

May 2019

The Lighthouse

Software
Online & Digital
Tech Enabled Business Services

Pharus Observations

Document Management Deals Stack Paper by Shrinking Paper Stacks

Document management and the digitization of legacy record systems is a necessary transition for companies in todays digital marketplace. Recent M&A activity in the space has reflected this trend with a spate of document management transactions earning substantial valuations over the past twelve months. Companies from every industry can improve their efficiency through the conversion of records and documents from "paper to PDF." As such, a wide range of customers has ushered in a wide range of acquirers, leading to an increase in demand and valuations throughout the document management space.

Most recently, in May, Litera Microsystems, a document management software provider to the legal, life science, and corporate communities, was acquired by Hg Capital for \$42.3 million. This transaction comes at the end of a three-year period in which the US-based Litera is said to have tripled its revenue.

Also in May, clearinghouse and global exchange and NYSE parent company, Intercontinental Exchange (NYSE:ICE), acquired records management software & SaaS company, Simplifile, for \$335 million. Simplifile's capabilities are expected to "enhance ICE's efforts to further streamline a legacy process ripe for innovation" says Chris McEntee, President of ICE Mortgage Services.

Completed on May 7th, this year, Coupa Software (NasdaqGS:COUP), the cloud-based enterprise spend management platform provider, acquired contract management SaaS company, Exari Group, for \$215 million. The contract lifecycle management provider expands Coupa's existing capabilities in CLM to allow for management of the entire contract eco-system.

Another notable transaction came in the form of **Dropbox's (NASDAQ: DBX)** purchase of E-signature & document management SaaS provider **HelloSign** for \$230 million in January 2019. While DropBox is already a well-known player in the document management and cloud storage space, this acquisition is expected to bolster its existing product suite and help attract more enterprise users to what was initially considered mostly a consumer storage platform.



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Capital markettrends



Capital market trends

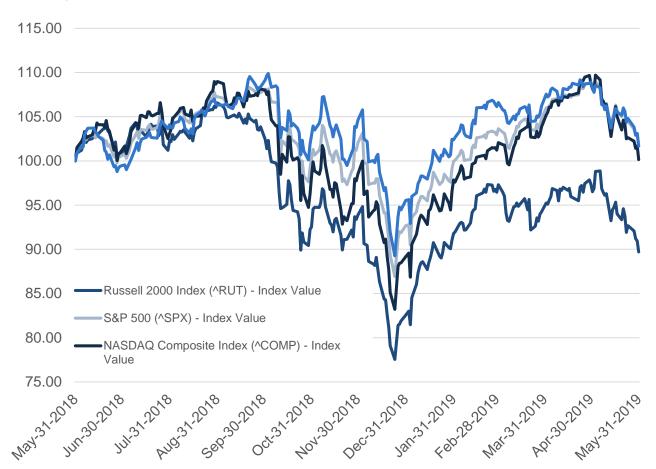






Relative Performance of Major Indices

Through May 31, 2019 (Base = 100, 5/31/2018)



			Change %	
Index	As of 30-Apr-19	1 Year	3 Months	1 Month
Dow Jones	26,592.91	1.64%	-4.25%	-6.69%
Nasdaq	8,095.39	0.15%	-1.05%	-7.93%
S&P 500	2,945.83	1.73%	-1.16%	-6.58%
Russell 2000	1,591.21	-10.29%	-6.99%	-7.90%



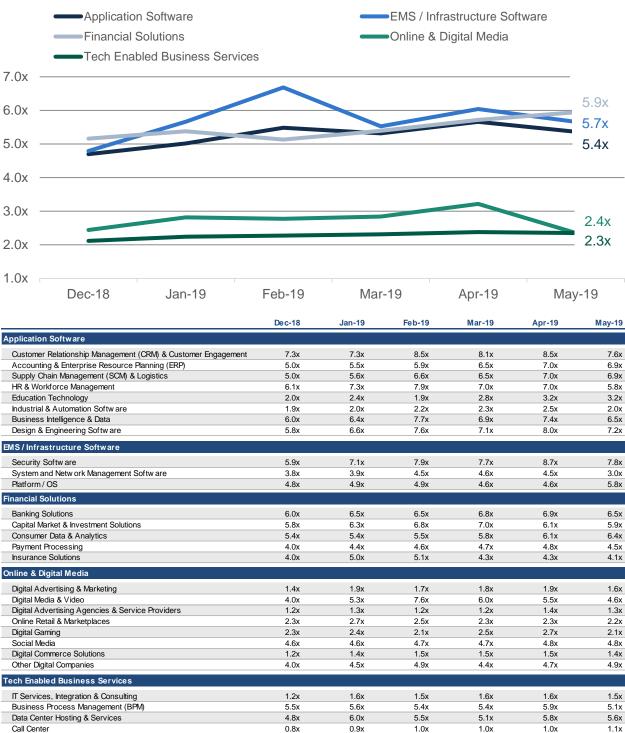








Historical Median TEV / Revenue Multiples







Current & Forward Market Multiples

	Median TEV/Rev	/enue	Median TEV/EB	SITDA
	LTM	NTM	LTM	NTM
Application Software				
Customer Relationship Management (CRM) & Customer Engagement	7.6x	6.6x	49.6x	51.7x
Accounting & Enterprise Resource Planning (ERP)	6.9x	5.8x	31.0x	22.2x
Supply Chain Management (SCM) & Logistics	6.9x	6.5x	34.7x	29.7x
HR & Workforce Management	5.8x	5.1x	41.1x	37.9x
Education Technology	3.2x	2.8x	24.6x	24.2x
Industrial & Automation Software	2.0x	2.1x	12.9x	13.9x
Business Intelligence & Data	6.5x	5.9x	13.9x	25.4x
Design & Engineering Software	7.2x	5.7x	28.7x	21.8x
EMS / Infrastructure Software				
Security Software	7.8x	5.4x	25.4x	19.4x
System and Network Management Software	3.0x	2.9x	15.2x	13.6x
Platform / OS	5.8x	4.1x	15.9x	11.4x
Financial Solutions				
Banking Solutions	6.5x	6.3x	21.2x	16.6x
Capital Market & Investment Solutions	5.9x	6.5x	23.3x	19.5x
Consumer Data & Analytics	6.4x	5.8x	25.4x	16.9x
Payment Processing	4.5x	3.9x	18.8x	12.6x
Insurance Solutions	4.1x		17.8x	17.6x
Online & Digital Media				
Digital Advertising & Marketing	1.6x	1.4x	6.8x	13.2x
Digital Media & Video	4.6x	3.7x	18.9x	25.1x
Digital Advertising Agencies & Service Providers	1.3x	1.3x	9.2x	8.1x
Online Retail & Marketplaces	2.2x	2.0x	20.7x	12.0x
Digital Gaming	2.1x	2.1x	9.8x	8.2x
Social Media	4.8x	3.4x	24.0x	10.6x
Digital Commerce Solutions	1.4x	1.3x	10.8x	10.8x
Other Digital Companies	4.9x	3.5x	23.0x	14.9x
Tech Enabled Business Services				
IT Services, Integration & Consulting	1.5x	1.5x	12.4x	10.6x
Business Process Management (BPM)	5.1x	4.7x	16.7x	12.9x
Data Center Hosting & Services	6.2x	5.3x	23.7x	19.1x
Call Center	1.1x	1.0x	9.9x	8.7x

	Medians			
Application Software	5.4x	4.8x	20.0x	22.0x
EMS / Infrastructure Software	5.7x	4.1x	16.1x	15.6x
Financial Solutions	5.9x	5.8x	21.4x	17.1x
Online & Digital Media	2.4x	2.2x	13.7x	11.3x
Tech Enabled Business Services	2.3x	2.0x	13.5x	11.3x



Application Software

				TEV/Rev	venue	TEV/EBITDA	
(\$ in millions)		TEV	Market Cap	LTM	NTM	LTM	NTM
Customer Relationship Manag	ement (CRM) & Customer Enga	gement					
Five9	NasdaqGM:FIVN	\$2,982	\$3,064	10.9x	9.4x	NM	56.6x
LivePerson	NasdaqGS:LPSN	\$1,656	\$1,703	6.4x	5.5x	NM	87.6x
NICE Systems	TASE:NICE	\$8,653	\$8,632	5.8x	5.4x	22.9x	17.5x
Pegasystems	NasdaqGS:PEGA	\$5,548	\$5,692	6.4x	5.9x	NM	92.8x
Salesforce.com	NYSE:CRM	\$116,333	\$117,308	8.8x	6.9x	76.3x	26.1x
SDL	LSE:SDL	\$609	\$627	1.5x	1.3x	14.8x	11.8x
Veeva	NYSE:VEEV	\$21,372	\$22,682	23.4x	19.5x	80.3x	51.7x
Zendesk	NYSE:ZEN	\$9,365	\$9,231	14.4x	10.8x	NM	NM
Median				7.6x	6.4x	49.6x	51.7x
Accounting & Enterprise Resor	urce Planning (ERP)						
Avalara, Inc.	NYSE:AVLR	\$4,584	\$4,731	15.5x	12.5x	NM	NM
BasWare	HLSE:BAS1V	\$352	\$313	2.2x	2.1x	NM	64.2x
Blackline	NasdaqGS:BL	\$2,716	\$2,830	11.3x	9.3x	NM	NM
Coupa Software	NasdaqGS:COUP	\$6,551	\$6,698	25.2x	18.0x	NM	NM
Intuit	NasdaqGS:INTU	\$60,578	\$63,476	9.2x	8.3x	31.0x	22.2x
Kingdee International	SEHK:268	\$3,443	\$3,684	8.4x	6.9x	58.2x	27.7x
Model N	NYSE:MODN	\$580	\$585	4.0x	4.0x	NM	51.0x
Oracle	NYSE:ORCL	\$189,792	\$172,933	4.8x	4.8x	11.6x	10.2x
QAD	NasdaqGS:QADA	\$692	\$815	2.1x	2.1x	71.6x	35.8x
Sage	LSE:SGE	\$10,774	\$10,242	4.5x	4.2x	16.3x	16.2x
SAP	DB:SAP	\$154,624	\$146,974	5.4x	4.9x	20.9x	14.9x
Upland Software	NasdaqGM:UPLD	\$1,452	\$1,183	8.7x	6.7x	36.1x	17.8x
Median				6.9x	5.8x	31.0x	22.2x
	010 0 1						
Supply Chain Management (S	, <u> </u>						
Amber Road	NYSE:AMBR	\$389	\$369	4.5x	4.3x	NM	53.6x
Descartes Systems Group	TSX:DSG	\$3,320	\$3,097	11.7x	9.9x	34.7x	26.8x
Manhattan Associates	NasdaqGS:MANH	\$4,167	\$4,229	7.2x	7.0x	29.2x	32.6x
SPS Commerce	NasdaqGS:SPSC	\$1,662	\$1,826	6.5x	5.9x	38.4x	24.5x

6.9x

6.5x

34.7x

Median

29.7x





				TEV/Revenue		TEV/EBITDA	
(\$ in millions)		TEV	Market Cap	LTM	NTM	LTM	NTM
HR & Workforce Managemer	nt						
Atlassian Corporation	NasdaqGS:TEAM	\$29,418	\$30,345	26.4x	20.2x	NM	85.2x
Benefit Focus	NasdaqGM:BNFT	\$1,054	\$923	4.0x	3.3x	NM	57.7x
CastLight Health	NYSE:CSLT	\$428	\$471	2.8x	2.7x	NM	43.3x
Ceridian HCM	NYSE:CDAY	\$7,436	\$6,927	9.8x	8.9x	64.0x	39.1x
Cornerstone OnDemand	NASDAQ: CSOD	\$3,162	\$3,175	5.8x	5.4x	NM	24.1x
Dice Holdings	NYSE:DHX	\$219	\$189	1.4x	1.4x	10.0x	6.1x
Paycom	NYSE:PAYC	\$12,166	\$12,198	19.9x	15.9x	59.2x	37.9x
Paylocity	NasdaqGS:PCTY	\$5,170	\$5,309	11.6x	9.6x	86.2x	32.8x
TriNet Group	NYSE:TNET	\$4,606	\$4,436	1.3x	4.8x	15.8x	12.1x
Upwork	NasdaqGS:UPWK	\$1,533	\$1,605	5.8x	4.8x	NM	NM
Verint Systems	NasdaqGS:VRNT	\$4,165	\$3,733	3.3x	3.0x	22.9x	12.2x
Workday	NasdaqGS:WDAY	\$45,848	\$46,211	15.1x	12.2x	NM	60.5x
Median				5.8x	5.1x	41.1x	37.9x
Industrial & Automation Soft	ware						
3M	NYSE:MMM	\$105,949	\$92,084	3.3x	3.2x	11.7x	11.9x
ABB	SWX·ABBN	\$45,610	\$38 995	1 6x	1.6x	14 1x	14 2x

Median		•		2.0x	2.1x	12.9x	13.9x
Yokogawa Electric Corp.	TSE:6841	\$4,750	\$5,189	1.3x	1.2x	9.7x	8.7x
YASKAWA Electric Corp	TSE:6506	\$7,734	\$7,646	1.8x	1.8x	12.6x	13.8x
Siemens	DB:SIE	\$123,468	\$89,774	1.3x	1.3x	11.8x	9.9x
Schneider Electric	ENXTPA:SU	\$50,342	\$42,998	1.8x	1.6x	10.6x	9.4x
Rockwell Automation	NYSE:ROK	\$18,947	\$17,618	2.8x	2.7x	12.8x	11.8x
Parametric Technology	NasdaqGS:PTC	\$10,089	\$9,670	8.1x	7.4x	70.9x	24.4x
OMRON Corp	TSE:6645	\$8,754	\$9,749	1.1x	1.2x	9.0x	9.5x
Metso	HLSE:METSO	\$5,115	\$4,843	1.4x	1.2x	10.4x	8.6x
Materialise	NasdaqGS:MTLS	\$781	\$783	3.7x	3.4x	34.3x	20.1x
KUKA	DB:KU2	\$2,545	\$2,175	0.7x	0.7x	20.0x	15.8x
Johnson Controls	NYSE:JCI	\$48,012	\$34,600	1.5x	1.9x	9.8x	13.6x
Honeywell	NYSE:HON	\$125,903	\$119,575	3.1x	3.3x	14.3x	14.0x
HollySys Automation Tech	NasdaqGS:HOLI	\$632	\$1,075	1.1x	1.0x	4.6x	4.0x
General Electric	NYSE:GE	\$198,412	\$82,324	1.6x	1.7x	12.9x	16.2x
Fanuc Corporation	TSE:6954	\$27,291	\$32,947	4.7x	5.1x	13.7x	18.0x
Emerson	NYSE:EMR	\$42,024	\$37,025	2.3x	2.2x	11.3x	10.4x
Endava	NYSE:DAVA	\$1,778	\$1,855	5.0x	4.2x	34.6x	22.8x
Dassault	ENXTPA:DSY	\$36,320	\$38,366	9.0x	8.1x	32.6x	23.2x
Aspen Technology	NasdaqGS:AZPN	\$7,989	\$7,835	14.7x	14.2x	32.1x	28.8x
American Software	NasdagGS:AMSW.A	\$311	\$394	2.8x	2.7x	31.4x	19.9x
ABB	SWX:ABBN	\$45,610	\$38,995	1.6x	1.6x	14.1x	14.2x
3M	NYSE:MMM	\$105,949	\$92,084	3.3x	3.2x	11.7x	11.9x





Application Software (continued)

(C : : !!:)		TEV	Maulant Can		TEV/Revenue		TEV/EBITDA	
(\$ in millions)		TEV	Market Cap	LTM	NTM	LTM	NTM	
Education Technology								
Blackbaud	NasdaqGS:BLKB	\$4,365	\$3,686	5.1x	4.8x	35.9x	24.2x	
Instructure	NYSE:INST	\$1,479	\$1,521	6.7x	5.4x	NM	NM	
K12	NYSE:LRN	\$985	\$1,188	1.0x	0.9x	13.2x	7.2x	
Rosetta Stone	NYSE:RST	\$566	\$587	3.2x	2.8x	NM	51.8x	
Sunlands Online Education Group	NYSE:STG	\$267	\$458	0.8x	0.8x	NM	NM	
Median				3.2x	2.8x	24.6x	24.2x	
Business Intelligence & Data								
Alteryx	NYSE:AYX	\$5,269	\$5,432	18.9x	13.7x	NM	NM	
AppFolio	NasdagGM:APPF	\$3,316	\$3,278	16.2x	12.4x	NM	74.3x	
Cardylitics	NasdaqGM:CDLX	\$528	\$518	3.4x	2.5x	NM	NM	
Cloudera	NYSE:CLDR	\$2,034	\$2,514	4.2x	2.4x	NM	NM	
Corelogic	NYSE:CLGX	\$4,959	\$3,162	2.8x	3.0x	13.2x	10.4x	
CoStar Group	NasdagGS:CSGP	\$17,535	\$18,623	14.1x	12.3x	44.3x	33.7x	
Domo, Inc.	NasdaqGM:DOMO	\$835	\$915	5.9x	NM	NM	NM	
Elastic N.V.	NYSE:ESTC	\$5,718	\$6,024	23.8x	NM	NM	NM	
Gridsum Holding	NasdagGS:GSUM	\$131	\$107	2.1x	NA	NM	NA	
Inovalon Holdings	NASDAQ:INOV	\$3,015	\$2,113	5.2x	4.6x	19.4x	14.9x	
MicroStrategy	NasdagGS:MSTR	\$926	\$1,361	1.9x	1.8x	NM	25.4x	
MMTEC	NasdaqCM:MTC	\$95	\$96	NM	NA	NM	NA	
MongoDB	NasdaqGM:MDB	\$7,512	\$7,761	28.1x	20.2x	NM	NM	
NantHealth	NasdaqGS:NH	\$263	\$59	2.9x	2.6x	NM	NM	
New Relic	NYSE:NEWR	\$5,494	\$5,830	11.5x	9.0x	NM	60.7x	
Open Text	NasdaqGS:OTEX	\$12,524	\$10,672	4.4x	4.2x	13.9x	10.9x	
PROS Holdings	NYSE:PRO	\$2,129	\$2,147	10.4x	8.5x	NM	NM	
Sabre	NasdaqGS:SABR	\$8,600	\$5,571	2.2x	2.1x	12.8x	8.8x	
Splunk	NasdaqGS:SPLK	\$16,274	\$17,117	8.5x	6.9x	NM	41.1x	
Tableau	NYSE:DATA	\$8,907	\$9,693	7.5x	6.2x	NM	37.2x	
TrueCar	NasdaqGS:TRUE	\$555	\$686	1.5x	1.5x	NM	17.4x	
Varonis Systems	NasdaqGS:VRNS	\$1,785	\$1,892	6.5x	6.4x	NM	NM	
Workiva	NYSE:WK	\$2,440	\$2,513	9.6x	8.3x	NM	NM	
Yext	NYSE:YEXT	\$1,792	\$2,040	7.3x	5.6x	NM	NM	

Median

25.4x

6.5x

5.9x

13.9x





				TEV/Revenue		TEV/EBITDA	
(\$ in millions)		TEV	Market Cap	LTM	NTM	LTM	NTM
Design & Engineering Softwar	e						
Ansys	NasdaqGS:ANSS	\$14,560	\$15,065	11.0x	9.7x	26.8x	21.8x
Altair Engineering	NasdaqGS:ALTR	\$2,717	\$2,710	6.6x	5.5x	78.6x	42.8x
Aurora Mobile	NasdaqGM:JG	\$758	\$810	7.3x	4.0x	NM	NM
Autodesk	NasdaqGS:ADSK	\$36,743	\$35,427	13.4x	10.6x	NM	36.1x
Aveva Group	LSE:AVV	\$7,345	\$7,505	7.6x	7.1x	33.1x	26.6x
Cadence Design Systems	NasdaqGS:CDNS	\$17,827	\$17,865	8.1x	7.6x	31.3x	22.7x
Hexagon	OM:HEXA B	\$19,253	\$16,939	4.6x	4.2x	16.2x	12.4x
Pivotal Software	NYSE:PVTL	\$4,704	\$5,405	7.2x	5.9x	NM	NM
Progress Software	NasdaqGS:PRGS	\$1,804	\$1,823	4.6x	4.1x	13.6x	8.1x
RIB Software AG	DB:RIB	\$630	\$870	3.7x	3.1x	19.6x	12.6x
Synopsys	NasdaqGS:SNPS	\$17,121	\$17,454	5.3x	5.0x	30.5x	18.8x
Twilio	NYSE:TWLO	\$17,270	\$17,563	22.9x	14.3x	NM	NM
Median				7.2x	5.7x	28.7x	21.8x





EMS / Infrastructure Software

				TEV/Revenue		TEV/EBITDA	
(\$ in millions)		TEV	Market Cap	LTM	NTM	LTM	NTM
Security Software							
Carbon Black	NasdaqGS:CBLK	\$942	\$1,076	4.3x	3.7x	NM	NM
Check Point Software	NasdaqGS:CHKP	\$15,030	\$16,789	7.8x	7.5x	16.3x	14.7x
Cheetah Mobile	NYSE:CMCM	\$163	\$586	0.2x	0.2x	2.0x	2.4x
Cyber-Ark Software	NasdaqGS:CYBR	\$4,500	\$4,966	12.2x	10.4x	66.4x	40.4x
Everbridge	NasdaqGM:EVBG	\$2,443	\$2,589	15.3x	11.6x	NM	NM
FireEye	NasdaqGS:FEYE	\$3,000	\$3,066	3.6x	3.3x	NM	20.2x
ForeScout	NasdaqGM:FSCT	\$1,368	\$1,453	4.4x	3.5x	NM	NM
Fortinet	NasdaqGS:FTNT	\$10,614	\$12,377	5.7x	4.9x	34.5x	18.6x
Mimecast	NasdaqGS:MIME	\$2,750	\$2,785	8.1x	6.5x	89.7x	38.6x
MobileIron	NasdaqGS:MOBL	\$519	\$608	2.6x	2.4x	NM	85.0x
Okta	NasdaqGS:OKTA	\$12,792	\$12,917	29.0x	21.9x	NM	NM
OneSpan	NasdaqCM:OSPN	\$473	\$558	2.2x	2.0x	NM	16.2x
Palo Alto Networks	NYSE:PANW	\$17,733	\$19,208	6.4x	5.4x	NM	20.5x
Proofpoint	NasdaqGM:PFPT	\$6,057	\$6,256	8.0x	6.6x	NM	42.3x
Qualys	NasdaqGS:QLYS	\$3,213	\$3,470	11.1x	9.6x	37.5x	25.8x
Rapid7	NasdaqGM:RPD	\$2,466	\$2,518	9.4x	7.4x	NM	NM
SecureWorks	NasdaqGS:SCWX	\$1,061	\$1,191	2.0x	1.9x	NM	NM
Symantec	NasdaqGS:SYMC	\$13,988	\$11,579	3.0x	2.9x	15.6x	6.6x
Tenable	NasdaqGS:TENB	\$2,399	\$2,687	8.3x	6.5x	NM	NM
Trend Micro	TSE:4704	\$4,795	\$6,238	3.2x	3.0x	10.1x	9.2x
Tufin Software	NYSE:TUFN	\$741	\$730	8.7x	7.0x	NM	NM
Zix	NasdaqGS:ZIXI	\$747	\$486	9.0x	4.1x	NM	17.1x
Zscaler	NasdaqGS:ZS	\$8,167	\$8,520	29.9x	22.0x	NM	NM
Median				7.8x	5.4x	25.4x	19.4x

System and Network Mana	gement Software						
A10 Networks	NYSE:ATEN	\$344	\$461	1.5x	1.4x	NM	NA
Anaplan	NYSE:PLAN	\$5,208	\$5,501	19.7x	14.8x	NM	NM
CommVault Systems	NasdaqGS:CVLT	\$1,645	\$2,104	2.3x	2.3x	38.3x	14.4x
Micro Focus	LSE:MCRO	\$12,511	\$8,303	4.0x	3.6x	12.2x	8.6x
Netscout Systems	NasdaqGS:NTCT	\$1,963	\$1,899	2.2x	2.2x	15.2x	NA
Nutanix	NasdaqGS:NTNX	\$4,622	\$5,112	3.7x	3.5x	NM	NM
One Stop Systems	NasdaqCM:OSS	\$26	\$26	0.7x	0.5x	NM	12.7x
Parsons Corporation	NYSE:PSN	\$3,353	\$3,157	0.9x	0.9x	11.9x	11.3x
Presidio	NasdaqGS:PSDO	\$2,008	\$1,097	0.7x	0.7x	9.1x	8.5x
SailPoint	NYSE:SAIL	\$1,515	\$1,558	5.8x	5.3x	78.3x	71.0x
ServiceNow	NYSE:NOW	\$48,023	\$48,592	17.1x	13.1x	NM	47.1x
Software	XTRA:SOW	\$2,213	\$2,416	2.3x	2.2x	7.7x	7.5x
SolarWinds	NYSE:SWI	\$6,849	\$5,362	8.0x	7.0x	34.1x	14.8x
Vmware	NYSE:VMW	\$73,542	\$72,609	8.0x	7.2x	29.7x	18.4x
Median				3.0x	2.9x	15.2x	13.6x





EMS / Infrastructure Software (continued)

				TEV/Revenue		TEV/EBITDA	
(\$ in millions)		TEV	Market Cap	LTM	NTM	LTM	NTM
Platform / OS							
Citrix Systems	NasdaqGS:CTXS	\$12,759	\$12,391	4.3x	4.1x	15.9x	11.4x
Hewlett-Packard	NYSE:HPQ	\$29,612	\$28,138	0.5x	0.5x	6.1x	6.1x
Fastly	NYSE:FSLY	\$2,095	\$1,886	13.3x	NA	NM	NA
IBM	NYSE:IBM	\$149,818	\$112,595	1.9x	1.9x	8.8x	8.2x
Microsoft Corp.	NasdaqGS:MSFT	\$902,544	\$947,737	7.4x	6.7x	17.4x	15.6x
Red Hat	NYSE:RHT	\$30,885	\$32,760	9.2x	8.0x	47.1x	29.3x
Median				5.8x	4.1x	15.9x	11.4x





Financial Solutions

				TEV/Rev	venue	TEV/EBI	TDA
(\$ in millions)		TEV	Market Cap	LTM	NTM	LTM	NTM
Banking Solutions							
Black Knight	NYSE:BKI	\$10,066	\$8,373	8.9x	8.3x	27.9x	16.6x
Bottomline Technologies	NasdaqGS:EPAY	\$1,922	\$1,900	4.6x	4.3x	42.9x	18.4x
Fidelity National	NYSE:FIS	\$48,024	\$38,933	5.7x	5.6x	20.1x	14.3x
Fiserv	NasdaqGS:FISV	\$39,500	\$33,695	6.7x	6.3x	20.7x	16.5x
GreenSky	NasdaqGS:GSKY	\$717	\$672	1.7x	1.2x	4.9x	3.3x
Jack Henry & Associates	NasdaqGS:JKHY	\$10,130	\$10,131	6.3x	6.2x	21.2x	19.1x
Pintec Technology	NasdaqGM:PT	\$356	\$288	2.3x	NA	NM	NA
Q2 Holdings	NYSE:QTWO	\$3,292	\$3,237	12.8x	10.1x	NM	NM
Senmiao Technology Limited	NasdaqCM:AIHS	\$134	\$142	237.0x	NA	NM	NA
Temenos Group	SWX:TEMN	\$12,584	\$12,040	14.6x	12.5x	49.6x	32.9x
Median				6.5x	6.3x	21.2x	16.6x
Capital Market & Investment So	lutions						
Envestnet	NYSE:ENV	\$3,774	\$3,471	4.6x	3.9x	49.0x	17.9x
FactSet Research Systems	NYSE:FDS	\$10,968	\$10,638	7.9x	7.4x	23.3x	20.6x
IRESS	ASX:IRE	\$1,748	\$1,628	5.4x	5.0x	23.1x	18.3x
Moodys	NYSE:MCO	\$39,726	\$34,674	8.9x	8.3x	18.9x	17.4x
Morningstar	NasdagGS:MORN	\$5,771	\$5,974	5.6x	NA NA	21.4x	NA
MSCI	NYSE:MSCI	\$20,754	\$18,630	14.3x	13.1x	27.4x	24.0x
SimCorp	CPSE:SIM	\$3,840	\$3,860	8.8x	7.8x	30.8x	26.0x
SS&C Technologies Holdings	NasdaqGS:SSNC	\$22,446	\$14,079	5.4x	4.7x	16.6x	11.6x
Thomson Reuters	TSX:TRI	\$32,966	\$31,803	5.9x	5.5x	45.7x	21.1x
Median				5.9x	6.5x	23.3x	19.5x
Consumer Data & Analytics							
Equifax	NYSE:EFX	\$17,405	\$14,608	5.1x	4.9x	25.4x	14.2x
Experian	LSE:EXPN	\$30,233	\$27,139	6.4x	5.8x	19.1x	16.9x
Fair Isaac	NYSE:FICO	\$9,324	\$8,578	8.6x	7.9x	37.4x	25.4x

6.4x

5.8x

25.4x

16.9x

Median





Financial Solutions (continued)

				TEV/Rev	venue	TEV/EBI	TDA
(\$ in millions)	TEV		Market Cap	LTM	NTM	LTM	NTM
Payment Processing							
ACI Worldwide	NasdaqGS:ACIW	\$4,045	\$3,478	4.0x	2.9x	24.9x	10.0x
Cielo	BOVESPA:CIEL3	\$6,955	\$4,647	2.3x	2.5x	6.7x	9.2x
Euronet Worldwide	NasdaqGS:EEFT	\$7,959	\$8,057	3.1x	2.7x	16.5x	12.6x
EVO Payments	NasdaqGM:EVOP	\$1,780	\$950	3.2x	3.0x	28.7x	10.8x
First Data Corporation	NYSE:FDC	\$43,693	\$23,989	5.0x	4.8x	12.9x	12.6x
Global Payments	NYSE:GPN	\$29,287	\$24,136	8.5x	6.4x	21.1x	17.3x
i3 Verticals, Inc.	NasdaqGS:IIIV	\$383	\$235	1.1x	2.7x	14.2x	9.3x
Net 1 Ueps Technologies	NasdaqGS:UEPS	\$256	\$205	0.6x	0.9x	NM	NM
PagSeguro Digital	NYSE:PAGS	\$9,863	\$10,480	13.3x	6.4x	NM	16.9x
Square	NYSE: SQ	\$26,159	\$26,203	7.3x	10.7x	NM	56.8x
StoneCo Ltd.	NasdaqGS:STNE	\$7,029	\$6,990	32.6x	10.5x	NM	18.1x
Total System Services	NYSE:TSS	\$25,780	\$21,861	6.3x	6.3x	21.6x	17.1x
Median				4.5x	3.9x	18.8x	12.6x
Insurance Solutions							
CorVel	NasdaqGS:CRVL	\$1,287	\$1,379	2.2x	NA	15.3x	NA
Ebix	NasdaqGS:EBIX	\$2,166	\$1,433	4.1x	3.3x	12.8x	10.3x
Guidewire Software	NYSE:GWRE	\$7,421	\$8,184	10.1x	9.6x	NM	43.6x
Sapiens International	NasdaqCM:SPNS	\$825	\$786	2.8x	2.5x	20.3x	14.7x
Verisk	NasdaqGS:VRSK	\$25,625	\$22,913	10.5x	9.8x	23.9x	20.5x
Median				4.1x	6.5x	17.8x	17.6x



IV

Online & Digital

				TEV/Revenue		TEV/EBITDA	
(\$ in millions)		TEV	Market Cap	LTM	NTM	LTM	NTM
Digital Advertising & Market	ting						
Alphabet	NasdaqGS:GOOG.L	\$665,965	\$767,181	4.7x	4.0x	15.8x	11.0x
Baidu	NasdaqGS:BIDU	\$30,008	\$38,502	1.9x	1.8x	7.2x	13.4x
Criteo	NasdaqGS:CRTO	\$1,037	\$1,186	0.5x	1.1x	4.6x	3.6x
Hubspot	NYSE:HUBS	\$6,838	\$7,296	12.4x	9.8x	NM	77.4x
iClick Interactive	NasdaqGM:ICLK	\$228	\$222	1.4x	1.1x	NM	24.6x
Marin Software	NasdaqGM:MRIN	\$22	\$14	0.4x	NA	NM	NA
Perion Network	NasdaqGS:PERI	\$92	\$80	0.4x	0.4x	4.0x	3.7x
QuinStreet	NasdaqGS:QNST	\$702	\$769	1.6x	1.4x	43.1x	13.3x
SINA Corp	NasdaqGS:SINA	\$2,985	\$2,800	1.4x	1.3x	5.6x	5.5x
Sogou	NYSE:SOGO	\$540	\$1,632	0.5x	0.4x	6.5x	3.8x
Telaria	NYSE:TLRA	\$339	\$342	5.7x	4.8x	NM	82.0x
The Rubicon Project	NYSE:RUBI	\$218	\$285	1.6x	1.4x	NM	21.3x
Yandex	NasdaqGS:YNDX	\$11,264	\$11,698	5.3x	4.1x	21.7x	13.1x
Median				1.6x	1.4x	6.8x	13.2x

Digital Media & Video							
Adobe Systems	NasdaqGS:ADBE	\$133,096	\$132,186	13.9x	11.4x	41.0x	25.1x
Bilibili	NasdaqGS:BILI	\$3,815	\$4,403	5.5x	3.7x	NM	NM
Blucora	NasdaqGS:BCOR	\$1,621	\$1,499	2.8x	2.1x	13.4x	11.3x
Brightcove	NasdaqGS:BCOV	\$368	\$378	2.2x	1.9x	NM	44.0x
Digimarc	NasdaqGS:DMRC	\$571	\$604	26.9x	22.7x	NM	NM
HUYA Inc.	NYSE:HUYA	\$3,729	\$4,659	4.6x	3.2x	NM	32.1x
IAC/Interactive	NasdaqGS:IAC	\$19,742	\$18,573	4.5x	4.0x	24.3x	17.0x
iQIYI	NasdaqGS:IQ	\$13,252	\$13,219	3.3x	2.8x	12.2x	7.8x
Leaf Group	NYSE:LEAF	\$176	\$186	1.1x	1.0x	NM	68.8x
Netflix	NasdaqGS:NFLX	\$157,933	\$150,089	9.5x	7.3x	92.6x	44.6x
Pluralsight	NasdaqGS:PS	\$2,886	\$3,036	11.5x	8.5x	NM	NM
Qutoutiao	NasdaqGS:QTT	\$896	\$1,115	1.5x	0.9x	NM	NM
Roku	NasdaqGS:ROKU	\$10,063	\$10,253	12.4x	9.0x	NM	NM
Sonic Foundry	OTCPK:SOFO	\$12	\$6	0.4x	NA	NM	NA
Taptica International	AIM:TAP	\$171	\$225	0.6x	0.3x	4.7x	2.5x
TiVo	NasdaqGS:TIVO	\$1,648	\$899	2.5x	2.5x	11.8x	8.7x
VeriSign	NasdaqGS:VRSN	\$23,779	\$23,238	19.5x	19.1x	28.6x	26.5x
Xunlei	NasdaqGS:XNET	-\$120	\$163	NM	NA	NM	NA
Zoom Video Communications	Nasdaq:ZM	\$20,689	\$20,691	62.6x	39.8x	NM	NM
Median				4.6x	3.7x	18.9x	25.1x



IV

Online & Digital (continued)

				TEV/Revenue		TEV/EBITDA	
(\$ in millions)		TEV	Market Cap	LTM	NTM	LTM	NTM
Digital Advertising Agen	cies & Service Providers						
Dentsu	TSE:4324	\$12,731	\$9,207	1.3x	1.3x	8.2x	7.6x
IPG	NYSE:IPG	\$13,206	\$8,213	1.6x	1.5x	10.1x	8.9x
M&C Saatchi	AIM:SAA	\$411	\$398	0.8x	1.2x	12.5x	8.6x
MDC Partners	NasdaqGS:MDCA	\$1,627	\$201	1.1x	NA	10.2x	NA
Omnicom	NYSE:OMC	\$21,528	\$17,032	1.4x	1.4x	9.2x	8.9x
Publiclis	ENXTPA:PUB	\$14,583	\$12,605	1.5x	1.3x	7.5x	5.9x
WPP	LSE:WPP	\$20,591	\$14,987	1.0x	1.0x	8.7x	7.3x
Median				1.3x	1.3x	9.2x	8.1x

Online Retail & Marketplace	s						
1-800-Flowers.com	NasdaqGS:FLWS	\$1,064	\$1,174	0.9x	0.8x	13.7x	12.0x
Alibaba	NYSE:BABA	\$393,980	\$386,909	7.0x	5.4x	31.7x	18.1x
Amazon	NasdaqGS:AMZN	\$905,908	\$873,923	3.8x	3.2x	28.8x	NA
ASOS	AIM:ASC	\$3,687	\$3,639	1.1x	1.0x	28.9x	18.3x
Blue Apron	NYSE:APRN	\$191	\$135	0.3x	0.4x	NM	10.6x
boohoo.com	AIM:BOO	\$3,093	\$3,310	2.9x	2.2x	31.9x	22.3x
Booking Holdingings	NasdaqGS:BKNG	\$76,863	\$71,700	5.3x	NA	13.7x	12.8x
Cango	NYSE:CANG	\$729	\$787	4.1x	2.3x	15.4x	3.0x
CarGurus	NasdaqGS:CARG	\$3,722	\$3,800	7.6x	6.2x	NM	56.1x
Carvana	NYSE:CVNA	\$3,834	\$2,832	1.6x	0.9x	NM	NM
Ebay	NasdaqGS:EBAY	\$36,848	\$31,314	3.4x	3.3x	12.0x	9.3x
Eventbrite	NYSE:EB	\$831	\$1,262	2.8x	2.5x	NM	59.1x
Expedia	NasdaqGS:EXPE	\$18,801	\$17,107	1.7x	NA	14.4x	8.4x
Groupon	NasdaqGS:GRPN	\$1,731	\$2,006	0.7x	0.7x	11.6x	6.3x
Grubhub	NYSE:GRUB	\$6,170	\$5,940	5.6x	4.2x	44.2x	21.8x
EverQuote, Inc.	NasdaqGM:EVER	\$251	\$289	1.4x	1.2x	NM	NM
Ocado Group	LSE:OCDO	\$10,456	\$10,519	5.2x	4.7x	NM	NM
Overstock	NasdaqGM:OSTK	\$337	\$337	0.2x	0.2x	NM	NM
Pinduoduo Inc.	NasdaqGS:PDD	\$18,064	\$22,413	7.4x	4.0x	NM	NM
Quotient Technology	NYSE:QUOT	\$874	\$990	2.2x	1.8x	54.2x	11.7x
Rakuten	TSE:4755	\$17,137	\$14,127	1.6x	1.5x	7.6x	28.2x
RumbleON	NasdaqCM:RMBL	\$167	\$101	0.4x	0.2x	NM	NM
Shutterstock	NYSE:SSTK	\$1,158	\$1,340	1.8x	1.6x	20.7x	9.5x
So-Young International	NasdaqGM:SY	\$1,711	\$1,660	16.2x	8.7x	NM	NA
Stamps.com	NasdaqGS:STMP	\$564	\$581	1.0x	1.1x	2.9x	4.8x
The Trade Desk	NasdaqGM:TTD	\$8,674	\$8,812	16.9x	12.6x	76.4x	42.9x
TripAdvisor	NasdaqGS:TRIP	\$5,238	\$5,877	3.2x	3.1x	21.2x	10.9x
Wayfair	NYSE:W	\$13,810	\$13,197	1.9x	1.4x	NM	NM
Wowo	NASDAQ:JMU	\$29	\$14	0.3x	NA	NM	NA
Median				2.2x	2.0x	20.7x	12.0x





Online & Digital (continued)

				TEV/Rev	enue/	TEV/EBI	TDA
(\$ in millions)		TEV	Market Cap	LTM	NTM	LTM	NTM
Digital Gaming							
Activision	NasdagGS:ATVI	\$31,342	\$33,222	4.3x	4.9x	12.7x	13.3x
Capcom	TSE:9697	\$1,790	\$2,194	1.9x	2.1x	9.1x	7.6x
Changyou.com	NasdaqGS:CYOU	\$461	\$953	1.0x	1.0x	3.3x	2.8x
Electronic Arts	NasdaqGS:EA	\$23,218	\$27,669	4.7x	4.5x	20.2x	13.3x
Gree	TSE:3632	\$274	\$1,067	0.4x	0.4x	4.5x	5.2x
Konami	TSE:9766	\$5,191	\$6,370	2.1x	2.0x	8.2x	8.2x
NetDragon WebSoft	SEHK:777	\$1,213	\$1,394	1.7x	1.4x	10.4x	9.0x
Net Entertainment	OM:NET B	\$648	\$684	3.5x	3.5x	9.0x	7.0x
Nintendo	TSE:7974	\$36,965	\$46,882	3.3x	3.1x	15.1x	11.9x
Playtech	LSE:PTEC	\$1,794	\$1,571	1.3x	1.0x	6.0x	4.0x
SciPlay	NasdaqGS:SCPL	\$343	\$352	0.8x	0.7x	3.8x	2.2x
Square Enix	TSE:9684	\$3,085	\$4,195	1.2x	1.2x	10.7x	8.0x
Take-Two Interactive	NasdaqGS:TTWO	\$9,944	\$11,515	3.7x	3.7x	36.5x	16.1x
Ubisoft	ENXTPA:UBI	\$9,206	\$8,878	4.5x	3.8x	26.9x	8.8x
Zynga	NasdaqGS:ZNGA	\$5,766	\$5,883	6.0x	4.4x	NM	20.2x
Median	·			2.1x	2.1x	9.8x	8.2x
Social Media							
Facebook	NasdaqGS:FB	\$468,553	\$506,586	7.9x	6.4x	17.1x	12.0x
LINE	TSE:3938	\$6,691	\$6,963	3.4x	2.7x	NM	NM
Mail.ru Group	LSE:MAIL	\$4,983	\$4,950	4.8x	3.4x	NM	10.6x
Match Group	NasdaqGS: MTCH	\$20,730	\$19,299	11.6x	9.8x	35.0x	25.3x
MeetMe	NasdaqCM:MEET	\$312	\$291	1.6x	1.4x	12.3x	7.5x
Mixi	TSE:2121	\$260	\$1,589	0.2x	0.2x	0.7x	0.7x
Momo	NasdaqGS:MOMO	\$4,659	\$5,717	2.2x	1.9x	10.3x	7.8x
Pinterest	NYSE:PINS	\$14,506	\$13,520	17.6x	12.5x	NM	NM
Renren	NYSE:RENN	\$195	\$93	0.4x	0.3x	NM	NM
Snap	NYSE:SNAP	\$15,100	\$15,933	11.9x	8.9x	NM	NM
Twitter	NYSE:TWTR	\$24,966	\$27,940	7.9x	6.8x	30.9x	18.3x
XING	XTRA:O1BC	\$2,136	\$2,208	8.0x	6.5x	31.6x	21.5x
Yelp	NYSE:YELP	\$2,050	\$2,412	2.1x	1.9x	39.1x	8.5x
Median				4.8x	3.4x	24.0x	10.6x
Digital Commerce Solutions							
Digital Commerce Solutions	DD-OVO	6170	0450	4.5	4.0	44.5	40.0
Gk Software AG	DB:GKS	\$176	\$150	1.5x	1.3x	44.5x	10.8x
Intershop	XTRA:ISH2	\$48	\$56	1.4x	1.1x	NM	30.8x
NCR	NYSE:NCR	\$7,874	\$3,676	1.2x	1.2x	9.7x	7.4x
PFS Web	NasdaqCM:PFSW	\$138	\$73	0.5x	0.4x	8.4x	5.3x
Shopify	NYSE:SHOP	\$28,749	\$30,642	24.4x	17.8x	NM	NM
Wincor Nixdorf	XTRA:WIN	\$2,291	\$2,011	0.9x	NA	10.8x	NA 10.0
Worldline S.A	ENXTPA:WLN	\$11,197	\$10,926	5.8x	4.1x	28.2x	16.2x

Median

10.8x

10.8x

1.4x

1.3x





Online & Digital (continued)

				TEV/Rev	/enue	TEV/EBI	TDA
(\$ in millions)		TEV	Market Cap	LTM	NTM	LTM	NTM
Other Digital Companies							
Akamai	NasdaqGS:AKAM	\$12,526	\$12,366	4.6x	4.3x	16.5x	10.5x
CooTek (Cayman)	NYSE:CTK	\$533	\$619	4.0x	1.9x	47.8x	16.1x
Endurance International	NasdaqGS:EIGI	\$2,484	\$650	2.2x	2.2x	8.3x	8.1x
GoDaddy	NYSE:GDDY	\$14,626	\$13,065	5.3x	4.8x	40.3x	18.8x
Just Eat	LSE:JE.	\$5,067	\$5,158	5.2x	3.8x	25.1x	21.2x
Limelight Networks	NasdaqGS:LLNW	\$318	\$354	1.7x	1.4x	63.7x	9.1x
Moneysupermarket.com	LSE:MONY	\$2,440	\$2,477	5.4x	5.0x	16.5x	13.7x
NetEase	NasdaqGS:NTES	\$27,144	\$31,812	2.6x	2.2x	14.7x	13.3x
Opera	NasdaqGS:OPRA	\$1,106	\$1,265	6.0x	4.5x	23.5x	36.9x
Otello Corporation	OB:OTELLO	\$218	\$234	0.9x	0.8x	NM	7.9x
Phoenix New Media	NYSE:FENG	\$129	\$274	0.6x	0.5x	NM	NM
Redfin Corporation	NasdaqGS:RDFN	\$1,216	\$1,434	2.4x	1.7x	NM	NM
Sea	NYSE:SE	\$11,064	\$12,655	10.8x	4.4x	NM	NM
SurveyMonkey	NasdaqGS:SVMK	\$2,377	\$2,238	9.0x	7.5x	NM	56.5x
Tencent Holdings	SEHK:700	\$401,185	\$393,292	8.3x	6.6x	23.0x	18.4x
United Internet	DB:UTDI	\$9,690	\$7,147	1.7x	1.6x	9.5x	6.5x
Wix	NasdaqGS:WIX	\$6,505	\$6,848	10.2x	8.0x	NM	78.4x
Zillow	NasdaqGS:ZG	\$8,368	\$8,782	5.6x	3.1x	NM	NM
Median				4.9x	3.5x	23.0x	14.9x



IV

Tech Enabled Business Services

			Market Cap	TEV/Revenue		TEV/EBITDA	
(\$ in millions)		TEV		LTM	NTM	LTM	NTM
IT Services, Integration & Cons	sulting						
Accenture	NYSE:ACN	\$109,526	\$113,579	2.7x	2.5x	16.4x	14.7x
Atos Origin	ENXTPA:ATO	\$13,724	\$8,263	1.0x	1.1x	7.5x	7.5x
Bechtle	XTRA:BC8	\$4,933	\$4,710	1.0x	0.9x	18.5x	14.4x
CACI International	NYSE:CACI	\$6,725	\$5,062	1.4x	1.2x	14.6x	12.7x
Cancom	XTRA:COK	\$1,590	\$1,698	1.0x	0.9x	15.0x	11.3x
Cap Gemini	ENXTPA:CAP	\$19,937	\$18,432	1.4x	1.2x	10.6x	8.4x
CGI Group	TSX:GIB.A	\$21,134	\$19,925	2.4x	2.3x	14.3x	12.3x
CLPS Incorporation	NasdagGM:CLPS	\$76	\$85	1.3x	NA	NM	NA
Cognizant Technology	NasdagGS:CTSH	\$33,199	\$35,256	2.0x	2.0x	10.4x	9.9x
ComputaCenter	LSE:CCC	\$1,709	\$1,781	0.3x	0.3x	9.8x	8.3x
DXC Technology	NYSE:DXC	\$17,267	\$12,754	0.8x	0.8x	4.0x	3.8x
ePlus	NasdagGS:PLUS	\$1,047	\$962	0.8x	0.7x	10.5x	10.5x
FDM Group	LSE:FDM	\$1,278	\$1,321	4.1x	3.7x	20.3x	18.0x
Fujitsu	TSE:6702	\$13,910	\$13,716	0.4x	0.4x	4.9x	5.6x
HCL Technologies	NSEI:HCLTECH	\$20,489	\$21,283	2.4x	2.0x	10.3x	8.9x
Infosys	NSEI:INFY	\$41,700	\$45,454	3.5x	3.2x	14.0x	13.0x
Luxoft Holdings	NYSE:LXFT	\$1,849	\$1,951	2.0x	1.9x	19.4x	13.5x
ManTech International	NasdaqGS:MANT	\$2,554	\$2,448	1.3x	1.1x	15.3x	13.8x
MAXIMUS	NYSE:MMS	\$4,581	\$4,547	1.8x	1.5x	12.7x	10.9x
NCC Group	LSE:NCC	\$637	\$581	2.1x	1.9x	13.5x	10.2x
Nomura Research Institute	TSE:4307	\$10,820	\$11,322	2.3x	2.2x	11.5x	10.8x
NSD	TSE:9759	\$946	\$1,152	1.7x	1.6x	11.0x	10.0x
OBIC	TSE:4684	\$9,642	\$10,745	14.1x	13.0x	23.7x	24.5x
Perficient	NasdaqGS:PRFT	\$1,118	\$1,003	2.2x	2.0x	17.9x	12.4x
SCSK Corporation	TSE:9719	\$4,579	\$5,015	1.4x	1.3x	10.0x	9.3x
Sopra Group	ENXTPA:SOP	\$2,980	\$2,288	0.7x	0.6x	7.9x	5.6x
Talend	NasdaqGM:TLND	\$1,419	\$1,417	6.6x	5.4x	NM	NM
Tata Consultancy Services	NSEI:TCS	\$112,500	\$118,381	5.3x	4.8x	19.8x	17.8x
The Hackett Group	NasdaqGS:HCKT	\$484	\$479	1.9x	1.7x	12.0x	9.5x
Tieto	HLSE:TIETO	\$2,377	\$2,077	1.3x	1.3x	10.4x	7.8x
Unisys	NYSE:UIS	\$859	\$502	0.3x	0.3x	4.1x	1.8x
Virtusa	NasdaqGS:VRTU	\$1,553	\$1,278	1.2x	1.1x	15.9x	11.5x
Wipro	BSE:507685	\$20,749	\$24,723	2.5x	2.3x	13.1x	11.3x
Xerox	NYSE:XRX	\$11,589	\$6,876	1.2x	1.3x	7.6x	6.9x
				1.5x			10.6x



IV

Tech Enabled Business Services (continued)

			_	TEV/Rev	enue/	TEV/EBITDA	
(\$ in millions)		TEV	Market Cap	LTM	NTM	LTM	NTM
Business Process Management	(BPM)						
Appian	APPN	\$2,262	\$2,338	9.6x	8.5x	NM	NM
Broadridge Financial Solutions	NYSE:BR	\$15,384	\$14,502	3.4x	3.4x	16.7x	15.3x
Cardtronics	NasdaqGS:CATM	\$2,255	\$1,399	1.7x	1.7x	8.4x	7.6x
Cass Information Systems	NasdaqGS:CASS	\$478	\$655	3.1x	NA	9.2x	NA
Computershare	ASX:CPU	\$7,704	\$6,278	3.4x	3.2x	12.7x	10.7x
CSG Systems International	NasdaqGS:CSGS	\$1,734	\$1,432	1.9x	1.9x	11.4x	8.2x
DocuSign	NasdaqGS:DOCU	\$9,385	\$9,715	13.4x	10.3x	NM	NM
EVERTEC	NYSE:EVTC	\$2,544	\$2,020	5.5x	5.3x	14.3x	11.3x
ExIservice Holdings	NasdaqGS:EXLS	\$2,153	\$2,035	2.4x	2.1x	17.5x	12.7x
Genpact	NYSE:G	\$8,198	\$6,880	2.6x	2.4x	17.0x	13.1x
PagerDuty	NYSE:PD	\$3,829	\$3,784	NM	24.6x	NA	NM
Smartsheet	NYSE:SMAR	\$4,356	\$4,563	24.5x	17.1x	NM	NM
SS&C Technologies	NasdaqGS:SSNC	\$22,446	\$14,079	5.4x	4.7x	16.6x	11.6x
Tabula Rasa Healthcare	NasdaqGM:TRHC	\$1,119	\$924	5.1x	3.7x	89.3x	25.1x
Trans Cosmos	TSE:9715	\$739	\$914	0.3x	0.3x	9.7x	7.4x
WEX	NYSE:WEX	\$10,981	\$8,172	7.2x	6.1x	20.6x	14.0x
Wirecard	XTRA:WDI	\$17,456	\$19,297	7.1x	5.6x	25.0x	18.9x
WNS	NYSE:WNS	\$2,678	\$2,770	3.3x	3.0x	18.4x	13.4x
Worldpay	NYSE:WP	\$45,407	\$37,827	11.2x	10.4x	28.1x	20.4x
Zuora	NYSE:ZUO	\$1,384	\$1,550	5.6x	4.9x	NM	NM
Median				5.1x	4.7x	16.7x	12.9x
Data Center Hosting & Services							
Box	NYSE:BOX	\$2,604	\$2,709	4.3x	3.7x	NM	56.9x
Dropbox	NasdaqGS:DBX	\$9,054	\$9,276	6.2x	5.3x	70.6x	22.3x
Equinix	NasdaqGS:EQIX	\$51,605	\$40,840	9.9x	9.1x	22.3x	19.1x
Interxion Holding	NYSE:INXN	\$7,086	\$5,297	10.9x	9.5x	25.0x	18.5x
Pure Storage	NYSE:PSTG	\$3,427	\$4,010	2.4x	1.9x	NM	20.8x
Switch	NYSE:SWCH	\$2,054	\$965	4.9x	4.5x	11.8x	9.1x
Median				6.2x	5.3x	23.7x	19.1x
Call Center							
Sykes Enterprises	NasdaqGS:SYKE	\$1,227	\$1,051	0.8x	0.7x	7.4x	6.8x
TeleTech Holdings	NasdaqGS:TTEC	\$2,170	\$1,837	1.4x	1.3x	12.4x	10.6x
Median				1.1x	1.0x	9.9x	8.7x





Application Software

Date Announced	Period	Target	Buyer	Enterprise Value	Revenue Multiple
May-19	Q2'2019	Object+ Financial Services BV	KRM22 Plc (AIM:KRM)	\$6.7	6.1x
May-19	Q2'2019	Microgen Financial Systems Limited	Silverfleet Capital Partners	\$64.3	2.8x
May-19	Q2'2019	Shenzhen Edraw Software CO.,LTD.	Wondershare Technology Group Co., Ltd. (SZSE:300624)	\$18.5	11.1x
May-19	Q2'2019	Coheris SA (ENXTPA:COH)	ChapsVision	\$12.3	0.7x
May-19	Q2'2019	Vidyo, Inc.	Enghouse Systems Limited (TSX:ENGH)	\$40.0	0.7x
May-19	Q2'2019	Amber Road, Inc. (NYSE:AMBR)	E2open, LLC	\$427.4	4.9x
May-19	Q2'2019	Q Delft B.V.	Netcompany Group A/S (CPSE:NETC)	\$5.6	0.7x
May-19	Q2'2019	EU Supply Plc (AIM:EUSP)	Mercell Holding AS	\$20.4	2.9x
May-19	Q2'2019	GEOMAP S.A.	1Spatial France SAS	\$6.3	0.7x
May-19	Q2'2019	C-Lutions, LLC	Wolters Kluwer ELM Solutions, Inc.	\$42.0	14.0x
May-19	Q2'2019	Bellvedi Limited	Tracsis plc (AIM:TRCS)	\$16.8	8.0x
May-19	Q2'2019	Lambert Automation Limited	Mpac Group plc (AIM:MPAC)	\$22.9	0.8x
May-19	Q2'2019	Sigma Systems Canada LP	Hansen Technologies Ltd (ASX:HSN)	-	2.2x
Apr-19	Q2'2019	Breezy HR, Inc.	Learning Technologies Group plc (AIM:LTG)	\$30.0	8.3x
Apr-19	Q2'2019	Axioma, Inc.	Deutsche Börse Aktiengesellschaft (XTRA:DB1)	\$850.0	8.5x
Apr-19	Q2'2019	BSM Technologies Inc. (TSX:GPS)	Geotab Inc.	\$88.2	1.9x
Apr-19	Q2'2019	Celtech Software Group	Universe Group plc (AIM:UNG)	\$6.5	2.7x
Mar-19	Q1'2019	lpswitch, Inc.	Progress Software Corporation (NasdaqGS:PRGS)	\$225.0	-
Mar-19	Q1'2019	Dynamic Yield	McDonald's Corporation (NYSE:MCD)	\$300.0	-
Mar-19	Q1'2019	Espial Group Inc. (TSX:ESP)	Enghouse Systems Limited (TSX:ENGH)	\$42.1	0.8x
Mar-19	Q1'2019	Tactical Communications Group, LLC	Curtiss-Wright Corporation (NYSE:CW)	\$50.0	-
Mar-19	Q1'2019	EASY SOFTWARE AG (XTRA:ESY)	Deutsche Balaton AG (DB:BBHK)	\$26.9	0.7x
Mar-19	Q1'2019	Figure Eight Inc.	Appen Limited (ASX:APX)	\$300.0	-





W

Date Announced	Period	Target	Buyer	Enterprise Value	Revenue Multiple
Feb-19	Q1'2019	Workday and Cornerstone OnDemand Business	Alight Solutions LLC	\$110.0	-
Feb-19	Q1'2019	Containerchain Pty Ltd	Wisetech Global Limited (ASX:WTC)	\$66.1	-
Feb-19	Q1'2019	Attunity Ltd. (NasdaqCM:ATTU)	QlikTech International AB	\$551.6	5.4x
Feb-19	Q1'2019	PBU CAD-Systeme Gmbh	Tech-Value S.p.A.	\$5.4	-
Feb-19	Q1'2019	GreenShoot Labs Limited	The Panoply Holdings plc (AIM:TPX)	\$9.5	-
Feb-19	Q1'2019	Ellie Mae, Inc. (NYSE:ELLI)	Thoma Bravo, LLC	\$3,683.3	6.6x
Feb-19	Q1'2019	Solium Capital Inc. (TSX:SUM)	Morgan Stanley (NYSE:MS)	\$864.3	7.2x
Feb-19	Q1'2019	Tax Systems plc (AlM:TAX)	Bowmark Capital LLP	\$141.8	6.8x
Feb-19	Q1'2019	The Ultimate Software Group, Inc. (NasdaqGS:ULTI)	Hellman & Friedman LLC; JMI Management, Inc.; The Blackstone Group L.P. (NYSE:BX)	\$10,874.8	9.0x
Feb-19	Q1'2019	Top Image Systems Ltd. (NasdaqCM:TISA)	Kofax Limited	\$22.1	0.7x
Feb-19	Q1'2019	PCSYS A/S	TECSYS Inc. (TSX:TCS)	\$10.3	-
Feb-19	Q1'2019	Dynacommerce Holding B.V.	Tech Mahindra Limited (NSEI:TECHM)	\$18.2	-
Jan-19	Q1'2019	MSR Customs Corporation	The Descartes Systems Group Inc (TSX:DSG)	\$248.8	-
Jan-19	Q1'2019	Trendkite, Inc.	Cision Ltd. (NYSE:CISN)	\$221.1	-
Dec-18	Q1'2019	Pictureworks Holdings Sdn Bhd	PUC Berhad (KLSE:PUC)	\$37.6	-
Dec-18	Q4'2018	Pictureworks Holdings Sdn Bhd	PUC Berhad (KLSE:PUC)	\$37.6	-
Dec-18	Q4'2018	MINDBODY, Inc. (NasdaqGM:MB)	Vista Equity Partners LLC	\$2,154.4	7.4x
Dec-18	Q4'2018	Global Software Business Unit of Atos Convergence Creators	Enea AB (publ) (OM:ENEA)	\$20.6	-
Dec-18	Q4'2018	Cortex Business Solutions Inc. (TSXV:CBX)	TransZap P2P Canada, Inc.	\$33.3	3.1x
Dec-18	Q4'2018	Socionext Embedded Software Austria GmbH	ArtSpark Holdings Inc. (TSE:3663)	\$17.7	-
Dec-18	Q4'2018	Harvest S.A. (ENXTPA:ALHVS)	Five Arrows Managers SAS	\$75.6	3.9x
Dec-18	Q4'2018	IQMS Inc.	Dassault Systèmes SE (ENXTPA:DSY)	\$425.0	-
Dec-18	Q4'2018	Danal, Inc.	Boku, Inc. (AIM:BOKU)	\$101.4	-







Date Announced	Period	Target	Buyer	Enterprise Value	Revenue Multiple
Dec-18	Q4'2018	Lighthouse Computer Services Inc.	Converge Technology Solutions Corp. (TSXV:CTS)	\$23.2	-
Dec-18	Q4'2018	SDH Holding SA/ SDATAWAY SA	Intretech (Hk) Co., Limited	\$36.1	-
Nov-18	Q4'2018	RTLS SmartSpace Business of Ubisense Group Plc	Abyssinian Topco Limited	\$44.8	-
Nov-18	Q4'2018	Assima PLC (ENXTPA:ALSIM)	Partner One Capital	\$10.3	0.7x
Nov-18	Q4'2018	Cylance Inc.	BlackBerry Limited (TSX:BB)	\$1,500.0	-
Nov-18	Q4'2018	iPass Inc. (NasdaqCM:IPAS)	Pareteum Corporation (NasdaqCM:TEUM)	\$29.0	0.5x
Nov-18	Q4'2018	Apptio, Inc. (NasdaqGM:APTI)	Vista Equity Partners LLC	\$2,122.3	7.1x
Nov-18	Q4'2018	Datawatch Corporation	Altair Engineering Inc. (NasdaqGS:ALTR)	\$187.2	3.9x
Nov-18	Q4'2018	DealerMine Inc.	Quorum Information Technologies Inc. (TSXV:QIS)	\$11.0	-
Nov-18	Q4'2018	Inuvo, Inc. (AMEX:INUV)	ConversionPoint Technologies Inc.	\$84.5	0.5x
Oct-18	Q4'2018	Mitek Systems, Inc. (NasdaqCM:MITK)	ASG Technologies Group, Inc.	\$438.3	7.6x
Oct-18	Q4'2018	eVision Industry Software BV	Wolters Kluwer Law & Business Group	\$180.0	7.2x
Oct-18	Q4'2018	Red Hat, Inc. (NYSE:RHT)	International Business Machines Corporation (NYSE:IBM)	\$35,710.2	10.8x
Oct-18	Q4'2018	SLI Systems Limited (NZSE:SLI)	ESW Holdings, Inc.	\$27.4	1.0x
Oct-18	Q4'2018	Vix Verify Global Pty Ltd	GB Group plc (AIM:GBG)	\$27.1	1.8x
Oct-18	Q4'2018	JetPay Corporation (NasdaqCM:JTPY)	NCR Corporation (NYSE:NCR)	\$184.9	2.2x
Oct-18	Q4'2018	Symbility Solutions Inc. (TSXV:SY)	CoreLogic, Inc. (NYSE:CLGX)	\$84.4	3.0x
Oct-18	Q4'2018	Pimz Co., Ltd.	Cafe24 Corp. (KOSDAQ:A042000)	\$6.2	3.8x
Oct-18	Q4'2018	IFS Global Holdings Pty Ltd	Wisetech Global Limited (ASX:WTC)	\$39.2	7.0x
Oct-18	Q4'2018	Swiped On Limited	Smartspace Software Plc (AIM:SMRT)	\$7.3	11.0x
Oct-18	Q4'2018	LSI-Sigma Software Limited	Wisetech Global Limited (ASX:WTC)	\$6.6	2.8x
Oct-18	Q4'2018	ZheJiang SINON Technology CO.LTD	Hangzhou Prevail Optoelectronic Equipment Co., Ltd. (SZSE:300710)	\$17.2	4.9x
Oct-18	Q4'2018	IT SONIX GmbH/XPURE GmbH	Data Respons ASA (OB:DAT)	\$20.2	1.3x





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Date Announced	Period	Target	Buyer	Enterprise Value	Revenue Multiple
Oct-18	Q4'2018	MYOB Group Limited (ASX:MYO)	KKR & Co. Inc. (NYSE:KKR)	\$1,529.7	6.0x
Sep-18	Q3'2018	FueTrek Co., Ltd. (TSE:2468)	Glory Ltd. (TSE:6457)	\$67.7	1.6x
Sep-18	Q3'2018	All Right Software Inc.	EPS Holdings, Inc. (TSE:4282)	\$13.8	2.2x
Sep-18	Q3'2018	Prime Analytics, LLC	KRM22 Plc (AIM:KRM)	\$8.0	3.2x
Sep-18	Q3'2018	Top Data Science Oy	Morpho, Inc. (TSE:3653)	\$5.0	9.9x
Sep-18	Q3'2018	IntraLinks Holdings, Inc.	SS&C Technologies Holdings, Inc. (NasdaqGS:SSNC)	\$1,500.0	4.6x
Sep-18	Q3'2018	Brand View Limited	Ascential plc (LSE:ASCL)	\$49.0	2.9x
Aug-18	Q3'2018	Big Fish Athletics (Beijing) Network Technology Co., Ltd.	Zhejiang Wanshengda Playing Card Co.	\$35.6	26.6x
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





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Date Announced	Period	Target	Buyer	Enterprise Value	Revenue Multiple
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
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



W

EMS / Infrastructure Software

Date Announced	Period	Target	Buyer	Enterprise Value	Revenue Multiple
May-19	Q2'2019	TPP Wholesale Reseller Business of TPP Wholesale Pty Ltd	CentralNic Group Plc (AlM:CNIC)	\$14.7	1.3x
May-19	Q2'2019	Early Birds SAS	ATTRAQT Group plc (AIM:ATQT)	\$17.9	7.0x
May-19	Q2'2019	SecureLink nv	Orange S.A. (ENXTPA:ORA)	-	2.1x
Apr-19	Q2'2019	Xware AB	Wisetech Global Limited (ASX:WTC)	\$16.4	6.6x
Apr-19	Q2'2019	GBST Holdings Limited (ASX:GBT)	Bravura Solutions Limited (ASX:BVS)	\$123.6	1.8x
Feb-19	Q1'2019	Substantially All Assets of Determine, Inc.	Corcentric Collective Business System Corp.	\$46.0	-
Feb-19	Q1'2019	IDology, Inc.	GB Group plc (AIM:GBG)	\$301.0	-
Feb-19	Q1'2019	Webroot Inc.	Carbonite, Inc. (NasdaqGM:CARB)	\$618.5	-
Feb-19	Q1'2019	MicroPact Inc.	Tyler Technologies, Inc. (NYSE:TYL)	\$195.0	-
Dec-18	Q4'2018	Shenzhen Renyong Electronic System Co., Ltd.	Shenzhen Infinova Intelligent Technology Co., Ltd.	\$8.1	-
Dec-18	Q4'2018	Verimatrix, Inc.	Inside Secure S.A. (ENXTPA:INSD)	\$158.0	-
Nov-18	Q4'2018	Ultra Electronics Limited	ADB Safegate BVBA	\$28.5	-
Oct-18	Q4'2018	Red Hat, Inc. (NYSE:RHT)	International Business Machines Corporation (NYSE:IBM)	\$35,710.2	10.8x
Oct-18	Q4'2018	SK infosec Co., Ltd.	SK Telecom Co., Ltd. (KOSE:A017670)	\$313.2	1.7x
Oct-18	Q4'2018	Savision B.V.	Martello Technologies Corporation	\$11.0	3.2x
Oct-18	Q4'2018	MJ Freeway LLC	MTech Acquisition Corp. (NasdaqCM:MTEC)	\$70.0	5.7x
Oct-18	Q4'2018	Imperva, Inc. (NasdaqGS:IMPV)	Thoma Bravo, LLC	\$2,126.1	5.0x
Oct-18	Q4'2018	Rocket Software, Inc.	Bain Capital Private Equity, LP	-	4.4x
Oct-18	Q4'2018	FusionStorm, Inc.	Computacenter plc (LSE:CCC)	\$90.0	0.2x
Sep-18	Q3'2018	Allure Global Solutions, Inc.	Creative Realities, Inc. (OTCPK:CREX)	\$13.8	1.5x
Sep-18	Q3'2018	Datatrics B.V.	MailUp S.p.A. (BIT:MAIL)	\$7.9	22.7x
Sep-18	Q3'2018	Beijing Xunzhong Communication Technology Co., Ltd.	Tatwah Smartech Co., Ltd. (SZSE:002512)	\$178.9	2.3x
Sep-18	Q3'2018	Cinnober Financial Technology AB (publ) (OM:CINN)	Nasdaq Technology AB	\$187.4	4.4x







EMS / Infrastructure Software (continued)

Date Announced	Period	Target	Buyer	Enterprise Value	Revenue Multiple
Sep-18	Q3'2018	Wise lausnir ehf	Advania Holding Hf.	\$9.6	0.7x
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



IV

Tech Enabled Services

Date Announced	Period	Target	Buyer	Enterprise Value	Revenue Multiple
May-19	Q2'2019	Total System Services, Inc. (NYSE:TSS)	Global Payments Inc. (NYSE:GPN)	\$26,708.0	6.4x
May-19	Q2'2019	SafeCharge International (AIM:SCH)	11411802 Canada Inc.	\$861.5	5.6x
May-19	Q2'2019	Gencom s.r.l.	Yarix S.r.l.	\$5.6	0.7x
May-19	Q2'2019	Crimson Consultants Holdings Limited	Tribal Group plc (AIM:TRB)	\$13.0	3.3x
Apr-19	Q2'2019	BlueSoft	Orange Polska (WSE:OPL)	\$52.0	1.6x
Apr-19	Q2'2019	Halfmann Goetsch Partner AG	NNIT (CPSE:NNIT)	\$11.2	1.3x
Apr-19	Q2'2019	Jiangxi Samton Technology	SGSG Science&Technology (SZSE:300561)	\$115.6	1.9x
Apr-19	Q2'2019	Certain Business And Assets of Secarma Limited	Shearwater Group PLC (AIM:SWG)	\$9.7	2.0x
Feb-19	Q1'2019	SpeedPay, Inc.	ACI Worldwide, Inc. (NasdaqGS:ACIW)	\$750.0	-
Feb-19	Q1'2019	Future Focus Infotech Pvt. Ltd.	en-japan inc. (TSE:4849)	\$11.4	-
Feb-19	Q1'2019	SpeedPay, Inc.	ACI Worldwide, Inc. (NasdaqGS:ACIW)	\$750.0	-
Feb-19	Q1'2019	Future Focus Infotech Pvt. Ltd.	en-japan inc. (TSE:4849)	\$11.4	-
Feb-19	Q1'2019	SpeedPay, Inc.	ACI Worldwide, Inc. (NasdaqGS:ACIW)	\$750.0	-
Feb-19	Q1'2019	Future Focus Infotech Pvt. Ltd.	en-japan inc. (TSE:4849)	\$11.4	-
Feb-19	Q1'2019	Nielsen+Partner Unternehmensberater GmbH	Larsen & Toubro Infotech GmbH	\$31.6	-
Feb-19	Q1'2019	Saracen Datastore Limited	Iron Mountain (UK) plc	\$10.0	-
Jan-19	Q1'2019	Paygent Co.,Ltd.	NTT DATA Corporation (TSE:9613)	\$57.9	-
Jan-19	Q1'2019	Earthport plc (AIM:EPO)	Mastercard Incorporated (NYSE:MA)	\$280.1	6.3x
Jan-19	Q1'2019	Software Information Systems, LLC	Converge Technology Solutions Corp. (TSXV:CTS)	\$15.4	-
Jan-19	Q1'2019	Ruletronics	Larsen & Toubro Infotech Limited (NSEI:LTI)	\$7.5	-
Jan-19	Q1'2019	Compass Informatics / Compass Informatics UK	Tracsis plc (AlM:TRCS)	\$6.9	-
Jan-19	Q1'2019	First Data Corporation (NYSE:FDC)	Fiserv, Inc. (NasdaqGS:FISV)	\$41,941.6	5.0x
Jan-19	Q1'2019	DeClout Limited (Catalist:5UZ)	Exeo Global Pte. Ltd.	\$128.7	0.5x





IV

Tech Enabled Services (continued)

Date Announced	Period	Target	Buyer	Enterprise Value	Revenue Multiple
Jan-19	Q1'2019	Luxoft Holding, Inc. (NYSE:LXFT)	DXC Technology Company (NYSE:DXC)	\$2,078.4	2.1x
Dec-18	Q4'2018	Earthport plc (AIM:EPO)	Visa International Service Association	\$244.8	4.5x
Dec-18	Q4'2018	KMD A/S	NEC Corporation (TSE:6701)	\$1,222.6	-
Dec-18	Q4'2018	Sandz Solutions (Singapore) Pte Ltd.	Kronologi Asia Berhad (KLSE:KRONO)	\$18.0	-
Dec-18	Q4'2018	Aerospace Network Security Technology (Shenzhen) Co., Ltd.	Aisino Corporation (SHSE:600271)	\$84.5	-
Dec-18	Q4'2018	Travelport Worldwide Limited (NYSE:TVPT)	Siris Capital Group, LLC; Evergreen Coast Capital Corp.	\$4,350.1	1.6x
Dec-18	Q4'2018	PrimeQ Pty Ltd.	Accenture plc (NYSE:ACN)	\$22.3	-
Dec-18	Q4'2018	GCL System Integration	Liaoning Huajun Asset Management Co., Ltd.	\$39.0	-
Dec-18	Q4'2018	Guangdong united Data Holding Group Co., Ltd.	Lontrue Co., Ltd. (SZSE:300175)	\$30.5	-
Dec-18	Q4'2018	Advantech Technologies (IT) Ltd.	One Software Services (1997) Ltd.	\$13.2	-
Nov-18	Q4'2018	Exaxe Limited	Majesco (AMEX:MJCO)	\$13.1	-
Nov-18	Q4'2018	ConvergeOne Holdings, Inc.	CVC Capital Partners Limited	\$1,651.5	1.2x
Oct-18	Q4'2018	SendGrid, Inc. (NYSE:SEND)	Twilio Inc. (NYSE:TWLO)	\$2,014.3	14.3x
Oct-18	Q4'2018	IAI Spólka Akcyjna (WSE:IAI)	MCI Capital TFI SA	\$37.8	7.3x
Oct-18	Q4'2018	The Communicator Corporation Limited	j2 Global, Inc. (NasdaqGS:JCOM)	\$9.9	1.6x
Oct-18	Q4'2018	Hortonworks, Inc. (NasdaqGS:HDP)	Cloudera, Inc. (NYSE:CLDR)	\$2,106.7	6.6x
Oct-18	Q4'2018	ITANDI, Inc.	GA technologies Co.,Ltd (TSE:3491)	\$16.2	13.4x
Sep-18	Q3'2018	Guangdong Ruilian Technology Co., Ltd.	Fujian Boss Software Corp. (SZSE:300525)	\$16.7	4.1x
Sep-18	Q3'2018	i-secure Co, Ltd.	Vintcom Technology Public Company Limited (SET:VCOM)	\$6.0	1.6x
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







Tech Enabled Services (continued)

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	Zhong Fu Tong Group (SZSE:300560)	\$57.0	5.0x
Jun-18	Q2'2018	Guangzhou Ruiling Network Technology	Honz Pharmaceutical Co., Ltd. (SZSE:300086)	\$50.0	1.6x



IV

Online & Digital

Date Announced	Period	Target	Buyer	Enterprise Value	Revenue Multiple
May-19	Q2'2019	Beijing MTM Education Technology Development	Ningbo Meishan Bonded Port Area Qizhi	\$15.0	14.1x
Feb-19	Q1'2019	Xstream A/S	SeaChange International, Inc. (NasdaqGS:SEAC)	\$5.5	-
Oct-18	Q4'2018	Fujian Chenghe Century Industrial Co., Ltd.	Chengzhi Shareholding Co., Ltd. (SZSE:000990)	\$222.6	25.6x
Oct-18	Q4'2018	Beijing Right Service Tech. Co., Ltd.	Brilliance Technology Co., Ltd. (SZSE:300542)	\$23.4	9.9x
Oct-18	Q4'2018	Xintongda Intelligent Technology Co., Ltd.	Hongrun Construction Group Co., Ltd. (SZSE:002062)	\$39.1	0.9x
Oct-18	Q4'2018	Valiance Partners, Inc.	NNIT A/S (CPSE:NNIT); NNIT Inc.	\$35.7	3.6x
Oct-18	Q4'2018	Beijing Lanxum	Beijing Chenguang Rongxin Enterprise Management Center	\$73.6	1.1x
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 (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









Tata Consultancy Services Acquires W12 Studios, award-winning digital design agency

Transaction Summary

- Pharus is pleased to announce our role as the exclusive financial advisor to W12 Studios Limited (W12) in its sale to Tata Consultancy Services. W12 will become part of TCS Interactive, the digital design division within TCS' Business & Technology Services organization. The transaction, TCS' first in the digital space, will further strengthen TCS Interactive's array of creative and experience service offerings.
- The shareholders of W12 retained Pharus because of our broad expertise in marketing digital transformation services companies, our comprehensive knowledge of the design and strategy services competitive landscape, and our bespoke approach to M&A advisory. We executed a targeted M&A process that involved identifying and approaching a customized universe of strategic buyers, spearheading marketing activities, leading due-diligence, and negotiating transaction terms.

W12 Studios

has been acquired by

TATA CONSULTANCY SERVICES

The undersigned acted as the exclusive financial advisor to W12 Studios Limited in connection with the transaction

PHARUS

Key Profiles

- Founded in 2012 and based in London, W12 imagines and builds iconic products and experiences for renowned media and technology brands worldwide. With industry-leading expertise in visual, interaction, motion, sonic and creative technology, W12's competencies span the full range of the service journey, from developing innovative brand strategies to building expectation-exceeding product ideas and prototypes. W12 has defined, designed, and prototyped digital products for leading media services and technology companies across 14 countries.
- Tata Consultancy Services is an IT services, consulting and business solutions organization that has been partnering with many of the world's largest businesses in their transformation journeys for the last fifty years. TCS offers a consulting-led, cognitive powered, integrated portfolio of IT, Business & Technology Services, and engineering. This is delivered through its unique Location Independent Agile delivery model, recognized as a benchmark of excellence in software development.
- Tata Consultancy Services was founded in 1968 and is based in Mumbai, India. Tata Consultancy Services Limited is a subsidiary of Tata Sons Limited.

Fabian Birgfeld, Co-Founder and Chief Executive Officer of W12, said about Pharus, "We are very grateful to the Pharus team for working tirelessly and supporting us throughout the exploratory process and due diligence stage. Their availability and expertise were absolutely essential in bringing TCS and us together and completing this transaction."









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



Kai Mäkelä, Chief Executive Officer of Fluido, said about Pharus, "The Pharus team is amazing. They were by our side through every step of the process, providing keen insights, thorough preparation and a depth of relationships in our market. Most important the Pharus team worked tirelessly for the best interests of our shareholders and employees. We are confident that the transaction with Infosys provides our shareholders with the greatest value combined with the best platform for our continued growth. THANKS TO THE PHARUS TEAM!!"







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









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 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

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."









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 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







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.



has been acquired by



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 (NasdagGS: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, 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.





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











Innovation Services



Retail **Solutions**



Online Marketing



Digital Agency



Digital Revenue Management



Fuel Payment & Coupon



Education Technology



Broadcast Technology



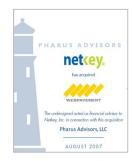
IT **Services**



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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