyone in Idean.

I'm very pleased with their experience, dedication, and diligence - working hard 24/7 as one team, we were able to get a complicated deal closed in a compressed time frame. Pharus was with us right from beginning to end to ensure a successful process. The way they guided me and the team with a human touch was just amazing -I truly felt they had our back all the time. We could not have achieved these results without Pharus - a deal that worked like a dream for all the stakeholders."







Cappemini US Acquires Fahrenheit 212, a Leading Innovation and Design Consultancy

Transaction Summary

- Pharus served as the exclusive financial advisor to Fahrenheit 212 LLC in its sale to Capgemini. Transaction terms were not disclosed.
- This transaction will augment the capabilities of Capgemini's global strategy and transformation consulting organization, Capgemini Consulting, to provide new innovation, business transformation and digital customer experiences solutions. This bolt on acquisition fits into Capgemini's digital innovation growth strategy.
- The shareholders of Fahrenheit 212 retained Pharus due to our knowledge of the innovation services sector, as well as out M&A advisory experience with digital and cloud services businesses. We executed a comprehensive M&A process that involved identifying and approaching a broad set of strategic and private equity buyers, spearheading marketing activities, leading duediligence, and negotiating transaction terms.

Key Profiles

- Fahrenheit 212, an innovation and design consultancy, focuses on defining innovation strategies and develops new products, services, and experiences that create sustainable, profitable growth for global clients such as The Coca-Cola Company, Marriott, and Citi.
- · Capgemini provides consulting, technology, and outsourcing services. Its consulting services include strategy and transformation, finance and technology transformation, human resources consulting, supply chain management, solutions environment, and innovation. It serves manufacturing, retail, consumer products, distribution and transportation, aerospace and defense, and financial services industries across the world.



The undersigned acted as the exclusive financial advisor to Fahrenheit 212 LLC in connection with the transaction

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SPS Commerce (NasdaqGS:SPSC) Acquires Toolbox Solutions, a Leading Provider of Retail Solutions in North America

Transaction Summary

- Pharus served as the exclusive financial advisor to Toolbox Solutions, Inc. in their sale to SPS Commerce, Inc. (NasdagGS:SPSC)
- The acquisition serves to strengthen SPS Commerce's retail analytics portfolio, and further broadens their network of more than 60,000 organizations in 60 countries to include leading retailers and CPG suppliers in the North American convenience, grocery, and drug store segments.
- Pharus was mandated by Toolbox Solutions' shareholders to execute a comprehensive process, that involved identifying and approaching a targeted set of strategic and financial buyers, spearheading marketing and due-diligence, and negotiating the terms of the transaction.
- SPS Commerce acquired all of the shares of ToolBox Solutions for approximately \$18.4 million in cash and \$4.5 million in stock which represents approximately 65,000 shares.

Key Profiles

- ToolBox Solutions is a leading provider of point-ofsale analytics, retail and loyalty software solutions, and category management services to retailers and consumer packaged goods suppliers across the US and Canada. The company has established relationships with many leading retailers and CPG suppliers in the convenience, grocery and drug store segments. The employees will continue to be based in Toronto.
- SPS Commerce provides cloud-based supply chain management solutions worldwide through their platform which improves the way suppliers. retailers, distributors, and other customers manage and fulfill orders. The company is headquartered in Minneapolis.





The undersigned acted as the exclusive financial advisor to Toolbox Solutions, Inc. in connection with the transaction









Ziff Davis Acquires Offers.com, a Leader in the Digital Coupon and Deal Space

Transaction Summary

- Pharus served as the exclusive financial advisor to Offers.com, LLC in their sale to Ziff Davis, LLC, a subsidiary of j2 Global (NasdaqGS:JCOM).
- The acquisition further expands Ziff Davis' portfolio of market leading digital properties, and strengthens their position in the growing online deals and offers segment.
- Pharus was mandated by Offers.com's shareholders to execute a comprehensive process, that involved identifying and approaching a targeted set of strategic and financial buyers, spearheading marketing and due-diligence, and negotiating the terms of the transaction.
- Transaction terms were not disclosed.
- Pharus had also served as the exclusive financial advisor to Offers.com in 2010, when it received \$7M in a round of funding from Susquehanna Growth Equity.

Key Profiles

- Offers.com operates a leading online marketplace that connects millions of consumers with coupons, promo codes, deals, and discounts from thousands of leading merchants. Offers.com is headquartered in Austin, TX.
- Ziff Davis is a digital media company that engages in the digital publishing of content in gaming, technology, and men's lifestyle categories. It operates PCMag.com, IGN.com, and AskMen.com. Ziff Davis is headquartered in New York, NY.
- Ziff Davis is owned by J2 Global. J2 Global operates through two segments:
 - Business Cloud Services Offers cloud services to sole proprietors, small to mediumsized businesses and enterprises, and government organizations; provides eFax, KeepltSafe, LiveDrive, eVoice and Onebox.
 - Digital Media Operates a portfolio of Web properties, including PCMag.com, IGN.com, Speedtest.net, AskMen.com, and TechBargains.com.





The undersigned acted as the exclusive financial advisor to Offers.com, LLC in connection with the transaction

PHARUS











Innovation Services



Retail **Solutions**



Online Marketing



Digital Agency



Digital Revenue Management



Fuel Payment & Coupon



Education Technology



Broadcast Technology



IT **Services**



Social **TV Software**



Industrial **Software**



Retail **Software**



Pharus overview



Pharus overview





Introduction to Pharus

We are committed to providing clients a high level of attention, independent and objective advice, and creative solutions in challenging environments



Global Reach / Cross-border Expertise

New York headquarters, with offices and affiliates in major technology hubs across the globe

Extensive Advisory & Capital Market Capabilities

Mergers & Acquisitions
Valuation &
Fairness Opinions
Corporate Advisory
Private Placements
Principal Investments
Recapitalizations

Industry Specialization & Experience

Digital Media &
Advertising
Software / SaaS
Education Technology
Digital & Creative
Services
Performance Marketing
Data & Analytics
Industrial Technology

Consumer

Strong Network of Key Relationships

110+

Successful Transactions Completed

900+

Strategic Buyer Relationships

1,500+

Venture Capital & Private Equity Relationships

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