

EQUITY RESEARCH

March 24, 2022

Industry Update

Tech In The 6 – Bits & Bytes Weekly

Toronto Named Third-largest Tech Hub In North America

Our Conclusion

The rise of the tech market drew on the strength of centralized talent and skillsets in Silicon Valley and for years the industry has largely remained in cities such as San Francisco, Seattle, and New York. However, the growth of remote work has expanded the tech ecosystem, with sunbelt cities and college towns seeing an influx of tech workers. Toronto has been a net beneficiary of this decentralization, with the city now the third-largest tech hub in North America, trailing behind only New York City and Silicon Valley. With a vibrant university research sector, strong government support, immigration friendly policies and a lower cost of talent than many U.S. cities, we see Toronto as well positioned to continue to expand as a tech hub.

Key Points

In addition to being the third-largest tech hub in North America, CBRE also named Toronto the fastest growing market for tech jobs, growing 26% between 2019 and 2020, up from 22% in the prior period. While many smaller cities like Virginia Beach, VA (+9% in 2020) and Madison, WI (+6%) are also experiencing strong tech job growth given the rise of remote work, Toronto's ample human capital and existing infrastructure can easily support the rapid growth.

In addition to remote tech workers, Toronto continues to see large U.S. tech companies expanding in the city. Microsoft recently opened four floors of new office space and Google is in the midst of opening a new building in the city. Even Walmart is moving tech jobs to Toronto, announcing that it will be making Toronto a global tech hub given the city's growing tech sector presence and broad and diverse local talent pool. The cost of talent (helped by the exchange rate) and immigration policies are driving the shift north, with Canada expanding programs to bring skilled workers into the country after U.S. immigration slowed under the Trump administration. The government continues to pursue tech friendly policies, with Ontario recently passing a law that encourages entrepreneurship by restricting the use of non-compete clauses.

Toronto has strong roots in the tech sector, with University of Toronto professor Geoffrey Hinton's pioneering AI research differentiating the city as an AI hub. A number of public and privately funded institutes have been developed to help propel tech research forward, including The Vector Institute for Artificial Intelligence and the Schwartz Reisman Innovation Centre at the U of T complex (under construction) to house AI and biotech companies and backed by a \$100 million donation from local business leaders.

Despite the tech job growth in Toronto, venture capital investments in the city lag well behind more established tech centres. Silicon Valley area start-ups saw \$120.1 billion in investments in 2021 according to Pitchbook versus \$5.4 billion in Toronto. As tech talent flocks to Toronto, we expect that investments will follow.

All figures in Canadian dollars unless otherwise stated.

For required regulatory disclosures please refer to "Important Disclosures" beginning on page 10.

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Sector:
Information Technology

Toronto – A Growing Tech Hub

Toronto ranked No. 1 among the top 30 tech markets for the highest job growth between 2019 and 2020 at 26%. The city sustained its strong growth streak from the prior period (+22% between 2017 & 2018). The city also added 40,200 high tech jobs throughout this period.

Exhibit 1: Software & Services – High-Tech Software/Services Job & Office Rent Growth, 2019 & 2020

		Current Period	Previous Period	High Tech	Office-Using (Less High-Tech) Previous Period
Rank	Market	2019 & 2020	2017 & 2018	2019 & 2020	2019 & 2020
1	Toronto	26.4%	22.4%	40,200	22,200
2	Seattle	21.9%	23.6%	39,559	(22,602)
3	Vancouver	20.9%	30.2%	12,900	(12,900)
4	New York	17.9%	15.4%	21,280	(59,990)
5	Austin	16.4%	22.4%	9,368	11,070
6	Montreal	14.6%	14.3%	12,600	3,700
7	Charlotte	13.2%	7.3%	3,313	4,354
8	Dallas/Ft. Worth	12.7%	10.7%	13,692	7,731
9	San Francisco	12.6%	25.0%	12,660	(11,400)
10	Raleigh-Durham	12.0%	6.7%	4,723	3,521
11	Denver	11.5%	12.3%	8,739	(1,091)
12	Pittsburgh	10.1%	1.6%	2,286	(14,371)
13	Silicon Valley	9.4%	15.7%	20,529	1,065
14	Indianapolis	8.9%	(3.5%)	2,329	(6,468)
15	Phoenix	8.8%	3.8%	9,496	16,212
16	Atlanta	8.8%	13.0%	7,557	2,197
17	Nashville	8.3%	9.5%	1,306	2,377
18	Los Angeles	8.0%	14.8%	6,431	(63,689)
19	San Diego	7.9%	19.7%	2,813	(8,247)
20	St. Louis	7.2%	12.7%	2,135	643
21	Boston	7.1%	7.8%	8,839	(11,251)
22	Salt Lake City	7.0%	10.1%	3,848	8,778
23	Portland	7.0%	10.5%	1,988	(7,112)
24	Chicago	6.6%	3.0%	6,799	(56,218)
25	Baltimore	5.8%	7.8%	2,215	(14,063)
26	Washington, D.C.	4.5%	5.4%	8,746	(12,903)
27	Philadelphia	3.5%	(2.1%)	1,540	(14,033)
28	Orange County	1.1%	11.3%	430	(15,441)
29	Minneapolis/St. Paul	(2.9%)	0.0%	(1,414)	(14,563)
30	Detroit	(4.4%)	(0.7%)	(2,135)	(19,924)

Source: U.S. Bureau of Labor Statistics, Statistics Canada, CBRE, and CIBC World Markets Inc.

News Impacting Our Coverage

Research Highlight – CSU: Topicus To Acquire Sygnity S.A.

Constellation-owned Topicus.com announced its intention to acquire Sygnity S.A. for ~\$65 million. Sygnity is a publicly traded Polish IT solutions firm providing digital transformation services to public and private sector customers. We calculate that Topicus.com is paying 1.3x 2021 sales, slightly above Constellation's average multiple. We view Sygnity as a typical Constellation acquisition - a relatively mature business, with a solid cash flow profile. [Link to note](#)

Research Highlight – CARE: Growth Strategy On Track While Product Costs Rise

Dialogue's full Q4 results highlighted the strength of the company's land & expand approach as member service units saw strong growth and revenue retention remained at 102%. Gross margins expanded in the quarter but that progress was more than offset at the EBITDA level by wage inflation and increased headcount in product and development. The strength of Dialogue's platform and sustained demand for mental health solutions should continue to drive growth, and we expect M&A in the near future to expand the number of offerings. [Link to note](#)

Research Highlight – CTS: Executing To The Plan

Converge reported Q4 results that were at the top end of its pre-announced range. The company is continuing to execute to its plans, with management noting a pipeline of seven M&A deals that are expected to close in H1/22. Converge is seeing strong demand for managed services offerings, although supply chain issues are expected to persist in the first half of 2022. We are factoring in \$300 million in M&A spending in 2022 and foresee upside if Converge can execute on additional acquisitions. [Link to note](#)

Descartes Announces ShipRush Integrated With Warehousing And Shipping Solutions

Descartes announced that its Descartes ShipRush multi-carrier parcel and less-than-truckload (LTL) shipping solution is now integrated into its warehouse management systems Peoplevox and pixi. The integration allows customers to improve warehouse and shipping performance on a unified platform. The ShipRush ecommerce shipping solution allows customers to grow shipping volume through automation. The combined service is catered to pure-play eCommerce brands and D2C brands in need of scaling fulfillment operations.

Magnet Forensics Survey Highlight Rise Of Digital Forensics Investments

Magnet Forensics announced the release of the ICD eBook, 2022 State of Enterprise DFIR. The survey highlights that 60% of the respondents expect to make major investments in digital forensics and incident response (DFIR) technology over the next two years in anticipation of cybersecurity threats. One-third of respondents said that overhaul investments are required in four of the six functions of DFIR including analysis of digital evidence, remote acquisition of target endpoints, cleaning and organization of information, and summarizing and reporting. The survey also revealed that more than 5% of respondents have paid ransoms exceeding US\$1 million.

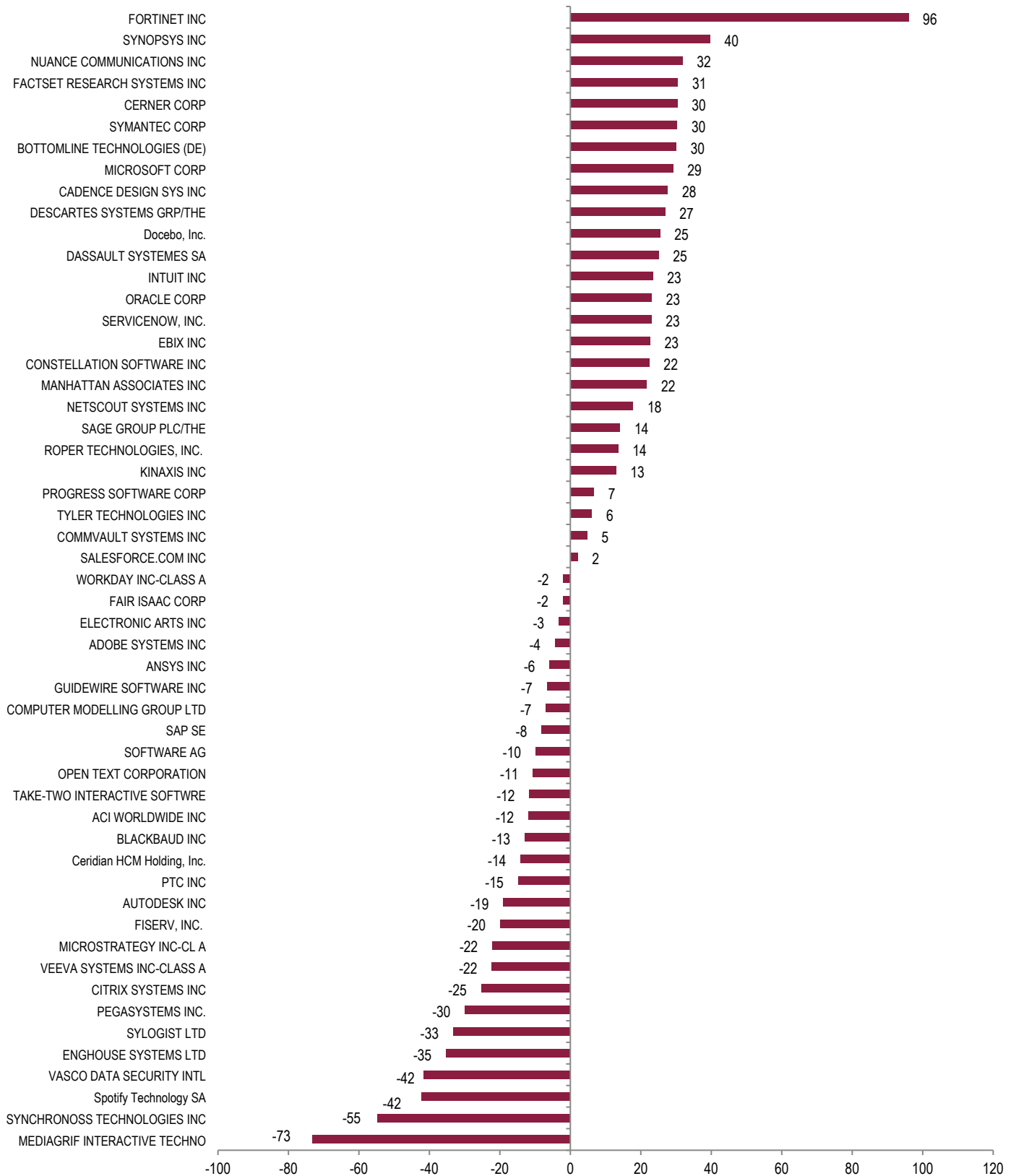
Exhibit 2: CIBC Software/Services – Coverage Performance, 3/17/2021 - 3/24/2022

Software & Systems	Price	1 Week	1 Month	3 Month	6 Month	1 Year	YTD	52W High	52W Low
Constellation Software Inc	2,123.77	(1.7)	1.4	(8.7)	(2.5)	22.4	(9.5)	2385.80	1672.03
Descartes Systems	76.26	0.6	8.7	(5.7)	(11.6)	27.3	(7.8)	91.39	56.78
Dye & Durham	28.64	4.8	(2.8)	(34.7)	(34.9)	NA	(36.2)	50.49	25.65
Enghouse Systems Limited	39.94	(2.5)	(4.2)	(17.9)	(32.5)	(35.3)	(17.5)	64.42	34.21
Open Text Corp	42.58	0.8	(0.9)	(10.1)	(17.6)	(10.6)	(10.3)	55.25	40.59
Kinaxis	166.28	0.9	14.3	(6.4)	(13.9)	12.9	(6.2)	229.98	130.88
Docebo, Inc.	62.37	7.1	(3.7)	(28.2)	(41.1)	25.5	(26.5)	117.55	47.61
Magnet Forensics	28.80	6.7	2.6	(11.3)	(42.8)	NA	(12.4)	65.80	20.92
Q4 Inc.	5.23	(3.7)	16.5	NA	NA	NA	NA	12.05	4.40
Average		1.4	3.5	(15.4)	(24.6)	7.1	(15.8)		

Business Services	Price	1 Week	1 Month	3 Month	6 Month	1 Year	YTD	52W High	52W Low
Altus Group Ltd	48.16	0.9	(3.6)	(31.5)	(21.8)	(23.5)	(32.1)	72.33	44.88
CGI Group Inc	101.54	(2.9)	(2.7)	(9.4)	(12.7)	(0.8)	(9.2)	116.88	99.26
Converge Technologies	10.11	(0.9)	4.0	(6.1)	(15.9)	88.3	(7.0)	13.09	4.91
Information Services Corp	24.09	5.6	6.6	(2.1)	(14.3)	0.3	(8.2)	33.87	20.67
LifeWorks Inc	21.37	9.1	(18.1)	(15.5)	(37.8)	(33.5)	(16.3)	37.56	18.55
Softchoice Corporation	26.67	0.6	30.5	16.9	NA	NA	NA	45.74	18.63
Telus International	31.65	(2.5)	2.2	(22.8)	(30.5)	NA	NA	49.43	28.61
Average		1.4	2.7	(10.1)	(22.2)	6.2	(14.6)		

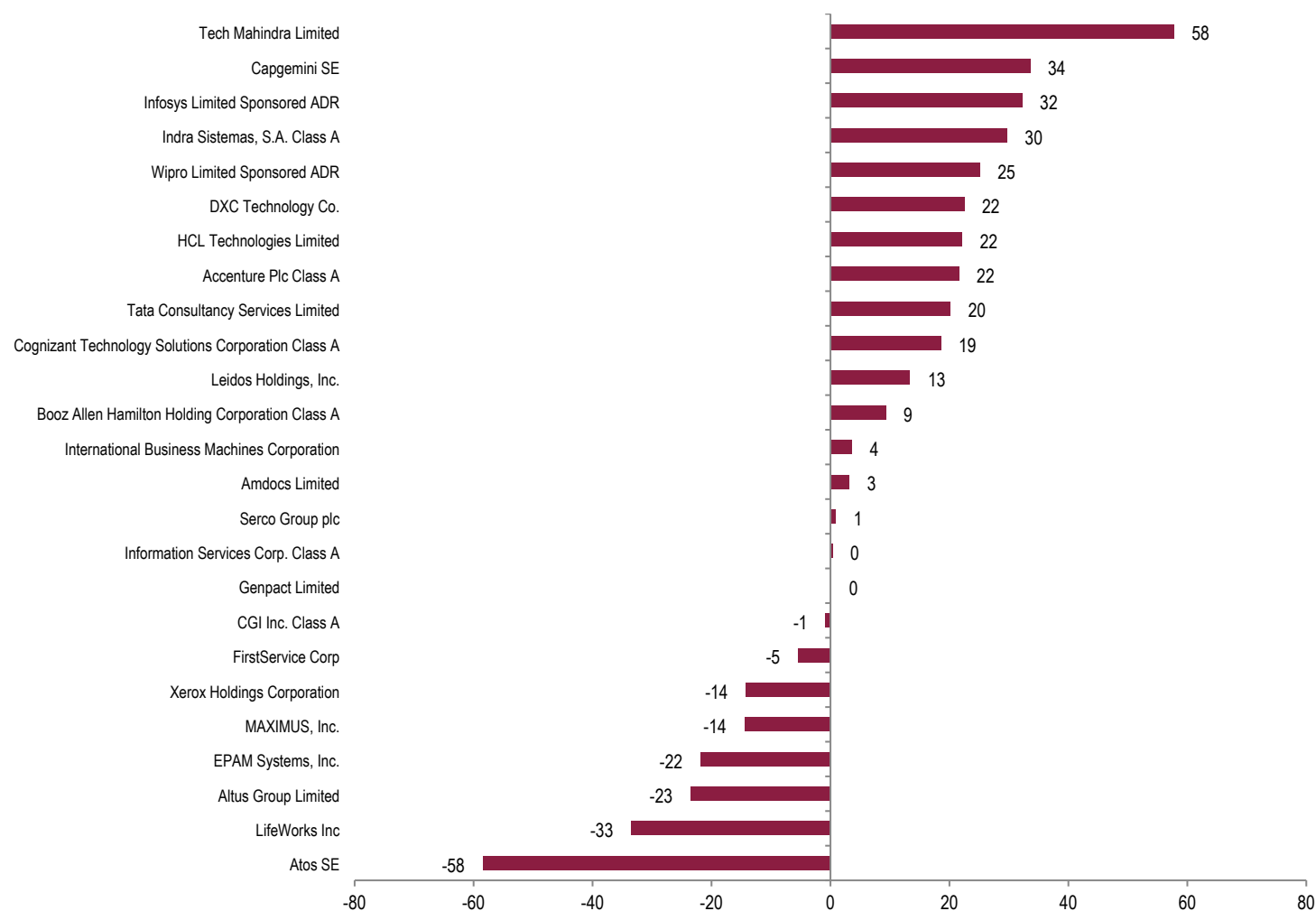
Indices	Price	1 Week	1 Month	3 Month	6 Month	1 Year	YTD
S&P/TSX Composite Index	21,937.89	0.8	5.7	3.4	7.5	17.8	3.4
S&P 500 Index	4,520.16	2.5	5.4	(4.4)	1.5	16.2	(5.2)
S&P/TSX Software Index	171.37	1.5	3.2	(20.1)	(27.6)	(6.7)	(19.3)
S&P500 Software Index	5,147.77	2.4	2.4	(11.7)	(6.3)	21.3	(12.0)

Source: Company reports, FactSet and CIBC World Markets Inc.

Exhibit 3: Software Stocks – Return Performance (%), 3/10/2021 - 3/10/2022

Source: Company reports, FactSet and CIBC World Markets Inc.

Exhibit 4: Business Services Stocks – Return Performance (%), 3/3/2021 - 3/3/2022



Source: Company reports, FactSet and CIBC World Markets Inc.

Exhibit 5: Software Stocks – Comp Table, 2020 - 2022E

	Enterprise Value (\$mlns.)	EV/S			EV/EBITDA			P/E		
		C20	C21E	C22E	C20	C21E	C22E	C20	C21E	C22E
Enterprise Application Software										
Constellation Software Inc.*	36,435	9.2x	7.1x	6.1x	29.6x	24.1x	20.8x	42.9x	>50	30.7x
BlackBerry Limited*	4,472	4.6x	4.6x	4.6x	22.4x	>50	NEG	31.7x	>50	NEG
Sage Group plc	7,248	3.8x	3.9x	3.7x	15.5x	17.0x	15.7x	26.3x	29.1x	25.8x
Tyler Technologies, Inc.	19,080	17.1x	12.0x	10.3x	>50	43.9x	39.5x	>50	>50	>50
Roper Technologies, Inc.	56,533	10.2x	9.8x	9.2x	28.4x	25.0x	23.8x	36.2x	32.5x	29.8x
Enghouse Systems Limited	2,046	4.0x	4.5x	4.3x	10.9x	12.6x	12.3x	19.9x	23.8x	24.3x
Oracle Corporation	259,884	6.5x	6.3x	6.0x	13.2x	12.3x	11.7x	19.0x	17.4x	16.3x
SAP SE	126,858	4.6x	4.6x	4.3x	13.5x	15.0x	14.3x	18.6x	14.9x	18.9x
Enterprise Application Software Average		7.5x	6.6x	6.1x	19.1x	21.4x	19.7x	27.8x	23.6x	24.3x
Extended ERP										
Adobe Inc.	202,997	15.5x	12.7x	11.2x	31.6x	25.5x	23.0x	41.9x	34.3x	31.1x
Open Text Corporation	13,811	4.2x	4.0x	3.7x	10.8x	10.8x	10.4x	13.1x	13.4x	12.9x
Manhattan Associates, Inc.	8,657	14.8x	13.0x	12.2x	>50	47.0x	49.8x	>50	>50	>50
Pegasystems Inc.	6,821	6.7x	5.6x	4.7x	>50	>50	>50	NEG	>50	>50
Software AG	2,069	2.5x	2.5x	2.3x	10.8x	12.4x	10.2x	18.9x	20.8x	19.5x
Fiserv, Inc.	85,511	6.1x	5.6x	5.2x	15.7x	13.3x	12.1x	22.3x	17.7x	15.4x
Extended ERP Average		8.3x	7.2x	6.5x	17.2x	21.8x	21.1x	24.1x	21.6x	19.7x
Software As A Service										
Descartes Systems Group Inc.	6,261	18.0x	14.7x	13.2x	44.2x	33.8x	30.7x	>50	>50	>50
Kinaxis, Inc.*	3,461	15.4x	13.9x	11.2x	>50	>50	>50	>50	>50	>50
Docebo, Inc.*	1,421	22.6x	13.6x	9.7x	NEG	NEG	NEG	NEG	NEG	NEG
Lightspeed Commerce Inc*	3,692	18.7x	8.0x	5.4x	NEG	NEG	NEG	NEG	NEG	NEG
Veeva Systems Inc Class A	28,085	19.6x	15.5x	13.1x	47.5x	36.8x	33.3x	>50	>50	49.5x
Shopify, Inc. Class A	82,201	28.1x	17.8x	13.6x	>50	>50	>50	>50	>50	>50
Q4 Inc*	71	1.8x	1.3x	1.0x	NEG	NEG	NEG	NEG	NEG	NEG
Magnet Forensics, Inc.*	804	11.4x	8.6x	6.7x	43.2x	>50	41.4x	>50	>50	>50
Ceridian HCM Holding, Inc.	11,361	13.5x	11.1x	9.4x	>50	>50	>50	>50	>50	>50
ServiceNow, Inc.	115,124	25.5x	19.5x	15.5x	>50	>50	48.4x	>50	>50	>50
Workday, Inc. Class A	59,001	13.8x	11.6x	9.7x	>50	40.3x	39.0x	>50	>50	>50
Software As A Service Average		17.1x	12.3x	9.9x	44.9x	37.0x	38.5x	>50	>50	49.5x
Infrastructure Vendors										
Citrix Systems, Inc.	15,722	4.9x	4.9x	4.7x	13.7x	13.3x	14.9x	16.5x	18.9x	18.9x
Microsoft Corporation	2,231,741	14.3x	12.2x	10.5x	30.0x	24.5x	20.8x	44.2x	35.1x	30.2x
Infrastructure Vendors Average		9.6x	8.5x	7.6x	21.9x	18.9x	17.8x	30.4x	27.0x	24.6x
Software Average		11.8x	9.2x	7.8x	23.8x	24.0x	24.8x	27.0x	23.5x	24.9x

*Share Price Converted to USD

Source: Company reports, FactSet and CIBC World Markets Inc.

Exhibit 6: Business Services Stocks – Comp Table, 2020 - 2022E

	Enterprise Value (\$mlns.)	EV/EBITDA			P/E			EV/S		
		C20	C21E	C22E	C20	C21E	C22E	C20	C21E	C22E
Business & IT Services										
CGI Inc. Class A	26,604	10.9x	10.8x	10.4x	20.3x	18.1x	16.6x	2.2x	2.2x	2.1x
TELUS International (CDA), Inc.	7,683	19.5x	14.2x	12.3x	35.6x	25.0x	21.0x	4.6x	3.5x	3.0x
Accenture Plc Class A	210,817	24.3x	20.7x	17.7x	41.1x	34.4x	29.0x	4.5x	3.9x	3.3x
Booz Allen Hamilton	13,296	16.2x	14.8x	13.9x	23.4x	21.1x	19.4x	1.7x	1.6x	1.5x
CACI International Inc Class A	9,199	14.8x	13.6x	13.2x	19.7x	16.7x	16.0x	1.6x	1.5x	1.4x
DXC Technology Co.	12,012	4.4x	4.5x	4.4x	10.2x	9.8x	7.9x	0.7x	0.7x	0.7x
Genpact Limited	9,145	13.5x	12.0x	11.3x	20.5x	17.7x	16.5x	2.5x	2.3x	2.1x
International Business Machines	163,819	10.8x	9.3x	9.8x	15.6x	16.3x	13.2x	2.2x	2.9x	2.7x
Atos SE	4,717	3.2x	4.8x	4.6x	4.0x	NEG	11.0x	0.4x	0.4x	0.4x
Capgemini SE	38,056	15.3x	13.1x	11.7x	26.2x	20.6x	19.4x	2.4x	2.1x	1.9x
Sopra Steria Group SA	4,630	10.1x	8.5x	7.7x	21.4x	15.8x	12.3x	1.1x	1.0x	0.9x
Business & IT Services Average		13.0x	11.5x	10.6x	21.6x	19.6x	16.6x	2.2x	2.0x	1.8x
HR Outsourcing										
		EV/EBITDA			P/E			EV/S		
LifeWorks Inc	2,032	10.2x	9.9x	9.2x	26.8x	NEG	25.3x	2.1x	2.0x	1.9x
Ceridian HCM Holding, Inc.	11,361	>50	>50	>50	>50	>50	>50	13.5x	11.1x	9.4x
Willis Towers Watson	28,403	11.5x	11.9x	11.6x	20.1x	20.2x	17.4x	3.0x	3.2x	3.1x
Aon Plc Class A	77,487	23.6x	20.0x	19.1x	32.4x	26.4x	24.1x	7.0x	6.4x	6.0x
Automatic Data Processing, Inc.	91,990	25.2x	23.1x	21.0x	36.3x	33.8x	30.1x	6.2x	5.9x	5.4x
Paychex, Inc.	45,926	27.2x	24.7x	22.5x	42.2x	37.7x	33.8x	11.3x	10.6x	9.8x
HR Outsourcing Average		19.5x	17.9x	16.7x	31.5x	29.5x	26.1x	7.2x	6.5x	5.9x
Information Services										
		EV/EBITDA			P/E			EV/S		
Broadridge Financial Solutions, Inc.	21,656	20.4x	18.5x	16.4x	28.4x	25.2x	22.7x	4.5x	4.1x	3.7x
Dye & Durham Ltd.	2,150	NEG	13.5x	10.1x	NEG	>50	45.9x	24.7x	5.7x	3.7x
Deluxe Corporation	2,796	7.7x	6.9x	6.3x	6.1x	6.4x	6.3x	1.6x	1.4x	1.3x
Information Services Corp	431	9.0x	6.6x	6.5x	16.6x	12.7x	12.0x	3.2x	2.6x	2.6x
Information Services Average		12.4x	11.4x	9.8x	17.0x	14.8x	21.7x	8.5x	3.4x	2.8x
Financial Services Technology										
		EV/EBITDA			P/E			EV/S		
Fidelity National Information Services	77,638	14.8x	12.7x	11.7x	17.7x	14.7x	13.2x	6.2x	5.6x	5.2x
Fiserv, Inc.	85,511	15.7x	13.3x	12.1x	22.3x	17.7x	15.4x	6.1x	5.6x	5.2x
Jack Henry & Associates, Inc.	13,898	24.9x	23.6x	21.7x	47.4x	42.4x	37.7x	8.0x	7.5x	6.9x
ACI Worldwide, Inc.	4,766	13.3x	12.4x	11.7x	>50	30.2x	25.0x	3.7x	3.5x	3.3x
Temenos AG	8,121	20.0x	18.8x	17.3x	28.5x	25.7x	23.5x	9.0x	8.4x	7.6x
Global Payments Inc.	48,516	16.2x	13.4x	12.1x	21.1x	16.5x	14.2x	7.2x	6.3x	5.7x
Bottomline Technologies	2,570	26.3x	25.0x	22.8x	48.6x	49.8x	46.9x	5.6x	5.2x	4.7x
Financial Services Technology Average		18.7x	17.0x	15.6x	30.9x	28.1x	25.1x	6.6x	6.0x	5.5x
Diversified Real Estate Services										
		EV/EBITDA			P/E			EV/S		
Colliers International Group Inc.	6,548	18.1x	12.0x	10.7x	30.8x	20.9x	18.3x	2.3x	1.6x	1.5x
Altus Group Limited	2,292	23.2x	21.6x	18.2x	29.1x	32.7x	34.5x	4.1x	3.7x	3.2x
CBRE Group, Inc. Class A	31,698	17.1x	11.1x	9.7x	27.5x	16.9x	14.8x	1.3x	1.1x	0.9x
Jones Lang LaSalle Incorporated	13,414	15.6x	9.0x	8.9x	24.5x	11.9x	11.7x	1.5x	1.2x	1.1x
Diversified Real Estate Services Average		18.5x	13.4x	11.9x	28.0x	20.6x	19.8x	2.3x	1.9x	1.7x
Software Focused IT Solutions/VARs										
		EV/EBITDA			P/E			EV/GP		
Softchoice Corporation*	1,673	25.6x	24.2x	16.7x	41.6x	41.3x	36.1x	7.0x	5.8x	5.2x
Softcat Plc*	3,279	26.3x	18.8x	18.3x	35.3x	25.3x	24.7x	11.0x	8.5x	7.8x
Crayon Group Holding ASA*	17,154	>50	>50	>50	>50	>50	>50	>50	>50	36.1x
Bytes Technology Group Plc*	1,145	27.7x	19.3x	17.9x	37.6x	24.9x	23.3x	11.7x	NA	NA
SoftwareONE Holding Ltd.*	1,526	7.9x	6.9x	5.8x	10.6x	16.7x	14.1x	6.8x	1.6x	1.5x
Bytes Technology Group Plc* Average		21.9x	17.3x	14.7x	31.3x	27.0x	24.6x	9.2x	5.3x	12.7x
Business Services Average										
		16.8x	14.4x	13.0x	26.3x	23.3x	21.5x	5.4x	4.0x	4.5x

*Software Focused IT Solutions/VARs uses EV/GP metric.

Source: Company reports, FactSet and CIBC World Markets Inc.

Exhibit 7: SaaS Stocks – Comp Table, 2020 - 2022E

	LTM Revenue Growth	LTM FCF Margin	NTM Revenue Growth	NTM FCF Margin	LTM Rule Of 40	NTM Rule Of 40	Enterprise Value (\$MM)	EV/S		
								C20	C21E	C22E
Tier 1 SaaS (Rule of 40 > 60)										
Zoom Video Communications	55%	36%	11%	32%	91%	43%	29,617	11.9x	7.4x	6.6x
CrowdStrike Holdings, Inc.	66%	31%	48%	29%	97%	78%	49,427	58.8x	35.2x	23.7x
Shopify, Inc.	57%	10%	31%	5%	67%	36%	82,023	28.0x	17.8x	13.6x
Zscaler, Inc.	60%	26%	43%	23%	86%	65%	32,389	60.8x	39.0x	26.9x
Lightspeed POS, Inc.	159%	-22%	39%	-9%	137%	30%	3,777	19.2x	8.1x	5.5x
DocuSign, Inc.	45%	23%	17%	19%	68%	37%	19,900	14.1x	9.7x	8.1x
Veeva Systems Inc	26%	38%	17%	36%	64%	53%	28,010	19.5x	15.4x	13.1x
Atlassian Corp. Plc	35%	35%	21%	25%	70%	46%	72,735	39.2x	30.4x	24.0x
Twilio, Inc.	61%	-3%	36%	-2%	58%	34%	25,189	14.3x	8.9x	6.5x
ServiceNow, Inc.	30%	31%	26%	31%	61%	57%	112,498	24.9x	19.1x	15.2x
HubSpot, Inc.	47%	18%	33%	14%	66%	46%	21,585	24.4x	16.6x	12.5x
Tier 1 SaaS (Rule of 40 > 60) Average								28.6x	18.9x	14.1x
	LTM Revenue Growth	LTM FCF Margin	NTM Revenue Growth	NTM FCF Margin	LTM Rule Of 40	NTM Rule Of 40	Enterprise Value (\$MM)	EV/S		
								C20	C21E	C22E
Tier 2 SaaS (Rule of 40 b/w 40-60)										
Docebo, Inc.	55%	-4%	42%	-4%	51%	38%	1,416	22.5x	13.6x	9.7x
Qualys, Inc.	14%	43%	17%	34%	56%	51%	5,032	13.9x	12.2x	10.4x
Descartes Systems	22%	40%	13%	39%	62%	51%	6,302	18.1x	14.8x	13.3x
Avalara Inc	40%	6%	23%	0%	45%	23%	8,115	16.2x	11.6x	9.5x
Five9, Inc.	40%	-2%	24%	5%	38%	29%	7,788	17.9x	12.8x	10.3x
Dropbox, Inc.	13%	34%	8%	33%	47%	41%	9,198	4.8x	4.3x	3.9x
Mimecast Limited	19%	28%	15%	23%	48%	38%	5,268	10.9x	9.2x	7.9x
Wix.com Ltd.	28%	5%	15%	1%	33%	16%	5,124	5.2x	4.0x	3.5x
Workday, Inc.	20%	27%	20%	19%	47%	40%	57,884	13.6x	11.4x	9.5x
VMware, Inc.	9%	31%	7%	28%	40%	35%	58,681	5.0x	4.6x	4.3x
Tier 2 SaaS (Rule of 40 b/w 40-60) Average								12.8x	9.9x	8.2x
	LTM Revenue Growth	LTM FCF Margin	NTM Revenue Growth	NTM FCF Margin	LTM Rule Of 40	NTM Rule Of 40	Enterprise Value (\$MM)	EV/S		
								C20	C21E	C22E
Tier 3 SaaS (Rule of 40 b/w 28-40)										
BlackLine, Inc.	21%	18%	23%	2%	39%	25%	4,326	12.3x	10.2x	8.3x
Zendesk, Inc.	30%	12%	26%	11%	42%	37%	14,685	14.3x	11.0x	8.7x
MongoDB, Inc.	48%	1%	35%	0%	49%	35%	26,436	45.9x	31.1x	22.8x
LivePerson, Inc.	28%	-8%	18%	-12%	20%	6%	1,868	5.1x	4.0x	3.4x
Rapid7 Inc.	30%	8%	28%	7%	39%	35%	7,016	17.1x	13.1x	10.2x
Paylocity Holding Corp.	25%	16%	25%	15%	41%	40%	11,258	18.8x	15.3x	12.2x
Q2 Holdings, Inc.	24%	2%	16%	2%	26%	18%	3,782	9.3x	7.6x	6.5x
Akamai Technologies, Inc.	8%	25%	8%	24%	33%	32%	20,447	6.4x	5.9x	5.5x
Tier 3 SaaS (Rule of 40 b/w 28-40) Average								16.1x	12.3x	9.7x
	LTM Revenue Growth	LTM FCF Margin	NTM Revenue Growth	NTM FCF Margin	LTM Rule Of 40	NTM Rule Of 40	Enterprise Value (\$MM)	EV/S		
								C20	C21E	C22E
Tier 4 SaaS (Rule of 40 <28)										
RingCentral, Inc.	35%	6%	26%	7%	41%	33%	12,791	10.8x	8.0x	6.4x
Teradata Corporation	4%	23%	1%	21%	27%	22%	5,253	2.9x	2.7x	2.7x
Anaplan, Inc.	32%	-5%	26%	0%	27%	26%	9,308	21.2x	16.1x	12.7x
Zuora, Inc.	14%	7%	16%	0%	20%	16%	1,800	5.9x	5.2x	4.5x
New Relic, Inc.	15%	-4%	17%	4%	11%	22%	4,108	6.3x	5.4x	4.6x
Kinaxis, Inc.	4%	7%	35%	10%	11%	45%	3,479	15.5x	14.0x	11.2x
Yext, Inc.	10%	4%	4%	-1%	14%	3%	805	2.3x	2.1x	2.0x
Splunk Inc.	20%	4%	22%	13%	24%	34%	23,704	10.6x	9.0x	7.4x
Tier 4 SaaS (Rule of 40 <28) Average								9.4x	7.8x	6.4x
SaaS Average								17.5x	12.6x	9.9x

Source: Company reports, FactSet and CIBC World Markets Inc.

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