



July 2018

The Lighthouse

Software

Online & Digital

Tech Enabled Business Services

Pharus Observations

Banks Continue the Hot Trend of Embracing Transformation

Banks and other financial institutions continue the trend of intense M&A activity in July with several notable transactions. Financial services firms are adding software capabilities through acquisitions, while stand-alone financial technology companies are acquiring companies to expand their available solutions to different institutional clients. Financial companies have felt the need to improve upon their legacy systems to keep up in an ever-changing environment. Process optimization/transformation and market infrastructure technology has proven pivotal to surviving in today's financial environment.

Another recent development is customers have come to expect more options and accessibility to all of their information. This has led to increased concerns among all financial firms, in both the U.S. and globally, where protecting their customers data has proven paramount given regulatory compliance. This development has increased the level of financial cyber security software purchased by multiple top financial companies.

Additionally, along with other top corporations, banks have acquired customer relationship management (CRM) software companies, and other lead generation systems, to thrive in an uber competitive space that has been interrupted by new and innovate competitors. Pharus believes the FinTech space will continue to consolidate due to these trends other technology innovative advances.

One of the most notable transaction occurred on July 20th, when **State Street** acquired **Charles River Systems**, a solutions provider to automate front and middle office investment management functions across asset classes on a single platform. The transaction values Charles River Systems at **\$2,600M, 8.4x Revenue**, and **17.4x EBIT**. The acquisition will provide additional options and solutions to State Street's large and diverse cliental of wealth managers, investment managers, and other financial advisors.

On July 31st, **SS&C Technologies**, a provider of financial services software, acquired **Eze Software Group**, a developer of investment technology solutions to support front, middle, and back office needs worldwide, from TPG Capital, for its second billion-dollar deal this year. The transaction values Eze Software at **\$1,450M, 5.2x Revenue**, and **13.8x EBITDA**. The acquisition will provide SS&C clients with additional investment technology options to transform their own legacy platforms.

On May 15th, **Deutsche Bank** acquired **Quantiguous Solutions**, a developer of application programming interface (API) based software solutions and applications for banking and financial industry. The transaction will accelerate Deutsche Bank's development of its Open Banking platform that forms the core for developing innovative client applications.



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I Capital market trends

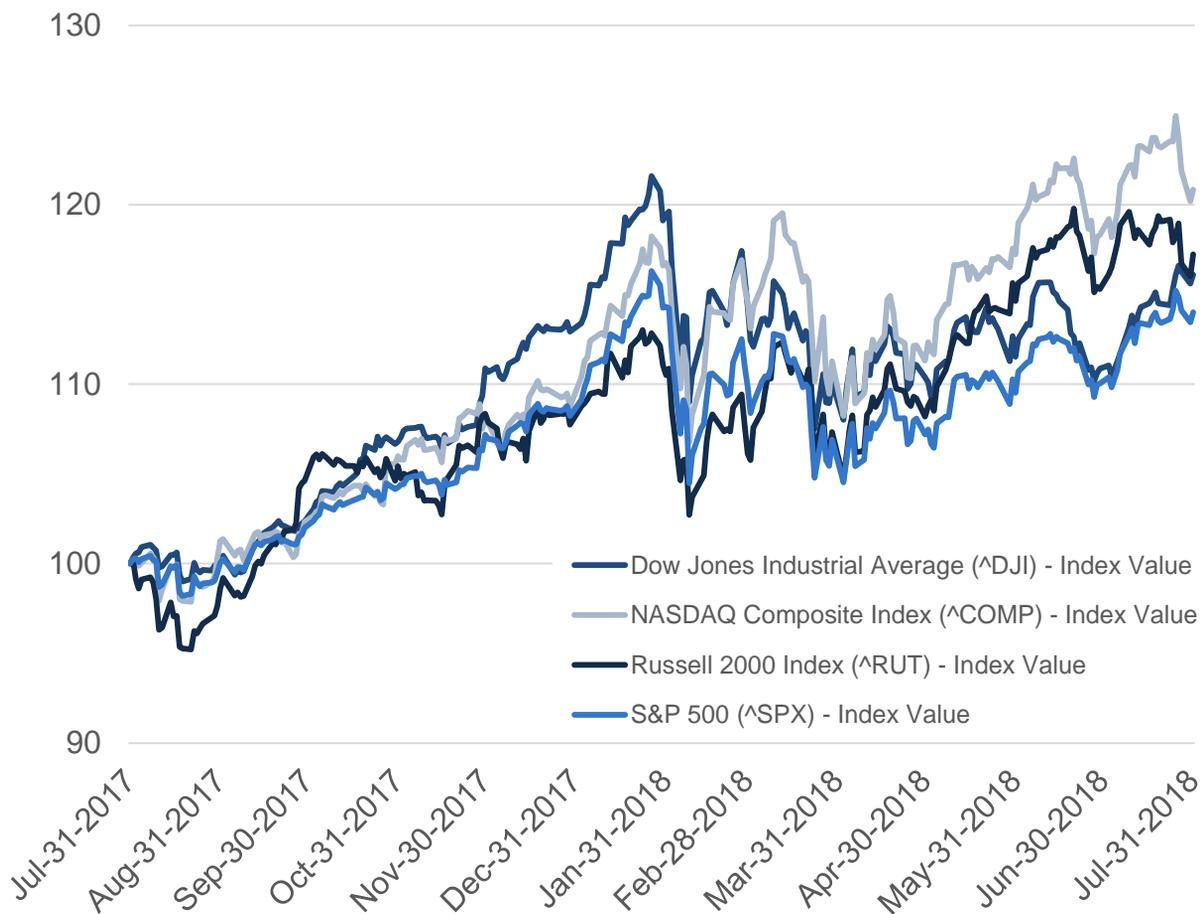


Capital market trends



Relative Performance of Major Indices

Through July 31, 2018 (Base = 100, 08/1/2018)



Change %

Index	As of 31-Jul-18	1 Year	3 Months	1 Month
Dow Jones	25,415.19	16.1%	7.5%	4.6%
Nasdaq	7,672.22	20.9%	11.7%	1.4%
S&P 500	2,809.73	14.0%	9.1%	3.3%
Russell 2000	1,653.57	17.2%	11.9%	1.0%



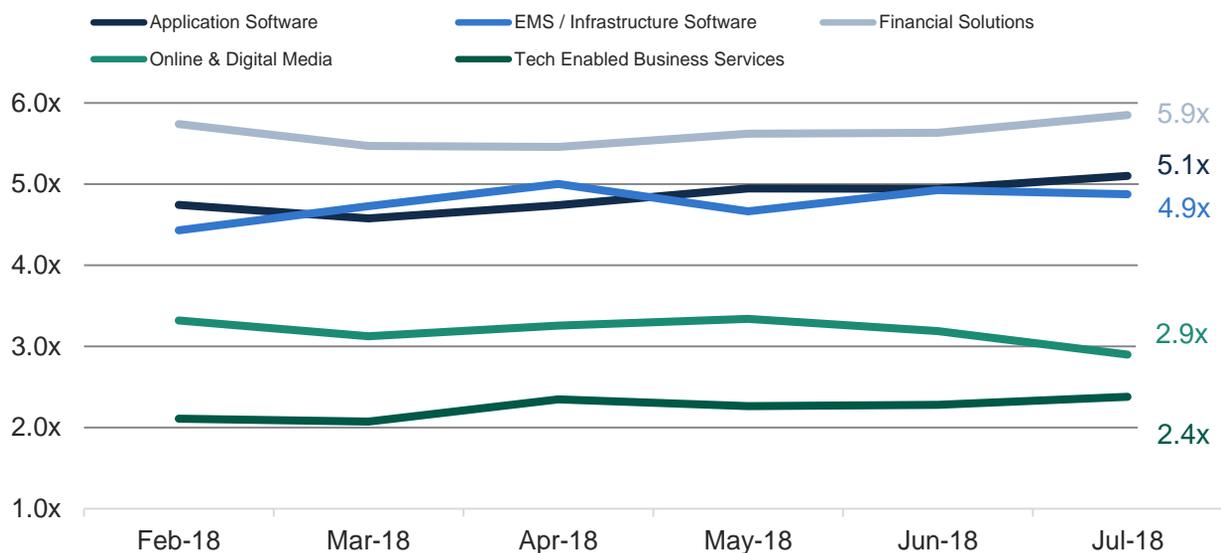
Public market valuations



Public market valuations



Historical Median TEV / Revenue Multiples



Application Software				
Customer Relationship Management (CRM) & Customer Engagement	8.0x	6.1x	40.4x	32.9x
Accounting & Enterprise Resource Planning (ERP)	5.1x	4.8x	28.2x	24.8x
Supply Chain Management (SCM) & Logistics	5.5x	5.4x	31.2x	25.3x
HR & Workforce Management	6.5x	6.1x	50.2x	28.2x
Education Technology	3.6x	2.7x	20.0x	12.4x
Industrial & Automation Software	2.5x	2.0x	14.9x	12.7x
Business Intelligence & Data	6.0x	4.8x	17.6x	16.2x
Design & Engineering Software	7.5x	5.8x	25.0x	18.2x
EMS / Infrastructure Software				
Security Software	5.7x	4.8x	16.8x	23.7x
System and Network Management Software	3.6x	3.3x	12.9x	12.6x
Platform / OS	5.3x	5.2x	16.9x	14.8x
Financial Solutions				
Banking Solutions	7.0x	6.1x	22.2x	17.6x
Capital Market & Investment Solutions	5.8x	5.7x	21.5x	18.0x
Consumer Data & Analytics	5.9x	5.2x	19.0x	15.2x
Payment Processing	3.9x	4.4x	13.3x	12.7x
Insurance Solutions	7.2x		19.0x	16.5x
Online & Digital Media				
Digital Advertising & Marketing	2.4x	1.9x	16.6x	16.0x
Digital Media & Video	6.7x	5.2x	23.3x	23.3x
Digital Advertising Agencies & Service Providers	1.3x	1.3x	8.9x	8.1x
Online Retail & Marketplaces	3.4x	2.7x	29.6x	17.3x
Digital Gaming	2.9x	2.7x	15.0x	11.0x
Social Media	6.0x	4.6x	27.8x	13.6x
Digital Commerce Solutions	1.6x	1.5x	11.3x	10.8x
Other Digital Companies	5.0x	4.5x	19.3x	14.3x
Tech Enabled Business Services				
IT Services, Integration & Consulting	1.7x	1.6x	13.0x	11.5x
Business Process Management (BPM)	5.0x	4.2x	17.0x	12.7x
Data Center Hosting & Services	8.5x	7.1x	21.2x	17.7x
Call Center	0.8x	0.9x	7.2x	7.0x



Public market valuations



Current & Forward Market Multiples

	Median TEV/Revenue		Median TEV/EBITDA	
	LTM	NTM	LTM	NTM
Application Software				
Customer Relationship Management (CRM) & Customer Engagement	8.0x	6.1x	40.4x	32.9x
Accounting & Enterprise Resource Planning (ERP)	5.1x	4.8x	28.2x	24.8x
Supply Chain Management (SCM) & Logistics	5.5x	5.4x	31.2x	25.3x
HR & Workforce Management	6.5x	6.1x	50.2x	28.2x
Education Technology	3.6x	2.7x	20.0x	12.4x
Industrial & Automation Software	2.5x	2.0x	14.9x	12.7x
Business Intelligence & Data	6.0x	4.8x	17.6x	16.2x
Design & Engineering Software	7.5x	5.8x	25.0x	18.2x
EMS / Infrastructure Software				
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Consumer Data & Analytics	5.9x	5.2x	19.0x	15.2x
Payment Processing	3.9x	4.4x	13.3x	12.7x
Insurance Solutions	7.2x		19.0x	16.5x
Online & Digital Media				
Digital Advertising & Marketing	2.4x	1.9x	16.6x	16.0x
Digital Media & Video	6.7x	5.2x	23.3x	23.3x
Digital Advertising Agencies & Service Providers	1.3x	1.3x	8.9x	8.1x
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Medians				
Application Software	5.1x	4.8x	20.0x	18.2x
EMS / Infrastructure Software	5.0x	4.6x	15.4x	15.3x
Financial Solutions	5.8x	5.2x	19.0x	16.5x
Online & Digital Media	3.3x	2.7x	19.5x	13.5x
Tech Enabled Business Services	2.4x	2.1x	13.5x	11.8x



Public market valuations



Application Software

(\$ in millions)		TEV	Market Cap	TEV/Revenue		TEV/EBITDA	
				LTM	NTM	LTM	NTM
Customer Relationship Management (CRM) & Customer Engagement							
Five9	NasdaqGM:FIVN	\$1,807	\$1,840	8.5x	7.3x	NM	59.0x
LivePerson	NasdaqGS:LPSN	\$1,351	\$1,409	6.0x	5.2x	NM	50.7x
MINDBODY	NasdaqGM:MB	\$1,702	\$1,782	8.0x	6.1x	NM	NM
NICE Systems	TASE:NICE	\$6,671	\$6,689	5.1x	4.5x	22.4x	15.6x
Pegasystems	NasdaqGS:PEGA	\$4,114	\$4,369	5.0x	4.2x	NM	25.1x
Salesforce.com	NYSE:CRM	\$98,719	\$101,890	8.9x	7.2x	94.5x	31.1x
SDL	LSE:SDL	\$574	\$604	1.5x	1.5x	17.2x	13.3x
Veeva	NYSE:VEEV	\$9,930	\$10,848	13.8x	11.5x	58.3x	34.7x
Zendesk	NYSE:ZEN	\$5,457	\$5,695	10.8x	8.2x	NM	97.0x
Median				8.0x	6.1x	40.4x	32.9x
Accounting & Enterprise Resource Planning (ERP)							
Avalara, Inc.	NYSE:AVLR	\$2,961	\$2,545	13.1x	11.1x	NM	NM
BasWare	HLSE:BAS1V	\$613	\$605	3.6x	3.6x	52.5x	80.4x
Blackline	NasdaqGS:BL	\$2,168	\$2,282	11.4x	8.7x	NM	NM
Coupa Software	NasdaqGS:COUP	\$3,230	\$3,495	16.0x	13.1x	NM	NM
Intuit	NasdaqGS:INTU	\$50,920	\$52,406	8.8x	7.9x	28.2x	21.2x
Kingdee International	SEHK:268	\$3,463	\$3,639	9.8x	8.4x	75.3x	28.4x
Model N	NYSE:MODN	\$572	\$569	3.9x	3.8x	NM	62.7x
Oracle	NYSE:ORCL	\$183,835	\$189,821	4.6x	4.5x	11.2x	9.5x
QAD	NasdaqGS:QADA	\$802	\$933	2.5x	2.4x	NM	50.8x
Sage	LSE:SGE	\$9,697	\$8,837	4.2x	3.9x	15.8x	13.6x
SAP	DB:SAP	\$142,551	\$139,265	5.1x	4.8x	19.6x	14.2x
Upland Software	NasdaqGM:UPLD	\$802	\$674	7.4x	5.6x	39.7x	NA
Median				5.1x	4.8x	28.2x	24.8x
Supply Chain Management (SCM) & Logistics							
Amber Road	NYSE:AMBR	\$245	\$232	3.0x	2.8x	NM	82.4x
Descartes Systems Group	TSX:DSG	\$2,467	\$2,453	10.0x	8.8x	31.2x	25.5x
Manhattan Associates	NasdaqGS:MANH	\$3,081	\$3,164	5.4x	5.6x	18.5x	23.7x
SPS Commerce	NasdaqGS:SPSC	\$1,327	\$1,499	5.7x	5.2x	53.7x	25.1x
Median				5.5x	5.4x	31.2x	25.3x



Public market valuations



Application Software (continued)

(\$ in millions)		TEV	Market Cap	TEV/Revenue		TEV/EBITDA	
				LTM	NTM	LTM	NTM
HR & Workforce Management							
Atlassian Corporation	NasdaqGS:TEAM	\$16,031	\$16,945	18.3x	13.9x	NM	50.8x
Benefit Focus	NasdaqGM:BNFT	\$1,024	\$956	3.9x	3.8x	NM	50.3x
CastLight Health	NYSE:CSLT	\$379	\$449	2.6x	2.4x	NM	NM
Ceridian HCM	NYSE:CDAY	\$5,765	\$4,478	7.5x	7.8x	50.2x	39.1x
Cornerstone OnDemand	NasdaqGS:CSOD	\$2,769	\$2,850	5.5x	5.4x	NM	27.0x
Dice Holdings	NYSE:DHX	\$130	\$109	0.7x	0.8x	4.3x	4.2x
Paycom	NYSE:PAYC	\$6,256	\$6,275	12.6x	10.1x	53.2x	24.4x
Paylocity	NasdaqGS:PCTY	\$2,924	\$3,054	8.2x	6.7x	94.1x	30.1x
TriNet Group	NYSE:TNET	\$3,991	\$3,799	1.2x	4.5x	14.1x	11.8x
Ultimate Software	NasdaqGS:ULTI	\$8,464	\$8,639	8.2x	6.8x	76.9x	28.2x
Verint Systems	NasdaqGS:VRNT	\$3,268	\$2,874	2.8x	2.6x	26.8x	10.6x
Workday	NasdaqGS:WDAY	\$24,932	\$26,788	10.9x	8.8x	NM	45.7x
Median				6.5x	6.1x	50.2x	28.2x
Industrial & Automation Software							
3M	NYSE:MMM	\$135,963	\$124,550	4.1x	4.0x	15.9x	13.9x
ABB	SWX:ABBN	\$55,872	\$48,920	1.6x	1.5x	11.8x	10.0x
American Software	NasdaqGS:AMSW.A	\$383	\$462	3.4x	3.1x	23.9x	16.7x
Aspen Technology	NasdaqGS:AZPN	\$6,941	\$6,842	14.0x	13.4x	32.1x	27.8x
Dassault	ENXTPA:DSY	\$36,501	\$38,891	9.4x	8.7x	34.6x	25.8x
Endava	NYSE:DAVA	\$1,287	\$1,267	4.6x	NA	28.6x	NA
Emerson	NYSE:EMR	\$48,334	\$45,543	2.9x	2.7x	13.9x	12.4x
Fanuc Corporation	TSE:6954	\$31,635	\$37,969	4.8x	5.1x	12.4x	14.2x
General Electric	NYSE:GE	\$240,688	\$118,459	1.9x	2.0x	42.2x	12.7x
HollySys Automation Tech	NasdaqGS:HOLI	\$1,045	\$1,400	2.0x	1.8x	8.0x	7.1x
Honeywell	NYSE:HON	\$125,970	\$118,558	3.0x	2.8x	14.5x	13.1x
Johnson Controls	NYSE:JCI	\$47,547	\$34,607	1.5x	1.5x	9.3x	9.0x
KUKA	DB:KU2	\$4,450	\$4,222	1.1x	1.1x	25.7x	12.7x
Materialise	NasdaqGS:MTLS	\$721	\$659	3.8x	3.3x	38.6x	24.0x
Metso	HLSE:METSO	\$5,713	\$5,494	1.7x	1.5x	15.3x	11.4x
OMRON Corp	TSE:6645	\$8,481	\$9,443	1.1x	1.1x	8.3x	7.6x
Parametric Technology	NasdaqGS:PTC	\$11,978	\$11,605	9.7x	9.0x	83.1x	32.3x
Rockwell Automation	NYSE:ROK	\$22,840	\$23,101	3.5x	3.3x	16.8x	14.1x
Schneider Electric	ENXTPA:SU	\$53,945	\$45,125	1.9x	1.8x	11.3x	10.2x
Siemens	DB:SIE	\$144,367	\$117,923	1.5x	1.4x	12.9x	10.8x
YASKAWA Electric Corp	TSE:6506	\$8,602	\$8,652	2.1x	1.8x	13.8x	11.7x
Yokogawa Electric Corp.	TSE:6841	\$4,364	\$4,731	1.2x	1.2x	9.4x	8.9x
Median				2.5x	2.0x	14.9x	12.7x



Public market valuations



Application Software (continued)

(\$ in millions)		TEV	Market Cap	TEV/Revenue		TEV/EBITDA	
				LTM	NTM	LTM	NTM
Education Technology							
Blackbaud	NasdaqGS:BLKB	\$5,168	\$4,718	6.2x	5.7x	36.7x	24.0x
Cambium Learning Group	NasdaqCM:ABCD	\$608	\$559	3.8x	3.7x	20.0x	12.4x
Instructure	NYSE:INST	\$1,212	\$1,328	6.6x	5.2x	NM	NM
K12	NYSE:LRN	\$443	\$644	0.5x	0.5x	11.1x	4.1x
Rosetta Stone	NYSE:RST	\$295	\$332	1.6x	1.7x	NM	NM
Sunlands Online Education Group	NYSE:STG	\$665	\$1,030	3.4x	1.6x	NM	NM
Median				3.6x	2.7x	20.0x	12.4x
Business Intelligence & Data							
Alteryx	NYSE:AYX	\$2,184	\$2,363	15.0x	10.9x	NM	NM
AppFolio	NasdaqGM:APPF	\$2,418	\$2,471	14.6x	11.7x	NM	44.6x
Apptio	NasdaqGM:APTI	\$1,327	\$1,466	6.7x	5.3x	NM	NM
Cardylitics	NasdaqGM:CDLX	\$350	\$381	2.6x	2.1x	NM	NM
Cloudera	NYSE:CLDR	\$1,555	\$1,984	4.0x	3.4x	NM	NM
Corelogic	NYSE:CLGX	\$5,664	\$3,942	3.0x	3.1x	13.7x	11.6x
CoStar Group	NasdaqGS:CSGP	\$14,167	\$15,133	13.2x	10.9x	49.4x	31.5x
Domo, Inc.	NasdaqGM:DOMO	\$1,132	\$414	9.7x	NM	NM	NM
Gridsum Holding	NasdaqGS:GSUM	\$202	\$200	2.5x	1.5x	NM	16.2x
Hortonworks	NasdaqGS:HDP	\$1,288	\$1,377	4.5x	3.7x	NM	NM
Inovalon Holdings	NASDAQ:INOV	\$1,413	\$1,622	3.3x	2.3x	25.3x	7.3x
MicroStrategy	NasdaqGS:MSTR	\$793	\$1,492	1.6x	1.5x	19.4x	NA
MongoDB	NasdaqGM:MDB	\$2,469	\$2,740	14.5x	10.4x	NM	NM
NantHealth	NasdaqGS:NH	\$501	\$351	5.6x	4.8x	NM	NM
New Relic	NYSE:NEWR	\$5,271	\$5,519	14.8x	11.5x	NM	NM
Open Text	NasdaqGS:OTEX	\$12,013	\$9,950	4.4x	4.1x	15.7x	11.2x
PROS Holdings	NYSE:PRO	\$1,294	\$1,216	7.0x	6.3x	NM	NM
Sabre	NasdaqGS:SABR	\$9,841	\$6,774	2.6x	2.5x	13.5x	8.7x
Splunk	NasdaqGS:SPLK	\$13,056	\$13,935	9.6x	7.5x	NM	47.9x
Tableau	NYSE:DATA	\$7,539	\$8,405	8.2x	7.2x	NM	NM
TrueCar	NasdaqGS:TRUE	\$956	\$1,122	2.9x	2.6x	NM	23.3x
Varonis Systems	NasdaqGS:VRNS	\$1,560	\$1,719	6.4x	5.4x	NM	NM
Workiva	NYSE:WK	\$1,017	\$1,079	4.7x	4.2x	NM	NM
Yext	NYSE:YEXT	\$1,923	\$2,047	10.4x	7.9x	NM	NM
Median				6.0x	4.8x	17.6x	16.2x



Public market valuations

Application Software (continued)



(\$ in millions)		TEV	Market Cap	TEV/Revenue		TEV/EBITDA	
				LTM	NTM	LTM	NTM
Design & Engineering Software							
Ansys	NasdaqGS:ANSS	\$13,299	\$14,189	11.8x	10.5x	29.0x	23.5x
Altair Engineering	NasdaqGS:ALTR	\$2,331	\$2,393	6.7x	6.1x	NM	65.4x
Aurora Mobile	NasdaqGM:JG	\$932	\$879	15.4x	NA	NM	NA
Autodesk	NasdaqGS:ADSK	\$28,441	\$28,147	13.3x	10.7x	NM	58.8x
Aveva Group	LSE:AVV	\$5,434	\$5,559	8.3x	5.7x	45.2x	23.3x
Cadence Design Systems	NasdaqGS:CDNS	\$12,288	\$12,469	6.1x	5.8x	26.3x	18.2x
Hexagon	OM:HEXA B	\$24,347	\$21,991	5.7x	5.5x	18.8x	16.6x
Pivotal Software	NYSE:PVTL	\$5,257	\$5,902	9.7x	7.7x	NM	NM
Progress Software	NasdaqGS:PRGS	\$1,631	\$1,656	4.0x	4.0x	11.1x	10.0x
RIB Software AG	DB:RIB	\$701	\$1,007	5.1x	4.8x	20.0x	14.5x
Synopsys	NasdaqGS:SNPS	\$13,284	\$13,326	4.5x	4.2x	25.0x	17.5x
Twilio	NYSE:TWLO	\$5,236	\$5,544	11.9x	9.2x	NM	NM
Median				7.5x	5.8x	25.0x	18.2x



Public market valuations



EMS / Infrastructure Software

(\$ in millions)		TEV	Market Cap	TEV/Revenue		TEV/EBITDA	
				LTM	NTM	LTM	NTM
Security Software							
Carbon Black	NasdaqGS:CBLK	\$1,745	\$1,402	10.0x	8.2x	NM	NM
Check Point Software	NasdaqGS:CHKP	\$15,919	\$17,601	8.5x	8.2x	16.8x	15.6x
Cheetah Mobile	NYSE:CMCM	\$801	\$1,195	1.0x	1.1x	6.9x	9.6x
Cyber-Ark Software	NasdaqGS:CYBR	\$1,864	\$2,189	6.8x	5.6x	68.0x	26.8x
Everbridge	NasdaqGM:EVBG	\$1,232	\$1,293	11.0x	8.3x	NM	NM
FireEye	NasdaqGS:FEYE	\$2,832	\$2,929	3.7x	3.3x	NM	23.7x
ForeScout	NasdaqGM:FSCT	\$1,163	\$1,365	4.9x	4.0x	NM	NM
Fortinet	NasdaqGS:FTNT	\$9,271	\$10,575	6.0x	4.9x	47.9x	19.5x
Gemalto	ENXTAM:GTO	\$6,084	\$5,280	1.7x	1.7x	14.7x	10.1x
Imperva	NasdaqGS:IMPV	\$1,210	\$1,605	3.5x	3.3x	NM	30.7x
Link Motion	NYSE:LKM	\$2	\$111	0.0x	NA	NM	NA
Mimecast	NasdaqGS:MIME	\$2,079	\$2,143	7.9x	6.2x	NM	41.1x
MobileIron	NasdaqGS:MOBL	\$375	\$473	2.1x	1.8x	NM	59.5x
Okta	NasdaqGS:OKTA	\$5,006	\$5,293	17.2x	13.1x	NM	NM
Palo Alto Networks	NYSE:PANW	\$17,337	\$18,414	8.2x	6.7x	NM	25.8x
Proofpoint	NasdaqGM:PFPT	\$5,908	\$5,838	9.7x	7.4x	NM	52.9x
Qualys	NasdaqGS:QLYS	\$3,073	\$3,395	12.0x	10.1x	45.9x	27.8x
Rapid7	NasdaqGM:RPD	\$1,156	\$1,286	5.5x	4.7x	NM	NM
SecureWorks	NasdaqGS:SCWX	\$971	\$1,047	2.0x	1.8x	NM	NM
Symantec	NasdaqGS:SYMC	\$15,432	\$12,568	3.2x	3.2x	12.9x	7.3x
Tenable	NasdaqGS:TENB	\$2,978	\$2,723	14.4x	NA	NM	NA
Trend Micro	TSE:4704	\$6,823	\$8,105	5.0x	4.6x	14.5x	13.8x
Zix	NasdaqGS:ZIXI	\$272	\$290	4.0x	3.7x	20.3x	12.4x
Zscaler	NasdaqGS:ZS	\$3,936	\$4,223	23.1x	17.3x	NM	NM
Median				5.7x	4.8x	16.8x	23.7x
System and Network Management Software							
A10 Networks	NYSE:ATEN	\$354	\$478	1.5x	1.5x	NM	33.8x
CA	NasdaqGS:CA	\$18,002	\$18,487	4.3x	4.2x	13.6x	11.0x
CommVault Systems	NasdaqGS:CVLT	\$2,507	\$2,968	3.5x	3.3x	NM	19.9x
Micro Focus	LSE:MCRO	\$11,288	\$7,154	3.7x	3.0x	12.1x	7.7x
Netscout Systems	NasdaqGS:NTCT	\$2,299	\$2,158	2.4x	2.4x	16.2x	10.6x
Nutanix	NasdaqGS:NTNX	\$7,844	\$8,345	7.7x	6.2x	NM	NM
One Stop Systems	NasdaqCM:OSS	\$44	\$53	1.6x	1.1x	NM	19.9x
Presidio	NasdaqGS:PSDO	\$2,154	\$1,293	0.8x	0.7x	9.9x	9.6x
SailPoint	NYSE:SAIL	\$2,038	\$2,101	10.2x	8.7x	NM	NM
ServiceNow	NYSE:NOW	\$30,195	\$31,088	13.3x	10.2x	NM	38.4x
Software	XTRA:SOW	\$3,404	\$3,496	3.4x	3.3x	11.3x	10.7x
Vmware	NYSE:VMW	\$50,434	\$58,828	6.2x	5.6x	23.0x	14.3x
Median				3.6x	3.3x	12.9x	12.6x



Public market valuations

EMS / Infrastructure Software (continued)



(\$ in millions)		TEV	Market Cap	TEV/Revenue		TEV/EBITDA	
				LTM	NTM	LTM	NTM
Platform / OS							
Citrix Systems	NasdaqGS:CTXS	\$15,542	\$14,904	5.3x	5.2x	17.1x	14.9x
Hewlett-Packard	NYSE:HPQ	\$37,975	\$37,171	0.7x	0.7x	8.2x	8.0x
IBM	NYSE:IBM	\$166,289	\$132,287	2.1x	2.1x	9.8x	8.4x
Microsoft Corp.	NasdaqGS:MSFT	\$767,627	\$814,376	7.0x	6.3x	16.9x	14.8x
Red Hat	NYSE:RHT	\$23,702	\$25,051	7.8x	6.8x	39.6x	24.3x
Median				5.3x	5.2x	16.9x	14.8x



Public market valuations



Financial Solutions

(\$ in millions)		TEV	Market Cap	TEV/Revenue		TEV/EBITDA	
				LTM	NTM	LTM	NTM
Banking Solutions							
Black Knight	NYSE:BKI	\$9,494	\$8,001	8.5x	8.2x	24.2x	16.8x
Bottomline Technologies	NasdaqGS:EPAY	\$2,082	\$2,034	5.9x	5.0x	49.4x	21.3x
Fidelity National	NYSE:FIS	\$43,564	\$35,097	4.8x	5.0x	16.6x	13.4x
Fiserv	NasdaqGS:FISV	\$34,557	\$30,335	6.1x	5.8x	19.0x	15.4x
GreenSky	NasdaqGS:GSKY	\$1,759	\$1,217	4.4x	3.8x	10.1x	8.5x
Jack Henry & Associates	NasdaqGS:JKHY	\$10,124	\$10,076	7.0x	6.3x	22.2x	18.4x
Q2 Holdings	NYSE:QTWO	\$2,304	\$2,423	11.7x	9.2x	NM	92.2x
Senmiao Technology Limited	NasdaqCM:AIHS	\$135	\$145	225.9x	NA	NM	NA
Temenos Group	SWX:TEMN	\$10,703	\$10,458	14.5x	12.1x	51.0x	32.1x
Median				7.0x	6.1x	22.2x	17.6x
Capital Market & Investment Solutions							
Envestnet	NYSE:ENV	\$2,864	\$2,485	4.2x	3.4x	36.2x	18.0x
FactSet Research Systems	NYSE:FDS	\$8,032	\$7,701	6.1x	5.7x	18.7x	16.5x
Fidessa Group	LSE:FDSEA	\$1,844	\$1,966	3.9x	4.1x	21.1x	18.6x
IRESS	ASX:IRE	\$1,646	\$1,524	5.0x	4.8x	21.9x	17.7x
Moody's	NYSE:MCO	\$37,081	\$32,730	8.1x	7.7x	17.1x	15.9x
Morningstar	NasdaqGS:MORN	\$5,247	\$5,453	5.6x	NA	20.6x	NA
MSCI	NYSE:MSCI	\$15,956	\$14,727	12.1x	10.7x	23.1x	19.5x
SimCorp	CPSE:SIM	\$3,192	\$3,189	8.0x	7.0x	27.4x	24.8x
SS&C Technologies Holdings	NasdaqGS:SSNC	\$14,269	\$12,357	8.6x	3.5x	23.1x	11.0x
Thomson Reuters	TSX:TRI	\$35,617	\$28,419	3.2x	6.3x	14.6x	29.7x
Median				5.8x	5.7x	21.5x	18.0x
Consumer Data & Analytics							
Equifax	NYSE:EFX	\$17,490	\$15,049	5.1x	4.9x	17.8x	14.5x
Experian	LSE:EXPN	\$25,670	\$22,397	5.9x	5.2x	19.0x	15.2x
Fair Isaac	NYSE:FICO	\$6,365	\$5,769	6.5x	5.8x	28.9x	23.9x
Median				5.9x	5.2x	19.0x	15.2x



Public market valuations



Financial Solutions (continued)

(\$ in millions)		TEV	Market Cap	TEV/Revenue		TEV/EBITDA	
				LTM	NTM	LTM	NTM
Payment Processing							
ACI Worldwide	NasdaqGS:ACIW	\$3,480	\$2,872	3.6x	3.3x	23.0x	11.5x
Cielo	BOVESPA:CIEL3	\$13,377	\$11,638	3.9x	4.2x	9.5x	9.7x
Euronet Worldwide	NasdaqGS:EEFT	\$4,047	\$4,296	1.9x	1.5x	10.7x	8.0x
EVO Payments	NasdaqGM:EVOP	\$1,152	\$312	2.3x	2.0x	9.8x	7.8x
First Data Corporation	NYSE:FDC	\$40,795	\$19,444	5.0x	4.5x	13.3x	11.8x
Global Payments	NYSE:GPN	\$21,699	\$17,788	5.7x	5.3x	18.8x	14.8x
i3 Verticals, Inc.	NasdaqGS:IIIV	\$512	\$400	1.9x	4.4x	25.5x	16.5x
Net 1 Ueps Technologies	NasdaqGS:UEPS	\$512	\$516	0.9x	0.9x	3.8x	NA
PagSeguro Digital	NYSE:PAGS	\$8,302	\$9,065	13.8x	7.2x	NM	18.4x
Square	NYSE:SQ	\$24,123	\$24,699	10.5x	13.2x	NM	68.8x
Total System Services	NYSE:TSS	\$19,183	\$15,409	4.5x	4.9x	18.9x	13.7x
Median				3.9x	4.4x	13.3x	12.7x
Insurance Solutions							
CorVel	NasdaqGS:CRVL	\$967	\$1,023	1.8x	NA	14.2x	NA
Ebix	NasdaqGS:EBIX	\$2,745	\$2,399	7.2x	5.8x	21.5x	15.9x
Guidewire Software	NYSE:GWRE	\$6,434	\$7,126	10.5x	8.7x	NM	44.2x
Sapiens International	NasdaqCM:SPNS	\$504	\$486	1.9x	1.7x	18.0x	11.9x
Verisk	NasdaqGS:VRSK	\$20,417	\$17,789	9.1x	8.2x	20.0x	17.1x
Median				7.2x	7.0x	19.0x	16.5x



Public market valuations



Online & Digital

(\$ in millions)		TEV	Market Cap	TEV/Revenue		TEV/EBITDA	
				LTM	NTM	LTM	NTM
Digital Advertising & Marketing							
Baidu	NasdaqGS: BIDU	\$77,371	\$86,540	5.5x	4.7x	16.1x	16.7x
Criteo	NasdaqGS: CROTO	\$1,670	\$2,132	0.7x	1.7x	6.8x	5.7x
Google	NasdaqGS: GOOGL	\$751,992	\$850,265	6.1x	5.0x	19.7x	13.5x
Hubspot	NYSE: HUBS	\$4,541	\$4,767	11.1x	8.1x	NM	77.9x
iClick Interactive	NasdaqGM: ICLK	\$248	\$275	1.8x	1.3x	NM	30.8x
Perion Network	NasdaqGS: PERI	\$91	\$82	0.3x	NA	4.3x	NA
QuinStreet	NasdaqGS: QNST	\$578	\$625	1.5x	1.3x	34.7x	14.7x
SendGrid	NYSE: SEND	\$1,019	\$1,184	7.9x	6.4x	NM	49.2x
SINA Corp	NasdaqGS: SINA	\$4,269	\$5,752	2.4x	1.8x	9.9x	5.7x
Sogou	NYSE: SOGO	\$2,519	\$3,563	2.3x	1.8x	17.1x	13.8x
Telaria	NYSE: TLRA	\$122	\$195	2.6x	2.0x	NM	16.7x
The Rubicon Project	NYSE: RUBI	\$24	\$143	0.2x	0.2x	NM	NM
Yandex	NasdaqGS: YNDX	\$11,025	\$11,784	6.4x	5.0x	27.9x	16.0x
Median				2.4x	1.9x	16.6x	16.0x
Digital Media & Video							
Adobe Systems	NasdaqGS: ADBE	\$115,361	\$119,811	14.2x	11.8x	39.6x	25.8x
Bilibili	NasdaqGS: BILI	\$3,707	\$3,261	8.0x	5.2x	NM	35.8x
Blucora	NasdaqGS: BCOR	\$1,873	\$1,633	3.5x	3.2x	19.5x	15.0x
Brightcove	NasdaqGS: BCOV	\$280	\$307	1.7x	1.6x	NM	59.3x
Digimarc	NasdaqGS: DMRC	\$276	\$340	11.2x	11.0x	NM	NM
Dropbox, Inc.	NasdaqGS: DBX	\$10,043	\$10,719	8.5x	7.1x	NM	33.1x
HUYA Inc.	NYSE: HUYA	\$6,324	\$6,490	15.1x	8.4x	NM	96.5x
IAC/Interactive	NasdaqGS: IAC	\$13,289	\$12,323	3.8x	3.1x	32.8x	13.0x
iQIYI	NasdaqGS: IQ	\$21,000	\$22,829	6.7x	5.0x	20.9x	13.3x
Leaf Group	NYSE: LFGR	\$228	\$275	1.7x	1.5x	NM	NM
Netflix	NasdaqGS: NFLX	\$151,381	\$146,945	10.9x	8.6x	NM	63.2x
Pandora Media	NYSE: P	\$2,130	\$1,795	1.4x	1.3x	NM	NM
Pluralsight	NasdaqGS: PS	\$1,996	\$1,460	11.1x	7.8x	NM	NM
RhythmOne	AIM: RTHM	\$221	\$209	0.9x	0.5x	40.5x	3.9x
Roku	NasdaqGS: ROKU	\$4,453	\$4,614	8.1x	6.0x	NM	NM
Sonic Foundry	NasdaqCM: SOFO	\$15	\$10	0.4x	NA	NM	NA
TiVo	NasdaqGS: TIVO	\$2,194	\$1,494	2.7x	3.1x	10.5x	9.8x
VeriSign	NasdaqGS: VRSN	\$18,319	\$17,706	15.4x	14.8x	23.3x	20.7x
Xunlei	NasdaqGS: XNET	\$347	\$705	1.4x	NA	NM	NA
Median				6.7x	5.2x	23.3x	23.3x



Public market valuations



Online & Digital (continued)

(\$ in millions)		TEV	Market Cap	TEV/Revenue		TEV/EBITDA	
				LTM	NTM	LTM	NTM
Digital Advertising Agencies & Service Providers							
Dentsu	TSE:4324	\$14,327	\$11,815	1.7x	1.6x	9.0x	8.9x
IPG	NYSE:IPG	\$10,397	\$8,654	1.3x	1.3x	8.9x	7.7x
M&C Saatchi	AIM:SAA	\$398	\$400	1.2x	1.1x	16.1x	9.1x
MDC Partners	NasdaqGS:MDCA	\$1,414	\$305	0.9x	0.9x	8.9x	6.3x
Omnicom	NYSE:OMC	\$19,206	\$15,444	1.2x	1.3x	8.2x	7.7x
Publicis	ENXTPA:PUB	\$18,362	\$14,750	1.7x	1.7x	8.3x	9.0x
WPP	LSE:WPP	\$26,214	\$19,721	1.3x	1.3x	8.1x	8.1x
Median				1.3x	1.3x	8.9x	8.1x
Online Retail & Marketplaces							
1-800-Flowers.com	NasdaqGS:FLWS	\$868	\$937	0.7x	0.7x	11.7x	9.8x
Alibaba	NYSE:BABA	\$478,844	\$481,082	12.0x	7.9x	41.9x	22.7x
Amazon	NasdaqGS:AMZN	\$885,670	\$866,931	4.3x	3.4x	42.9x	24.1x
ASOS	AIM:ASC	\$6,580	\$6,629	2.3x	1.9x	50.5x	27.3x
Blue Apron	NYSE:APRN	\$445	\$454	0.5x	0.6x	NM	NM
boohoo.com	AIM:BOO	\$2,870	\$3,033	3.8x	2.7x	42.8x	28.7x
Booking Holdings	NasdaqGS:BKNG	\$99,856	\$97,734	7.6x	6.7x	19.5x	17.3x
Cango	NYSE:CANG	\$1,874	\$1,624	10.6x	NA	26.3x	NA
CarGurus	NasdaqGS:CARG	\$4,537	\$4,679	13.0x	10.4x	NM	NM
Carvana	NYSE:CVNA	\$1,874	\$1,369	1.8x	0.9x	NM	NM
Ebay	NasdaqGS:EBAY	\$38,334	\$33,100	3.8x	3.4x	12.8x	10.3x
Expedia	NasdaqGS:EXPE	\$21,276	\$20,003	2.0x	1.8x	18.4x	10.8x
Groupon	NasdaqGS:GRPN	\$2,148	\$2,642	0.8x	0.8x	17.9x	7.3x
Grubhub	NYSE:GRUB	\$10,638	\$10,998	12.7x	9.6x	59.5x	34.9x
EverQuote, Inc.	NasdaqGM:EVER	\$438	\$373	3.2x	2.7x	NM	NM
Ocado Group	LSE:OCDO	\$9,660	\$9,755	4.8x	4.3x	NM	79.2x
Overstock	NasdaqGM:OSTK	\$887	\$1,030	0.5x	0.5x	NM	NM
Pinduoduo Inc.	NasdaqGS:PDD	\$25,259	\$25,025	51.3x	NA	NM	NA
Quotient Technology	NYSE:QUOT	\$1,184	\$1,391	3.4x	2.7x	70.8x	16.9x
Rakuten	TSE:4755	\$13,395	\$9,475	1.5x	1.3x	10.4x	8.2x
RumbleON	NasdaqCM:RMBL	\$94	\$91	3.2x	0.7x	NM	NM
Shutterstock	NYSE:SSTK	\$1,321	\$1,606	2.3x	2.0x	29.6x	12.4x
Stamps.com	NasdaqGS:STMP	\$4,572	\$4,678	9.2x	7.4x	22.9x	15.6x
The Trade Desk	NasdaqGM:TTD	\$3,413	\$3,552	10.0x	7.4x	41.2x	24.6x
TripAdvisor	NasdaqGS:TRIP	\$7,325	\$7,968	4.7x	4.3x	43.9x	19.4x
Wayfair	NYSE:W	\$9,530	\$9,692	1.8x	1.3x	NM	NM
Wowo	NASDAQ:JMU	\$30	\$16	0.3x	NA	NM	NA
Median				3.4x	2.7x	29.6x	17.3x



Public market valuations

Online & Digital (continued)

(\$ in millions)		TEV	Market Cap	TEV/Revenue		TEV/EBITDA	
				LTM	NTM	LTM	NTM
Digital Gaming							
Activision	NasdaqGS:ATVI	\$54,988	\$55,888	7.6x	6.9x	24.3x	16.2x
Capcom	TSE:9697	\$2,509	\$2,832	2.8x	2.8x	11.3x	10.9x
Changyou.com	NasdaqGS:CYOU	\$136	\$700	0.2x	0.3x	0.8x	1.2x
Electronic Arts	NasdaqGS:EA	\$35,434	\$39,412	7.3x	6.2x	31.3x	16.5x
Gree	TSE:3632	\$530	\$1,297	0.8x	0.7x	4.6x	5.3x
Konami	TSE:9766	\$5,372	\$6,344	2.5x	2.3x	9.8x	8.6x
NetDragon WebSoft	SEHK:777	\$921	\$1,115	1.6x	1.4x	33.8x	17.4x
Net Entertainment	OM:NET B	\$1,007	\$1,029	5.3x	4.9x	13.0x	10.5x
Nintendo	TSE:7974	\$32,153	\$39,460	3.4x	2.8x	17.0x	11.6x
Playtech	LSE:PTEC	\$2,111	\$2,220	2.2x	1.5x	7.0x	5.4x
Square Enix	TSE:9684	\$4,482	\$5,623	2.0x	1.8x	11.3x	10.1x
Take-Two Interactive	NasdaqGS:TTWO	\$11,449	\$12,865	6.4x	3.8x	51.3x	13.5x
Ubisoft	ENXTPA:UBI	\$13,056	\$12,415	6.4x	5.2x	37.9x	11.0x
Zynga	NasdaqGS:ZNGA	\$2,616	\$3,251	3.0x	2.6x	31.3x	12.5x
Median				2.9x	2.7x	15.0x	11.0x
Social Media							
Facebook	NasdaqGS:FB	\$456,088	\$498,276	9.4x	7.4x	16.6x	12.5x
LINE	TSE:3938	\$9,508	\$10,383	6.0x	4.8x	93.0x	34.4x
Mail.ru Group	LSE:MAIL	\$5,671	\$5,801	6.0x	4.5x	50.7x	13.8x
Match Group	NasdaqGS: MTCH	\$10,998	\$10,026	7.6x	6.3x	24.9x	16.5x
MeetMe	NasdaqCM:MEET	\$319	\$294	2.3x	1.9x	14.1x	11.2x
Mixi	TSE:2121	\$658	\$2,053	0.4x	0.4x	0.9x	1.5x
Momo	NasdaqGS:MOMO	\$7,459	\$8,356	5.0x	3.5x	17.0x	13.4x
Renren	NYSE:RENN	\$250	\$141	0.8x	0.5x	NM	NM
Snap	NYSE:SNAP	\$14,070	\$15,875	15.5x	11.2x	NM	NM
Twitter	NYSE:TWTR	\$21,067	\$24,032	7.8x	6.9x	35.9x	18.6x
XING	XTRA:O1BC	\$1,785	\$1,832	7.8x	6.5x	30.7x	20.4x
Yelp	NYSE:YELP	\$2,271	\$3,086	2.6x	2.3x	57.8x	11.3x
Median				6.0x	4.6x	27.8x	13.6x



Public market valuations



Online & Digital (continued)

(\$ in millions)		TEV	Market Cap	TEV/Revenue		TEV/EBITDA	
				LTM	NTM	LTM	NTM
Digital Commerce Solutions							
Gk Software AG	DB:GKS	\$252	\$253	2.3x	2.0x	36.5x	12.0x
Intershop	XTRA:ISH2	\$66	\$72	1.6x	1.5x	NM	34.1x
NCR	NYSE:NCR	\$6,904	\$3,286	1.1x	1.1x	7.9x	6.7x
PFS Web	NasdaqCM:PFSW	\$210	\$184	0.8x	0.6x	11.3x	7.5x
Shopify	NYSE:SHOP	\$13,133	\$14,708	15.4x	10.9x	NM	NM
Wincor Nixdorf	XTRA:WIN	\$2,194	\$2,027	0.8x	0.8x	7.5x	9.7x
Worldline S.A	ENXTPA:WLN	\$7,808	\$7,965	4.1x	3.8x	25.0x	16.3x
Median				1.6x	1.5x	11.3x	10.8x
Other Digital Companies							
Akamai	NasdaqGS:AKAM	\$12,515	\$12,842	4.8x	4.5x	18.6x	11.2x
Box	NYSE:BOX	\$3,237	\$3,364	6.1x	5.1x	NM	NM
Endurance International	NasdaqGS:EIGI	\$2,954	\$1,172	2.5x	2.6x	9.7x	9.5x
GoDaddy	NYSE:GDDY	\$13,533	\$11,546	5.7x	4.9x	40.0x	17.0x
Just Eat	LSE:JE.	\$6,987	\$7,042	8.1x	6.5x	32.7x	25.7x
Limelight Networks	NasdaqGS:LLNW	\$457	\$502	2.3x	2.2x	20.0x	11.9x
Moneysupermarket.com	LSE:MONY	\$2,176	\$2,208	4.9x	4.7x	14.3x	12.6x
NetEase	NasdaqGS:NTES	\$28,649	\$33,883	3.3x	2.7x	18.7x	15.9x
Opera	NasdaqGS:OPRA	\$1,293	\$1,327	9.0x	NA	51.5x	NA
Otello Corporation	OB:OTELLO	\$256	\$333	0.7x	0.8x	NM	10.0x
Phoenix New Media	NYSE:FENG	\$209	\$299	0.8x	0.8x	36.7x	16.0x
Redfin Corporation	NasdaqGS:RDFN	\$1,954	\$2,144	5.0x	3.9x	NM	NM
Sea	NYSE:SE	\$4,303	\$4,724	9.1x	4.7x	NM	NM
Tencent Holdings	SEHK:700	\$433,820	\$427,733	10.4x	8.2x	25.4x	21.7x
United Internet	DB:UTDI	\$13,083	\$10,726	2.5x	2.1x	11.2x	9.2x
Web.com	NasdaqGS:WEB	\$1,865	\$1,252	2.5x	2.5x	13.1x	9.8x
Wix	NasdaqGS:WIX	\$4,104	\$4,454	8.0x	6.1x	NM	28.6x
Zillow	NasdaqGS:ZG	\$10,744	\$11,177	9.5x	6.5x	NM	36.4x
Median				5.0x	4.5x	19.3x	14.3x



Public market valuations



Tech Enabled Business Services

(\$ in millions)		TEV	Market Cap	TEV/Revenue		TEV/EBITDA	
				LTM	NTM	LTM	NTM
IT Services, Integration & Consulting							
Accenture	NYSE:ACN	\$98,542	\$102,090	2.6x	2.4x	15.7x	14.0x
Atos Origin	ENXTPA:ATO	\$14,418	\$14,128	1.0x	1.0x	7.7x	6.8x
Bechtle	XTRA:BC8	\$3,735	\$3,772	0.9x	0.8x	16.4x	13.8x
CACI International	NYSE:CACI	\$5,354	\$4,327	1.2x	1.2x	13.1x	13.3x
Cancom	XTRA:COK	\$1,794	\$1,898	1.3x	1.2x	18.3x	14.5x
Cap Gemini	ENXTPA:CAP	\$24,216	\$21,419	1.6x	1.5x	12.9x	11.0x
CGI Group	TSX:GIB.A	\$19,138	\$17,935	2.2x	2.1x	13.4x	11.4x
CLPS Incorporation	NasdaqCM:CLPS	\$210	\$210	4.8x	NA	93.1x	NA
Cognizant Technology	NasdaqGS:CTSH	\$43,694	\$47,751	2.9x	2.6x	13.8x	12.0x
ComputaCenter	LSE:CCC	\$2,063	\$2,314	0.4x	0.4x	12.9x	11.1x
DXC Technology	NYSE:DXC	\$30,143	\$24,062	1.2x	1.4x	6.0x	6.4x
ePlus	NasdaqGS:PLUS	\$1,398	\$1,351	1.0x	1.0x	13.8x	12.7x
FDM Group	LSE:FDM	\$1,311	\$1,350	4.3x	4.2x	21.1x	19.2x
Fujitsu	TSE:6702	\$13,645	\$13,889	0.4x	0.4x	3.4x	5.1x
HCL Technologies	NSEI:HCLTECH	\$18,753	\$19,605	2.3x	2.2x	10.2x	9.2x
Infosys	NSEI:INFY	\$40,086	\$43,498	3.6x	3.4x	13.5x	12.9x
Luxoft Holdings	NYSE:LXFT	\$1,175	\$1,278	1.3x	1.2x	12.0x	9.6x
ManTech International	NasdaqGS:MANT	\$2,422	\$2,367	1.4x	1.2x	17.2x	13.8x
MAXIMUS	NYSE:MMS	\$3,979	\$4,228	1.6x	1.6x	10.9x	10.7x
NCC Group	LSE:NCC	\$837	\$800	2.7x	2.5x	17.0x	13.6x
Nomura Research Institute	TSE:4307	\$11,010	\$11,351	2.6x	2.4x	12.4x	11.8x
NSD	TSE:9759	\$725	\$905	1.4x	1.3x	9.3x	8.8x
OBIC	TSE:4684	\$6,655	\$7,615	10.8x	10.2x	19.7x	19.8x
Perficient	NasdaqGS:PRFT	\$973	\$923	2.0x	1.9x	17.4x	12.9x
SCSK Corporation	TSE:9719	\$5,208	\$4,898	1.7x	1.7x	12.3x	11.5x
Sopra Group	ENXTPA:SOP	\$4,415	\$3,640	1.0x	0.9x	10.7x	9.2x
Syntel	NasdaqGS:SYNT	\$3,507	\$3,368	3.6x	3.6x	13.3x	14.5x
Talend	NasdaqGM:TLND	\$1,658	\$1,753	10.2x	7.7x	NM	NM
Tata Consultancy Services	NSEI:TCS	\$102,908	\$108,370	5.5x	4.8x	20.6x	17.4x
The Hackett Group	NasdaqGS:HCKT	\$526	\$530	2.0x	1.8x	12.7x	10.2x
Tieto	HLSE:TIENTO	\$2,550	\$2,302	1.4x	1.3x	9.6x	9.7x
Unisys	NYSE:UIS	\$719	\$655	0.3x	0.3x	2.3x	1.9x
Virtusa	NasdaqGS:VRTU	\$1,755	\$1,571	1.7x	1.4x	23.7x	15.7x
Wipro	BSE:507685	\$15,201	\$18,179	1.9x	1.8x	10.3x	9.4x
Xerox	NYSE:XRX	\$10,832	\$6,625	1.1x	1.1x	7.8x	6.3x
Median				1.7x	1.6x	13.0x	11.5x



Public market valuations



Tech Enabled Business Services (continued)

(\$ in millions)		TEV	Market Cap	TEV/Revenue		TEV/EBITDA	
				LTM	NTM	LTM	NTM
Business Process Management (BPM)							
Appian	APPN	\$1,843	\$1,904	9.7x	8.5x	NM	NM
Broadridge Financial Solutions	NYSE:BR	\$14,173	\$13,323	3.3x	3.2x	17.3x	17.0x
Cardtronics	NasdaqGS:CATM	\$2,028	\$1,163	1.4x	1.6x	6.1x	7.6x
Cass Information Systems	NasdaqGS:CASS	\$628	\$828	4.4x	NA	12.3x	NA
Computershare	ASX:CPU	\$8,420	\$7,342	4.0x	3.6x	16.1x	12.9x
CSG Systems International	NasdaqGS:CSGS	\$1,509	\$1,369	1.9x	1.7x	10.8x	8.3x
DocuSign	NasdaqGS:DOCU	\$8,718	\$8,440	15.5x	12.7x	NM	NM
EVERTEC	NYSE:EVTC	\$2,143	\$1,629	5.0x	4.7x	14.9x	10.2x
Exlservice Holdings	NasdaqGS:EXLS	\$1,885	\$2,056	2.4x	2.0x	16.7x	11.2x
Genpact	NYSE:G	\$6,668	\$5,784	2.4x	2.2x	16.0x	12.5x
Smartsheet	NYSE:SMAR	\$2,235	\$2,164	17.8x	13.0x	NM	NM
SS&C Technologies	NasdaqGS:SSNC	\$14,548	\$12,635	8.6x	3.6x	23.1x	11.2x
Tabula Rasa Healthcare	NasdaqGM:TRHC	\$1,163	\$1,165	7.7x	5.7x	NM	35.2x
Trans Cosmos	TSE:9715	\$958	\$1,068	0.4x	0.4x	20.3x	10.4x
WEX	NYSE:WEX	\$10,248	\$8,178	7.8x	6.6x	22.3x	16.1x
Wirecard	XTRA:WDI	\$21,928	\$23,101	11.2x	8.7x	44.1x	31.9x
WNS	NYSE:WNS	\$2,431	\$2,456	3.1x	2.9x	20.4x	16.6x
Worldpay	NYSE:WP	\$32,865	\$24,445	8.3x	8.2x	32.8x	17.1x
Zuora	NYSE:ZUO	\$2,450	\$2,636	13.1x	10.4x	NM	NM
Median				5.0x	4.2x	17.0x	12.7x
Data Center Hosting & Services							
Dropbox	NasdaqGS:DBX	\$10,043	\$10,719	8.5x	7.1x	NM	33.1x
Equinix	NasdaqGS:EQIX	\$43,984	\$34,904	9.5x	8.4x	21.5x	17.7x
Interxion Holding	NYSE:INXN	\$5,690	\$4,635	9.1x	8.1x	21.2x	17.6x
Pure Storage	NYSE:PSTG	\$4,333	\$5,001	4.0x	3.1x	NM	31.5x
Switch	NYSE:SWCH	\$1,662	\$644	4.3x	3.7x	9.9x	7.3x
Median				8.5x	7.1x	21.2x	17.7x
Call Center							
Convergys	NYSE:CVG	\$2,322	\$2,241	0.8x	0.9x	6.8x	7.0x
Sykes Enterprises	NasdaqGS:SYKE	\$1,172	\$1,245	0.7x	0.7x	7.2x	6.4x
TeleTech Holdings	NasdaqGS:TTEC	\$1,707	\$1,479	1.1x	1.1x	9.1x	7.9x
Median				0.8x	0.9x	7.2x	7.0x





 M&A
transactions



M&A transactions



Application Software

Date Announced	Period	Target	Buyer	Enterprise Value	Revenue Multiple
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 Jincal 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	Savoie 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	Taliane Group	Altus Group Limited (TSX:AIF)	\$23.3	4.3x
Jul-18	Q3'2018	SUSE International Holdings GmbH, SUSE GmbH, and SUSE LLC	Eqf 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
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



M&A transactions



Application Software (continued)

Date Announced	Period	Target	Buyer	Enterprise Value	Revenue Multiple
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	Action Corporation	HCL Technologies Limited (NSE:HCLTECH); Sumeru Equity Partners, Inc.	\$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
Mar-18	Q1'2018	Itecgyn 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)	Quarantacine Srl	\$41.6	0.5x



M&A transactions



Application Software (continued)

Date Announced	Period	Target	Buyer	Enterprise Value	Revenue Multiple
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	Traccis 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
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	IMmobile	\$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



M&A transactions



Application Software (continued)

Date Announced	Period	Target	Buyer	Enterprise Value	Revenue Multiple
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
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
Aug-17	Q3'2017	RevStream	Aptitude Software	\$15.7	4.5x
Aug-17	Q3'2017	rakumo (51.01% Stake)	Mobile Internet Capital; HDE; i Mercury Capital; OptVentures; Spiral Ventures	\$6.0	1.9x



M&A transactions



Application Software (continued)

Date Announced	Period	Target	Buyer	Enterprise Value	Revenue Multiple
Aug-17	Q3'2017	Affecto (HLSE:AFE1V)	CGI Nordic Investments	\$118.6	0.8x
Aug-17	Q3'2017	Halarose	IDOX (AIM:IDOX)	\$6.5	1.5x
Aug-17	Q3'2017	MacroPoint	The Descartes Systems Group (TSX:DSG)	\$107.0	8.6x
Aug-17	Q3'2017	AdGeek Marketing Consulting (66.7% Stake)	FreakOut Holdings (TSE:6094)	\$12.4	8.9x
Aug-17	Q3'2017	CMS Transport Systems	Wisetech Global (ASX:WTC)	\$7.1	2.3x
Aug-17	Q3'2017	MatsSoft	Netcall (AIM:NET)	\$28.8	4.0x
Aug-17	Q3'2017	ScanScout, Buyer Platform	Taptica	\$27.5	0.2x
Aug-17	Q3'2017	Numerex (NasdaqGS:NMRX)	Sierra Wireless (TSX:SW)	\$130.3	2.0x
Aug-17	Q3'2017	Impero Solutions	Investcorp Bank (BAX:INVCORP)	\$36.3	3.6x



M&A transactions

EMS / Infrastructure Software



Date Announced	Period	Target	Buyer	Enterprise Value	Revenue Multiple
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	MVR 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



M&A transactions



Tech Enabled Services

Date Announced	Period	Target	Buyer	Enterprise Value	Revenue Multiple
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
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



M&A transactions



Tech Enabled Services (continued)

Date Announced	Period	Target	Buyer	Enterprise Value	Revenue Multiple
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
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



M&A transactions



Tech Enabled Services (continued)

Date Announced	Period	Target	Buyer	Enterprise Value	Revenue Multiple
Nov-17	Q4'2017	Leapforce	Appen (ASX:APX)	\$80.0	1.7x
Nov-17	Q4'2017	Shenzhen Topevery Technology (51% Stake)	Shenzhen Tai'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
Sep-17	Q3'2017	Crimson	Harvey Nash Group (AIM:HVN)	\$19.9	0.6x
Sep-17	Q3'2017	ETL Factory	HCL Technologies (NSEI:HCLTECH)	\$9.1	1.1x
Aug-17	Q3'2017	Kabuku (90% Stake)	Futaba Corporation (TSE:6986)	\$13.8	13.9x
Aug-17	Q3'2017	NCXX Solutions (51% Stake)	CAICA (JASDAQ:2315)	\$5.1	0.2x
Aug-17	Q3'2017	Beyondsoft Japan	Beijing Beifang Xinyu Information Technology	\$13.2	0.4x
Aug-17	Q3'2017	Beyondsoft Information Technology (Shanghai)	Beijing Beifang Xinyu Information Technology	\$8.4	2.9x



M&A transactions



Online & Digital

Date Announced	Period	Target	Buyer	Enterprise Value	Revenue Multiple
Jul-18	Q3'2018	10bis.Co.II 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 (AIM: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
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



M&A transactions



Online & Digital (continued)

Date Announced	Period	Target	Buyer	Enterprise Value	Revenue Multiple
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:XML)	\$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
Aug-17	Q3'2017	MaxPoint Interactive (NasdaqGM:MXPT)	Harland Clarke	\$108.2	0.7x
Aug-17	Q3'2017	CannaRegs	MassRoots (OTCPK:MSRT)	\$11.7	26.0x



IV Selected transactions



Selected transactions



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 consumer-centric content categories. The Company operates a number of notable digital properties including FashionBeans, HealthyWay, and Urbo.



domino

has been acquired by

 **multiply**

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

P H A R U S

Selected transactions



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 Capgemini's user-centered 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

PHARUS

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."**

Selected transactions

Capgemini 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 our 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 due-diligence, 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.

Fahrenheit**212**

has been acquired by



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

P H A R U S



Selected transactions

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. (NasdaqGS: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-of-sale 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.



has been acquired by



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

PHARUS

Selected transactions



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 medium-sized businesses and enterprises, and government organizations; provides eFax, KeepItSafe, LiveDrive, eVoice and Onebox.
 - Digital Media – Operates a portfolio of Web properties, including PCMag.com, IGN.com, Speedtest.net, AskMen.com, and TechBargains.com.



Offers.com[™]

has been acquired by



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

P H A R U S

Selected transactions



has been acquired by

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

PHARUS
February 2016

Innovation Services

has been acquired by

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

PHARUS

Retail Solutions

has been acquired by

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

PHARUS
December 2015

Online Marketing

CG CONTROL GROUP
has merged with

to form

The undersigned acted as the exclusive financial advisor to Control Group, Inc. and its affiliates, in connection with the transactions.

Pharus Securities, LLC

Digital Agency

has been acquired by

The undersigned acted as the exclusive financial advisor to RoyaltyShare, Inc. in its sale to The Orchard Enterprises, Inc.

Pharus Securities
November 2014

Digital Revenue Management

Received Series A financing of \$8 million from

The undersigned acted as the exclusive financial advisor to P97 Networks, Inc. in connection with the transaction.

Pharus Securities

Fuel Payment & Coupon

Completed a growth financing with

The undersigned acted as the exclusive financial advisor to Teachers Strategy Inc. in connection with the transaction.

Pharus Securities
May 2014

Education Technology

has been acquired by

The undersigned acted as the exclusive financial advisor to AmberFin Ltd. in its sale to Dalet S.A. (ENWTPA.DLT)

Pharus Securities
April 2014

Broadcast Technology

Remote DBA Business

has been acquired by

The undersigned acted as financial advisor to Bluewolf Inc. in the sale of its Remote DBA Business to General Corporation, Inc.

Pharus Advisors, LLC
December 2012

IT Services

has been acquired by

Principals of the undersigned acted as financial advisors to SocialGuide, Inc. in its sale to Nielsen Holdings N.V. and M&M Inc. LLC a joint venture between Nielsen and McKinsey & Company, Inc.

Pharus Advisors, LLC
November 2012

Social TV Software

has been acquired by

The undersigned acted as financial advisor to ExpertTune Inc. in its sale to Metso Corporation

Pharus Advisors, LLC
November 2012

Industrial Software

has acquired

The undersigned acted as financial advisor to NetKey, Inc. in connection with this acquisition.

Pharus Advisors, LLC
AUGUST 2007

Retail Software





v 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



**Founded
in 2001**

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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