

EQUITY RESEARCH

August 18, 2022

Industry Update

Q2/22 Wrap-up – Bits & Bytes Weekly

Revenue Performance Generally Meets Expectations But Signs Of Margin Contraction Showing Up

Our Conclusion

Q2 was an encouraging quarter for technology firms, as companies generally reported solid results amidst an environment that included high-single-digit inflation and aggressive central bank rate hikes. Despite concerns that macro uncertainty may have put pressure on enterprise and SMB budgets, 67% of companies under coverage met or exceeded consensus revenue estimates.

Median Q2/22 revenue growth for our coverage was 18%, compared to 23% in Q2/C21 as the prior benefitted from heavily COVID-impacted Y/Y comparable periods. The most notable acceleration was at Kinaxis, where term license renewals drove a significant increase in growth, and Converge, where acquisitions led to gross revenue growth of 73%.

While inflationary pressure was broadly well managed, there was still a modest impact to profitability, as the median LTM EBITDA margin declined by 111 bps in Q2. However, many companies embarked on price increase initiatives during the quarter in an effort to offset the cost increase. The most notable margin contraction was felt at Q4 Inc. and Magnet, where growth investments impacted near-term profitability. Constellation also saw 320 bps of margin contraction as the large acquisition of Altera resulted in a larger-than-expected drag on the bottom line.

Key Points

Across the S&P 500, results in the Information Technology sector did show signs of deceleration. Data published by FactSet show that the tech sector delivered average revenue growth of 7.7%, which ranked in the bottom third across the 12 GICS sectors. However, growth in the tech sector was generally better than expected, with 78% of firms posting a positive revenue surprise, second only to the health care sector.

Narrowing in on our coverage, eight of 12 firms reported revenue that was in line or exceeded Street estimates, although the median beat was only 1%. Softchoice and Magnet delivered outsized positive revenue surprises of 7% each, while Q4 Inc. missed by 8%. EBITDA results were more varied compared to expectations, as high-growth names such as Docebo progress towards profitability. Outside of CGI, larger companies such as OTEX, ENGH, CSU, TIXT all saw Y/Y margin contraction this quarter.

This earnings season likely helped ease some level of investor concerns regarding the impact of a slowing economic environment. However, Y/Y margin compression and a general focus on enhancing profitability at the expense of revenue growth does indicate a shift in strategic priorities for tech companies for the foreseeable future.

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Sector:
Information Technology

Q2/C22 Quarterly Earnings Recap

Q2 Results have been generally solid for the software and business services sector despite a cloudy macro backdrop. Revenue results were generally in line with expectations, and we note that the variance was more pronounced on the bottom line as inflationary impacts and a return to more normal spending on travel and entertainment caused margin compression for certain names.

Of the companies we cover, eight (67%) met or exceeded consensus revenue estimates, and seven (58%) met or exceeded consensus EBITDA estimates. Growth in the period remained solid, with median revenue growth of 18% and median EBITDA up 13%. LTM EBITDA margin contracted by 111 bps Y/Y.

Exhibit 1: Software & Services Names – Y/Y Growth (Revenue, EBITDA, EPS) And Actual Vs. Consensus, Q2/C22

Company	Actual (Q2/C22)			% Y/Y Change (Actuals)			% Change (Actual-Consensus)		
	Revenue (MM)	EBITDA (MM)	EPS	Revenue	EBITDA	EPS	Revenue	EBITDA	EPS
Software & Systems									
Constellation (US\$)	1,618	410	14.02	30%	12%	51%	1%	-7%	6%
Descartes (US\$)	118	52	0.25	13%	14%	(7%)	0%	0%	-8%
Docebo, Inc. (US\$)	35	(0.6)	0.06	36%	70%	(129%)	-1%	55%	NA
Enghouse (C\$)	109	36	0.35	(7%)	(13%)	(9%)	1%	3%	2%
Kinaxis (US\$)	81	10.4	0.14	35%	45%	264%	2%	2%	-10%
Magnet Forensics (US\$)	23	3.5	(0.02)	41%	(22%)	(160%)	7%	32%	NA
Open Text Corporation (US\$)	902	314	0.80	1%	(0%)	14%	-1%	1%	3%
Q4 Inc (US\$)	14	(8.7)	(0.29)	(20%)	(518%)	483%	-8%	-46%	NA
Business Services									
CGI Group Inc. (C\$) (EBIT)	3,259	520	1.54	8%	9%	13%	1%	0%	0%
Converge Technology (C\$)	597	39	0.14	73%	80%	69%	0%	-4%	48%
Softchoice Corporation (US\$)	254	25	0.27	20%	20%	21%	7%	8%	26%
TIXT (US\$)	624	150	0.30	17%	15%	24%	0%	3%	10%
Median				18%	13%	18%	1%	1%	3%

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

Exhibit 2: Software & Services Names – Y/Y Growth (Revenue, EBITDA) And LTM EBITDA Margin, Q2/C22 Vs. Q2/C21

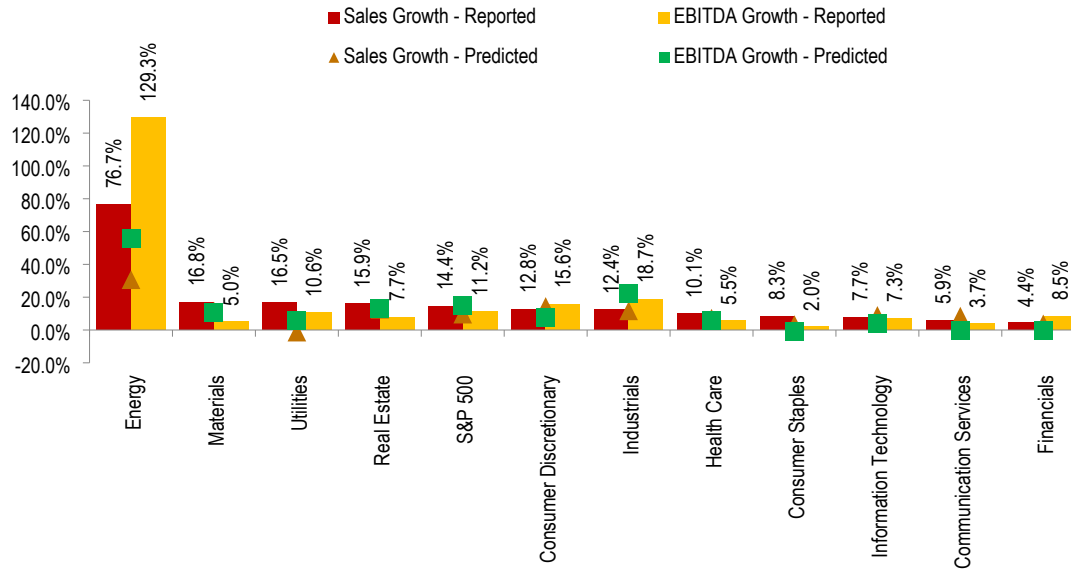
Company	Revenue % Y/Y Change		EBITDA % Y/Y Change		LTM EBITDA Margin		Y/Y Margin Expansion/Contraction (bps)
	Q2/C22	Q2/C21	Q2/C22	Q2/C21	Q2/C22	Q2/C21	
Software & Systems							
Constellation (US\$)	30%	35%	12%	26%	27.6%	30.8%	(320)
Descartes (US\$)	13%	24%	14%	36%	44.2%	41.4%	279
Docebo, Inc. (US\$)	36%	76%	70%	(140%)	(0.8%)	(9.2%)	834
Enghouse (C\$)	(7%)	(10%)	(13%)	(9%)	34.8%	36.2%	(137)
Kinaxis (US\$)	35%	(2%)	45%	(68%)	21.5%	14.2%	732
Magnet Forensics (US\$)	41%	42%	(22%)	(2%)	18.6%	31.3%	(1,266)
Open Text Corporation(US\$)	1%	8%	(0%)	(1%)	36.2%	38.8%	(263)
Q4 Inc (US\$)	(20%)	78%	(518%)	(42%)	(41.2%)	(23.9%)	(1,732)
Business Services							
CGI Group Inc. (C\$) (EBIT)	8%	(1%)	9%	6%	16.3%	15.9%	39
Converge Technology (C\$)	73%	52%	80%	86%	6.1%	6.9%	(85)
Softchoice Corporation (US\$)	20%	(3%)	20%	17%	7.8%	8.3%	(54)
TIXT (US\$)	17%	21%	15%	57%	24.0%	26.2%	(215)
Median	18%	23%	13%	3%	20%	21%	(111)

Source: Company reports and CIBC World Markets Inc.

S&P 500 Q2/22 Earnings Overview

Q2 summary data published by FactSet shows that Technology stocks underperformed the aggregate S&P 500 in terms of both revenue and EBITDA growth. Revenue and EBITDA for the tech sector grew 7%+ in the quarter while S&P500 revenue was up 14% and EBITDA was up 11%.

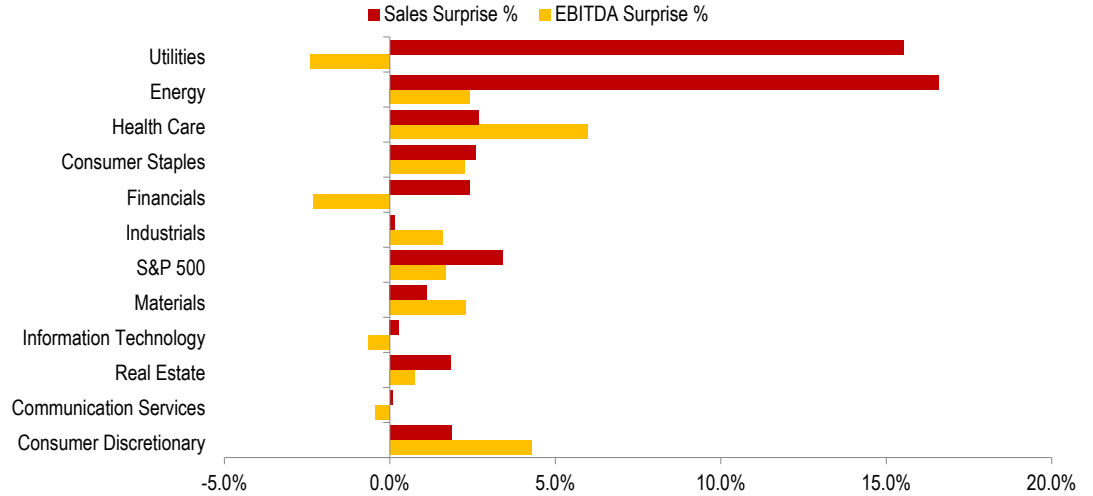
Exhibit 3: S&P 500 Q2/C22 Reporting – Sales & EBITDA Growth (Reported Vs. Predicted), As Of August 17, 2022



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

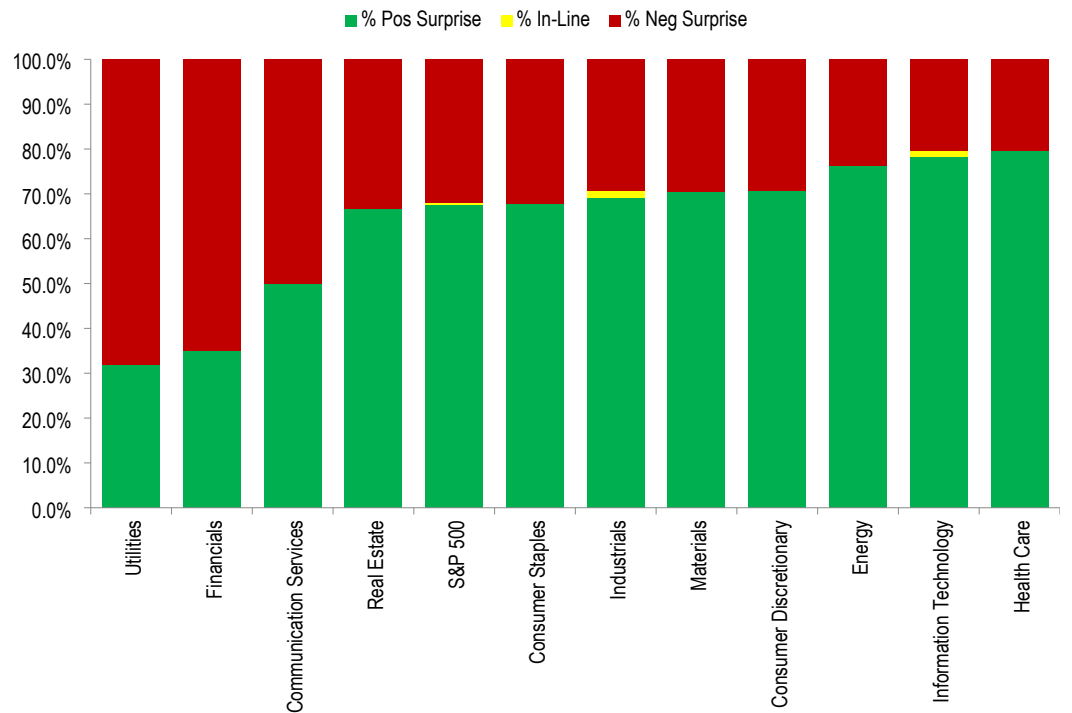
Slower revenue and EBITDA growth was expected by the Street. Given these tempered expectations, tech companies delivered better-than-anticipated results and posted the second highest percentage of positive EBITDA surprises as illustrated in the bar chart in Exhibit 5, although the magnitude of those surprises was minimal. In fact, the bar chart in Exhibit 4 shows that on an aggregate dollar basis, the tech sector missed Street EBITDA estimates by 0.65% while exceeding revenue estimates by only 0.25%.

Exhibit 4: S&P 500 Q2/C22 Reporting – Sales & EBITDA Surprise %, As Of August 17, 2022



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

Exhibit 5: S&P 500 Q2/C22 Reporting – EBITDA Positive, In Line, and Negative Surprise %, As of August 17, 2022



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

News Impacting Our Coverage

SAP To Sell Litmos To Francisco Partners

SAP has reached definitive agreement to sell its Litmos LMS business to private equity firm Francisco Partners. Litmos is a Docebo competitor and a leading learning management system. News that SAP had been looking to sell the Litmos had been public since May, as SAP looks to focus on its cloud businesses and eliminate the overlap between Litmos and its SuccessFactors business. The transaction is expected close in Q4/22 and Litmos will become a stand-alone company.

Research Highlight – TIXT - Leading The Crowd: A Look At Data Annotation

TELUS International (TI) has seen solid growth despite an uncertain macroeconomic environment. We believe that a portion of this growth has been derived from its AI Data Solutions business. The data annotation business is seeing strong industry growth (32% CAGR through 2027E), market share gains (vs. primary competitor Appen), and is benefitting from its ability to cross-sell into its tech and games customer base. If TI is able to maintain its current market share as the market grows, the data annotation division could generate in excess of \$1.75B in revenue by 2027E. [\(Link\)](#)

Research Highlight – KXS - Acquires MPO – Extending Into Supply Chain Execution

Kinaxis announced the \$45 million acquisition of European-based MPO this morning. MPO provides a SaaS-based platform for order orchestration, inventory and transport. With the acquisition, Kinaxis extends its platform into supply chain execution, allowing users of Kinaxis' RapidResponse platform to dynamically respond to disruptions in transportation and provide a more complete picture of every order across the lifecycle. We assume that the acquisition will be neutral to Kinaxis' 2023E financials and potentially increasingly positive in later years as Kinaxis cross-sells MPO into its base. [\(Link\)](#)

Research Highlight – QFOR - Focusing On Efficiency

Q4 Inc. reported weaker-than-expected Q2 results with revenue growth decelerating given a weaker macro-economic and equity market backdrop. The softer-than-expected demand suggests a lengthening sales cycle and corporates pausing/tightening spending given market uncertainty. While margins came in below consensus, the company reiterated its mid-60s gross margin target exiting 2022 and introduced an accelerated timeline to profitability from early 2024 to H2/23. The company noted a number of levers it can pull to reach break-even earlier (despite the tough macro backdrop) and is focused on improving sales efficiency, increasing prices to offset inflation, migrating some functions to lower-cost jurisdictions, ongoing fixed data cost consolidation, and COGS management. With free cash flow of - \$10.6MM in the quarter and net cash of \$45MM, we will be closely watching management's ability to wring cost efficiencies from the business. [\(Link\)](#)

Research Highlight – SFTC - Staffing Up For Growth

Softchoice staffed up in H1, adding the capacity for higher growth and reaching its target for full-year account executive headcount by mid-year. However, the company has begun to see some softness in the Enterprise channel, noting a slower-than-expected ramp in territorial expansion and a reduction in spending from some Enterprise customers. In an uncertain macro environment, the company's 2022 guide remains back-end loaded, despite an adjusted EBITDA margin guide that was reduced by 350 bps at the mid-point. We see recent headcount additions as positioning the company well for future growth, but expect it to take several quarters for new hires to become productive, especially given the current environment. [\(Link\)](#)

Research Highlight – DCBO - Balancing Growth And Profitability

Docebo is balancing growth and profitability, with ARR growth of 48% Y/Y in Q2 and positive FCF. We expect both EBITDA and FCF to incrementally improve from here and see DCBO

as well positioned to continue to profitably grow the business. While enterprise sale cycles have elongated somewhat, the efficiency and productivity improvements that Docebo's solutions provide should resonate in an uncertain macro-economic environment. We continue to see an attractive market opportunity, with 70% of sales in the greenfield external or hybrid learning space. [\(Link\)](#)

Research Highlight – AIF - Analytics Benefitting From Platform Approach

Altus reported a solid Q2 that was in line with headline estimates and showed strong organic growth in Altus Analytics and Over Time revenue. Extended tax cycles in the U.K. and Ontario drove property tax growth in the quarter, although partially offset by FX. Altus' transformation into a CRE data and analytics provider appears to be well on track, with improvements still to come as the platform backbone is further built out. While we like the strides made in transitioning the business, we still prefer to remain on the sidelines due to valuation, with the shares currently trading at 17x our 2023 EV/EBITDA estimate. [\(Link\)](#)

Research Highlight – CARE - Margins Expand While Sales Cycles Get Stretched

Dialogue posted mixed Q2 results with revenue that was slightly below expectations, but strong gross margin expansion that was boosted somewhat by one-time benefits. While a deeper focus on operational efficiency led to better-than-expected margins, Tictrac contributed less ARR than expected and Tictrac sales cycles in core international markets appear slower than anticipated. Management reiterated the timeline to positive EBITDA and operating cash flow by year-end 2023, as investments are focused on revenue generating and patient facing roles. We retain our Neutral rating as the macro-outlook puts pressure on HR budgets and the move upmarket lengthens sales cycles and slows pipeline conversion. [\(Link\)](#)

Exhibit 6: CIBC Software/Services – Coverage Performance, 8/18/2021 - 8/18/2022

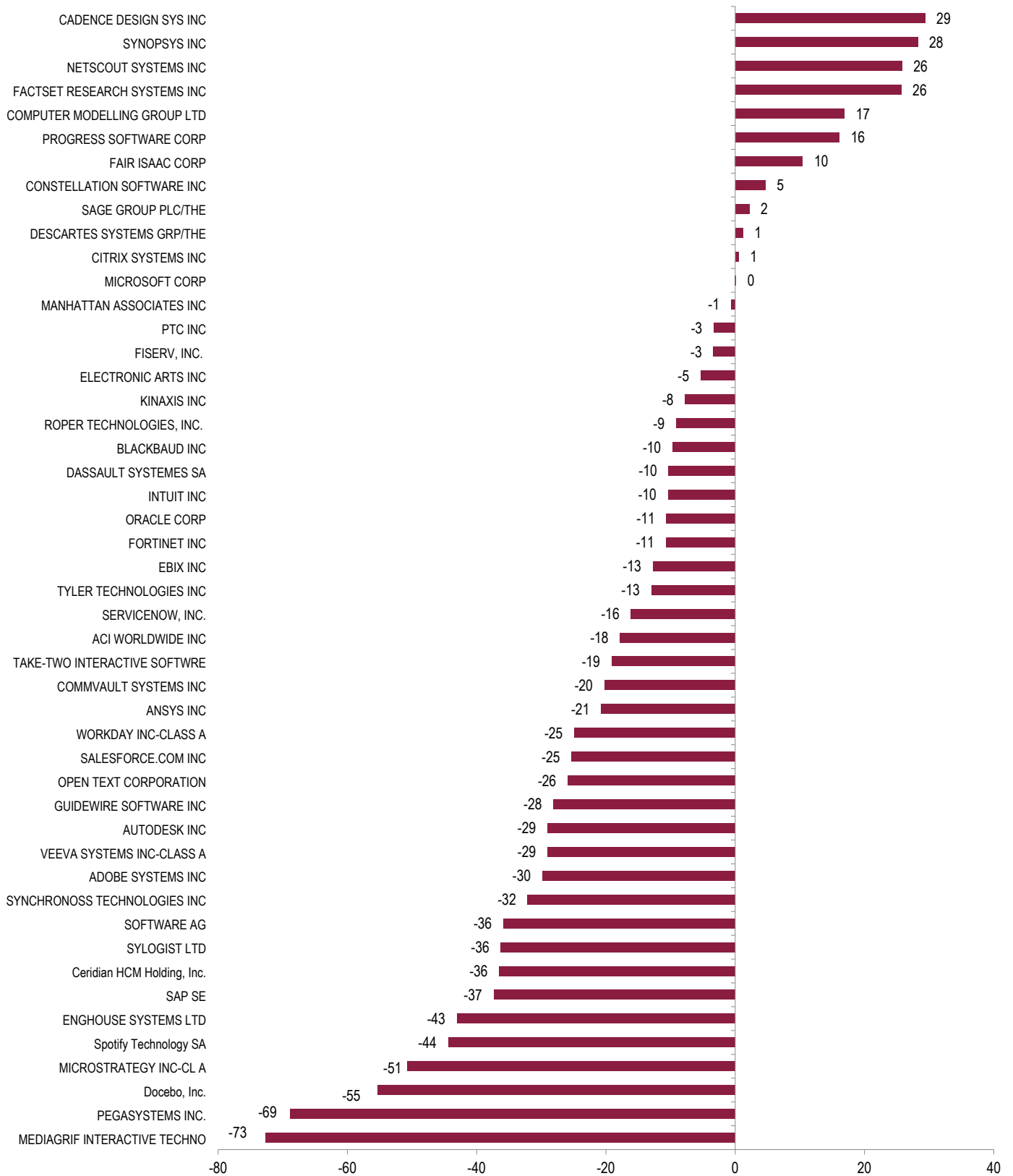
Software & Systems	Price	1 Week	1 Month	3 Month	6 Month	1 Year	YTD	52W High	52W Low
Constellation Software Inc	2,170.06	2.7	13.7	11.9	5.4	4.7	(7.5)	2385.80	1793.93
Descartes Systems	72.17	0.0	10.4	21.3	4.4	(0.5)	(12.7)	91.39	56.19
Enghouse Systems Limited	33.05	(0.5)	10.6	(0.8)	(18.6)	(43.0)	(31.8)	64.42	23.96
Open Text Corp	39.19	(0.2)	0.9	4.0	(8.3)	(25.9)	(17.5)	55.25	35.04
Kinaxis	167.82	(3.0)	14.8	17.1	11.1	(7.7)	(5.4)	229.98	119.48
Docebo, Inc.	43.38	(3.2)	25.8	3.2	(31.2)	(55.3)	(48.9)	117.55	32.35
Magnet Forensics	25.66	3.4	39.5	49.5	1.1	(41.1)	(21.9)	65.80	14.89
Q4 Inc.	4.41	0.0	0.0	(2.9)	(12.7)	NA	(48.1)	12.05	4.01
Average		(0.1)	14.5	12.9	(6.1)	(24.1)	(24.2)		

Business Services	Price	1 Week	1 Month	3 Month	6 Month	1 Year	YTD	52W High	52W Low
CGI Group Inc	110.67	1.2	2.9	6.4	4.9	(0.7)	(1.1)	116.88	95.45
Converge Technologies	6.79	(3.0)	24.1	2.7	(33.0)	(35.2)	(37.5)	13.09	4.85
Softchoice Corporation	22.07	(9.3)	(8.1)	13.8	5.9	(33.7)	3.4	36.58	17.91
Telus International	40.05	(0.1)	13.0	31.6	30.2	5.1	(4.2)	49.43	26.75
Average		(2.8)	8.0	13.6	2.0	(16.1)	(9.9)		

Indices	Price	1 Week	1 Month	3 Month	6 Month	1 Year	YTD
S&P/TSX Composite Index	20,281.20	1.4	9.1	0.9	(3.5)	(0.1)	(4.4)
S&P 500 Index	4,277.64	1.7	11.7	9.0	(1.6)	(2.8)	(10.3)
S&P/TSX Software Index	143.94	(1.4)	10.0	7.6	(12.5)	(36.3)	(32.2)
S&P500 Software Index	4,936.74	1.0	14.8	15.8	0.8	(6.5)	(15.6)

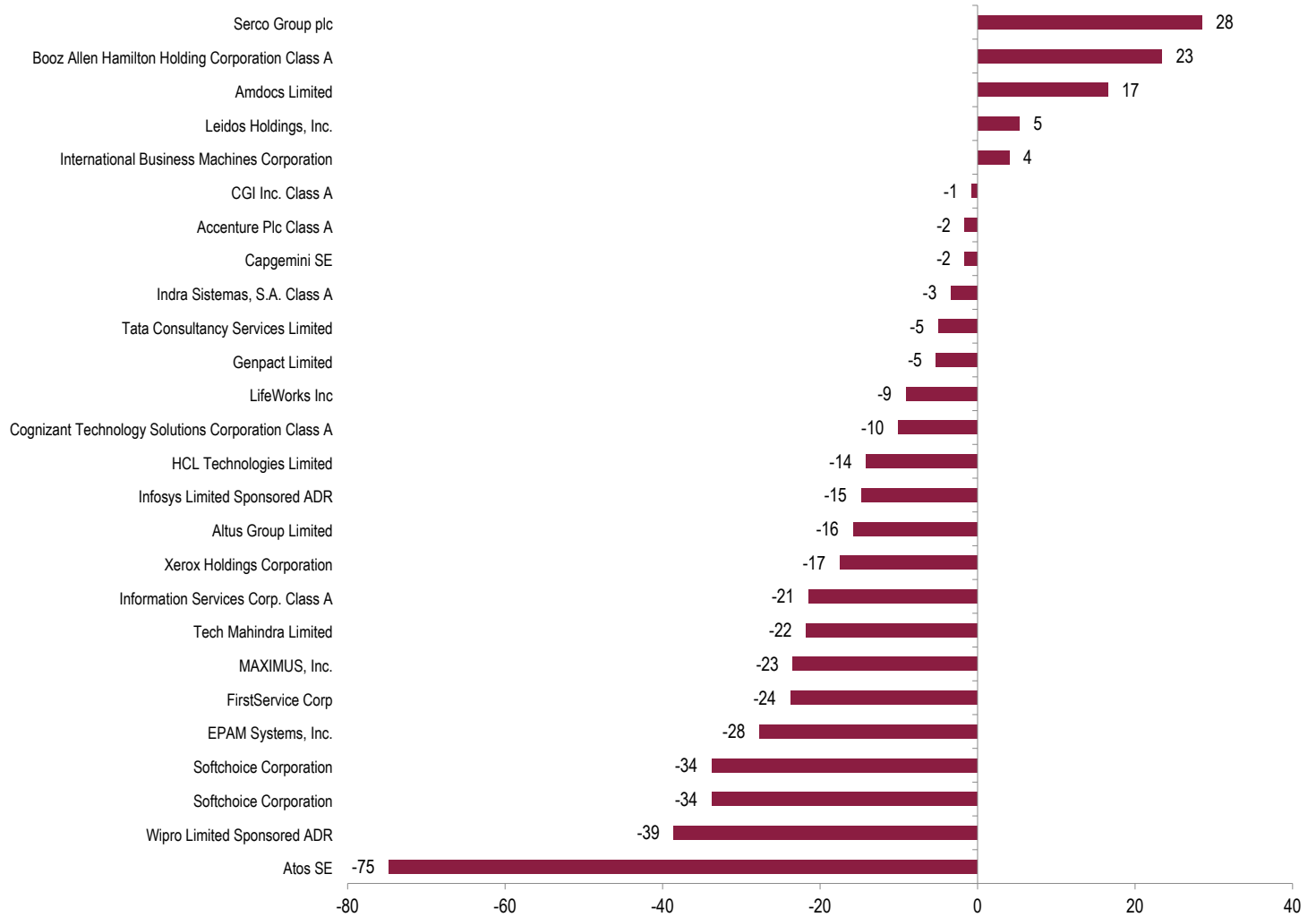
Source: FactSet and CIBC World Markets Inc.

Exhibit 7: Software Stocks – Return Performance (%), 8/18/2021 - 8/18/2022



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

Exhibit 8: Business Services Stocks – Return Performance (%), 8/18/2021 - 8/18/2022



Source: FactSet and CIBC World Markets Inc.

Exhibit 9: Software Stocks – Comp Table, 2021 - 2023E

	Enterprise Value (\$mlns.)	EV/S			EV/EBITDA			P/E		
		C21	C22E	C23E	C21	C22E	C23E	C21	C22E	C23E
Enterprise Application Software										
Constellation Software Inc.*	37,003	7.2x	5.7x	5.0x	24.5x	21.7x	18.6x	>50	30.3x	27.3x
BlackBerry Limited*	3,779	4.2x	5.5x	4.0x	>50	NEG	NEG	NEG	NEG	NEG
Sage Group plc	7,812	4.2x	4.0x	3.7x	18.9x	16.6x	15.2x	28.3x	27.2x	24.3x
Tyler Technologies, Inc.	17,867	11.2x	9.6x	8.8x	>50	37.7x	34.6x	>50	>50	49.8x
Roper Technologies, Inc.	53,865	9.3x	10.3x	9.7x	24.3x	25.2x	23.5x	42.2x	32.0x	29.6x
Enghouse Systems Limited	1,629	3.5x	3.7x	3.75x	10.0x	11.2x	10.9x	19.7x	23.8x	23.0x
Oracle Corporation	269,406	6.7x	5.8x	5.3x	14.4x	11.8x	10.9x	17.5x	15.6x	14.2x
SAP SE	115,912	4.2x	3.7x	3.6x	16.2x	13.6x	12.1x	20.5x	18.9x	16.6x
Enterprise Application Software Average		6.3x	6.0x	5.5x	18.0x	19.7x	18.0x	25.7x	24.6x	26.4x
Extended ERP										
Adobe Incorporated	204,715	13.0x	11.4x	10.0x	30.7x	23.4x	20.4x	43.9x	32.0x	27.2x
Open Text Corporation	13,354	3.9x	3.7x	3.6x	10.4x	10.6x	10.0x	12.4x	12.4x	11.6x
Manhattan Associates, Inc.	9,326	14.1x	12.6x	11.4x	>50	47.9x	41.5x	>50	>50	>50
Pegasystems Inc.	3,653	3.0x	2.8x	2.5x	NEG	>50	26.9x	NEG	>50	43.1x
Software AG	1,730	2.1x	1.8x	1.7x	11.2x	8.8x	7.7x	24.2x	17.6x	14.7x
Fiserv, Inc.	91,762	5.7x	5.5x	5.1x	16.5x	12.8x	11.7x	>50	17.0x	14.9x
Extended ERP Average		6.9x	6.3x	5.7x	17.2x	20.7x	19.7x	26.8x	19.8x	22.3x
Software As A Service										
Descartes Systems Group Inc.	5,917	13.9x	12.4x	11.6x	32.0x	28.3x	25.6x	>50	>50	>50
Kinaxis, Inc.*	3,388	13.5x	9.4x	8.3x	>50	>50	46.4x	>50	>50	>50
Docebo, Inc.*	893	8.6x	6.2x	4.6x	NEG	NEG	>50	NEG	NEG	NEG
Lightspeed Commerce Inc*	2,204	4.7x	3.1x	2.4x	NEG	NEG	NEG	NEG	NEG	NEG
Veeva Systems Inc Class A	32,470	22.2x	15.1x	12.9x	>50	38.1x	32.7x	>50	>50	47.4x
Shopify, Inc. Class A	40,946	8.9x	7.4x	6.0x	>50	NEG	>50	16.1x	NEG	NEG
Q4 Inc*	92	1.7x	1.7x	1.6x	NEG	NEG	NEG	NEG	NEG	NEG
Magnet Forensics, Inc.*	701	10.0x	7.4x	5.7x	37.6x	45.6x	25.6x	>50	>50	>50
Ceridian HCM Holding, Inc.	11,030	10.8x	9.0x	7.7x	>50	>50	40.6x	NEG	>50	>50
ServiceNow, Inc.	97,512	16.5x	13.3x	10.8x	>50	42.5x	34.1x	>50	>50	>50
Workday, Inc. Class A	42,633	9.9x	7.0x	5.9x	>50	27.8x	22.5x	NEG	>50	40.3x
Software As A Service Average		11.0x	8.4x	7.0x	34.8x	36.5x	32.5x	16.1x	>50	43.9x
Infrastructure Vendors										
Citrix Systems, Inc.	16,089	5.0x	4.9x	4.8x	22.9x	13.1x	13.0x	42.3x	>50	32.3x
Microsoft Corporation	2,144,441	12.8x	10.2x	9.1x	26.5x	20.6x	18.2x	36.1x	30.1x	26.3x
Infrastructure Vendors Average		8.9x	7.6x	6.9x	24.7x	16.9x	15.6x	39.2x	30.1x	29.3x
Software Average		8.5x	7.2x	6.3x	21.1x	24.1x	22.8x	27.6x	23.4x	27.7x

*Share Price Converted to USD

Source: FactSet and CIBC World Markets Inc.

Exhibit 10: Business Services Stocks – Comp Table, 2021 - 2023E

	Enterprise Value (\$mlns.)	EV/EBITDA			P/E			EV/S		
		C21	C22E	C23E	C21	C22E	C23E	C21	C22E	C23E
Business & IT Services										
CGI Inc. Class A	29,579	12.0x	11.5x	11.0x	19.8x	17.9x	16.9x	2.4x	2.3x	2.2x
TELUS International (CDA), Inc.	9,146	16.9x	14.7x	12.5x	30.6x	25.7x	20.4x	4.2x	3.5x	3.1x
Accenture Plc Class A	197,383	20.5x	16.7x	15.4x	34.9x	28.6x	25.6x	3.9x	3.1x	2.9x
Booz Allen Hamilton	15,457	17.3x	16.0x	15.1x	22.6x	22.8x	20.8x	2.0x	1.7x	1.6x
CACI International Inc Class A	8,642	11.6x	12.9x	12.0x	15.5x	15.7x	14.7x	1.4x	1.4x	1.3x
DXC Technology Co.	9,501	4.7x	3.9x	3.8x	NEG	7.4x	6.0x	0.5x	0.6x	0.7x
Genpact Limited	10,029	15.6x	12.8x	11.3x	25.4x	17.9x	15.9x	2.5x	2.3x	2.1x
International Business Machines	172,719	12.9x	11.0x	10.5x	21.8x	14.9x	13.7x	3.0x	2.9x	2.8x
Atos SE	2,979	2.8x	3.0x	2.7x	NEG	8.4x	5.1x	0.3x	0.3x	0.3x
Capgemini SE	37,642	13.0x	10.7x	9.9x	28.2x	17.7x	15.9x	2.1x	1.7x	1.6x
Sopra Steria Group SA	4,324	8.2x	7.1x	6.5x	16.3x	11.1x	9.9x	0.9x	0.9x	0.8x
Converge Technology Solutions Corp	1,463	15.6x	9.8x	7.9x	>50	41.3x	22.6x	1.0x	0.6x	0.5x
Business & IT Services Average		12.3x	11.0x	10.1x	23.9x	17.1x	15.0x	2.1x	1.9x	1.8x
HR Outsourcing										
		EV/EBITDA			P/E			EV/S		
Ceridian HCM Holding, Inc.	11,030	>50	>50	40.6x	NEG	>50	>50	10.8x	9.0x	7.7x
Willis Towers Watson	24,845	11.1x	10.5x	9.7x	6.7x	16.1x	14.2x	2.8x	2.8x	2.7x
Aon Plc Class A	73,056	19.1x	18.2x	17.0x	>50	22.8x	20.7x	6.0x	5.8x	5.5x
Automatic Data Processing, Inc.	110,283	28.8x	24.3x	21.9x	42.9x	34.6x	30.7x	7.3x	6.4x	6.0x
Paychex, Inc.	49,594	30.0x	23.1x	21.6x	45.8x	34.9x	32.3x	12.2x	10.3x	9.6x
HR Outsourcing Average		22.2x	19.0x	22.2x	31.8x	27.1x	24.5x	7.8x	6.8x	6.3x
Information Services										
		EV/EBITDA			P/E			EV/S		
Broadridge Financial Solutions, Inc.	24,481	21.0x	18.7x	17.5x	37.9x	26.0x	24.0x	4.8x	4.1x	3.9x
Dye & Durham Ltd.	2,191	13.8x	13.8x	9.7x	>50	>50	27.9x	5.8x	3.8x	3.3x
Deluxe Corporation	2,477	6.7x	6.0x	5.8x	16.3x	5.8x	5.5x	1.2x	1.1x	1.1x
Information Services Corp	436	6.4x	6.7x	6.6x	11.8x	11.7x	12.3x	2.6x	2.3x	2.2x
Information Services Average		12.0x	11.3x	9.9x	22.0x	14.5x	17.4x	3.6x	2.9x	2.6x
Financial Services Technology										
		EV/EBITDA			P/E			EV/S		
Fidelity National Information Services	79,777	13.0x	12.2x	11.2x	>50	14.1x	12.6x	5.7x	5.4x	5.1x
Fiserv, Inc.	91,762	16.5x	12.8x	11.7x	>50	17.0x	14.9x	5.7x	5.5x	5.1x
Jack Henry & Associates, Inc.	14,857	21.3x	23.5x	21.6x	48.9x	40.1x	37.5x	8.5x	7.4x	6.9x
ACI Worldwide, Inc.	3,943	10.7x	9.7x	9.0x	23.9x	19.0x	16.1x	2.9x	2.8x	2.6x
Temenos AG	6,719	12.3x	14.3x	12.8x	32.9x	19.7x	17.6x	6.9x	6.5x	5.9x
Global Payments Inc.	48,201	13.2x	12.2x	11.1x	40.7x	14.1x	12.3x	5.7x	5.9x	5.5x
Financial Services Technology Average		14.5x	14.1x	12.9x	36.6x	20.7x	18.5x	5.9x	5.6x	5.2x
Diversified Real Estate Services										
		EV/EBITDA			P/E			EV/S		
Colliers International Group Inc.	6,500	11.9x	9.9x	8.8x	-14.4x	17.0x	15.4x	1.6x	1.4x	1.3x
Altus Group Limited	2,583	25.0x	24.4x	20.5x	36.9x	36.9x	38.9x	4.1x	4.1x	3.6x
CBRE Group, Inc. Class A	30,065	14.1x	9.7x	9.2x	16.0x	14.1x	13.5x	1.1x	0.9x	0.9x
Jones Lang LaSalle Incorporated	10,881	7.5x	7.4x	7.1x	10.2x	9.6x	8.9x	0.6x	0.5x	0.5x
Diversified Real Estate Services Average		14.6x	12.8x	11.4x	12.2x	19.4x	19.2x	1.8x	1.7x	1.6x
Software Focused IT Solutions/VARs										
		EV/EBITDA			P/E			EV/S*		
Softchoice Corporation* USD	1,098	45.0x	13.1x	10.8x	NEG	23.7x	18.2x	4.1x	3.4x	3.1x
Softcat Plc*	2,572	15.3x	15.3x	14.6x	20.4x	20.9x	20.6x	6.9x	6.5x	5.8x
Crayon Group Holding ASA*	11,877	>50	>50	>50	>50	>50	>50	>50	27.6x	23.4x
Bytes Technology Group Plc*	1,010	20.8x	16.5x	15.1x	41.0x	22.7x	21.9x	NA	NA	NA
SoftwareONE Holding Ltd.*	1,567	9.5x	6.3x	5.5x	15.5x	15.7x	13.1x	7.5x	1.6x	1.3x
Bytes Technology Group Plc* Average		22.6x	12.8x	11.5x	25.7x	20.7x	18.5x	6.2x	9.8x	8.4x
Business Services Average		15.4x	13.0x	12.7x	24.9x	19.5x	18.0x	4.2x	4.3x	3.9x

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

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

Exhibit 11: SaaS Stocks – Comp Table, 2021 - 2023E

	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		
								C21	C22E	C23E
Tier 1 SaaS (Rule of 40 > 60)										
Zoom Video Communications	29%	36%	11%	30%	65%	40%	25,224	9.5x	5.6x	5.6x
CrowdStrike Holdings, Inc.	64%	30%	46%	29%	94%	75%	44,473	50.9x	20.8x	20.8x
Shopify, Inc.	30%	1%	21%	-8%	31%	13%	40,716	8.8x	7.4x	7.4x
Zscaler, Inc.	61%	22%	41%	21%	83%	62%	24,196	35.9x	19.5x	19.5x
Lightspeed POS, Inc.	137%	-17%	37%	-8%	120%	28%	2,195	9.9x	3.1x	3.1x
DocuSign, Inc.	37%	24%	14%	16%	61%	30%	13,993	9.6x	5.7x	5.7x
Veeva Systems Inc	23%	38%	18%	38%	61%	55%	32,537	22.2x	15.2x	15.2x
Atlassian Corp. Plc	33%	29%	26%	23%	62%	49%	72,434	34.7x	22.6x	22.6x
Twilio, Inc.	57%	-4%	31%	-1%	53%	30%	10,832	3.8x	2.8x	2.8x
ServiceNow, Inc.	28%	31%	23%	30%	58%	53%	97,636	16.6x	13.3x	13.3x
HubSpot, Inc.	47%	17%	28%	13%	64%	41%	17,064	13.1x	10.1x	10.1x
Tier 1 SaaS (Rule of 40 > 60) Average								19.5x	11.5x	11.5x
	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		
								C21E	C22E	C22E
Tier 2 SaaS (Rule of 40 b/w 40-60)										
Docebo, Inc.	54%	-3%	40%	-4%	50%	36%	917	8.8x	6.3x	4.7x
Qualys, Inc.	15%	46%	18%	31%	61%	49%	5,619	13.6x	11.5x	11.5x
Descartes Systems	22%	39%	10%	36%	61%	46%	5,882	13.9x	12.3x	11.5x
Avalara Inc	38%	6%	22%	2%	44%	24%	7,536	10.8x	8.7x	8.7x
Five9, Inc.	34%	-4%	23%	7%	30%	30%	8,181	13.4x	10.5x	10.5x
Dropbox, Inc.	12%	34%	7%	34%	47%	41%	9,669	4.5x	4.2x	4.2x
Wix.com Ltd.	22%	1%	11%	1%	23%	13%	3,868	3.0x	2.8x	2.8x
Workday, Inc.	21%	26%	20%	18%	47%	38%	43,128	10.0x	7.1x	7.1x
VMware, Inc.	8%	28%	7%	26%	36%	33%	61,101	5.2x	4.5x	4.5x
Tier 2 SaaS (Rule of 40 b/w 40-60) Average								9.2x	7.5x	7.3x
	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		
								C21E	C22E	C22E
Tier 3 SaaS (Rule of 40 b/w 28-40)										
BlackLine, Inc.	21%	11%	24%	6%	32%	30%	4,368	10.3x	8.3x	8.3x
Zendesk, Inc.	30%	12%	23%	13%	42%	36%	9,640	7.2x	5.7x	5.7x
MongoDB, Inc.	52%	1%	31%	2%	53%	32%	24,047	40.7x	20.5x	20.5x
LivePerson, Inc.	24%	-18%	17%	-4%	6%	13%	1,048	2.2x	2.0x	2.0x
Rapid7 Inc.	32%	6%	26%	9%	38%	35%	4,557	8.5x	6.6x	6.6x
Paylocity Holding Corp.	32%	16%	24%	14%	48%	39%	14,776	23.2x	15.2x	15.2x
Q2 Holdings, Inc.	21%	3%	17%	2%	24%	19%	2,806	5.6x	4.8x	4.8x
Akamai Technologies, Inc.	7%	25%	6%	23%	32%	29%	17,125	4.9x	4.8x	4.8x
Tier 3 SaaS (Rule of 40 b/w 28-40) Average								12.8x	8.5x	8.5x
	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		
								C21E	C22E	C22E
Tier 4 SaaS (Rule of 40 <28)										
RingCentral, Inc.	33%	9%	21%	8%	42%	30%	5,687	3.6x	2.8x	2.8x
Teradata Corporation	2%	25%	-7%	21%	26%	14%	3,792	2.0x	2.1x	2.1x
Zuora, Inc.	15%	5%	16%	0%	21%	16%	1,095	3.6x	2.8x	2.8x
New Relic, Inc.	18%	-1%	17%	1%	17%	18%	4,245	6.4x	4.8x	4.8x
Kinaxis, Inc.	21%	5%	19%	9%	26%	28%	3,315	13.2x	9.2x	8.2x
Yext, Inc.	10%	1%	2%	-1%	11%	1%	473	1.3x	1.2x	1.2x
Splunk Inc.	24%	7%	23%	13%	30%	36%	19,324	8.7x	5.9x	5.9x
Tier 4 SaaS (Rule of 40 <28) Average								5.5x	4.1x	4.0x
SaaS Average								12.6x	8.3x	8.2x

Source: FactSet and CIBC World Markets Inc.

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