



Valuation Multiples by Industry

<https://www.eval.tech>

SIC Sector: **(7000-8999) Services**

Report Date: **31 May 2019**

Country: **United States of America (U.S.A.)**

Industry Valuation Multiples

The table below provides a summary of median industry enterprise value (EV) valuation multiples, as at the Report Date. The data is grouped by industry SIC code:

	Max #	EV Multiple				
		Rev	EBITDA	EBIT	TotAss	TanAss
Hotels & Motels (7011)	28	3.00	11.61	19.77	1.08	1.22
Services-Personal Services (7200)	13	1.98	14.27	17.67	1.35	1.85
Services-Advertising (7310)	9	1.64	13.76	31.97	1.19	2.83
Services-Advertising Agencies (7311)	8	0.65	9.59	11.54	0.76	1.33
Services-Consumer Credit Reporting, Collection Agencies (7320)	5	6.71	19.11	21.34	2.34	10.60
Services-Equipment Rental & Leasing, Nec (7359)	16	2.83	7.63	13.84	0.82	0.90
Services-Employment Agencies (7361)	5	0.79	9.25	11.71	0.88	-
Services-Help Supply Services (7363)	20	0.40	8.55	10.53	0.80	1.34
Services-Computer Programming, Data Processing, Etc. (7370)	38	3.25	17.25	28.77	1.62	2.88
Services-Computer Programming Services (7371)	29	1.40	14.01	21.25	1.35	1.74
Services-Prepackaged Software (7372)	137	5.41	28.31	38.11	2.79	5.10
Services-Computer Integrated Systems Design (7373)	29	1.77	16.38	27.19	1.31	3.32
Services-Computer Processing & Data Preparation (7374)	49	2.87	13.34	21.11	1.56	3.10
Services-Miscellaneous Business Services (7380)	8	1.69	10.31	22.48	1.14	2.08
Services-Business Services, Nec (7389)	82	2.18	12.65	20.06	1.34	2.54
Services-Auto Rental & Leasing (No Drivers) (7510)	6	2.00	6.28	17.76	0.80	0.90
Services-Amusement & Recreation Services (7900)	6	1.42	17.10	28.96	1.50	1.70
Services-Miscellaneous Amusement & Recreation (7990)	8	3.28	10.48	16.07	1.70	2.00
Services-Skilled Nursing Care Facilities (8051)	5	1.05	18.64	-	0.91	0.91
Services-General Medical & Surgical Hospitals, Nec (8062)	8	0.98	8.68	12.50	0.76	1.19
Services-Medical Laboratories (8071)	18	2.83	11.93	16.39	1.67	2.21
Services-Home Health Care Services (8082)	5	1.91	24.77	26.92	2.28	6.92
Services-Misc Health & Allied Services, Nec (8090)	7	1.73	7.25	9.36	0.97	2.08
Services-Specialty Outpatient Facilities, Nec (8093)	5	1.83	-	-	1.72	2.04
Services-Educational Services (8200)	24	1.33	11.09	13.16	0.84	1.27
Services-Engineering Services (8711)	9	0.82	12.76	14.26	0.68	1.44
Services-Commercial Physical & Biological Research (8731)	18	3.56	16.12	29.42	1.96	3.75
Services-Management Services (8741)	7	2.09	20.14	22.18	1.75	3.38
Services-Management Consulting Services (8742)	16	1.60	13.84	17.59	1.29	2.42

EV/Revenue Valuation Multiple

We provide additional data relating to industry EV/Revenue valuation multiples:

	#	Average	Median	Std. Dev.	Std. Err.
Hotels & Motels (7011)	28	2.90	3.00	0.96	0.18
Services-Personal Services (7200)	12	1.80	1.98	0.95	0.27
Services-Advertising (7310)	9	2.15	1.64	1.85	0.62
Services-Advertising Agencies (7311)	7	0.81	0.65	0.39	0.15
Services-Consumer Credit Reporting, Collection Agencies (7320)	5	6.76	6.71	2.12	0.95
Services-Equipment Rental & Leasing, Nec (7359)	16	3.60	2.83	2.92	0.73
Services-Employment Agencies (7361)	5	0.79	0.79	0.31	0.14
Services-Help Supply Services (7363)	20	0.58	0.40	0.44	0.10
Services-Computer Programming, Data Processing, Etc. (7370)	37	4.96	3.25	4.76	0.78
Services-Computer Programming Services (7371)	27	1.95	1.40	2.12	0.41
Services-Prepackaged Software (7372)	125	6.12	5.41	4.31	0.39
Services-Computer Integrated Systems Design (7373)	29	2.58	1.77	2.15	0.40
Services-Computer Processing & Data Preparation (7374)	45	4.21	2.87	3.61	0.54
Services-Miscellaneous Business Services (7380)	7	2.27	1.69	1.84	0.70
Services-Business Services, Nec (7389)	78	3.03	2.18	2.78	0.31
Services-Auto Rental & Leasing (No Drivers) (7510)	6	2.09	2.00	1.01	0.41
Services-Miscellaneous Amusement & Recreation (7990)	8	2.93	3.28	1.44	0.51
Services-Skilled Nursing Care Facilities (8051)	5	1.25	1.05	0.45	0.20
Services-General Medical & Surgical Hospitals, Nec (8062)	8	0.97	0.98	0.54	0.19
Services-Medical Laboratories (8071)	16	5.07	2.83	4.82	1.20
Services-Home Health Care Services (8082)	5	1.97	1.91	0.71	0.32
Services-Misc Health & Allied Services, Nec (8090)	6	2.57	1.73	2.26	0.92
Services-Educational Services (8200)	22	2.19	1.33	2.34	0.50
Services-Engineering Services (8711)	9	0.76	0.82	0.42	0.14
Services-Commercial Physical & Biological Research (8731)	13	4.98	3.56	3.63	1.01
Services-Management Services (8741)	7	2.64	2.09	1.39	0.52
Services-Management Consulting Services (8742)	14	1.48	1.60	0.75	0.20

EV/EBITDA Valuation Multiple

We provide additional data relating to industry EV/EBITDA valuation multiples:

	#	Average	Median	Std. Dev.	Std. Err.
Hotels & Motels (7011)	27	12.15	11.61	3.62	0.70
Services-Personal Services (7200)	9	24.65	14.27	20.22	6.74
Services-Advertising (7310)	7	22.67	13.76	19.65	7.43
Services-Equipment Rental & Leasing, Nec (7359)	14	6.59	7.63	3.11	0.83
Services-Help Supply Services (7363)	15	7.82	8.55	3.58	0.92
Services-Computer Programming, Data Processing, Etc. (7370)	23	16.77	17.25	12.12	2.53
Services-Computer Programming Services (7371)	19	14.38	14.01	8.94	2.05
Services-Prepackaged Software (7372)	77	42.20	28.31	36.10	4.11
Services-Computer Integrated Systems Design (7373)	21	16.66	16.38	8.14	1.78
Services-Computer Processing & Data Preparation (7374)	28	16.44	13.34	12.90	2.44
Services-Business Services, Nec (7389)	65	16.19	12.65	11.83	1.47
Services-Miscellaneous Amusement & Recreation (7990)	7	10.79	10.48	2.61	0.99
Services-General Medical & Surgical Hospitals, Nec (8062)	6	9.45	8.68	4.84	1.98
Services-Medical Laboratories (8071)	5	9.68	11.93	4.91	2.20
Services-Home Health Care Services (8082)	5	23.17	24.77	2.60	1.16
Services-Educational Services (8200)	20	13.73	11.09	11.98	2.68
Services-Engineering Services (8711)	7	12.96	12.76	5.71	2.16
Services-Commercial Physical & Biological Research (8731)	10	17.94	16.12	9.93	3.14
Services-Management Services (8741)	6	18.45	20.14	9.50	3.88
Services-Management Consulting Services (8742)	11	13.22	13.84	2.69	0.81

EV/EBIT Valuation Multiple

We provide additional data relating to industry EV/EBIT valuation multiples:

	#	Average	Median	Std. Dev.	Std. Err.
Hotels & Motels (7011)	27	19.85	19.77	5.87	1.13
Services-Personal Services (7200)	8	40.26	17.67	38.04	13.45
Services-Advertising (7310)	5	28.50	31.97	12.64	5.65
Services-Advertising Agencies (7311)	6	16.83	11.54	13.01	5.31
Services-Equipment Rental & Leasing, Nec (7359)	10	13.49	13.84	1.58	0.50
Services-Help Supply Services (7363)	16	11.28	10.53	6.15	1.54
Services-Computer Programming, Data Processing, Etc. (7370)	22	33.26	28.77	26.25	5.60
Services-Computer Programming Services (7371)	19	22.20	21.25	13.77	3.16
Services-Prepackaged Software (7372)	60	50.67	38.11	42.63	5.50
Services-Computer Integrated Systems Design (7373)	18	25.78	27.19	13.24	3.12
Services-Computer Processing & Data Preparation (7374)	25	20.48	21.11	15.38	3.08
Services-Business Services, Nec (7389)	61	22.43	20.06	15.94	2.04
Services-Auto Rental & Leasing (No Drivers) (7510)	5	24.79	17.76	10.91	4.88
Services-Amusement & Recreation Services (7900)	5	38.02	28.96	26.69	11.93
Services-Miscellaneous Amusement & Recreation (7990)	8	17.13	16.07	9.85	3.48
Services-General Medical & Surgical Hospitals, Nec (8062)	5	11.93	12.50	3.46	1.55
Services-Medical Laboratories (8071)	6	23.88	16.39	17.21	7.03
Services-Misc Health & Allied Services, Nec (8090)	5	11.35	9.36	3.89	1.74
Services-Educational Services (8200)	19	17.19	13.16	15.86	3.64
Services-Engineering Services (8711)	6	17.61	14.26	11.46	4.68
Services-Commercial Physical & Biological Research (8731)	10	35.02	29.42	26.05	8.24
Services-Management Services (8741)	5	25.30	22.18	18.71	8.37
Services-Management Consulting Services (8742)	14	18.94	17.59	7.72	2.06

EV/Total Assets Valuation Multiple

We provide additional data relating to industry EV/Total Assets valuation multiples:

	#	Average	Median	Std. Dev.	Std. Err.
Hotels & Motels (7011)	26	1.18	1.08	0.41	0.08
Services-Personal Services (7200)	13	1.38	1.35	0.91	0.25
Services-Advertising (7310)	8	1.08	1.19	0.36	0.13
Services-Advertising Agencies (7311)	7	0.66	0.76	0.32	0.12
Services-Consumer Credit Reporting, Collection Agencies (7320)	5	3.08	2.34	1.87	0.84
Services-Equipment Rental & Leasing, Nec (7359)	16	0.87	0.82	0.26	0.06
Services-Employment Agencies (7361)	5	0.78	0.88	0.29	0.13
Services-Help Supply Services (7363)	20	1.12	0.80	0.91	0.20
Services-Computer Programming, Data Processing, Etc. (7370)	38	2.43	1.62	2.22	0.36
Services-Computer Programming Services (7371)	29	2.06	1.35	2.53	0.47
Services-Prepackaged Software (7372)	133	3.44	2.79	2.48	0.22
Services-Computer Integrated Systems Design (7373)	29	1.57	1.31	1.15	0.21
Services-Computer Processing & Data Preparation (7374)	49	2.72	1.56	2.78	0.40
Services-Miscellaneous Business Services (7380)	8	2.09	1.14	1.79	0.63
Services-Business Services, Nec (7389)	79	1.83	1.34	1.47	0.17
Services-Auto Rental & Leasing (No Drivers) (7510)	5	0.83	0.80	0.10	0.04
Services-Amusement & Recreation Services (7900)	6	1.60	1.50	0.53	0.22
Services-Miscellaneous Amusement & Recreation (7990)	8	1.56	1.70	0.74	0.26
Services-Skilled Nursing Care Facilities (8051)	5	0.90	0.91	0.13	0.06
Services-General Medical & Surgical Hospitals, Nec (8062)	8	0.81	0.76	0.52	0.19
Services-Medical Laboratories (8071)	18	3.54	1.67	3.54	0.83
Services-Home Health Care Services (8082)	5	2.78	2.28	1.45	0.65
Services-Misc Health & Allied Services, Nec (8090)	7	1.23	0.97	1.03	0.39
Services-Specialty Outpatient Facilities, Nec (8093)	5	1.75	1.72	0.85	0.38
Services-Educational Services (8200)	23	1.24	0.84	1.06	0.22
Services-Engineering Services (8711)	8	0.78	0.68	0.25	0.09
Services-Commercial Physical & Biological Research (8731)	18	2.78	1.96	2.11	0.50
Services-Management Services (8741)	7	1.72	1.75	0.64	0.24
Services-Management Consulting Services (8742)	15	1.31	1.29	0.77	0.20

EV/Tangible Assets Valuation Multiple

We provide additional data relating to industry EV/Tangible Assets valuation multiples:

	#	Average	Median	Std. Dev.	Std. Err.
Hotels & Motels (7011)	24	1.31	1.22	0.43	0.09
Services-Personal Services (7200)	13	2.23	1.85	1.75	0.49
Services-Advertising (7310)	9	2.99	2.83	1.71	0.57
Services-Advertising Agencies (7311)	8	1.35	1.33	0.72	0.25
Services-Equipment Rental & Leasing, Nec (7359)	16	1.05	0.90	0.42	0.10
Services-Help Supply Services (7363)	20	1.76	1.34	1.28	0.29
Services-Computer Programming, Data Processing, Etc. (7370)	38	3.62	2.88	3.45	0.56
Services-Computer Programming Services (7371)	29	2.83	1.74	2.78	0.52
Services-Prepackaged Software (7372)	137	5.60	5.10	3.85	0.33
Services-Computer Integrated Systems Design (7373)	28	3.19	3.32	1.93	0.36
Services-Computer Processing & Data Preparation (7374)	49	4.74	3.10	4.13	0.59
Services-Miscellaneous Business Services (7380)	8	3.04	2.08	2.13	0.75
Services-Business Services, Nec (7389)	82	3.64	2.54	3.17	0.35
Services-Auto Rental & Leasing (No Drivers) (7510)	5	1.07	0.90	0.46	0.20
Services-Amusement & Recreation Services (7900)	5	1.62	1.70	0.55	0.25
Services-Miscellaneous Amusement & Recreation (7990)	8	2.26	2.00	1.17	0.41
Services-Skilled Nursing Care Facilities (8051)	5	0.92	0.91	0.13	0.06
Services-General Medical & Surgical Hospitals, Nec (8062)	8	1.28	1.19	0.70	0.25
Services-Medical Laboratories (8071)	17	3.65	2.21	3.21	0.78
Services-Home Health Care Services (8082)	5	6.75	6.92	3.09	1.38
Services-Misc Health & Allied Services, Nec (8090)	7	2.98	2.08	2.48	0.94
Services-Educational Services (8200)	24	1.88	1.27	1.69	0.34
Services-Engineering Services (8711)	9	1.57	1.44	0.97	0.32
Services-Commercial Physical & Biological Research (8731)	18	4.06	3.75	2.34	0.55
Services-Management Services (8741)	7	4.16	3.38	1.87	0.71
Services-Management Consulting Services (8742)	16	2.77	2.42	1.82	0.46

DISCLAIMER

All information contained within this document, Valuation Multiples by Industry, (the “Document”) is for general information only. The data and information presented in this Document are the intellectual property of eVal, a division of DuD Ltd. registered in England and Wales; Company no. 08763740.

All data, information, copyright, texts, images, photos, trademarks, design rights, database rights, rights in confidential information, goodwill, and other intellectual property rights, may not be copied, transmitted, converted, transcribed or reproduced without the prior consent of eVal.

Although every effort has been made to ensure the accuracy and completeness of the information, content and data contained in this Document, eVal provide no representation, or warranty, express or implied, and assume no responsibility or liability, for any loss or damage suffered by any person, company, institution, or otherwise, as a result of the use or misuse of any of the information or content in this Document, or regarding the accuracy or completeness of the information detailed in this Document. Whilst special care has been taken in preparing the information and materials contained in this Document, such information and materials are provided to you on an “as is” basis and carry no warranty or representation of any kind, express or implied.

Nothing in this Document constitutes an offer or solicitation of financial product advice, and are not intended to constitute provision of investment, legal, tax, or other professional or financial advice. Such content therefore should not be relied upon for the making of any personal or corporate financial and investment decisions. Persons accessing this information are strongly encouraged to obtain appropriate professional advice before making any investment or financial decision. Upon receipt of this Document, you expressly accept that eVal does not warrant, guarantee, or represent (expressly or impliedly) that this Document (and/or the associated data and related information) is free from technical malfunction or human error, and you expressly accept that eVal will not, and cannot, be held liable (in all forms of legal liability) for any errors, inaccuracies or omissions (including any third party) and any loss or damages, whether incidental, consequential, or otherwise, resulting from its use or inability to use by any party, or in connection with any error, interruption, delay in operation or incomplete transmission, or line or system failure.

ABOUT eVal

eVal provides practical tools and accessible data for use by valuation practitioners within Private Equity, Corporate Finance, Audit and Alternative Investments. Our data and analysis service includes the provision of historic valuation multiples and peer company analysis tools for use in investment valuations, business valuations, and equity valuations. For more information, please go to <https://www.eval.tech>.

In addition to providing business valuation tools and peer company valuation multiples and related financial data, we also offer a business/investment valuation service based on our propriety valuation software - for more information contact us at admin@eval.tech

OVERVIEW OF VALUATION MULTIPLES BY INDUSTRY

Our Valuation Multiples by Industry reports are based on valuation multiples data and financial information sourced by eVal, as at the time and date of producing this report. In determining our calculations, we have excluded negative multiples, outliers and NA data. For more information and data about the peer group companies that comprise this sector, and to review the underlying supporting data to this valuation multiples report, please visit <https://eval.tech/free-valuation-multiples> to review and download the industry or company valuation multiples data.

This Document relates to valuation multiples data for SIC industries which comprise a minimum of five entities. If there is a specific industry that has been excluded from this analysis that you would like to include, please contact us at admin@eval.tech.

Our sector reports include the following enterprise value valuation multiples: EV/Revenue, EV/EBITDA, EV/EBIT, EV/Total Assets, and EV/Tangible Assets. If you require additional information, or data relating to particular valuation multiples omitted from this Document, please go to <https://eval.tech/free-valuation-multiples>.

Background to Valuation Multiples

The multiples method in corporate and business valuation is categorised as a market-based valuation approach. Establishing an indicative estimation of firm value using the multiples method involves applying a synthetic market valuation multiple (e.g. EV/Revenue or EV/EBITDA), to an associated value driver of the firm being valued (e.g. the target firm's Revenue or EBITDA). As a consequence of the role of financial structuring in private equity, the IPEV Guidelines recommends the use of Enterprise Value multiples in the determination of Fair Value: "... multiples should be used to derive an Enterprise Value for the Underlying Business."

The EV/Revenue multiple (the "Revenue Multiple") is generally useful for valuing firms with negative earnings. The multiple is less susceptible to accounting distortions and is not readily or easily available for manipulation by firm management. The traditional Revenue Multiple approach in valuation is typically useful for valuing cyclical businesses and firms operating in mature industries.

The EV/EBITDA multiple (the "EBITDA Multiple") is one of the most widely used valuation multiples, and probably the most commonly used enterprise value multiple. The EBITDA Multiple is frequently employed as an alternative to the Price/Earnings ratio (the "P/E" ratio), because EBITDA is regularly applied as an indicator of company financial performance and is generally viewed as an alternative to recorded earnings. EBITDA strips out the effects of a company's cost of debt, tax, depreciation and amortisation; consequently, EBITDA is useful for evaluating firms with different capital structures, tax rates and depreciation policies.

The EV/EBIT multiple (the "EBIT Multiple") is similar to the EBITDA Multiple, although it includes the non-cash accounting effects of firm depreciation and amortisation. EBIT commonly assesses the earnings generated by a company from normal operations and is often used as a proxy for firm operating profit. EBIT represents a company's capacity to generate earnings from normal operations, by excluding the effects of taxation, interest expense, and capital structure.

The EV/Total Assets multiple (the "Total Asset Multiple") is commonly utilised for industries which are asset-intensive; although, like the Revenue Multiple, the Total Asset Multiple is also useful for valuing firms with negative earnings. Using the Total Asset Multiple is particularly advantageous where a business is predominantly asset-driven, and where return-on-assets (ROA) is largely consistent, as this allows base assets to serve as a proxy and appropriate indicator of future cash flows.

The EV/Tangible Assets multiple (the "Tangible Asset Multiple") is similar to the Total Asset Multiple; however, the Tangible Asset Multiple excludes recorded goodwill and other intangible assets from the denominator in its calculation. Tangible assets include customary fixed assets such as machinery, land and buildings; and also current assets, such as firm inventory. Utilising the Tangible Asset Multiple instead of the Total Asset Multiple can help remedy some of the drawbacks associated with the Total Asset Multiple, namely, the inclusion of goodwill and other identifiable intangible assets on the balance sheet.

DATA OVERVIEW

SIC Industries (SIC Code):

Hotels, Rooming Houses, Camps & Other Lodging Places (7000), Hotels & Motels (7011), Services-Personal Services (7200), Services-Advertising (7310), Services-Advertising Agencies (7311), Services-Consumer Credit Reporting, Collection Agencies (7320), Services-Mailing, Reproduction, Commercial Art & Photography (7330), Services-Direct Mail Advertising Services (7331), Services-To Dwellings & Other Buildings (7340), Services-Miscellaneous Equipment Rental & Leasing (7350), Services-Equipment Rental & Leasing, Nec (7359), Services-Employment Agencies (7361), Services-Help Supply Services (7363), Services-Computer Programming, Data Processing, Etc. (7370), Services-Computer Programming Services (7371), Services-Prepackaged Software (7372), Services-Computer Integrated Systems Design (7373), Services-Computer Processing & Data Preparation (7374), Services-Miscellaneous Business Services (7380), Services-Detective, Guard & Armored Car Services (7381), Services-Photofinishing Laboratories (7384), Services-Business Services, Nec (7389), Services-Automotive Repair, Services & Parking (7500), Services-Auto Rental & Leasing (No Drivers) (7510), Services-Miscellaneous Repair Services (7600), Services-Motion Picture & Video Tape Production (7812), Services-Allied To Motion Picture Production (7819), Services-Motion Picture & Video Tape Distribution (7822), Services-Allied To Motion Picture Distribution (7829), Services-Motion Picture Theaters (7830), Services-Video Tape Rental (7841), Services-Amusement & Recreation Services (7900), Services-Racing, Including Track Operation (7948), Services-Miscellaneous Amusement & Recreation (7990), Services-Membership Sports & Recreation Clubs (7997), Services-Health Services (8000), Services-Offices & Clinics Of Doctors Of Medicine (8011), Services-Nursing & Personal Care Facilities (8050), Services-Skilled Nursing Care Facilities (8051), Services-Hospitals (8060), Services-General Medical & Surgical Hospitals, Nec (8062), Services-Medical Laboratories (8071), Services-Home Health Care Services (8082), Services-Misc Health & Allied Services, Nec (8090), Services-Specialty Outpatient Facilities, Nec (8093), Services-Legal Services (8111), Services-Educational Services (8200), Services-Child Day Care Services (8351), Services-Engineering, Accounting, Research, Management (8700), Services-Engineering Services (8711), Services-Commercial Physical & Biological Research (8731), Services-Testing Laboratories (8734), Services-Management Services (8741), Services-Management Consulting Services (8742), Services-Facilities Support Management Services (8744)

Companies (Ticker):

AAC HOLDINGS, INC. (AAC), AARON'S INC (AAN), ABM INDUSTRIES INC (ABM), ACADIA HEALTHCARE COMPANY, INC. (ACHC), ACI WORLDWIDE, INC. (ACIW), AECOM (ACM), ACCENTURE PLC (ACN), AEROCENTURY CORP (ACY), ADOBE INC. (ADBE), AUTOMATIC DATA PROCESSING INC (ADP), ALLIANCE DATA SYSTEMS CORP (ADS), AUTODESK INC (ADSK), ADT INC. (ADT), ADDUS HOMECARE CORP (ADUS), AERCAP HOLDINGS N.V. (Foreign) (AER), AUDIOEYE INC (AEYE), AGM GROUP HOLDINGS, INC. (Foreign) (AGMH), AGILYSYS INC (AGYS), ASHFORD INC. (AINC), AKAMAI TECHNOLOGIES INC (AKAM), AIR LEASE CORP (AL), ALJ REGIONAL HOLDINGS INC (ALJJ), ALLEGION PLC (ALLE), ALARM.COM HOLDINGS, INC. (ALRM), ALTAIR ENGINEERING INC. (ALTR), AMBOW EDUCATION HOLDING LTD. (Foreign) (AMBO), AMBER ROAD, INC. (AMBR), AMC ENTERTAINMENT HOLDINGS, INC. (AMC), AIRMEDIA GROUP INC. (Foreign) (AMCN), AMEDISYS INC (AMED), APOLLO MEDICAL HOLDINGS, INC. (AMEH), AMN HEALTHCARE SERVICES INC (AMN), AMERICAN SHARED HOSPITAL SERVICES (AMS), AMERICAN SOFTWARE INC (AMSWA), ANGI HOMESERVICES INC. (ANGI), ANSYS INC (ANSS), SPHERE 3D CORP (ANY), APPLIED DNA SCIENCES INC (APDN), AMERICAN PUBLIC EDUCATION INC (APEI), APPFOLIO INC (APPF), APPIAN CORP (APPN), AMERICAN RENAL ASSOCIATES HOLDINGS, INC. (ARA), ARC DOCUMENT SOLUTIONS, INC. (ARC), ARCO PLATFORM LTD. (Foreign) (ARCE), AMERICAN RESOURCES CORP (AREC), ASCENT CAPITAL GROUP, INC. (ASCMA), ASGN INC (ASGN), ALTISOURCE PORTFOLIO SOLUTIONS S.A. (ASPS), ASPEN GROUP, INC. (ASPU), ASURE SOFTWARE INC (ASUR), ATA INC. (Foreign) (ATAI), ADTALEM GLOBAL EDUCATION INC. (ATGE), AUTOHOME INC. (Foreign) (ATHM), ATIF HOLDINGS LTD (Foreign) (ATIF), ACTIVISION BLIZZARD, INC. (ATVI), AUTOWEB, INC. (AUTO), AVALON GLOBOCARE CORP. (AVCO), AVID TECHNOLOGY, INC. (AVID), AVALARA, INC. (AVLR), ANAVEX LIFE SCIENCES CORP. (AVXL), AWARE INC (AWRE), AIRCASTLE LTD (AYR), ALTERYX, INC. (AYX), ASPEN TECHNOLOGY INC (AZPN), ALIBABA GROUP HOLDING LTD (Foreign) (BABA), BOOZ ALLEN HAMILTON HOLDING CORP (BAH), BANDWIDTH INC. (BAND), BIOANALYTICAL SYSTEMS INC (BAS), BARRETT BUSINESS SERVICES INC (BBSI), BLUCORA, INC. (BCOR), BRIGHTCOVE INC (BCOV), BIOTELEMETRY, INC. (BEAT), BRIGHT SCHOLAR EDUCATION HOLDINGS LTD (Foreign) (BEDU), BRIGHT HORIZONS FAMILY SOLUTIONS INC. (BFAM), BG STAFFING, INC. (BGSF), BIOHITECH GLOBAL, INC. (BHTG), SOTHEBYS (BID), BAIDU, INC. (Foreign) (BIDU), BILIBILI INC. (Foreign) (BILI), BIOCEPT INC (BIOC), BIOSCRIP, INC. (BIOS), BITAUTO HOLDINGS LTD (Foreign) (BITA), BROOKDALE SENIOR LIVING INC. (BKD), BLACK KNIGHT, INC. (BKI), BOOKING HOLDINGS INC. (BKNG), BLACKLINE, INC. (BL), BRIDGELINE DIGITAL, INC. (BLIN), BLACKBAUD INC (BLKB), BLINK CHARGING CO. (BLNK), BENEFITFOCUS, INC. (BNFT), BOX INC (BOX), BROADRIDGE FINANCIAL SOLUTIONS, INC. (BR), BSQUARE CORP (BSQR), BROADVISION INC (BVSN), BOWL AMERICA INC (BWL.A), BOYD GAMING CORP (BYD), CACI INTERNATIONAL INC (CACI), CAI INTERNATIONAL, INC. (CAI), CANGO INC. (Foreign) (CANG), AVIS BUDGET GROUP, INC. (CAR), CARBONITE INC (CARB), CARGURUS, INC. (CARG), CARS.COM INC. (CARS), CASS INFORMATION SYSTEMS INC (CASS), CARDTRONICS PLC (CATM), CATASYS, INC. (CATS), CLEVELAND BIOLABS INC (CBLI), CARBON BLACK, INC. (CBLK), CBIZ, INC. (CBZ), CONCORD MEDICAL SERVICES HOLDINGS LTD (Foreign) (CCM), COMMAND CENTER, INC. (CCNI), CLEAR CHANNEL OUTDOOR HOLDINGS, INC. (CCO), CHINA CUSTOMER RELATIONS CENTERS, INC. (Foreign) (CCRC), CROSS COUNTRY HEALTHCARE INC (CCRN), CERIDIAN HCM HOLDING INC. (CDAY), CDK GLOBAL, INC. (CDK), CARDLYTICS, INC. (CDLX), CAREDX, INC. (CDNA), CADENCE DESIGN SYSTEMS INC (CDNS), CAREER EDUCATION CORP (CECO), CELCUITY INC.

(CELC), CERNER CORP (CERN), CANCER GENETICS, INC (CGIX), CHURCHILL DOWNS INC (CHDN), CHEMED CORP (CHE), CHEGG, INC (CHGG), CHOICE HOTELS INTERNATIONAL INC (CHH), CHECK POINT SOFTWARE TECHNOLOGIES LTD (Foreign) (CHKP), CINEDIGM CORP. (CIDM), CHINA INTERNET NATIONWIDE FINANCIAL SERVICES, INC. (Foreign) (CIFS), CISION LTD. (CISN), CALADRIUS BIOSCIENCES, INC. (CLBS), COLLECTORS UNIVERSE INC (CLCT), CLOUDERA, INC. (CLDR), CORELOGIC, INC. (CLGX), CLPS INC (Foreign) (CLPS), TOWN SPORTS INTERNATIONAL HOLDINGS INC (CLUB), CHEETAH MOBILE INC. (Foreign) (CMCM), CONDUEENT INC (CNDT), CHINANET ONLINE HOLDINGS, INC. (CNET), CINEMARK HOLDINGS, INC. (CNK), CHINA TECHFAITH WIRELESS COMMUNICATION TECHNOLOGY LTD (Foreign) (CNTF), CENTURY CASINOS INC (CNTY), CHINA ONLINE EDUCATION GROUP (Foreign) (COE), COUPA SOFTWARE INC (COUP), COUNTERPATH CORP (CPAH), CANTERBURY PARK HOLDING CORP (CPHC), COMPUTER PROGRAMS & SYSTEMS INC (CPSI), CRA INTERNATIONAL, INC. (CRAI), CARE.COM INC (CRCM), CHINA RECYCLING ENERGY CORP (CREG), CREATIVE REALITIES, INC. (CREX), CHARLES RIVER LABORATORIES INTERNATIONAL INC (CRL), SALESFORCE COM INC (CRM), CRITEO S.A. (CRTO), COSTAR GROUP INC (CSGP), CSG SYSTEMS INTERNATIONAL INC (CSGS), CASTLIGHT HEALTH, INC. (CSLT), CORNERSTONE ONDEMAND INC (CSOD), CSP INC (CSPI), CHICKEN SOUP FOR THE SOUL ENTERTAINMENT, INC. (CSSE), CAPITAL SENIOR LIVING CORP (CSU), CARRIAGE SERVICES INC (CSV), CYNERGISTEK, INC (CTEK), COMPUTER TASK GROUP INC (CTG), COOTEK(CAYMAN)INC. (Foreign) (CTK), CTRIP COM INTERNATIONAL LTD (Foreign) (CTRP), COGNIZANT TECHNOLOGY SOLUTIONS CORP (CTSH), CITRIX SYSTEMS INC (CTXS), CIVEO CORP (CVEO), COMMVault SYSTEMS INC (CVLT), CYBERARK SOFTWARE LTD. (Foreign) (CYBR), COMMUNITY HEALTH SYSTEMS INC (CYH), CHANGYOU.COM LTD (Foreign) (CYOU), CYREN LTD. (CYRN), CAESARS ENTERTAINMENT CORP (CZR), TABLEAU SOFTWARE INC (DATA), ENDAVA PLC (Foreign) (DAVA), DROPBOX, INC. (DBX), 3D SYSTEMS CORP (DDD), DONNELLEY FINANCIAL SOLUTIONS, INC. (DFIN), QUEST DIAGNOSTICS INC (DGX), DHI GROUP, INC. (DHX), DHX MEDIA LTD. (Foreign) (DHXM), CHINA DISTANCE EDUCATION HOLDINGS LTD (Foreign) (DL), DLH HOLDINGS CORP. (DLHC), DOLPHIN ENTERTAINMENT, INC. (DLPN), DIGIMARC CORP (DMRC), DOCUSIGN, INC. (DOCU), DOMO, INC. (DOMO), AMDOCS LTD (Foreign) (DOX), DESCARTES SYSTEMS GROUP INC (Foreign) (DSGX), DATASEA INC. (DTSS), DAVITA INC. (DVA), DIVERSICARE HEALTHCARE SERVICES, INC. (DVCR), DOVER MOTORSPORTS INC (DVD), DXC TECHNOLOGY CO (DXC), ELECTRONIC ARTS INC. (EA), EVENTBRITE, INC. (EB), EBAY INC (EBAY), EBIX INC (EBIX), CHANNELADVISOR CORP (ECOM), NEW ORIENTAL EDUCATION & TECHNOLOGY GROUP INC. (Foreign) (EDU), ECOLOGY & ENVIRONMENT INC (EEI), EMERALD EXPOSITIONS EVENTS, INC. (EEX), EQUIFAX INC (EFX), EGAIN CORP (EGAN), NIC INC (EGOV), ENCOMPASS HEALTH CORP (EHC), ENDURANCE INTERNATIONAL GROUP HOLDINGS, INC. (EIGI), ELOXX PHARMACEUTICALS, INC. (ELOX), ENGLOBAL CORP (ENG), ENSIGN GROUP, INC (ENSG), ENVESTNET, INC. (ENV), ENZO BIOCHEM INC (ENZ), EPAM SYSTEMS, INC. (EPAM), BOTTOMLINE TECHNOLOGIES INC (EPAY), ELDORADO RESORTS, INC. (ERI), EROS INTERNATIONAL PLC (Foreign) (EROS), ELASTIC N.V. (ESTC), ETSY INC (ETSY), EVERBRIDGE, INC. (EVBG), EVERQUOTE, INC. (EVER), EVOLVENT HEALTH, INC. (EVH), EVI INDUSTRIES, INC. (EVI), EVOLVING SYSTEMS INC (EVOL), EVO PAYMENTS, INC. (EVOP), EVERTEC, INC. (EVTC), EXACT SCIENCES CORP (EXAS), EXELIXIS, INC. (EXEL), EXLSERVICE HOLDINGS, INC. (EXLS), EXP WORLD HOLDINGS, INC. (EXPI), EXPONENT INC (EXPO), EXTERRAN CORP (EXTN), FACEBOOK INC (FB), FRANKLIN COVEY CO (FC), FTI CONSULTING INC (FCN), FIRST DATA CORP (FDC), FACTSET RESEARCH SYSTEMS INC (FDS), FOUR SEASONS EDUCATION (CAYMAN) INC. (Foreign) (FEDU), FAIR ISAAC CORP (FICO), FIDELITY NATIONAL INFORMATION SERVICES, INC. (FIS), FISERV INC (FISV), FIVE9, INC. (FIV9), FULGENT GENETICS, INC. (FLGT), FULL HOUSE RESORTS INC (FLL), FLUENT, INC. (FLNT), FLEETCOR TECHNOLOGIES INC (FLT), FLY LEASING LTD (Foreign) (FLY), FRESenius MEDICAL CARE AG & CO. KGAA (Foreign) (FMS), FORRESTER RESEARCH, INC. (FORR), FORMULA SYSTEMS (1985) LTD (Foreign) (FORTY), FLEXSHOPPER, INC. (FPAY), FORESIGHT AUTONOMOUS HOLDINGS LTD. (Foreign) (FRSX), FASTLY, INC. (FSLY), FORTRESS TRANSPORTATION & INFRASTRUCTURE INVESTORS LLC (FTAI), FARFETCH LTD (Foreign) (FTCH), FRONTDOOR, INC. (FTDR), CEDAR FAIR L P (FUN), FIVE STAR SENIOR LIVING INC. (FVE), GENPACT LTD (G), GAIA, INC (GAIA), GODADDY INC. (GDDY), GOLDEN ENTERTAINMENT, INC. (GDEN), GDS HOLDINGS LTD (Foreign) (GDS), GREAT ELM CAPITAL GROUP, INC. (GEC), GREAT ELM CAPITAL CORP. (GECC), GENESIS HEALTHCARE, INC. (GEN), GENERAL FINANCE CORP (GFN), GUARDANT HEALTH, INC. (GH), GRAHAM HOLDINGS CO (GHC), GENOMIC HEALTH INC (GHDX), GREENTREE HOSPITALITY GROUP LTD. (Foreign) (GHG), CGI INC (Foreign) (GIB), GIGAMEDIA LTD (Foreign) (GIGM), GLOBANT S.A. (Foreign) (GLOB), GLU MOBILE INC (GLUU), GENIUS BRANDS INTERNATIONAL, INC. (GNUS), ALPHABET INC. (GOOGL), GLOBAL PAYMENTS INC (GPN), GP STRATEGIES CORP (GPX), GREENPRO CAPITAL CORP. (GRNQ), Groupon, INC. (GRPN), GRUBHUB INC. (GRUB), GRAVITY CO., LTD. (Foreign) (GRVY), GLOBALSCAPE INC (GSB), GREENSKY, INC. (GSKY), GRIDSUM HOLDING INC. (Foreign) (GSUM), GSE SYSTEMS INC (GVP), GUIDEWIRE SOFTWARE, INC. (GWRE), HYATT HOTELS CORP (H), HCA HEALTHCARE, INC. (HCA), HACKETT GROUP, INC. (HCKT), HEALTHCARE SERVICES GROUP INC (HCSG), H&E EQUIPMENT SERVICES, INC. (HEES), HILTON GRAND VACATIONS INC. (HGV), HEADHUNTER GROUP PLC (Foreign) (HHR), HARTE HANKS INC (HHS), HILL INTERNATIONAL, INC. (HIL), AEROHIVE NETWORKS, INC (HIVE), HAILIANG EDUCATION GROUP INC. (Foreign) (HLG), HILTON WORLDWIDE HOLDINGS INC. (HLT), NOBILIS HEALTH CORP. (HLTH), HMS HOLDINGS CORP (HMSY), HANGER, INC. (HNGR), HEALTHEQUITY INC (HQY), H&R BLOCK INC (HRB), HERC HOLDINGS INC (HRI), HEIDRICK & STRUGGLES INTERNATIONAL INC (HSII), HUDSON GLOBAL, INC. (HSON), HEALTHSTREAM INC (HSTM), HUAZHU GROUP LTD (Foreign) (HTHT), HERTZ GLOBAL HOLDINGS, INC (HTZ), HUBSPOT INC (HUBS), HURON CONSULTING GROUP INC. (HURN), HUYA INC. (Foreign) (HUYA), HYRECAR INC. (HYRE), ICF INTERNATIONAL, INC. (ICFI), ICLICK INTERACTIVE ASIA GROUP LTD (Foreign) (ICLK), ICON PLC (Foreign) (ICLR),

INTELLICHECK, INC. (IDN), INTERNATIONAL GAME TECHNOLOGY PLC (Foreign) (IGT), INTERCONTINENTAL HOTELS GROUP PLC (Foreign) (IHG), INFORMATION SERVICES GROUP INC. (III), I3 VERTICALS, INC. (IIIV), IMAC HOLDINGS, INC. (IMAC), INTERNAP CORP (INAP), INCYTE CORP (INCY), IHS MARKIT LTD. (INFO), INFOSYS LTD (Foreign) (INFY), INNODATA INC (INOD), INOVALON HOLDINGS, INC. (INOV), INPIXON (INPX), INSPIRED ENTERTAINMENT, INC. (INSE), INSTRUCTURE INC (INST), INTUIT INC (INTU), INUVO, INC. (INUV), INTERXION HOLDING N.V. (Foreign) (INXN), PROFESSIONAL DIVERSITY NETWORK, INC. (IPDN), INTERPUBLIC GROUP OF COMPANIES, INC. (IPG), IQIYI, INC. (Foreign) (IQ), IQVIA HOLDINGS INC. (IQV), INTERNATIONAL SPEEDWAY CORP (ISCA), INSIGNIA SYSTEMS INC (ISIG), INNOVATIVE SOLUTIONS & SUPPORT INC (ISSC), GARTNER INC (IT), IZEA WORLDWIDE, INC. (IZEA), JOHNSON CONTROLS INTERNATIONAL PLC (JCI), AURORA MOBILE LTD (Foreign) (JG), HENRY JACK & ASSOCIATES INC (JKHY), JMU LTD (Foreign) (JMU), GEE GROUP INC. (JOB), 51JOB, INC. (Foreign) (JOBS), JUPAI HOLDINGS LTD (Foreign) (JP), JIANPU TECHNOLOGY INC. (Foreign) (JT), KELLY SERVICES INC (KELYA), KEYW HOLDING CORP (KEYW), KFORCE INC (KFRC), KORN FERRY (KFY), KINGOLD JEWELRY, INC. (KGJI), LAIX INC. (Foreign) (LAIX), LAUREATE EDUCATION, INC. (LAUR), LENDINGCLUB CORP (LC), LEIDOS HOLDINGS, INC. (LDOS), LIONS GATE ENTERTAINMENT CORP (LGF.B), LABORATORY CORP OF AMERICA HOLDINGS (LH), LHC GROUP, INC (LHCG), LINCOLN EDUCATIONAL SERVICES CORP (LINC), LIVE VENTURES INC (LIVE), LUOKUNG TECHNOLOGY CORP. (Foreign) (LKCO), LIMELIGHT NETWORKS, INC. (LLNW), LINE CORP (Foreign) (LN), LOGMEIN, INC. (LOGM), GRAND CANYON EDUCATION, INC. (LOPE), SPARK NETWORKS SE (Foreign) (LOV), LIVEPERSON INC (LPSN), LIQUIDITY SERVICES INC (LQDT), K12 INC (LRN), LIGHTBRIDGE CORP (LTBR), LIBERTY TRIPADVISOR HOLDINGS, INC. (LTRPA), LUNA INNOVATIONS INC (LUNA), LAS VEGAS SANDS CORP (LVS), LUXOFT HOLDING, INC (Foreign) (LXFT), LYFT, INC. (LYFT), LIVE NATION ENTERTAINMENT, INC. (LYV), MASTERCARD INC (MA), MAM SOFTWARE GROUP, INC. (MAMS), MANPOWERGROUP INC. (MAN), MANHATTAN ASSOCIATES INC (MANH), MANTECH INTERNATIONAL CORP (MANT), MANCHESTER UNITED PLC (Foreign) (MANU), MARRIOTT INTERNATIONAL INC (MAR), MARCHEX INC (MCHX), MOODYS CORP (MCO), MONARCH CASINO & RESORT INC (MCRI), MARCUS CORP (MCS), MEDNAX, INC. (MD), MONGODB, INC. (MDB), MDC PARTNERS INC (MDCA), ALLSCRIPTS HEALTHCARE SOLUTIONS, INC. (MDRX), MEDIDATA SOLUTIONS, INC. (MDSO), MEDPACE HOLDINGS, INC. (MEDP), MEET GROUP, INC. (MEET), MERCADOLIBRE INC (MELI), MISTRAS GROUP, INC. (MG), MIRAGEN THERAPEUTICS, INC. (MGEN), MONEYGRAM INTERNATIONAL INC (MGI), MAGIC SOFTWARE ENTERPRISES LTD (Foreign) (MGIC), MAGELLAN HEALTH INC (MGLN), MGM RESORTS INTERNATIONAL (MGM), MCGRATH RENTCORP (MGRC), MASTECH DIGITAL, INC. (MHH), MIMICAST LTD (MIME), MITCHAM INDUSTRIES INC (MIND), MIX TELEMATICS LTD (Foreign) (MIXT), MAJESCO (MJCO), MON-AKER GROUP, INC. (MKGI), MELCO RESORTS & ENTERTAINMENT LTD (Foreign) (MLCO), MAXIMUS INC (MMS), MIND CTI LTD (Foreign) (MNDO), MONRO, INC. (MNRO), MOBILEIRON, INC. (MOBL), MODEL N, INC. (MODN), MOGU INC. (Foreign) (MOGU), MOMO INC. (Foreign) (MOMO), MOXIAN, INC. (MOXC), MARIN SOFTWARE INC (MRIN), STUDIO CITY INTERNATIONAL HOLDINGS LTD (Foreign) (MSC), MSCI INC. (MSCI), MICROSOFT CORP (MSFT), MADISON SQUARE GARDEN CO (MSG), MICROSTRATEGY INC (MSTR), MTBC, INC. (MTBC), MMTEC, INC. (Foreign) (MTC), MATCH GROUP, INC. (MTCH), MATERIALISE NV (Foreign) (MTLS), VAIL RESORTS INC (MTN), MYND ANALYTICS, INC. (MYND), NATIONAL INSTRUMENTS CORP (NATI), NAVIGANT CONSULTING INC (NCI), NATIONAL CINEMEDIA, INC. (NCMI), THE9 LTD (Foreign) (NCTY), NEOGENOMICS INC (NEO), NET ELEMENT, INC. (NETE), PUXIN LTD (Foreign) (NEW), NEW RELIC, INC. (NEWR), NETFLIX INC (NFLX), NANTHEALTH, INC. (NH), NATIONAL HEALTHCARE CORP (NHC), NIELSEN HOLDINGS PLC (NLSN), NANOVIRICIDES, INC. (NNVC), SERVICENOW, INC. (NOW), NATIONAL RESEARCH CORP (NRC), INSPERITY, INC. (NSP), NETSCOUT SYSTEMS INC (NTCT), NETEASE, INC. (Foreign) (NTES), NETWORK 1 TECHNOLOGIES INC (NTP), NUTANIX, INC. (NTNX), NATERA, INC. (NTRA), NEUROTROPE, INC. (NTRP), NETSOL TECHNOLOGIES INC (NTWK), NUANCE COMMUNICATIONS, INC. (NUAN), NV5 GLOBAL, INC. (NVEE), INVITAE CORP (NVTA), NEXTGEN HEALTHCARE, INC. (NXGN), NXT-ID, INC. (NXTD), OKTA, INC. (OKTA), OMNICOM GROUP INC. (OMC), ONESMART INTERNATIONAL EDUCATION GROUP LTD (Foreign) (ONE), OOMA INC (OOMA), OPGEN INC (OPGN), OPERA LTD (Foreign) (OPRA), OPTIMIZERX CORP (OPRX), ORACLE CORP (ORCL), ONESPAN INC. (OSPN), ONESPAWORLD HOLDINGS LTD (OSW), OPEN TEXT CORP (OTEX), PAGSEGURO DIGITAL LTD. (Foreign) (PAGS), PAYCOM SOFTWARE, INC. (PAYC), PAYSIGN, INC. (PAYS), PAYCHEX INC (PAYX), POWERBRIDGE TECHNOLOGIES CO., LTD. (Foreign) (PBTS), POINTS INTERNATIONAL LTD (Foreign) (PCOM), PAYLOCITY HOLDING CORP (PCTY), PARK CITY GROUP INC (PCYG), PAGERDUTY, INC. (PD), PINDUODUO INC. (Foreign) (PDD), PDF SOLUTIONS INC (PDFS), PEGASYSYSTEMS INC (PEGA), PENN NATIONAL GAMING INC (PENN), PERION NETWORK LTD. (Foreign) (PERI), PERFORMANT FINANCIAL CORP (PFMT), PROOFPOINT INC (PFPT), PFSWEB INC (PFSW), PREMIER, INC. (PINC), PINTEREST, INC. (PINS), PIERIS PHARMACEUTICALS, INC. (PIRS), SHIFTPIXY, INC. (PIXY), PARK HOTELS & RESORTS INC. (PK), ANAPLAN, INC. (PLAN), PLANET FITNESS, INC. (PLNT), PLAYA HOTELS & RESORTS N.V. (PLYA), PSYCHEMEDICS CORP (PMD), PRA GROUP INC (PRAA), PRA HEALTH SCIENCES, INC. (PRAH), PERFICIENT INC (PRFT), PROGRESS SOFTWARE CORP (PRGS), PRGX GLOBAL, INC. (PRGX), PROS HOLDINGS, INC. (PRO), PURPLE INNOVATION, INC. (PRPL), PERSPECTA INC. (PRSP), PLURALSIGHT, INC. (PS), PARSONS CORP (PSN), PINTEC TECHNOLOGY HOLDINGS LTD (Foreign) (PT), PTC INC. (PTC), PIVOTAL SOFTWARE, INC. (PVTL), PAYPAL HOLDINGS, INC. (PYPL), QAD INC (QADB), QUORUM HEALTH CORP (QHC), QIWI (Foreign) (QIWI), QUALYS, INC. (QLYS), QUINSTREET, INC (QNST), QUEST RESOURCE HOLDING CORP (QRHC), QUTOUTIAO INC. (Foreign) (QTT), Q2 HOLDINGS, INC. (QTWO), QUMU CORP (QUMU), QUOTIENT TECHNOLOGY INC. (QUOT), RYDER SYSTEM INC (R), RITCHIE BROS AUCTIONEERS INC (RBA), RIBBON COMMUNICATIONS INC. (RBBN), RENT A CENTER INC DE (RCII), R1 RCM INC. (RCM), RCM TECHNOLOGIES INC (RCMT), READING INTERNATIONAL INC (RDI),

RADNET, INC. (RDNT), RED VIOLET, INC. (RDVT), RADWARE LTD (Foreign) (RDWR), RESOURCES CONNECTION INC (RECN), RISE EDUCATION CAYMAN LTD (Foreign) (REDU), RENREN INC. (Foreign) (RENN), REGIS CORP (RGS), REGIONAL HEALTH PROPERTIES, INC (RHE), HALF ROBERT INTERNATIONAL INC (RHI), RED HAT INC (RHT), B. RILEY FINANCIAL, INC. (RILY), RED LION HOTELS CORP (RLH), RUMBLEON, INC. (RMBL), RMR GROUP INC. (RMR), RINGCENTRAL INC (RNG), REALNETWORKS INC (RNWK), ROLLINS INC (ROL), REALPAGE INC (RP), RAPID7, INC. (RPD), RED ROCK RESORTS, INC. (RRR), ROSETTA STONE INC (RST), RUBICON PROJECT, INC. (RUBI), RYB EDUCATION, INC. (Foreign) (RYB), SABRE CORP (SABR), SCIENCE APPLICATIONS INTERNATIONAL CORP (SAIC), SAILPOINT TECHNOLOGIES HOLDINGS, INC. (SAIL), SAP SE (Foreign) (SAP), SERVICE CORP INTERNATIONAL (SCI), COMSCORE, INC. (SCOR), SCIPLAY CORP (SCPL), SECUREWORKS CORP (SCWX), SEA LTD (Foreign) (SE), SEAWORLD ENTERTAINMENT, INC. (SEAS), SELECT MEDICAL HOLDINGS CORP (SEM), SERVICEMASTER GLOBAL HOLDINGS INC (SERV), SAFE-T GROUP LTD. (Foreign) (SFET), SHUTTERFLY INC (SFLY), FANG HOLDINGS LTD (Foreign) (SFUN), SCIENTIFIC GAMES CORP (SGMS), SPAR GROUP INC (SGRP), SURGERY PARTNERS, INC. (SGRY), SUNSTONE HOTEL INVESTORS, INC. (SHO), SHOPIFY INC. (Foreign) (SHOP), SHARPSRING, INC. (SHSP), SIFY TECHNOLOGIES LTD (Foreign) (SIFY), SINA CORP (Foreign) (SINA), SITO MOBILE, LTD. (SITO), SIX FLAGS ENTERTAINMENT CORP (SIX), PEAK RESORTS INC (SKIS), SUPER LEAGUE GAMING, INC. (SLGG), SIMULATIONS PLUS INC (SLP), SMARTSHEET INC (SMAR), SMITH MICRO SOFTWARE, INC. (SMSI), SNAP INC (SNAP), SYNCHRONOSS TECHNOLOGIES INC (SNCR), SYNOPSIS INC (SNPS), SOGOU INC. (Foreign) (SOGO), SOHU.COM LTD (Foreign) (SOHU), SP PLUS CORP (SP), S&P GLOBAL INC. (SPGI), SPLUNK INC (SPLK), SAPIENS INTERNATIONAL CORP N V (Foreign) (SPNS), SUPPORT.COM, INC. (SPRT), SPS COMMERCE INC (SPSC), SQUARE, INC. (SQ), SOCIAL REALITY, INC. (SRAX), SERVICESOURCE INTERNATIONAL, INC. (SREV), SORRENTO THERAPEUTICS, INC. (SRNE), STARTEK, INC. (SRT), SS&C TECHNOLOGIES HOLDINGS INC (SSNC), SILVERSUN TECHNOLOGIES, INC. (SSNT), SHOTSPOTTER, INC (SSTI), SHUTTERSTOCK, INC. (SSTK), SUNLINK HEALTH SYSTEMS INC (SSY), STAFFING 360 SOLUTIONS, INC. (STAF), EXTENDED STAY AMERICA, INC. (STAY), STEEL CONNECT, INC. (STCN), SUNLANDS TECHNOLOGY GROUP (Foreign) (STG), STAMPS.COM INC (STMP), STANTEC INC (Foreign) (STN), STONECO LTD. (Foreign) (STNE), STONEMOR PARTNERS LP (STON), STRATEGIC EDUCATION, INC. (STRA), STREAMLINE HEALTH SOLUTIONS INC. (STRM), SVMK INC. (SVMK), SWITCH, INC. (SWCH), SOLARWINDS CORP (SWI), SO-YOUNG INTERNATIONAL INC. (Foreign) (SY), SYKES ENTERPRISES INC (SYKE), SYMANTEC CORP (SYMC), SYNAPTICS INC (SYNA), SYNACOR, INC. (SYNC), SYNEOS HEALTH, INC. (SYNH), TAL EDUCATION GROUP (Foreign) (TAL), TAOPING INC. (Foreign) (TAOP), TRUEBLUE, INC. (TBI), TUANCHE LTD (Foreign) (TC), TUCOWS INC (TCX), TELADOC HEALTH, INC. (TDOC), ATLISSIAN CORP PLC (Foreign) (TEAM), TARENA INTERNATIONAL, INC. (Foreign) (TEDU), TENABLE HOLDINGS, INC. (TENB), TENAX THERAPEUTICS, INC. (TENX), PARETEUM CORP (TEUM), TEXTAINER GROUP HOLDINGS LTD (Foreign) (TGH), TENET HEALTHCARE CORP (THC), TEAM INC (TISI), TALEND SA (TLND), TELARIA, INC. (TLRA), TRINET GROUP INC (TNET), TABULA RASA HEALTHCARE, INC. (TRHC), TRIPADVISOR, INC. (TRIP), SPEEDWAY MOTORSPORTS INC (TRK), TRITON INTERNATIONAL LTD (TRTN), TRANSUNION (TRU), TRUECAR, INC. (TRUE), TRIVAGO N.V. (Foreign) (TRVG), TWIN RIVER WORLDWIDE HOLDINGS, INC. (TRWH), STARS GROUP INC. (Foreign) (TSG), TSR INC (TSRI), TOTAL SYSTEM SERVICES INC (TSS), TRADE DESK, INC. (TTD), TTEC HOLDINGS, INC. (TTEC), TETRA TECH INC (TTEK), TECHTARGET INC (TTGT), TAKE TWO INTERACTIVE SOFTWARE INC (TTWO), TUFIN SOFTWARE TECHNOLOGIES LTD. (Foreign) (TUFN), TIVITY HEALTH, INC. (TVTY), TWILIO INC (TWLO), 2U, INC. (TWOU), TWITTER, INC. (TWTR), TYLER TECHNOLOGIES INC (TYL), MONOTYPE IMAGING HOLDINGS INC. (TYPE), TRAVELZOO (TZOO), UBER TECHNOLOGIES, INC (UBER), AMERCO (UHAL), UNIVERSAL HEALTH SERVICES INC (UHS), UNISYS CORP (UIS), UNIFIRST CORP (UNF), UPLAND SOFTWARE, INC. (UPLD), UPWORK INC. (UPWK), UNITED RENTALS INC (URI), U S PHYSICAL THERAPY INC (USPH), UNIVERSAL TECHNICAL INSTITUTE INC (UTI), NEVADA GOLD & CASINOS INC (UWN), UXIN LTD (Foreign) (UXIN), VISA INC. (V), VERACYTE, INC. (VCYT), VECTRUS, INC. (VEC), VEEVA SYSTEMS INC (VEEV), VERB TECHNOLOGY COMPANY, INC. (VERB), VERITONE, INC. (VERI), VOLT INFORMATION SCIENCES, INC. (VISI), VMWARE, INC. (VMW), 21VIANET GROUP, INC. (Foreign) (VNET), VARONIS SYSTEMS INC (VRNS), VERINT SYSTEMS INC (VRNT), VERISK ANALYTICS, INC. (VRSK), VERISIGN INC (VRSN), VIRTUSA CORP (VRTU), VSE CORP (VSEC), VIRTRA, INC (VTSI), VIAD CORP (VVI), WAH FU EDUCATION GROUP LTD (Foreign) (WAFU), WAGeworks, INC. (WAGE), WEIBO CORP (Foreign) (WB), 500.COM LTD (Foreign) (WBAI), WORKDAY, INC. (WDAY), WEX INC. (WEX), WYNDHAM HOTELS & RESORTS, INC. (WH), WILHELMINA INTERNATIONAL, INC. (WHLM), WIPRO LTD (Foreign) (WIT), WIX.COM LTD. (Foreign) (WIX), WORKIVA INC (WK), WILLDAN GROUP, INC. (WLDN), WNS (HOLDINGS) LTD (Foreign) (WNS), WORLDPAY, INC. (WP), WPP PLC (Foreign) (WPP), WESTERN UNION CO (WU), 58.COM INC. (Foreign) (WUBA), WEIGHT WATCHERS INTERNATIONAL INC (WW), WORLD WRESTLING ENTERTAINMENTINC (WWE), WYNDHAM DESTINATIONS, INC. (WYND), WYNN RESORTS LTD (WYNN), WIDEPOINT CORP (WYY), XENIA HOTELS & RESORTS, INC. (XHR), XUNLEI LTD (Foreign) (XNET), INTREXON CORP (XON), XEROX CORP (XRX), YELP INC (YELP), YEXT, INC. (YEXT), YANDEX N.V. (Foreign) (YNDX), YOGAWORKS, INC. (YOGA), YY INC. (Foreign) (YY), ZILLOW GROUP, INC. (Z), ZEDGE, INC. (ZDGE), ZENDESK, INC. (ZEN), ZIX CORP (ZIXI), ZOOM VIDEO COMMUNICATIONS, INC. (ZM), ZYNGA INC (ZNGA), ZSCALER, INC. (ZS), ZUORA INC (ZUO), ZOVIO INC (ZVO)