

EQUITY RESEARCH

June 9, 2022

Industry Update

Culture Clash – Bits & Bytes Weekly

Employers Double Down On Return-to-office Mandates

Our Conclusion

After more than two years of remote work, the debate over the return to office has started to intensify as employees push back against recent mandates. Return-to-office mandates are seeing mass pushback with low employment and a record of unfilled positions, due in part to an aging population. While the Great Resignation did give workers additional leverage, recent hiring freezes in the tech sector and recessionary concerns are starting to put some of that leverage back in the hands of management.

Key Points

Recently, Tesla made headlines after CEO Elon Musk mandated employees to return to the office for a minimum of 40 hours/week, appearing to have little patience for remote work. On the other hand, Apple indefinitely delayed its return-to-office plans after losing a key executive and facing wider backlash from employees over its 3x/week work from the office policy. The movement, known as 'Apple Together,' criticized the mandate, calling it inflexible and inefficient. It has been a similar story at Discovery where a majority of the workforce is strongly against a return-to-office mandate, a challenge for new leadership as it tries to win over the WarnerMedia staff.

The message is clear – employee preferences have changed dramatically during the pandemic, but in the wake of hiring freezes and downsizings, some employees might just have to live with the mandates. The common argument that collaboration and creativity has suffered as a result of remote work was strongly refuted by Apple employees in an open letter to management, declaring that "Office-bound work is a technology from the last century, from the era before ubiquitous video-call-capable internet and everyone being on the same internal chat application."

While many employees have grown comfortable working remotely, there certainly are some downsides. Work and life are blending together in a way where 9-5 are no longer the "office hours." According to a Microsoft study, the average Teams user sends 42% more chats after hours and people have 250% more meetings than they did pre-pandemic, pushing other work to later hours. The remaining challenge is to find a balance between worker flexibility while also making sure that work is not on 24/7, leading to burnout. The study also found that in-person conversations were not replaced by Zoom meetings but instead with emails and instant chats, negatively impacting collaboration and personal connectivity.

CIBC CAPITAL MARKETS

Stephanie Price, CFA +1 416-594-7047 Stephanie.Price@cibc.com Scott Fletcher, CPA, CA +1 416-956-3229 Scott.Fletcher@cibc.com

> Javeria Gaya, CPA +1 416-594-7261 Javeria.Gaya@cibc.com

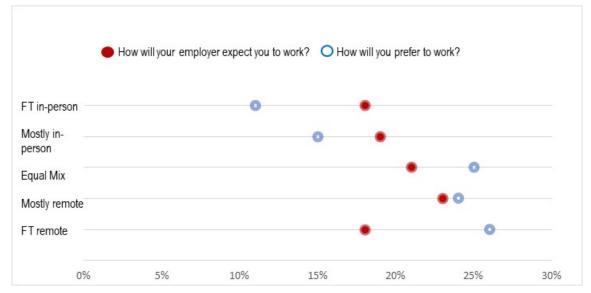
Sector: Information Technology

All figures in Canadian dollars unless otherwise stated.

Preferences For Working Arrangements

According to a recent survey from PwC, 62% of respondents prefer a mix of in-person and remote work, and expect their company to offer that kind of approach in the next 12 months. This compares to 72% in the 2021 survey, indicating that employees are less confident today that their workplace will provide flexible solutions that suit them. On the extremes, 26% of employees would prefer full-time remote work, and 18% believe that their employer is likely to require full-time in-person work, which only 11% of employees prefer.

Exhibit 1: Remote Work - Employee Expectations, Next 12 Months



Source: PwC and CIBC World Markets Inc.

News Impacting Our Coverage

Descartes Acquires XPS Technologies For \$65MM

Headquartered in Utah, XPS provides e-commerce multi-carrier parcel shipping solutions and complements Descartes' existing e-commerce suite of solutions. The acquisition also brings a community of more than 10,000 customers to add to Descartes' GLN network. The cash deal of \$65MM includes performance-based earn-outs, with a maximum payable amount of \$75MM, based on XPS achieving revenue-based targets in each of the first two years post-acquisition. Link to Note

ACCC Delays Release Of Decision On Proposed Acquisition Of Link Group

The Australian Competition and Consumer Commission (ACCC) has advised that it has delayed the release of its decision as to whether to provide notification it will not oppose the proposed acquisition of Link Administration by Dye & Durham Corporation. The decision is now expected for June 16, 2022.

Descartes Announces TSX Acceptance Of Normal Course Issuer Bid

Under the bid, the company is allowed to repurchase up to 7,389,623 common shares, representing approximately 8.7% of the issued and outstanding common shares and approximately 10% of the "public float" on the open market, between June 10, 2022 and June 9, 2023.

Exhibit 2: CIBC Software/Services – Coverage Performance, 6/9/2021 - 6/9/2022

Software & Systems	Price	1 Week	1 Month	3 Month	6 Month	1 Year	YTD	52W High	52W Low
Constellation Software Inc	1,888.00	(3.4)	(1.8)	(11.0)	(13.3)	6.5	(19.6)	2385.80	1743.61
Descartes Systems	64.02	5.0	12.7	(13.0)	(17.0)	(2.6)	(22.6)	91.39	56.19
Dye & Durham	22.49	3.7	41.1	(20.0)	(50.1)	NA	(49.9)	50.49	12.95
Enghouse Systems Limited	26.54	(19.4)	(18.5)	(31.4)	(47.6)	(50.7)	(45.2)	64.42	27.00
Open Text Corp	40.37	0.2	9.5	(6.3)	(15.2)	(17.9)	(15.0)	55.25	35.04
Kinaxis	138.18	(0.3)	4.5	(12.4)	(24.5)	1.8	(22.1)	229.98	127.24
Docebo, Inc.	41.22	0.6	(13.9)	(29.1)	(51.0)	(37.0)	(51.4)	117.55	37.57
Magnet Forensics	16.22	3.1	(18.7)	(37.2)	(46.5)	(39.9)	(50.7)	65.80	15.42
Q4 Inc.	4.83	(0.2)	7.3	(12.0)	(46.6)	NA	(43.2)	12.05	4.03
Average		(1.2)	2.5	(19.2)	(34.6)	(20.0)	(35.5)		

Business Services	Price	1 Week	1 Month	3 Month	6 Month	1 Year	YTD	52W High	52W Low
CGI Group Inc	104.93	(2.4)	2.3	1.2	(2.2)	(3.5)	(6.2)	116.88	98.77
Converge Technologies	6.97	(5.9)	(7.9)	(26.2)	(40.5)	(19.7)	(35.9)	13.09	5.88
Softchoice Corporation	21.16	(0.9)	(2.3)	(12.3)	(1.3)	5.7	(0.9)	45.74	17.94
Telus International	31.60	(0.8)	13.1	2.1	(24.8)	(15.9)	(24.4)	49.43	26.75
Average		(2.5)	1.3	(8.8)	(17.2)	(8.3)	(16.8)		

Indices	Price	1 Week	1 Month	3 Month	6 Month	1 Year	YTD
S&P/TSX Composite Index	20,709.67	(1.5)	3.5	(3.6)	(1.0)	3.5	(2.4)
S&P 500 Index	4,101.99	(1.8)	2.8	(4.1)	(12.1)	(2.8)	(13.9)
S&P/TSX Software Index	136.64	(2.8)	5.4	(15.7)	(35.7)	(29.8)	(35.6)
S&P500 Software Index	4,592.79	(2.2)	4.7	(6.7)	(21.5)	(1.0)	(21.5)

Exhibit 3: Software Stocks – Return Performance (%), 6/9/2021 - 6/9/2022

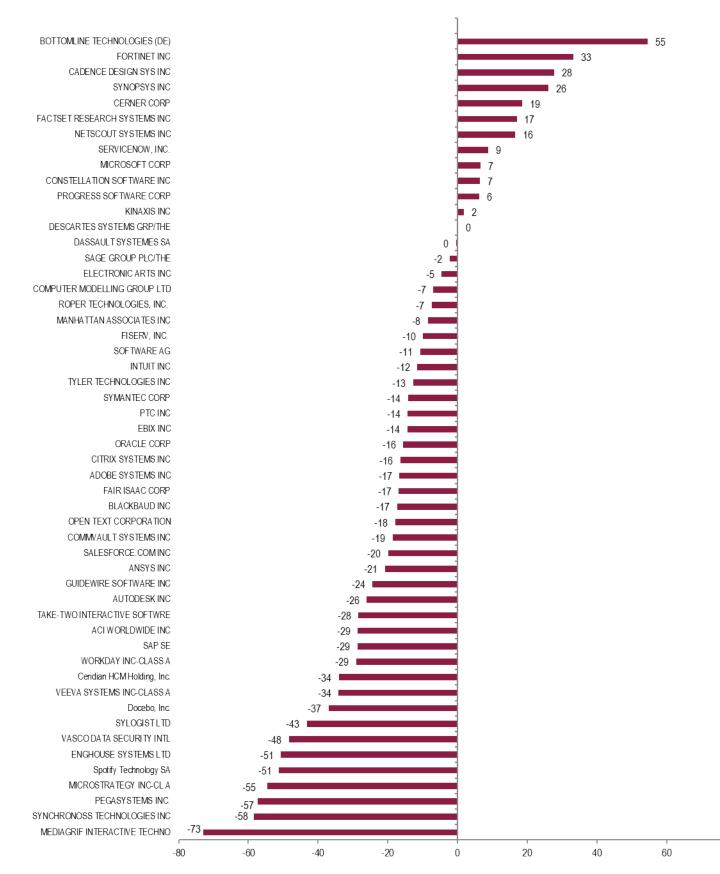




Exhibit 4: Business Services Stocks – Return Performance (%), 6/9/2021 - 6/9/2022

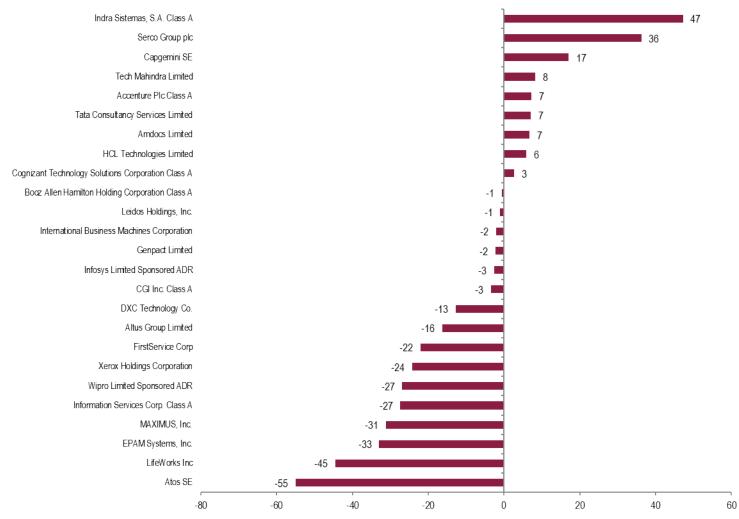


Exhibit 5: Software Stocks – Comp Table, 2021 - 2023E

			Price	Dividend	FCF	Shares	Market	Net Debt	Enterprise		EV/S		E	V/EBITD	Α		P/E	
	Ticker	FactSet	6/9/2022	Yield	Yield	Out	Сар	(\$mins.)	Value	C21A	C22E	C23E	C21A	C22E	C23E	C21A	C22E	C23
Enterprise Application Software																		
Constellation Software Inc.*	CSU	CSU-CA	1,503.68	0.21%	3.88%	21	31,865	447	32,312	6.3x	5.0x	4.4x	21.4x	18.7x	15.7x	48.3x	26.9x	23.2
BlackBerry Limited*	BB	BB-CA	5.97	0.00%	-0.95%	576	3,444	(111)	3,333	3.4x	3.9x	3.6x	42.7x	NEG	NEG	>50	NEG	NEC
Sage Group plc	SGE	SGE-GB	6.38	2.49%	4.86%	1,018	6,492	13	6,505	3.5x	3.3x	3.1x	15.7x	13.9x	12.6x	24.4x	23.7x	21.0
Tyler Technologies, Inc.	TYL	TYL-US	363.45	0.00%	2.25%	41	15,074	1,084	16,157	10.1x	8.7x	7.9x	45.9x	33.5x	30.5x	>50	47.8x	44.0
Roper Technologies, Inc.	ROP	ROP-US	418.06	0.47%	4.44%	106	44,278	4,217	48,495	8.4x	7.9x	7.4x	21.9x	20.5x	19.1x	40.6x	27.0x	25.0
Enghouse Systems Limited	ENGH		26.08	1.19%	7.90%	56	1,449	(191)	1,258	2.7x	2.9x	2.9x	7.7x	8.7x	8.4x	15.6x	18.8x	18.2
Oracle Corporation	ORCL	ORCL-US	71.38	1.32%	6.38%	2,668	190,453	55,024	245,477	6.1x	5.6x	5.4x	13.1x	11.0x	10.4x	15.7x	14.2x	13.0
SAP SE	SAP	SAP-DE	92.40	1.56%	2.90%	1,229	113,514	10,047	123,561	4.4x	4.1x	3.8x	17.2x	13.8x	12.5x	20.7x	18.4x	16.1
Enterprise Application Software	Average									5.6x	5.2x	4.8x	23.2x	17.2x	15.6x	27.5x	25.3x	22.9
Extended ERP																		
Adobe Incorporated	ADBE	ADBE-US	428.84	0.00%	3.34%	473	202,627	(36)	202,591	12.8x	11.2x	9.8x	30.3x	23.0x	20.0x	42.8x	31.0x	26.3
Open Text Corporation	OTEX	OTEX-US	40.37	1.51%	7.36%	270	10,919	2,849	13,769	4.0x	3.8x	3.7x	10.8x	10.8x	10.0x	12.7x	12.7x	11.6
Manhattan Associates, Inc.	MANH	MANH-US	126.81	0.00%	2.22%	63	8,003	(188)	7,815	11.8x	10.8x	9.7x	>50	42.6x	36.9x	>50	>50	>50
Pegasystems Inc.	PEGA	PEGA-US	54.25	0.11%	0.65%	82	4,439	355	4,793	4.0x	3.3x	2.8x	NEG	44.2x	26.0x	NEG	>50	39.7
Software AG	SOW	SOW-DE	32.18	2.17%	4.41%	74	2,381	(343)	2,038	2.4x	2.2x	2.0x	13.2x	10.7x	8.6x	28.4x	21.1x	16.7
Fiserv, Inc.	FISV	FISV-US	100.13	0.00%	4.44%	646	64,723	20,207	84,930	5.2x	5.1x	4.8x	15.3x	12.0x	10.9x	>50	15.5x	13.5
Extended ERP Average										6.7x	6.1x	5.5x	17.4x	23.9x	18.7x	28.0x	20.1x	21.6
Software As A Service																		
Descartes Systems Group Inc.	DSGX	DSGX-US	64.02	0.00%	3.10%	85	5,428	(202)	5,226	12.3x	10.9x	10.2x	28.2x	25.0x	22.6x	>50	>50	>50
Kinaxis, Inc.*	KXS	KXS-CA	109.83	0.00%	0.54%	28	3,030	(191)	2,839	11.3x	8.1x	7.2x	>50	44.4x	35.5x	>50	>50	>50
Docebo, Inc.*	DCBO	DCBO-CA	32.27	0.00%	-0.38%	33	1,061	(208)	853	8.2x	5.8x	4.3x	NEG	NEG	>50	NEG	NEG	NEG
Lightspeed Commerce Inc*	LSPD	LSPD-CA	25.95	0.00%	-2.56%	149	3,864	(895)	2,969	13.4x	4.2x	3.2x	NEG	NEG	NEG	NEG	NEG	NEG
Nuvei Corporation*	NVEI	NVEI-CA	49.86	0.00%	3.63%	141	7,050	(222)	6,828	9.4x	7.1x	5.5x	28.2x	16.4x	12.4x	>50	23.7x	18.2
Dye & Durham Ltd.	DND	DND-CA	22.03	0.12%	4.66%	69	1,522	(970)	552	1.5x	1.0x	0.8x	2.6x	1.8x	1.5x	>50	35.2x	13.5
Salesforce, Inc.	CRM	CRM-US	189.19	0.00%	3.30%	994	188,039	872	188,911	8.9x	6.0x	5.1x	43.3x	20.2x	17.2x	43.2x	39.8x	33.0
Veeva Systems Inc Class A	VEEV	VEEV-US	191.45	0.00%	NA	155	29,645	(2,784)	26,861	18.3x	12.5x	10.7x	>50	31.6x	27.1x	>50	46.6x	40.5
Shopify, Inc. Class A	SHOP	SHOP-US	391.47	0.00%	0.91%	126	49,382	(6,051)	43,331	9.4x	7.5x	5.7x	>50	>50	>50	17.1x	>50	>50
Ceridian HCM Holding, Inc.	CDAY	CDAY-US	56.90	0.00%	-0.17%	153	8,685	910	9,595	9.4x	7.9x	6.7x	>50	48.3x	38.7x	NEG	>50	>50
ServiceNow, Inc.	NOW	NOW-US	505.42	0.00%	1.75%	200	101,316	(1,814)	99,502	16.9x	13.4x	10.7x	>50	43.1x	34.2x	>50	>50	>50
Workday, Inc. Class A	WDAY	WDAY-US	160.04	0.00%	3.41%	254	40,650	(1,882)	38,768	9.0x	6.3x	5.3x	>50	25.3x	20.5x	NEG	46.2x	36.8
Software As A Service Average										10.7x	7.6x	6.3x	25.6x	28.5x	23.3x	30.2x	38.3x	28.4
Infrastructure Vendors																		
Citrix Systems, Inc.	CTXS	CTXS-US	98.74	1.56%	4.72%	127	12,499	2,740	15,239	4.7x	4.6x	4.4x	21.7x	14.4x	13.7x	40.5x	>50	31.0
Microsoft Corporation	MSFT	MSFT-US	270.41	0.83%	2.73%	7,479	2,022,405	(26,712)	1,995,693	11.9x	9.4x	8.2x	24.7x	18.6x	16.1x	33.6x	27.0x	23.2
Infrastructure Vendors Average						•				8.3x	7.0x	6.3x	23.2x	16.5x	14.9x	37.1x	27.0x	27.1

Exhibit 6: Business Services Stocks – Comp Table, 2021 - 2023E

		Price	Dividend	FCF	Shares	Market	Net Debt	Enterprise		EV/EBIT	DA		P/E			EV/S	
	Ticker	6/9/2022	Yield	Yield	Out	Cap	(\$mIns.)	Value	C21A	C22E	C23E	C21A	C22E	C23E	C21A	C22E	C23
Business & IT Services																	
CGI Inc. Class A	GIB.A	104.95	0.00%	7.51%	240	25.152	2.674	27.826	11.2x	10.7x	10.2x	18.7x	16.7x	15.6x	2.3x	2.1x	2.0
Accenture Plc Class A	ACN	302.64	1.05%	4.29%	633	191.692	(1,919)	189.773	19.7x	15.9x	14.6x	33.1x	26.9x	24.1x	3.8x	3.0x	2.
TELUS International (CDA), Inc.	TIXT	25.29	0.00%	2.71%	266	6.728	936	7.664	16.5x	12.3x	10.5x	>50	21.1x	17.6x	3.5x	3.0x	2.
Booz Allen Hamilton	BAH	86.93	1.75%	5.60%	132	11,491	2.404	13.894	15.6x	14.4x	13.6x	19.9x	20.1x	18.4x	1.8x	1.6x	1.
CACI International Inc Class A	CACI	282.72	0.00%	8.38%	23	6.619	2.061	8.680	11.7x	12.7x	11.9x	15.4x	15.0x	13.8x	1.4x	1.4x	1.
DXC Technology Co.	DXC	35.24	0.00%	19.25%	231	8,129	3,496	11,625	5.7x	4.6x	4.4x	NEG	9.2x	7.5x	0.7x	0.8x	0.
Genpact Limited	G	44.565	0.81%	7.45%	185	8.251	1.358	9.610	14.9x	11.9x	10.7x	23.3x	16.6x	14.7x	2.4x	2.2x	2.
nternational Business Machines	IBM	140.83	4.90%	8.43%	899	126.667	46,777	173.444	12.9x	10.5x	10.2x	22.2x	14.5x	13.3x	3.0x	2.9x	2
Atos SE	ATO	23.95	0.00%	3.20%	111	2,653	1,805	4,458	4.2x	4.1x	3.6x	NEG	10.1x	7.0x	0.0x	0.4x	0
Capgemini SE	CAP	176.15	1.11%	7.15%	172	30,367	5.872	36.239	12.5x	10.7x	9.8x	26.5x	17.5x	15.5x	2.0x	1.8x	1.
Sopra Steria Group SA	SOP	162.9	2.03%	1.51%	21	3.347	493	3.840	7.3x	6.3x	5.8x	17.7x	12.1x	10.7x	0.8x	0.8x	0.
Business & IT Services Average	30F	102.9	2.0370	1.3170	21	5,547	495	3,040	12.0x	10.4x	9.6x	22.1x	16.3x	14.4x	2.0x	1.8x	1.
Susiness & IT Services Average									12.04	10.47	9.07	22.18	10.5X	14.48	2.08	1.0X	
Human Capital Service Providers																	
LifeWorks Inc	LWRK	17.99	3.06%	8.92%	69	1,248	583	1,831	9.4x	9.1x	8.5x	NEG	22.3x	19.0x	1.8x	1.7x	1.
Ceridian HCM Holding, Inc.	CDAY	56.9	0.00%	-0.17%	153	8.685	910	9,595	>50	48.3x	38.7x	NEG	>50	>50	9.4x	7.9x	6.
Aon Plc Class A	AON	266.8	0.66%	3.39%	212	56.664	10.219	66.883	17.5x	16.5x	15.5x	48.1x	20.2x	18.2x	5.5x	5.2x	5
Automatic Data Processing, Inc.	ADP	218,9501	1.86%	3.11%	418	91,466	1.777	93,242	24.3x	21.0x	19.1x	36.1x	29.8x	26.6x	6.2x	5.5x	5.
Paychex, Inc.	PAYX	125.6	2.49%	2.52%	361	45,344	(524)	44.820	27.1x	21.3x	19.8x	41.4x	32.0x	29.7x	11.0x	9.5x	8
Human Capital Service Providers							(=)	,•=•	19.6x	23.2x	20.3x	41.9x	26.1x	23.4x	6.8x	6.0x	5.
• •																	
Information Services									r			r					
Broadridge Financial Solutions, Inc.	BR	145.49	1.42%	3.43%	117	17,055	4,175	21,230	18.3x	16.2x	15.3x	31.3x	21.6x	19.9x	4.1x	3.7x	3.
Dye & Durham Ltd.	DND	22.03	0.12%	4.66%	69	1,522	982	2,504	15.8x	11.1x	8.9x	>50	35.2x	13.5x	6.7x	4.4x	3.
Deluxe Corporation	DLX	22.57	3.74%	10.52%	43	970	1,559	2,530	6.9x	5.8x	5.6x	15.5x	4.9x	4.6x	1.3x	1.2x	1.
Information Services Corp.	ISV	21.43	3.16%	15.23%	18	375	26	402	5.9x	7.3x	6.8x	10.4x	12.2x	12.3x	2.4x	2.3x	2.3
Information Services Average									11.7x	10.1x	9.1x	19.1x	18.5x	12.6x	3.6x	2.9x	2.
Software Focused IT Solutions/V	Pe																
Software Pocused In Solutions/V	SCT	13.72	1.08%	3.26%	199	2.735	(46)	2.689	21.6x	19.3x	18.2x	28.4x	25.8x	25.3x	NA	NA	N
Crayon Group Holding ASA (NOK)	CRAYN	136.8	0.00%	4.20%	88	11,992	1,518	13,510	25.0x	14.7x	11.7x	>50	25.1x	19.2x	NA	NA	N
Bytes Technology Group Plc (£)	BYIT	4.35	1.35%	4.83%	239	1,042	(94)	948	25.2x	18.7x	17.0x	>50	27.1x	25.9x	NA	NA	N
SoftwareONE Holding Ltd. (CHf)	SWON	12.33	1.67%	7.49%	159	1,955	(549)	1.407	9.3x	5.8x	5.0x	15.9x	14.9x	12.5x	NA	NA	N
Converge Technology Solutions Corr		6.91	0.00%	5.78%	215	1,935	(209)	1,407	13.6x	8.8x	7.2x	>50	36.2x	22.3x	NA	NA	N
Softchoice Corporation*	SFTC	16.79	1.19%	5.01%	63	1,463	(209)	1,173	17.0x	12.4x	10.4x	26.0x	23.3x	19.2x	NA	NA	N
Software Focused IT Solutions/VA	-		1.19%	5.01%	03	1,004	108	1,173	18.6x	13.3x	11.6x	23.5x	25.4x	20.7x	NA	NA	N
	3																
Diversified Real Estate Services																	
Colliers International Group Inc.	CIGI	117.53	0.14%	3.50%	44	5,178	1,167	6,345	11.6x	10.0x	9.0x	-12.9x	15.9x	14.5x	1.6x	1.4x	1.
Altus Group Limited	AIF	48.03	0.85%	2.42%	44	2,134	327	2,461	22.4x	18.6x	16.4x	25.2x	30.7x	20.3x	3.9x	3.3x	3.
CBRE Group, Inc. Class A	CBRE	78.35	0.00%	8.77%	331	25,908	2,580	28,488	13.3x	8.9x	8.1x	14.5x	12.6x	11.4x	1.0x	0.9x	0.
Jones Lang LaSalle Incorporated	JLL	185.07	0.00%	9.03%	50	9,181	3,052	12,233	8.4x	8.1x	7.7x	10.0x	9.1x	8.4x	0.6x	0.6x	0
Diversified Real Estate Services A	verage								13.9x	11.4x	10.3x	9.2x	17.1x	13.7x	1.8x	1.5x	1.
Rusinasa Camilasa Ayarana									46.2	44.0-	42.4.	22.2	40.0-	46.61	4.2%	2 7	2
Business Services Average									16.3x	14.8x	13.1x	22.2x	19.9x	16.6x	4.3x	3.7x	3.

Exhibit 7: SaaS Stocks – Comp Table, 2021 - 2023E

									EV/S	
	LTM Revenue Growth	LTM FCF Margin	NTM Revenue Growth	NTM FCF Margin	LTM Rule Of 40	NTM Rule Of 40	Enterprise Value (\$MM)	C21A	C22E	C23E
Tier 1 SaaS (Rule of 40 > 6	0)									
Lightspeed POS, Inc.*	137%	-17%	37%	-8%	120%	29%	2,969	13.4x	4.2x	3.2x
Nuvei*	70%	35%	30%	32%	105%	61%	6,828	9.4x	7.1x	5.5x
CrowdStrike Holdings, Inc.	66%	31%	48%	30%	97%	78%	40,125	45.9x	18.8x	13.7x
Zoom Video Communication	29%	36%	11%	29%	65%	41%	28,818	10.9x	6.4x	5.7x
Zscaler, Inc.	61%	22%	41%	21%	83%	62%	22,707	33.7x	18.3x	13.7x
Veeva Systems Inc	26%	44%	17%	36%	70%	53%	26,861	18.3x	12.5x	10.7x
Magnet Forensics*	37%	31%	46%	26%	68%	72%	410	5.8x	4.4x	3.4x
DocuSign, Inc.	45%	23%	17%	19%	68%	37%	18,090	12.4x	7.4x	6.3x
Shopify, Inc.	40%	5%	28%	0%	45%	28%	43,331	9.4x	7.5x	5.7x
HubSpot, Inc.	47%	17%	30%	13%	64%	43%	16,759	12.9x	9.7x	7.6x
Tier 1 SaaS (Rule of 40 > 6	0) Average							17.2x	9.6x	7.6x

	LTM Revenue	LTM FCF	NTM Revenue	NTM FCF	LTM Rule	NTM Rule	Enterprise		EV/S	
	Growth	Margin	Growth	Margin	Of 40	Of 40	Value (\$MM)	C21A	C22E	C23E
Tier 2 SaaS (Rule of 40	b/w 41-60)									
Descartes Systems	22%	40%	12%	35%	62%	48%	5,226	12.3x	10.9x	10.2x
Atlassian Corp. Plc	33%	29%	26%	22%	62%	48%	51,303	24.6x	16.3x	12.7x
ServiceNow, Inc.	29%	31%	26%	30%	61%	56%	99,502	16.9x	13.4x	10.7x
Twilio, Inc.	57%	-4%	32%	-2%	53%	31%	15,744	5.5x	4.1x	3.1x
Qualys, Inc.	15%	46%	18%	31%	61%	49%	4,726	11.4x	9.7x	8.4x
Docebo, Inc.*	54%	-3%	40%	-4%	50%	37%	853	8.2x	5.8x	4.3x
MongoDB, Inc.	48%	1%	37%	0%	49%	37%	19,778	33.5x	16.8x	12.7x
Dropbox, Inc.	12%	34%	7%	34%	47%	41%	9,490	4.4x	4.1x	3.8x
Workday, Inc.	21%	26%	20%	18%	47%	38%	38,768	9.0x	6.3x	5.3x
Tier 2 SaaS (Rule of 40	b/w 41-60) Average							14.0x	9.7x	7.9x

	LTM Revenue	LTM FCF	NTM Revenue	NTM FCF	LTM Rule	NTM Rule	Enterprise		EV/S	,
	Growth	Margin	Growth	Margin	Of 40	Of 40	Value (\$MM)	C21A	C22E	C23E
Tier 3 SaaS (Rule of 40 b/	w 25-40)									
Avalara Inc	38%	6%	22%	2%	44%	24%	7,291	10.4x	8.4x	6.9x
Zendesk, Inc.	31%	12%	26%	12%	43%	38%	10,132	7.6x	6.0x	4.8x
Paylocity Holding Corp.	32%	16%	25%	14%	48%	39%	10,150	16.0x	10.8x	8.9x
RingCentral, Inc.	35%	7%	24%	8%	42%	32%	7,320	4.6x	3.6x	2.9x
VMware, Inc.	8%	28%	7%	27%	36%	34%	63,610	5.4x	4.7x	4.4x
BlackLine, Inc.	21%	11%	24%	6%	32%	30%	4,923	11.6x	9.4x	7.7x
Rapid7 Inc.	32%	6%	26%	9%	38%	35%	4,846	9.1x	7.0x	5.8x
Five9, Inc.	37%	0%	24%	3%	37%	27%	7,363	12.1x	9.5x	7.7x
Akamai Technologies, Inc.	7%	25%	6%	23%	32%	30%	18,890	5.5x	5.2x	4.7x
Wix.com Ltd.	22%	1%	12%	2%	23%	14%	3,451	2.7x	2.4x	2.1x
Tier 3 SaaS (Rule of 40 b/	w 25-40) Average							8.5x	6.7x	5.6x

	LTM Revenue	LTM FCF	NTM Revenue	NTM FCF	LTM Rule	NTM Rule	Enterprise		EV/S	
	Growth	Margin	Growth	Margin	Of 40	Of 40	Value (\$MM)	C21A	C22E	C23E
Tier 4 SaaS (Rule of 40 <2	8									
Ceridian HCM Holding, Inc.	30%	-1%	17%	8%	29%	25%	9,595	9.4x	7.9x	6.7x
Q4 Inc.	26%	-27%	40%	-11%	-1%	29%	90	1.6x	1.3x	1.1x
Anaplan, Inc.	32%	-5%	26%	-1%	27%	25%	9,286	20.7x	12.7x	10.2x
Teradata Corporation	2%	25%	-7%	21%	26%	14%	4,212	2.2x	2.3x	2.2x
Q2 Holdings Inc.	21%	3%	17%	2%	24%	19%	2,884	5.8x	5.0x	4.2x
Splunk Inc.	24%	7%	23%	14%	30%	37%	19,673	8.8x	6.0x	4.9x
Zuora, Inc.	14%	7%	20%	0%	20%	20%	1,118	3.7x	2.8x	2.4x
LivePerson, Inc.	24%	-18%	17%	-12%	6%	5%	1,471	3.1x	2.7x	2.3x
Yext, Inc.	10%	4%	4%	-1%	14%	3%	582	1.6x	1.4x	1.3x
Kinaxis, Inc.*	21%	5%	19%	1%	26%	20%	2,839	11.3x	8.1x	7.2x
New Relic, Inc.	18%	-1%	18%	0%	17%	18%	3,214	4.8x	3.6x	3.1x
Tier 4 SaaS (Rule of 40 <2	8 Average							6.6x	4.9x	4.1x

SaaS Average * Share Price Converted to USD

Source: FactSet and CIBC World Markets Inc.

7.6x

6.2x

11.4x

Important Disclosures

Analyst Certification: Each CIBC World Markets Inc. research analyst named on the front page of this research report, or at the beginning of any subsection hereof, hereby certifies that (i) the recommendations and opinions expressed herein accurately reflect such research analyst's personal views about the company and securities that are the subject of this report and all other companies and securities mentioned in this report that are covered by such research analyst and (ii) no part of the research analyst's compensation was, is, or will be, directly or indirectly, related to the specific recommendations or views expressed by such research analyst in this report.

Potential Conflicts of Interest: Equity research analysts employed by CIBC World Markets Inc. are compensated from revenues generated by various CIBC World Markets Inc. businesses, including the CIBC World Markets Investment Banking Department. Research analysts do not receive compensation based upon revenues from specific investment banking transactions. CIBC World Markets Inc. generally prohibits any research analyst and any member of his or her household from executing trades in the securities of a company that such research analyst covers. Additionally, CIBC World Markets Inc. generally prohibits any research analyst from serving as an officer, director or advisory board member of a company that such analyst covers.

In addition to 1% ownership positions in covered companies that are required to be specifically disclosed in this report, CIBC World Markets Inc. may have a long position of less than 1% or a short position or deal as principal in the securities discussed herein, related securities or in options, futures or other derivative instruments based thereon.

Recipients of this report are advised that any or all of the foregoing arrangements, as well as more specific disclosures set forth below, may at times give rise to potential conflicts of interest.

CIBC World Markets Inc. does and seeks to do business with companies covered in its research reports. As a result, investors should be aware that CIBC World Markets Inc. may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision.

Analysts employed outside the U.S. are not registered as research analysts with FINRA. These analysts may not be associated persons of CIBC World Markets Corp. and therefore may not be subject to FINRA Rule 2241 restrictions on communications with a subject company, public appearances and trading securities held by a research analyst account.

CIBC World Markets Inc. Stock Rating System

Stock Ratings	Abbreviation	Description
Outperformer	OP	Stock is expected to outperform similar stocks in the coverage universe during the next 12-18 months.
Neutral	NT	Stock is expected to perform in line with similar stocks in the coverage universe during the next 12-18 months.
Underperformer	UN	Stock is expected to underperform similar stocks in the coverage universe during the next 12-18 months.
Tender	TR	Shareholders are advised to tender shares to a specific offer as we do not believe a superior offer will materialize.
Not Rated	NR	CIBC World Markets does not maintain an investment recommendation on the stock.
Restricted	R	CIBC World Markets is restricted (due to potential conflict of interest) from rating the stock.
Sector Ratings	Abbreviation	Description
Overweight	0	Sector is expected to outperform the broader market averages.

Sector is expected to equal the performance of the broader market averages.

Sector is expected to underperform the broader market averages.

None NA Sector rating is not applicable.

Note: Broader market averages refer to S&P 500 in the U.S. and S&P/TSX Composite in Canada.

Marketweight

Underweight

Μ

U

CIBC World Markets Inc. Price Chart

For price and performance charts, please visit CIBC on the web at <u>https://researchcentral.cibccm.com/#/disclaimer-central-new</u> or write to CIBC World Markets Inc., 161 Bay Street, 4th Floor, Toronto, ON M5H 2S8, Attn: Research Disclosure Chart Request.

Important Disclosure Footnotes

For important disclosure footnotes for companies mentioned in this report that are covered by CIBC World Markets Inc., click here: <u>CIBC Disclaimers & Disclosures</u>

raango bioanoadon i oib		ion eeronage ennrene.	5		
(as of 09 Jun 2022)	Count	Percent	Inv. Banking Relationships	Count	Percent
Outperformer	182	58%	Outperformer	182	100%
Neutral	116	37%	Neutral	115	99%
Underperformer	9	3%	Underperformer	9	100%
Tender	3	1%	Tender	3	100%
Restricted	3	1%	Restricted	3	100%

Ratings Distribution*: CIBC World Markets Inc. Coverage Universe

Important disclosures for each issuer can be found by visiting the Research Central website at

<u>https://researchcentral.cibccm.com/#/disclaimer-central-new</u> and then entering the issuer name. Access to our research dissemination policy can be found on the same website at <u>https://researchcentral.cibccm.com/#/dissemination-policy</u>. These important disclosures can also be obtained by writing to CIBC World Markets Inc., 161 Bay Street, 4th Floor, Toronto, ON M5H 2S8, Attention: Research Disclosures Request.

Access to CIBC Equity Research

Clients may access CIBC Equity Research online at Research Central at <u>https://researchcentral.cibccm.com/</u>, or at the following research aggregators: Bloomberg, Refinitiv, Capital IQ, and FactSet.

Legal Disclaimer

This report is issued by CIBC Capital Markets.

CIBC Capital Markets is a trademark brand name under which Canadian Imperial Bank of Commerce ("CIBC"), its subsidiaries and affiliates (including, without limitation, CIBC World Markets Inc., CIBC World Markets Corp. and CIBC Capital Markets (Europe) S.A.) provide different products and services to our customers around the world. Products and/or services offered by CIBC include corporate lending services, foreign exchange, money market instruments, structured notes, interest rate products and OTC derivatives. CIBC's Foreign Exchange Disclosure Statement relating to guidelines contained in the FX Global Code can be found at https://cibccm.com/en/disclosures/fx-disclosure-statement/. Other products and services, such as exchange-traded equity and equity options, fixed income securities and futures execution of Canadian securities, are offered through directly or indirectly held subsidiaries of CIBC as indicated below.

CIBC World Markets Inc. is a member of the Canadian Investor Protection Fund and the Investment Industry Regulatory Organization of Canada. In the United States, CIBC World Markets Corp. is a member of the Financial Industry Regulatory Authority and the Securities Investor Protection Fund. In Luxembourg. CIBC Capital Markets (Europe) S.A. (RCS Luxembourg: B236326) is authorised by the European Central Bank (the "ECB") and supervised by the Luxembourg Financial Supervisory Authority (Commission de Surveillance du Secteur Financier) under the oversight of the ECB. CIBC Australia Ltd (AFSL No: 240603) is regulated by the Australian Securities and Investment Commission ("ASIC"). CIBC World Markets (Japan) Inc. is a member of the Japanese Securities Dealer Association, CIBC (TSX/NYSE: CM) is a bank chartered under the Bank Act (Canada) having its registered office in Toronto, Ontario, Canada, and regulated by the Office of the Superintendent of Financial Institutions. CIBC New York Branch is licensed and supervised by the New York State Department of Financial Services. In the United Kingdom, CIBC London Branch is authorised by the Prudential Regulation Authority and subject to regulation by the Financial Conduct Authority and limited regulation by the Prudential Regulation Authority. Canadian Imperial Bank of Commerce, Sydney Branch (ABN: 33 608 235 847) is an authorised foreign bank branch regulated by the Australian Prudential Regulation Authority (APRA). Canadian Imperial Bank of Commerce, Hong Kong Branch is a registered institution under the Securities and Futures Ordinance, Cap 571, and a limited liability foreign company registered with the Hong Kong Companies Registry. Canadian Imperial Bank of Commerce, Singapore Branch is a wholesale bank licensed and regulated by the Monetary Authority of Singapore.

This report is issued and approved for distribution by (a) in Canada, CIBC World Markets Inc., a member of the Investment Industry Regulatory Organization of Canada ("IIROC"), the Toronto Stock Exchange, the TSX Venture Exchange and a Member of the Canadian Investor Protection Fund and (b) in the United States either by (i) CIBC World Markets Inc. for distribution only to U.S. Major Institutional Investors ("MII") (as such term is defined in SEC Rule 15a-6) or (ii) CIBC World Markets Corp., a member of the Financial Industry Regulatory Authority ("FINRA"). U.S. MIIs receiving this report from CIBC World Markets Inc. (the Canadian broker-dealer) are required to effect transactions (other than negotiating their terms) in securities discussed in the report through CIBC World Markets Corp. (the U.S. broker-dealer). CIBC World Markets Corp. accepts responsibility for the content of this research report.

Distribution to Institutional Customers Only

<u>Canada</u>

This report is provided, for informational purposes only, to institutional investor and retail clients of CIBC World Markets Inc. in Canada, and does not constitute an offer or solicitation to buy or sell any securities discussed herein in any jurisdiction where such offer or solicitation would be prohibited.

Legal Disclaimer (Continued)

United States

This report is provided, for informational purposes only, to Major US Institutional Investor clients of CIBC World Markets Corp. in the United States, and does not constitute an offer or solicitation to buy or sell any securities discussed herein in any jurisdiction where such offer or solicitation would be prohibited.

United Kingdom

The distribution of this report in the United Kingdom is being made only to, or directed only at, persons falling within one or more of the exemptions from the financial promotion regime in section 21 of the UK Financial Services and Markets Act 2000 (as amended) ("FSMA") including, without limitation, to the following:

- authorised firms under FSMA and certain other investment professionals falling within article 19 of the FSMA (Financial Promotion) Order 2005 ("FPO") and directors, officers and employees acting for such entities in relation to investment;
- high value entities falling within article 49 FPO and directors, officers and employees acting for such entities in relation to investment; and
- persons who receive this presentation outside the United Kingdom.

The distribution of this report to any other person in the United Kingdom is unauthorised and may contravene FSMA. No person falling outside such categories should treat this report as constituting a promotion to them or rely or act on it for any purposes whatsoever.

This report is distributed solely to eligible counterparties or professional clients and not retail clients as defined in point (8) of Article 2 of Regulation (EU) No 2017/565 as it forms part of UK domestic law by virtue of the European Union (Withdrawal) Act 2018.

All other jurisdictions

This report is distributed solely to institutional clients and not retail clients as defined by the applicable securities legislation and regulation to which CIBC Capital Markets may be subject in any jurisdiction, and only in compliance with all applicable laws and regulations.

The securities mentioned in this report may not be suitable for all types of investors. This report does not take into account the investment objectives, financial situation or specific needs of any particular client of CIBC World Markets. Recipients should consider this report as only a single factor in making an investment decision and should not rely solely on investment recommendations contained herein, if any, as a substitution for the exercise of independent judgment of the merits and risks of investments. The analyst writing the report is not a person or company with actual, implied or apparent authority to act on behalf of any issuer mentioned in the report. Before making an investment decision with respect to any security recommended in this report, the recipient should consider whether such recommendation is appropriate given the recipient's particular investment needs, objectives and financial circumstances. CIBC World Markets suggests that, prior to acting on any of the recommendations herein, Canadian retail clients of CIBC World Markets contact one of our client advisers in your jurisdiction to discuss your particular circumstances. Non-client recipients of this report who are not institutional investor clients of CIBC World Markets should consult with an independent financial advisor prior to making any investment decision based on this report or for any necessary explanation of its contents. CIBC World Markets will not treat non-client recipients as its clients solely by virtue of their receiving this report.

Legal Disclaimer (Continued)

Past performance is not a guarantee of future results, and no representation or warranty, express or implied, is made regarding future performance of any security mentioned in this report. The price of the securities mentioned in this report and the income they produce may fluctuate and/or be adversely affected by exchange rates, and investors may realize losses on investments in such securities, including the loss of investment principal. CIBC World Markets accepts no liability for any loss arising from the use of information contained in this report, except to the extent that liability may arise under specific statutes or regulations applicable to CIBC World Markets.

Information, opinions and statistical data contained in this report were obtained or derived from sources believed to be reliable, but CIBC World Markets does not represent that any such information, opinion or statistical data is accurate or complete (with the exception of information contained in the Important Disclosures section of this report provided by CIBC World Markets or individual research analysts), and they should not be relied upon as such. All estimates, opinions and recommendations expressed herein constitute judgments as of the date of this report and are subject to change without notice.

Nothing in this report constitutes legal, accounting or tax advice. Since the levels and bases of taxation can change, any reference in this report to the impact of taxation should not be construed as offering tax advice on the tax consequences of investments. As with any investment having potential tax implications, clients should consult with their own independent tax adviser.

This report may provide addresses of, or contain hyperlinks to, Internet web sites. CIBC World Markets has not reviewed the linked Internet web site of any third party and takes no responsibility for the contents thereof. Each such address or hyperlink is provided solely for the recipient's convenience and information, and the content of linked third party web sites is not in any way incorporated into this document. Recipients who choose to access such third-party web sites or follow such hyperlinks do so at their own risk.

Although each company issuing this report is a wholly owned subsidiary of CIBC, each is solely responsible for its contractual obligations and commitments, and any securities products offered or recommended to or purchased or sold in any client accounts (i) will not be insured by the Federal Deposit Insurance Corporation ("FDIC"), the Canada Deposit Insurance Corporation or other similar deposit insurance, (ii) will not be deposits or other obligations of CIBC, (iii) will not be endorsed or guaranteed by CIBC, and (iv) will be subject to investment risks, including possible loss of the principal invested. CIBC Capital Markets and the CIBC Logo Design are trademarks of CIBC, used under license.

Unauthorised use, distribution, duplication or disclosure without the prior written permission of CIBC World Markets is prohibited by law and may result in prosecution.

© 2022 CIBC World Markets Inc., CIBC World Markets Corp. and CIBC Capital Markets (Europe) S.A. All rights reserved. Unauthorised use, distribution, duplication or disclosure without the prior written permission of CIBC World Markets is prohibited by law and may result in prosecution.