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October 3, 2022 04:03 AM GMT

Software | North America

Future of Work — Intensifying Competitive Landscape as Vendors Position to Address Market Set to Double in Next 5 Years

Investors should increase focus on the Future of Work given ~\$90B increase in annual spend by 2026 and exposure to key secular trends: digital transformation, automation, productivity and distributed workforce. We favor our OW's best positioned: MSFT, TEAM, ZM, SMAR, BOX, and see more risk at DOCU.

With this note, Josh Baer assumes primary coverage of Asana (ASAN), DocuSign (DOCU) and Smartsheet (SMAR).

Picking Our Spots for the Future of Work. In the beginning of the Pandemic in 2020, we published our views on the Future of Work (FoW) (Software: Future of Work — Blurring the Competitive Lines (19 Jun 2020)). Today, we see a larger opportunity, but the competitive landscape addressing the market has intensified. In this report and the embedded powerpoint, we update our take on the key themes, investor debates, market sizing, and competitive market map for the Team Communication & Collaboration, Content Management, and Workflow Automation markets addressing the Future of Work opportunity. We highlight: 1) Large Market Opportunity – growing at a 14% CAGR from \$92 billion in 2021 to \$179 billion in 2026, 2) Evolving and Intensifying Competitive Landscape – one that has become more crowded, ripe for consolidation, particularly as vendors look to broaden capabilities to address adjacent FoW segments, and 3) Post-Covid and Macro Demand Headwinds Impacting Secular Growth Markets. We also address key debates, including: best of breed vs. suites impact on TAM, ability for vendors to prove competitive differentiation in a crowded environment, and which categories could fall into the 'nice to have' bucket in a more challenging macro (see presentation for Future of Work) In conjunction with this report, we have also downgraded DocuSign to UW and upgraded Box to OW – see DOCU: Before Signing, Read the Fine Print; Downgrading to Underweight and BOX: Not a Mystery Box – Value is Underappreciated, Upgrading to Overweight.

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Software

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IndustryView

Attractive

WHAT'S CHANGED? FROM: DocuSign Inc (DOCU.O) Rating Equal-weight Underweight Price Target \$73.00 \$47.00 Box Inc (BOX.N) Rating Equal-weight Overweight Price Target \$32.00 \$34.00 Asana Inc (ASAN.N) \$35.00 \$28.00 Price Target Smartsheet Inc (SMAR.N) Price Target \$62.00 \$54.00

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Exhibit 1: Intensifying Competitive Landscape

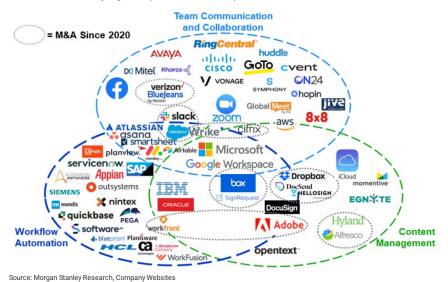


Exhibit 2: Summary of Ratings and Price Target Changes

Company	Prior Rating	New Rating	Prior Price Target	New Price Target	Price Target Change	% Upside to New Price Target
SMAR	OW	OW	\$62	\$54	-13%	57%
BOX	EW	ow	\$32	\$34	6%	39%
ASAN	EW	EW	\$35	\$28	-20%	26%
DOCU	EW	UW	\$73	\$47	-36%	-12%

Source: Morgan Stanley Research

Key Conclusions:

- 1. Future of Work Represents a Large Market Opportunity. According to IDC, the categories we define within the Future of Work (Team Communication & Collaboration, Content Management, and Workflow Automation) are expected to double in next 5 years, growing at a 14% CAGR from \$92 billion in 2021 to \$179 billion in 2026. Key investor debate around the market opportunity Best of Breed vs. Suites: Will larger productivity suites provide and bundle the breadth of Future of Work capabilities, compressing the opportunity? Bulls believe best of breed lives on digital transformation initiatives unlock the need for best of breed solutions, increasing adoption and expanding the market opportunity.

 Bears think consolidating spend on O365 (Office apps + email + Teams meetings, and voice + social, and intranet + files, and content + work mgt + analytics + security + compliance) could organize most teams, content and workflows, compressing the addressable market.
 - MS View: It makes sense for certain categories within Future of Work to be
 offered natively through larger productivity suites, either through M&A
 consolidation or internal development. While the capabilities from Suites
 might not always be best of breed, they should be able to serve price
 sensitive end-users and simple use cases, resulting in a combination of
 suites and best of breed.

Exhibit 3: Large Opportunity Set to Double in Next 5 Years

MS FoW: Team Communication & Collaboration, Content Management, and Workflow Automation



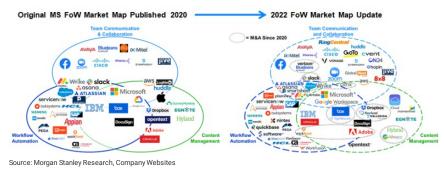
Source: IDC, Morgan Stanley Research

2. Competition is Intense and the Market is Crowded. Competitive lines are breaking down as vendors fight for IT spend and position to address broader opportunity. Remote and hybrid work, as well as digitization and automation secular trends have attracted more funding and new vendors to the market and many vendors have scaled to >\$100 million revenue over the last couple of years. Further, we've seen an uptick in M&A and innovation from vendors to better position for the broader FoW opportunity, crossing competitive lines.

Digging into the Workplace Collaboration Management market, the key investor debate is around competitive differentiation — Are vendors differentiated and can they prove that differentiation in such a crowded environment? Bulls think vendors are differentiated through technology architecture, breadth of innovative products and features, no-code capabilities, UI, the number and ease of integrations, and Enterprise security/admin/governance features. Importantly, vendors prove this differentiation to corporate buyers demonstrating compelling company specific ROI. Bears see signs of commoditization in Workplace Collaboration. The landscape is very crowded and it is difficult for buyers (and investors) to differentiate offerings.

MS View: Yes, these platforms and products are differentiated. However, in some cases it doesn't matter, especially as platforms expand capabilities across competitive lines and enhance customization features to be able to address a wide array of uses cases. Vendors that fundamentally have differentiated core capabilities are often competing for the same budget dollars at the end of the day (limited number of licenses per user).

Exhibit 4: Evolution of Future of Work Market Map



3. Future of Work Vendors Enable Distributed, Hybrid Workforces, but Many Vendors Face Normalizing Demand Post Covid Tailwinds, Now Combined With

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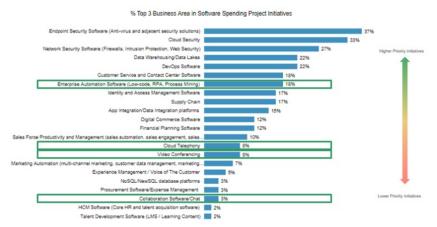
Macro Headwinds and IT Spending Pressure. Vendors are building and buying capabilities to address this large opportunity (see Exhibit 5). Key investor debate is around positioning and potential macro demand impacts post-covid — which Future of Work categories and vendors will fall to the 'nice to have' bucket in a more challenging macro? Bulls see collaboration, coordination, and communication FoW categories aligned to productivity; mission criticality of content management; and automation focused on efficiency, cloud-based FoW vendors have a compelling value proposition and ROI that should prove durable under budget scrutiny. Bears see lower and uncertain demand after benefitting from covid tailwinds. Rationalization and consolidation of spend is likely, given 'nice to have' does not hold up well on a CIO's defensibility list.

MS View: FoW vendors are aligned to strategic, multi-year digital
transformation initiatives and/or provide compelling ROI. For the most
part, vendors serving Enterprises won't see material logo churn, while
those serving SMBs could see increased churn. For seat-based models,
budget scrutiny and slower headcount growth/reductions could lead to
slower expansion or downsizing. New business from new logos and from
departmental or use case expansion could get pushed down the road. See
Exhibit 6

Exhibit 5: Six >\$1 Billion Acquisitions in Future of Work Market in Last Several Years

						EV/S	EV/S	EV/S	
Announcement Date	Acquirer	Target	Business of Target	Stock	Cash	LTM	1-yr fwd	2-yr fwd	Туре
November 22, 2021	Ericsson	Vonage	Cloud-based communications	NA	\$6.2B	4.5x	4.1x	3.5x	Public
November 17, 2021	SS&C Technologies	Blue Prism Group	Robotic Process Automation (RPA) platform	\$1,600M	NA	NA	NA	NA	Public
March 9, 2021	Dropbox	DocSend	Document sharing platform	NA	\$165M	NA	NA	NA	Private
February 3, 2021	Box	SignRequest	E-signature provider	NA	\$55M	NA	NA	NA	Private
January 19, 2021	Citrix	Wrike	SaaS Work Management Solution	NA	\$2,250M	NA	NA	NA	Private
December 1, 2020	Salesforce	Slack	Channel-based messaging platform for planning and collaboration	NA	\$27,700M	31.1x	25.5x	NA	Public
November 9, 2020	Adobe	Workfront	Work management platform		\$1,500M	7x	NA	5.1x	Private
April 16, 2020	Verizon	BlueJeans	Cloud based video conferencing and event platform		\$500M	NA	NA	NA	Private
February 27, 2020	DocuSign	Seal Software	Provider of contract discovery, data extraction, and analytics		\$188M	NA	NA	NA	Private
January 7, 2020	Appian	Novayre Solutions	Robotic Process Automation (RPA) platform		NA	NA	NA	NA	Private
November 11, 2019	Opentext	Carbonite	Cloud backup software		\$1,420M	4.2x	3.7x	NA	Public
May 2, 2019	Smartsheet	10,00ft	High-level project and resource management software		NA	NA	NA	NA	Private
January 28, 2019	Dropbox	HelloSign	E-signature provider		\$250M	NA	NA	NA	Private
Source: Morgan St	Source: Morgan Stanley Research, Company press releases								

Exhibit 6: Automation Software listed as one of the key software priorities after security, Communication Software towards the middle and Collaboration Software closer to the bottom



Source: AlphaWise, 2Q22 CIO Survey, Morgan Stanley Research

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Summary of Ratings and Price Target Changes DocuSign (DOCU, UW, PT \$47)

- Investment Thesis: Challenging Road Ahead. Near-term, post-Covid demand normalization, sales force productivity challenges, leadership turnover and macro create an uncertain and difficult transition ahead, mostly reflected in shares. Medium-term, intensifying competition, esignature commoditization and pricing pressure creates further downside. Even if DocuSign can return to a more attractive bull case 20%+ growth after a successful transition and restructuring, we would not expect confidence in that growth trajectory any time soon given the near-term challenges detailed above, capping risk to the upside in the coming quarters, in our view. DOCU trades at >20x EV/CY23 FCF, a premium to its closest profitability Future of Work SaaS peers.
- Price Target Change: We lower our DOCU price target from \$73 to \$47. Our new \$47 price target is based on 18x our CY24 FCF of \$589 million, discounted back one year at ~11% WACC (prior methodology at 22x CY28 FCF of \$1.1B discounted at a 10.5% WACC). We value on CY24 FCF instead of CY28 FCF given the slower growth outlook and material near-term FCF generation. Our new 18x multiple represents a slight discount to our overall comp group medium EV/CY24 FCF multiple of 18.3x, warranted given slower growth at DocuSign.

Box (BOX, OW, PT \$34)

- Investment Thesis: Increasing Value at Box. Recent results demonstrating higher net retention, lower churn, strong large deal momentum, with consistent execution across geographies, customer sizes and verticals, suggest Box's Suite selling and expanding product capabilities are allowing customers to more easily realize the value of the full Box platform key in a challenging macro. Box should continue to benefit from increasing mix of Suites, which drives larger deals, larger customers, higher pricing, higher gross margins, and stronger retention. A large TAM, durable constant currency growth expectations, margin expansion, real FCF support, share buybacks and undemanding valuation trading at just <13x EV/CY23 FCF a >45% discount vs. the overall software median at 24x EV/FCF supports our upgrade to Overweight.
- Price Target Change: We increased our price target from \$32 to \$34. Our new \$34 price target is based on 16x (up from 15x prior) our unchanged CY23 FCF of \$324 million. Our new 16x multiple represents a discount to our overall software median EV/FCF of ~24x and our price target falls below the EV/FCF vs. FCF growth regression line (Exhibit 7). On a growth adjusted basis, our price target implies an even great discount vs. comps \$34 implies <0.4x EV/FCF/G vs. the overall software median ~1.0x.</p>

Smartsheet (SMAR, OW, PT \$54)

Investment Thesis: Underpriced Secular Growth. Smartsheet is a high
quality asset in the collaboration software space, with the most robust
Enterprise features and the broadest product portfolio equipped to
handle the widest array of use cases compared to workplace collaboration

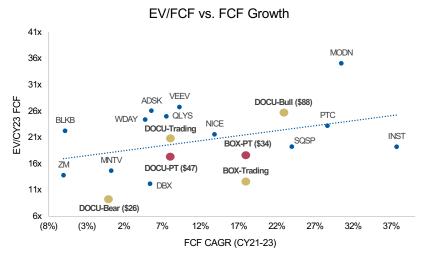
peers. We remain OW, with SMAR trading at 5x recurring revenue and with the company's increased focus on efficiency leading to an inflection to positive margins near-term. At \sim 0.15x EV/CY23 Sales/G, SMAR trades at a >38% discount to the overall SaaS peer average at \sim 0.24x.

• Price Target Change: We lower our price target from \$62 to \$54 based on 1) increasing our WACC from 10.5% to 10.8%, 2) lowering our terminal EV/FCF multiple from 23x to 21x, a discount to the current forward software group median at 25x, justified due to slower FCF growth at SMAR in the valuation year. Our new \$54 price target implies 0.24x EV/CY23 Sales/G, in line with the SaaS average at 0.24x.

Asana (ASAN, EW, PT \$28)

- Investment Thesis: Significant Work Ahead on 'Rule of 40'. While Asana's ease of use, intuitive UI, robust integrations and differentiated Work Graph architecture have led to rapid growth and scaling of a compelling platform, a crowded competitive environment and significantly negative margins keep us on the sidelines. We find it difficult to underwrite a re-rating without seeing evidence of a more meaningful change to margin profile. At ~6.4x EV/CY23 Sales or 0.17x growth-adjusted, ASAN trades at a discount to the SaaS average at 0.24x EV/CY23 Sales/Growth, justified given the significantly worse margin profile at Asana.
- Price Target Change: We lower our price target from \$35 to \$28 based on
 1) increasing our WACC from 10% to 11%, 2) modestly lowering the revenue
 growth in outer years. Our new \$28 price target implies 0.22x EV/CY23
 Sales/G, a slight discount to the current SaaS average at 0.24x, warranted
 given lower margins at ASAN.

Exhibit 7: DOCU Trades Expensive and BOX Trades Cheap vs. EV/FCF vs. FCF Growth Regression



Source: Refinitiv, Company data, Morgan Stanley Research estimates

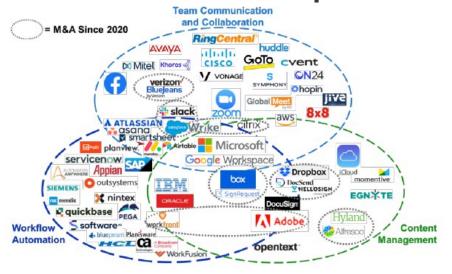
Future of Work Presentation

Software

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October 3, 2022

Future of Work: Post-Covid Update



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Intensifying Competitive Landscape as Vendors Position to Address Market Set to Double in Next 5 Years

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- Evolving and Intensifying Competitive Landscape
 - **Key Debate Competitive Differentiation:** Are vendors differentiated and can they prove that differentiation in such a crowded environment?
- III. FoW Vendors Position for Post-Covid New Normal Hybrid Work Environment
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Relevant Gartner Magic Quadrants

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Key Themes and Debates Post-Covid Keeping Future of Work Critically Important

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Key Themes Post-Covid Keeping Future of Work Critically Important

The Future of Work Involves More Effectively Organizing Teams, Managing Content and Automating Workflows for a Normalized Future of Hybrid Work

- Large Market Opportunity = Expected to double in next 5 years to ~\$180 billion
 - Growing at a 14% CAGR from \$92 billion in 2021 to \$179 billion in 2026
- II. Evolving and Intensifying Competitive Landscape
 - Crowded competitive landscape ripe for consolidation
 - Intense competition as vendors broaden product capabilities entering adjacent Future of Work segments

III. Future of Work Vendors Position for Post-Covid New Normal Hybrid Work Environment

- Select categories saw covid related tailwinds, with vendors currently working through demand normalization
- FoW exposed secular tailwinds like Digital Transformation, Automation, Cloud now face Macro cyclical headwinds

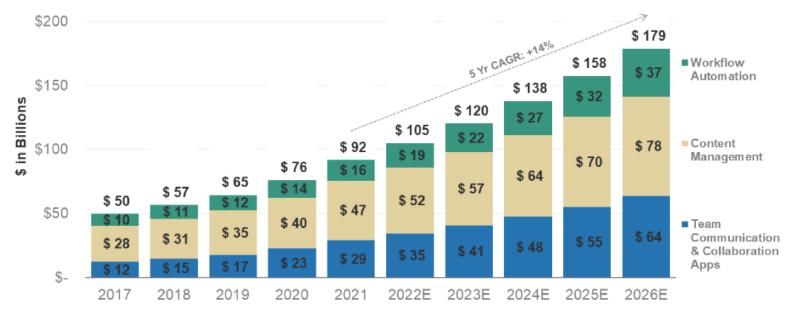
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I. Large Market Opportunity

We define Future of Work market to consist of Team Communication & Collaboration, Content Management, and Workflow Automation

- Overall market expected to double in next 5 years
- Growing at a 14% CAGR from \$92 billion in 2021 to \$179 billion in 2026

MS FoW: Team Communication & Collaboration, Content Management, and Workflow Automation

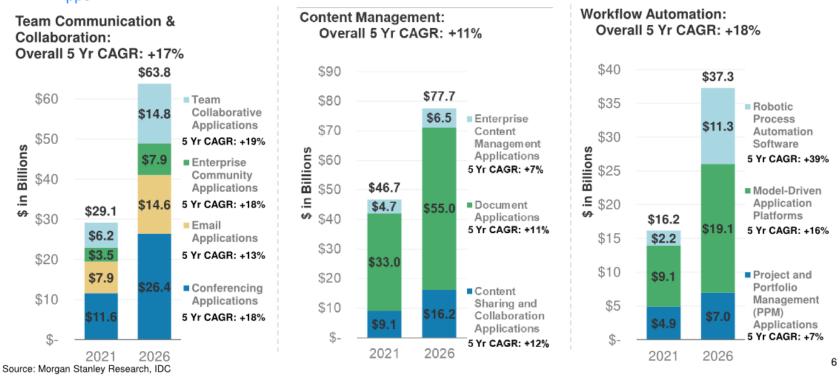


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I. Large Market Opportunity

Double Digit Growth CAGRs Expected in Each Market Segment

- Team Communication & Collaboration: Team Collaborative Apps, Enterprise Community Apps, Email Apps and Conferencing Apps
- Content Management: Enterprise Content Mgt Apps, Document Apps, Content Sharing and Collaboration Apps
- Workflow Automation: Robotic Process Automation, Model-Driven App Platforms and Project and Portfolio Mgt Apps



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I. Large Market Opportunity Key Investor Debate: Best of Breed vs. Suites

Key Debate – Best of Breed vs. Suites: Will larger productivity suites provide and bundle the breadth of Future of Work capabilities, compressing the opportunity?

- Forrester estimates 1.25 billion information workers in 2018 (up from 865 million in 2016), 325MM in NA and Europe, 925MM rest of world
- Assume 80% of NA + Europe and 50% of ROW is addressable = 723 million information workers

Bear Case



Office 365 (Office apps + email + Teams meetings and voice + social and intranet + files and content + work mgt + analytics + security + compliance) could organize most teams, content and workflows

- Assume <u>current</u> annual average spend on O365 per seat (~\$108, MSe)
- TAM = 722.5MM x \$108 = \$78 billion
- Note, this avg. spend on O365 would not get you all the apples to apples features in bull case TAM, but is representative of a bear case TAM where all functionality is not needed for all information workers

Bull Case - Best of Breed











- Assume 40% discount to list price for business SKUs
- Best of breed bull case TAM approaches \$400 billion

	Per User / Per Month	Annual	Use	SKU
Slack	\$12.50	\$150.00	Communication / Collaboration	Business Plus
Box	\$25.00	\$300.00	Content Mgt & e-Signature	Business Plus
Zoom	\$20.83	\$250.00	Conferencing / Communication / Telephony	Business Plus
Google Workspace	\$18.00	\$216.00	Email & Documents	Business Plus
Monday.com	\$16.00	\$192.00	Coordination / Project Mgt	Pro
	Full Price:	\$916.00		
@ 40%	Discount:	\$549.60		
Bull TAN	// (Billions):	\$397,086		

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I. Large Market Opportunity Key Investor Debate: Best of Breed vs. Suites

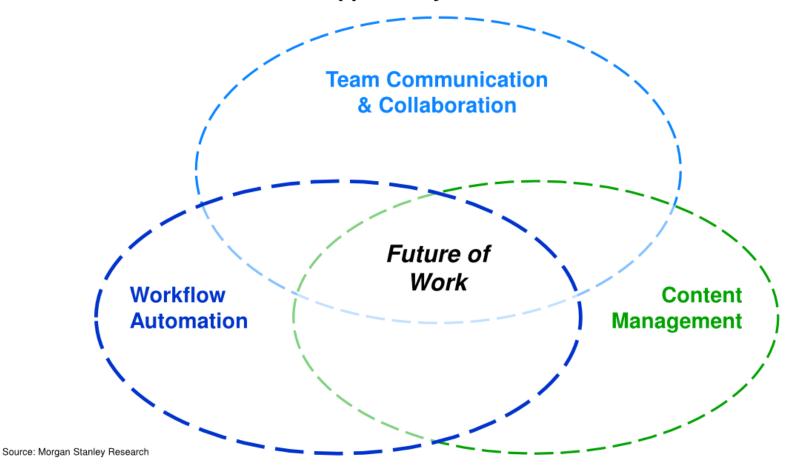
Key Debate – Best of Breed vs. Suites: Will larger productivity suites provide and bundle the breadth of Future of Work capabilities, compressing the opportunity?

- MS View Companies will use multiple vendors given some teams or departments will utilize several best of breed solutions, while other departments will rely largely on productivity suites (for example, Microsoft O365/Teams or Google Workspace).
- We think it makes sense for certain categories within Future of Work (for example, digital signature or workplace collaboration) to be offered natively through larger productivity suites, either through M&A consolidation or internal development.
- While the capabilities from Suites might not always be best of breed, they should be able to serve price sensitive end-users and simple use cases.
- These factors result in a combination of suites and best of breed, or a TAM falling between the Bear and Bull scenarios on the prior slide. IDC's forecast of ~\$90B today going to ~\$180B in five years fits this view.

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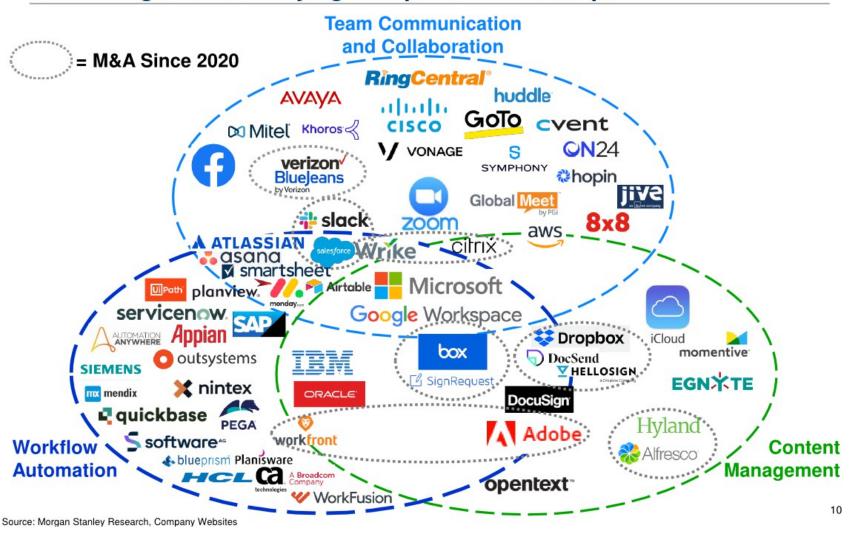
II. Evolving and Intensifying Competitive Landscape

Competitive Lines are Breaking Down as Vendors Fight for IT Spend and Position to Address Broader Opportunity



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II. Evolving and Intensifying Competitive Landscape

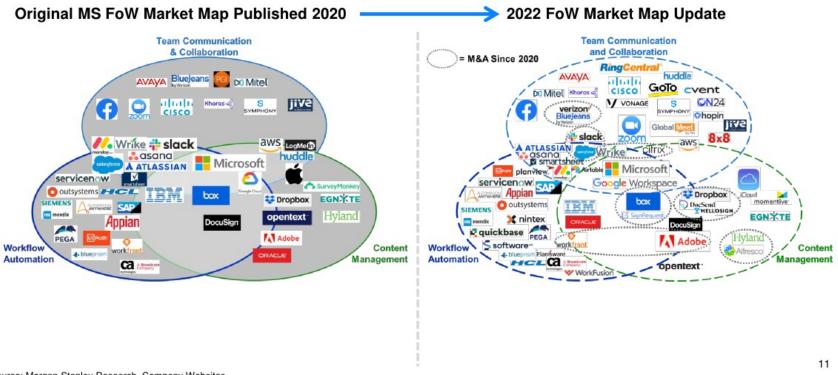


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II. Evolving and Intensifying Competitive Landscape

Remote and Hybrid Work, as well as Digitization and Automation Secular Trends Have Created a More Crowded Competitive Landscape

- New vendors entered the market and more vendors scaled to >\$100 million revenue
- Uptick in M&A and Innovation to better position for the broader FoW opportunity, crossing competitive lines



Source: Morgan Stanley Research, Company Websites

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II. Competitive Landscape Key Investor Debate: Competitive Differentiation

Key Debate – Competitive Differentiation: Are vendors differentiated and can they prove that differentiation in such a crowded environment?

Market Segment in Focus: Workplace Collaboration Management (WCM)

Workplace Collaboration Mana	gement Software Vendors			
Company	🚜 asana	√ smartsheet	//. monday.com	Airtable A
Annual Revenue (LTM)	\$468M	\$657M	\$411M	\$100M+ (2021)
Revenue Growth% (LTM/NTM)	59% / 33%	44% / 30%	85% / 41%	~70% (2021)
Gross Margin (LTM)	90%	82%	89%	N/A
Operating Margin (LTM)	(43%)	(9%)	(19%)	N/A
S&M, as % of Revenue (LTM)	68%	55%	79%	N/A
FCF margin% (LTM)	(32%)	(2%)	(5%)	N/A
FCF Break Even (mgmt)	2H 2024	1H 2023	2H 2023	N/A
Market Cap or Funding/Valuation (if Private)	~\$4B	~\$4B	~\$5B	Total Funding: \$1.4B Latest Round F (Dec'21): \$735M Valution @ Series F Dec '21: \$11B
Differentiation	Work Graph Architecture Large Integration Network Easy to Implement Intuitive User Interface	Enterprise Features - Security, Admin, Governance, Audit, Compliance, Scalability Diversity of Use Cases Ability to Handle Complexity No-code Capabilities Breadth of Product Portfolio	Work OS Self-Service / Ease of Adoption Strong Visualization Easiest to Use	Database Architecture Customizable No-code Capabilties
Core End Market	SMB/Mid/Enterprise	Mid/Enterprise	SMB/Mid	SMB/Mid
Number of Integrations/Apps	High	Medium	Low	Low
Monthly Pricing / User	Free Premium: \$11 Business: \$25	Free Pro: \$7 Business: \$25	Free Basic: \$8 Standard: \$10 Pro: \$16	Free Plus: \$10 (free) Pro: \$20
Customers	Total Paying Customers: >131K >18K (>\$5K ACV) ~462 (>\$100K ACV)	>16K (>\$5K ACV) >2K (>\$50K ACV) ~1.2K (>\$100K ACV)	Total Customers: 152K+ ~1.2K (>\$50K ACV)	~300K+ total companies (2021)

Vendors Microsoft Google Workspace ClickUp planview Wrike workfront Jira Trello # slack M U R SYMPHONY

Additional

Source: Morgan Stanley Research, Company websites, company data

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II. Competitive Landscape Key Investor Debate: Competitive Differentiation

Key Debate – Competitive Differentiation: Are vendors differentiated and can they prove that differentiation in such a crowded environment?

Market Segment in Focus: Workplace Collaboration Management (WCM)

- Bull View: Vendors are differentiated through technology architecture, breadth of innovative products and features, no-code capabilities, UI, the number and ease of integrations, and Enterprise security/admin/governance features – and can illustrate differentiation and compelling ROI to corporate buyers. Leading vendors should benefit from durable growth as market opportunity is large and remains early-days.
- Bear View: Workplace collaboration is showing signs of commoditization.
 The landscape is very crowded and it is difficult for buyers (and investors) to differentiate offerings.
- MS View: Yes, these platforms and products are differentiated. However, in some cases it doesn't matter, especially as platforms expand capabilities across competitive lines and enhance customization features to be able to address a wide array of uses cases. Vendors that fundamentally have differentiated core capabilities are often competing for the same budget dollars at the end of the day (limited number of licenses per user).

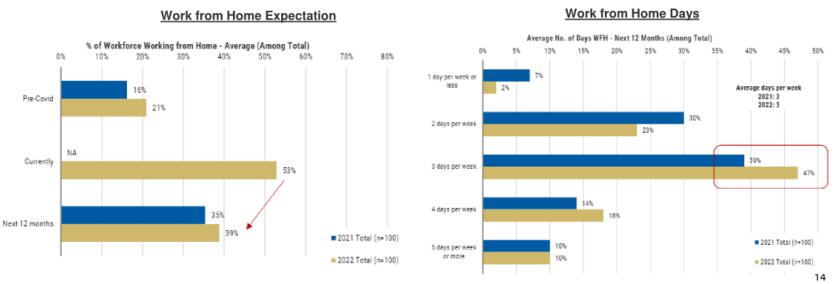
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III. Future of Work Vendors Position for Post-Covid New Normal Hybrid Work Environment

Vendors in FoW Help to Enable Distributed Workforces in Remote and Hybrid Environments

- Hybrid work here to stay, technology helps to enable hybrid work
- Many vendors face normalizing demand post covid tailwinds, now combined with macro headwinds and IT spending pressure
- Technology: Can WFH Plays RTW (Return To Work)? (27 Jun 2022)
- REITs/Networking Equipment/IT Hardware: Return to Office: A Remake, Not a Rerun (10 May 2022)

Work from Home Penetration to Normalize at 2x Pre-Covid Level



Source: AlphaWise, Morgan Stanley Research

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III. Future of Work Vendors Position for Post-Covid New Normal Hybrid Work Environment

Vendors Building and Buying Capabilities to Address Distributed Workforce

Six >\$1 Billion Acquisitions in Future of Work Market in Last Several Years

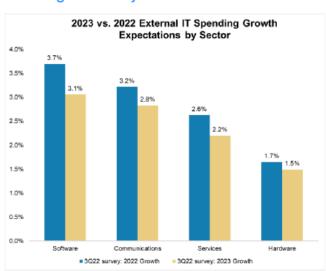
		_				EV/S	EV/S	EV/S	
Announcement Date	Acquirer	Target	Business of Target	Stock	Cash	LTM	1-yr fwd	2-yr fwd	Type
November 22, 2021	Ericsson	Vonage	Cloud-based communications	NA	\$6.2B	4.5x	4.1x	3.5x	Public
November 17, 2021	SS&C Technologies	Blue Prism Group	Robotic Process Automation (RPA) platform	\$1,600M	NA	NA	NA	NA	Public
March 9, 2021	Dropbox	DocSend	Document sharing platform	NA	\$165M	NA	NA	NA	Private
February 3, 2021	Box	SignRequest	E-signature provider	NA	\$55M	NA	NA	NA	Private
January 19, 2021	Citrix	Wrike	SaaS Work Management Solution	NA	\$2,250M	NA	NA	NA	Private
December 1, 2020	Salesforce	Slack	Channel-based messaging platform for planning and collaboration	NA	\$27,700M	31.1x	25.5x	NA	Public
November 9, 2020	Adobe	Workfront	Work management platform		\$1,500M	7x	NA	5.1x	Private
April 16, 2020	Verizon	BlueJeans	Cloud based video conferencing and event platform		\$500M	NA	NA	NA	Private
February 27, 2020	DocuSign	Seal Software	Provider of contract discovery, data extraction, and analytics		\$188M	NA	NA	NA	Private
January 7, 2020	Appian	Novayre Solutions	Robotic Process Automation (RPA) platform		NA	NA	NA	NA	Private
November 11, 2019	Opentext	Carbonite	Cloud backup software		\$1,420M	4.2x	3.7x	NA	Public
May 2, 2019	Smartsheet	10,00ft	High-level project and resource management software		NA	NA	NA	NA	Private
January 28, 2019	Dropbox	HelloSign	E-signature provider		\$250M	NA	NA	NA	Private

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III. Key Investor Debate: Macro - Positioning and Potential Impact

Key Debate – Post-Covid + Macro – Positioning and Potential Demand Impact: Which Future of Work categories and vendors will fall to the 'nice to have' bucket in a more challenging macro?

- Overall IT and Software budget growth expected to move lower in CY23, with more CIO's expecting to revise budgets down vs. up
- Investors debate which categories and business models are best positioned in a more challenging macro
- **Bull View:** With collaboration, coordination, and communication FoW categories aligned to productivity; mission criticality of content mgt; and automation focused on efficiency, cloud-based FoW vendors have a compelling value proposition and ROI that should prove durable under budget scrutiny.
- Bear View: Collaboration, communication and FoW related software face lower and uncertain demand after benefitting from covid tailwinds. Rationalization and consolidation of spend is likely, given 'nice to have' does not hold up well on a CIO's defensibility list.
- MS View: FoW vendors are aligned to strategic, multi-year digital transformation initiatives and/or provide compelling ROI. For the most part, vendors serving Enterprises won't see material logo churn, while those serving SMBs could see increased churn. For seat-based models, budget scrutiny and slower headcount growth/reductions could lead to slower expansion or downsizing. New business from new logos and from departmental or use case expansion could get pushed down the road.



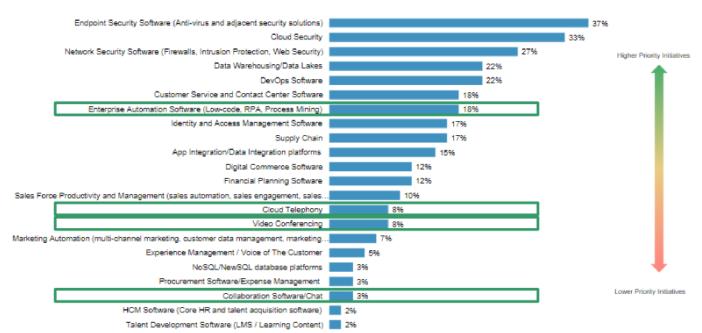
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III. Key Investor Debate: Macro - Positioning and Potential Impact

Key Debate - Post-Covid + Macro - Positioning and Potential Demand Impact

- Security oriented initiatives dominate the top of the Software specific priority list
- Automation Software listed as one of the key software priorities after security,
 Communication Software towards the middle and Collaboration Software closer to the bottom



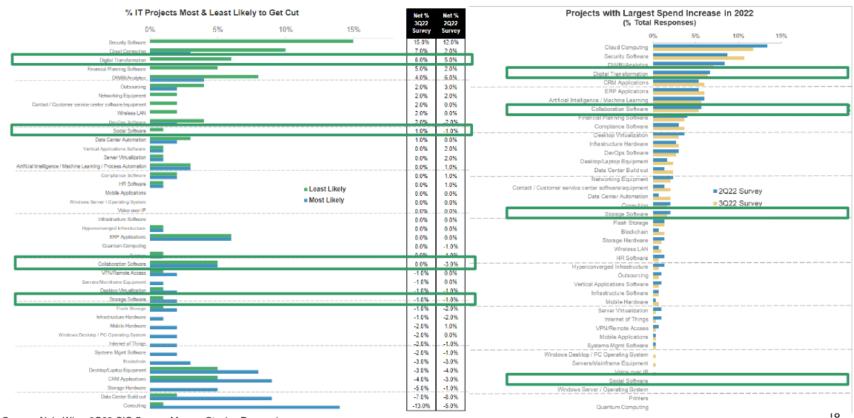


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III. Key Investor Debate: Macro - Positioning and Potential Impact

Key Debate – Post-Covid + Macro – Positioning and Potential Demand Impact

• Expanding to overall IT projects, Digital Transformation among the least likely to get cut and remaining one of the top CIO priorities, the rest of FoW categories are more middle-of-the-pack



Source: AlphaWise, 3Q22 CIO Survey, Morgan Stanley Research

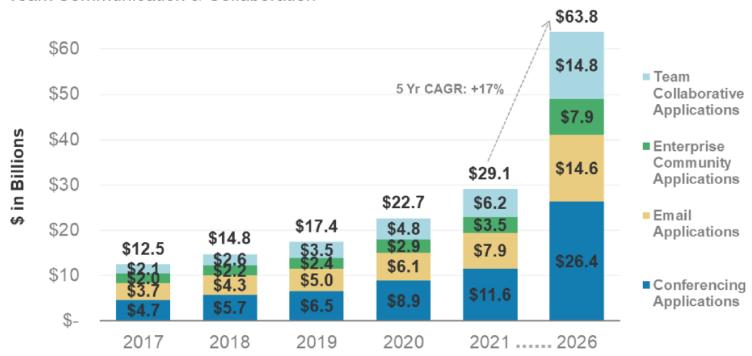
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Future of Work Market Details: Market Sizing, Top Vendors and Top Share Gains/Losses

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IV. Team Communication and Collaboration: Market Sizing

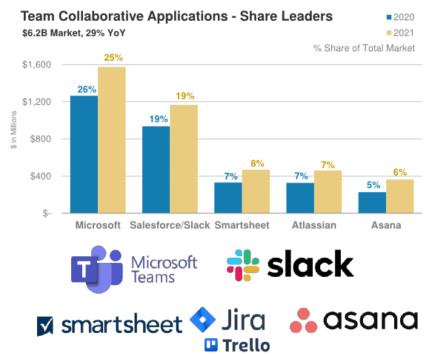




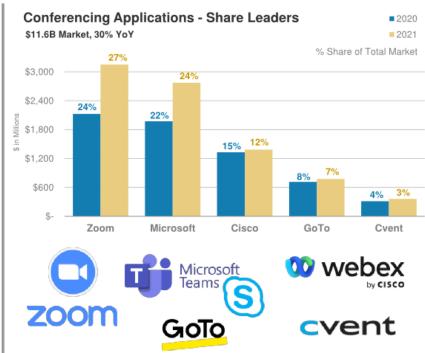
Team Communication & Collaboration	Content Management	Workflow Automation
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IV. Team Communication and Collaboration: Market Landscape







Select Other Vendors: Mitel, Google, Verizon/BlueJeans, On24, Avaya, Hopin, RingCentral

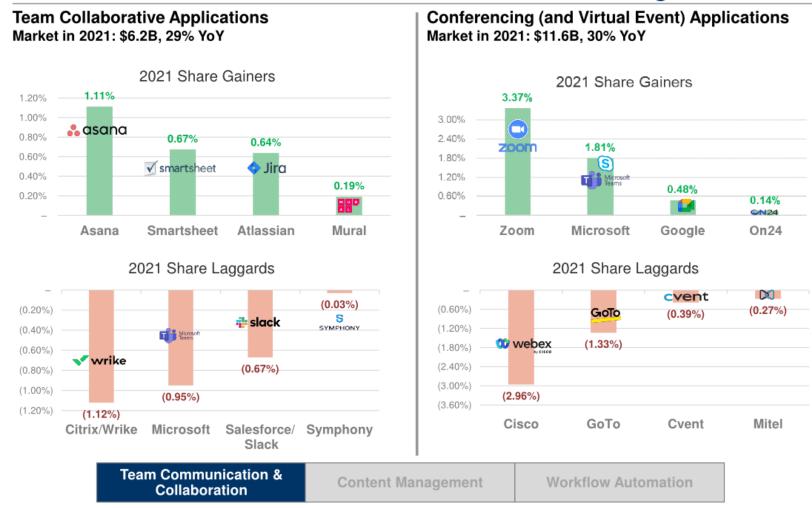
Team Communication & Collaboration

Content Management

Workflow Automation

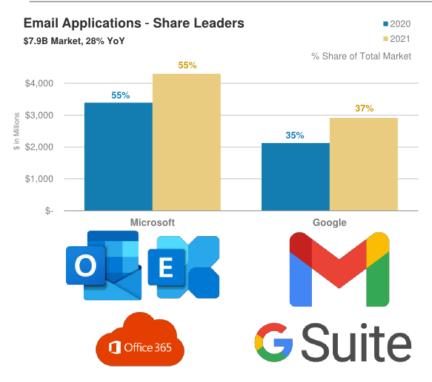
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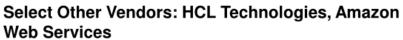
IV. Team Communication and Collaboration: Share Change

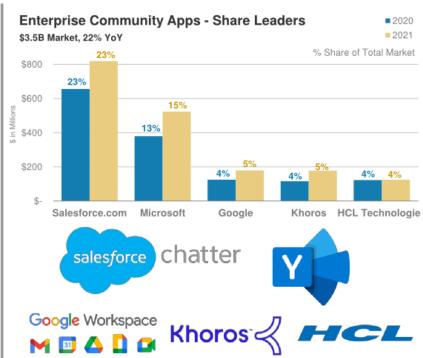


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IV. Team Communication and Collaboration: Market Landscape







Select Other Vendors: Facebook, Aurea, SAP, Igloo

Team Communication & Collaboration

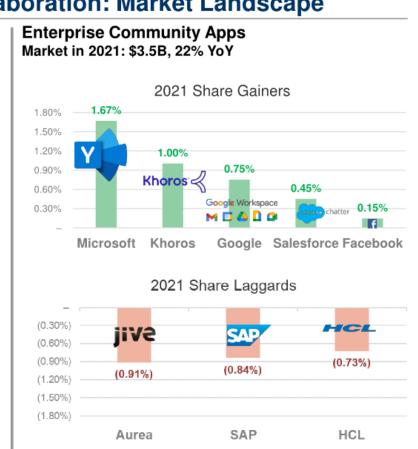
Content Management

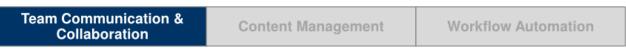
Workflow Automation

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IV. Team Communication and Collaboration: Market Landscape







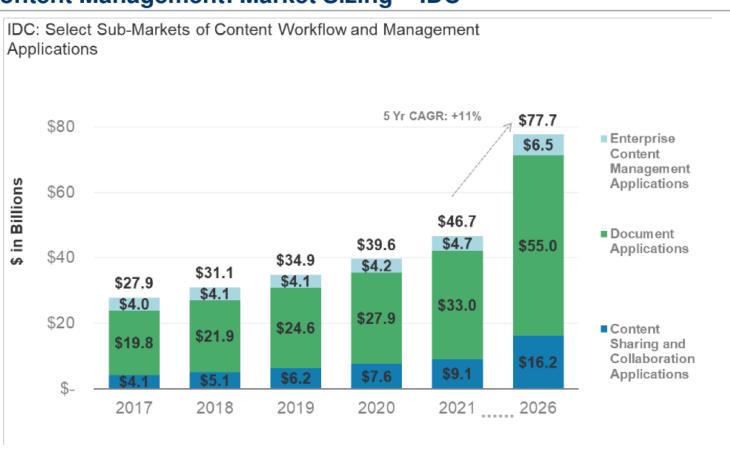
HCL Technologies

24

Microsoft

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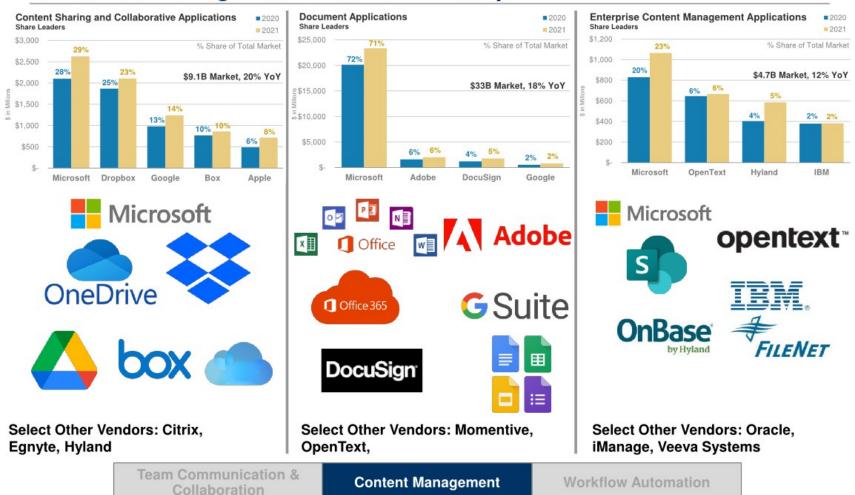
V. Content Management: Market Sizing – IDC



Team Communication & Content Management Workflow Automation

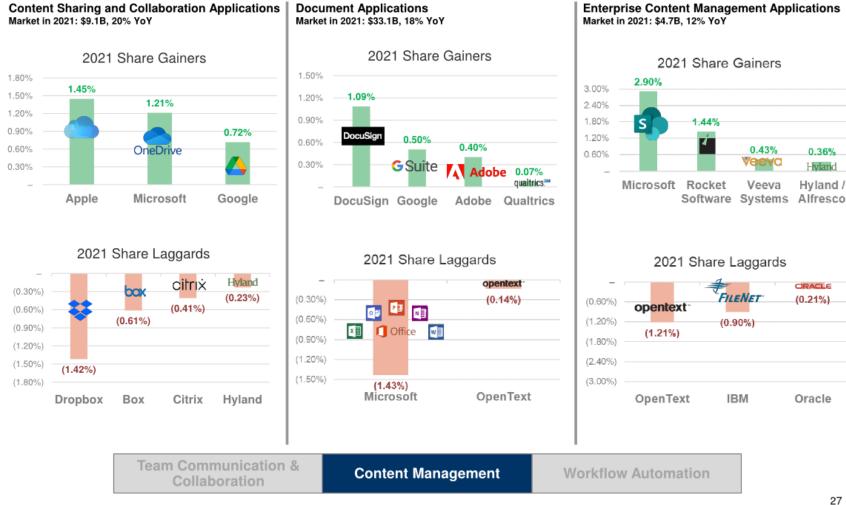
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V. Content Management: Market Landscape



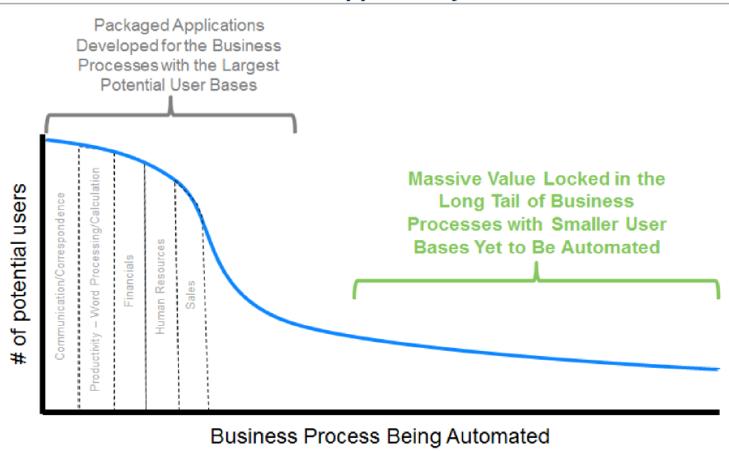
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V. Content Management: Share Change



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October 3, 2022

VI. Workflow Automation: The Opportunity



Team Communication & Content Management Workflow Automation

Source: Morgan Stanley Research

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VI. Workflow Automation: Market Sizing – IDC

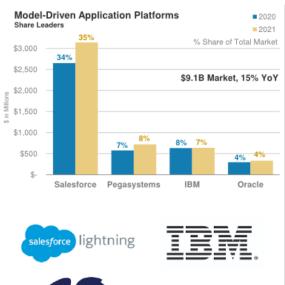
IDC: Robotic Process Automation Software, Model-Driven Application Platforms, and Project & Portfolio Management Applications



Team Communication & Collaboration	Content Management	Workflow Automation
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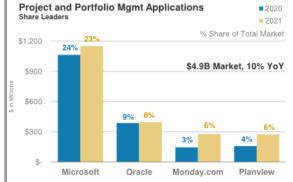
VI. Workflow Automation: Market Landscape



ORACLE'

Select Other Vendors: SAP, Siemens, ServiceNow, Appian, Quickbase, Outsystems, Microsoft **Robotic Process Automation Software** ■2020 Share Leaders 2021 % Share of Total Market \$800 \$2.2B Market, 36% YoY 35% \$600 \$400 \$200 UiPath Blue Prism Automation WorkFusion Anywhere blueprism Ui Path WorkFusion **ANYWHERE**

Select Other Vendors: NTT, Pegasystems, Infosys









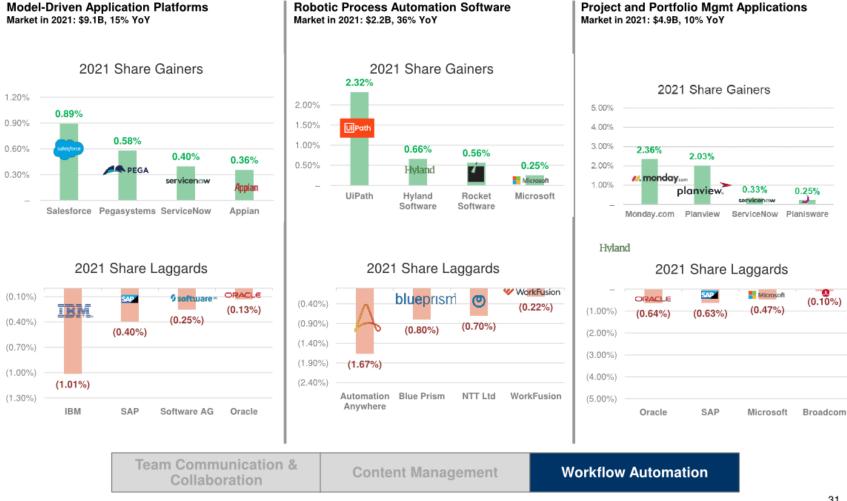


Select Other Vendors: Adobe / Workfront, SAP, ServiceNow, Smartsheet

Team Communication & Content Management	Workflow Automation
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VI. Workflow Automation: Share Change



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Relevant Gartner Magic Quadrants

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Gartner MQ for Meeting Solutions



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Gartner MQ for Content Services Platforms



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Gartner MQ for Enterprise Low-Code Application Platforms



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Gartner MQ for Robotic Process Automation Software



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Gartner MQ for Project and Portfolio Management



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Gartner MQ for Unified Communications as a Service

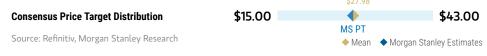


Risk Reward - Asana Inc (ASAN.N)

Leading Platform But in a Crowded Market

PRICE TARGET \$28.00

Our 15-yr DCF assumes a >20% CAGR to reach \$6.2B in revenue by 2037. We estimate operating margins expand to 27% and generate \$2B FCF in the terminal year. We assume a 11.0% WACC and 3% terminal growth rate to reach our \$28 PT.



RISK REWARD CHART



Source: Refinitiv, Morgan Stanley Research

EQUAL-WEIGHT THESIS

Asana is a leading work management platform that helps users orchestrate work, from daily tasks to cross-functional strategic initiatives. The company's ease of use, intuitive UI, and appealing enterprise-wide use cases have enabled it to grow quickly in a competitive landscape. However, an increasingly competitive environment, blurring differentiation, and lagging operating margins keep us on the sidelines today as we wait to garner more confidence in topline durability as well as operating efficiency and see current levels as justified given ASAN's steep growth deceleration and high operating losses.

Consensus Rating Distribution



Source: Refinitiv, Morgan Stanley Research

Risk Reward Themes

BEAR CASE

Secular Growth: Positive

View descriptions of Risk Rewards Themes here

BULL CASE

\$39.00 BASE CASE

\$28.00

\$12.00

9.9x EV/CY23 Sales | 0.21x growth adjusted

ASAN successfully differentiates itself and maintains a strong leadership position. Rev sustains a 26% CAGR CY21-CY37, reaching ~\$13Bn by CY37. Higher growth requires higher level of investment and results in CY37 op margin of 26%. We assume 3% terminal growth and 11.0% WACC to reach our \$39 Bull Case valuation. This implies 19.9x EV/CY23 Sales or 0.21x EV/CY23 S/G, a modest premium to SaaS peers justified by ASAN's significantly high growth rate.

10.0x EV/CY23 Sales | 0.27x growth adjusted

Leader in an Attractive Market

A large \$46Bn TAM enables ASAN to sustains a 21% rev CAGR through CY37 and reach \$6.2Bn of revenue despite an increasingly competitive landscape. Operating margins expand to ~27% in CY37 as the company scales, rev slows, and investments begin driving leverage in the model. We assume a 3% terminal growth rate and a 11.0% WACC to arrive at our \$28 price target. This implies ~8.1x EV/CY23 Sales or 0.22x EV/S/G

~3.7x EV/CY23 Sales | 0.12x growth adjusted

Asana faces intensifying competition that creates a headwind to sales while EBIT losses sustain in the near-term. Rev grows at a 16% CAGR CY21-CY37 to reach \$3.6B in CY37, while op margins expand to ~18% in CY37. We assume a 3% terminal growth and a 10.0% WACC to reach our Bear Case valuation of \$12, which implies ~3.7x EV/CY23 Sales and 0.12x growth adjusted on our Bear Case estimates

Risk Reward - Asana Inc (ASAN.N)

KEY EARNINGS INPUTS

Drivers	2022	2023e	2024e	2025e	
Revenue Growth (%)	66.7	44.4	29.7	28.0	
Operating Income margin (%)	(41.5)	(44.7)	(33.7)	(22.3)	
Adj Free Cash Flow Margin (%)	(23.2)	(29.6)	(17.5)	(1.2)	
Paying Customers	119,000.0	141,603.1	168,864.3	0.0	

INVESTMENT DRIVERS

-Upcoming earnings report

GLOBAL REVENUE EXPOSURE



Source: Morgan Stanley Research Estimate View explanation of regional hierarchies <u>here</u>

MS ALPHA MODELS

5/5	24 Month	3/5	3 Month
Best	Horizon	most	Horizon

Source: Refinitiv, FactSet, Morgan Stanley Research; 1 is the highest favored Quintile and 5 is the least favored Quintile

SUSTAINABILITY & ESG

Indicator of Change	0.25	+1.0	•	-1.0
Disclosure Rate	29%			

RISKS TO PT/RATING

RISKS TO UPSIDE

- Asana innovation surpasses peers, enabling it to maintain market leadership in the long term and sustain durable growth
- Management achieves its LT-targets margin targets sooner than expected
- Demand backlog from COVID-19 drives rev growth above expectations

RISKS TO DOWNSIDE

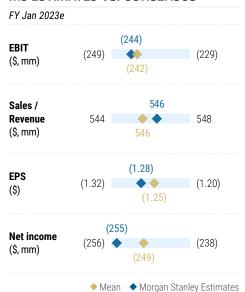
- Competitive pressure results in topline deceleration beyond expectations
- Management is unable to deliver on margin targets in the near term

OWNERSHIP POSITIONING

Inst. Owners, % Active	64.4%			
HF Sector Long/Short Ratio	2.4x			
HF Sector Net Exposure	33.3%			

Refinitiv; MSPB Content. Includes certain hedge fund exposures held with MSPB. Information may be inconsistent with or may not reflect broader market trends. Long/Short Ratio = Long Exposure / Short exposure. Sector % of Total Net Exposure = (For a particular sector: Long Exposure - Short Exposure) / (Across all sectors: Long Exposure - Short Exposure).

MS ESTIMATES VS. CONSENSUS



Source: Refinitiv, Morgan Stanley Research

Risk Reward – Box Inc (BOX.N)

Not a Mystery Box – Value is Underappreciated

PRICE TARGET \$34.00

16x CY23e FCF of ~\$324M; Implies <5x EV/CY23 Sales. 16x EV/FCF is a discount to software median at 24x EV/FCF.



RISK REWARD CHART



Source: Refinitiv, Morgan Stanley Research

OVERWEIGHT THESIS

- Box plays an important Role in the Future of Work. In an increasingly distributed post-Covid work environment, Box is well positioned to address the content management opportunity also providing team communication & collaboration, workflow automation solutions, and security around content.
- Solid relative macro positioning with compelling ROI and value in Box Suites, strong execution, a more favorable competitive landscape, and upside to margin expansion / 'Rule of 40' gives us confidence Box's <13x EV/CY23 FCF can partly close the 50% valuation gap vs. software peers.

Consensus Rating Distribution



MS Rating

Source: Refinitiv, Morgan Stanley Research

Risk Reward Themes

BEAR CASE

Secular Growth: Positive

View descriptions of Risk Rewards Themes here

BULL CASE

\$51.00 BASE CASE

\$34.00

\$17.00

22x CY23e FCF of \$~357M; Implies ~7x CY23 Sales

Strategic Platform Drives Steeper Growth Acceleration. Large Box deployments in Enterprises and as a replacement to legacy ECM vendors drives mid to high teens billings growth to reach ~\$1.3B in CY23. Operating margins improve from ~15% in CY20 to 27% by CY23, driving CY23 FCF of ~\$357M. 22x EV/FCF is more in line with overall software group median at 24x.

16x CY23e FCF of ~\$324M; Implies <5x CY23 Sales

Progressing Toward 40%+ FY24 Revenue Growth + FCF Margin. Solid execution selling Suites drives low to mid teens billings growth to reach ~\$1.2B in CY23. Operating margins improve from ~15% in CY20 to 25% by CY23, driving CY23 FCF of ~\$324M. 16x EV/FCF is a significant discount to the broader Software group median.

10x CY23e FCF of ~\$250M; Implies 2.4x CY23 Sales

Competition Weighs on Growth. Box loses share to vendors like Microsoft, Google and Dropbox causing billings to fall back to high single digits by CY23, reaching ~\$1.1B.

Operating margins improve from ~15% in CY20 to 24% by CY23, driving CY23 FCF of ~\$250M. 10x EV/FCF is relatively in line with the high margin / low growth content management peers at ~11x, justified due to competition thwarting growth in the Box Bear case.

Risk Reward – Box Inc (BOX.N)

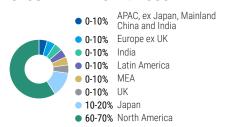
KEY EARNINGS INPUTS

Drivers	2022	2023e	2024e	2025e
Total Billings Growth (%)	16.1	11.7	15.4	14.3
Total Revenue Growth (%)	13.4	13.6	12.9	12.6
Operating Margin % (%)	19.8	22.5	24.9	26.6
FCF Margin % (%)	19.5	24.6	28.9	31.7

INVESTMENT DRIVERS

- New customer wins, particularly large scale enterprise deployments
- Increased penetration of existing customers via new seat sales
- Customers adopting higher priced suites and Enterprise Plus plans

GLOBAL REVENUE EXPOSURE



Source: Morgan Stanley Research Estimate View explanation of regional hierarchies <u>here</u>

MS ALPHA MODELS

Source: Refinitiv, FactSet, Morgan Stanley Research; 1 is the highest favored Quintile and 5 is the least favored Quintile

RISKS TO PT/RATING

RISKS TO UPSIDE

- Increasing mix of Suites, w/ stronger unit economics driving larger deals, larger customers, higher pricing, higher gross margins, & stronger retention
- Replacements of legacy ECM vendors
- · Better than expected margin expansion

RISKS TO DOWNSIDE

- Increasing competition from large platforms and content players
- Commoditization of core cloud content management along with competition would pressure pricing

OWNERSHIP POSITIONING

Inst. Owners, % Active	60.4%		
HF Sector Long/Short Ratio	2.4x		
HF Sector Net Exposure	33.3%		

Refinitiv; MSPB Content. Includes certain hedge fund exposures held with MSPB. Information may be inconsistent with or may not reflect broader market trends. Long/Short Ratio = Long Exposure / Short exposure. Sector % of Total Net Exposure = (For a particular sector: Long Exposure - Short Exposure) / (Across all sectors: Long Exposure - Short Exposure).

MS ESTIMATES VS. CONSENSUS



Source: Refinitiv, Morgan Stanley Research

Risk Reward - DocuSign Inc (DOCU.O)

Resetting Expectations

PRICE TARGET \$47.00

18x CY24 FCF of \$589M discounted back 1 year

Consensus Price Target Distribution

Source: Refinitiv, Morgan Stanley Research



RISK REWARD CHART AND OPTIONS IMPLIED PROBABILITIES (12M)



Key: — Historical Stock Performance ● Current Stock Price ◆ Price Target

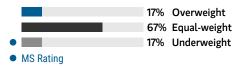
Source: Refinitiv, Morgan Stanley Research, Morgan Stanley Institutional Equities Division. The probabilities of our Bull, Base, and Bear case scenarios playing out were estimated with implied volatility data from the options market as of 30 Sep, 2022. All figures are approximate risk-neutral probabilities of the stock reaching beyond the scenario price in either three-months' or one-years' time. View explanation of Options Probabilities methodology here

UNDERWEIGHT THESIS

DocuSign has established itself as the leader in e-signatures, accelerating business transactions via their secure cloud-based platform with ~1.8 million customers globally and over 1 billion users. However, we see a more modest low-double-digit level of growth ahead, while the stock is pricing in a return to more rapid growth post near-term transition.

Post-Covid demand normalization, sales force productivity challenges, leadership turnover and macro create an uncertain, difficult transition ahead, mostly reflected in shares. Intensifying competition, e-signature commoditization & pricing pressure creates further downside.

Consensus Rating Distribution



Source: Refinitiv, Morgan Stanley Research

Risk Reward Themes

Market Share: Negative
Pricing Power: Negative
Secular Growth: Positive

View descriptions of Risk Rewards Themes here

BULL CASE

\$88.00 BASE CASE

\$47.00

BEAR CASE

\$26.00

Discount of 25x Bull Case CY24e FCF of \$774M

Digital transformation initiatives remain a priority and customers deploy DOCU throughout the lifecycle of agreement. DOCU grows customers at an 16% CAGR CY22-24. Additional investments are necessary to maintain high growth. Op margins go from 5% in CY19 to ~20% in CY24 to generate FCF of \$774M. A discount of 26x our CY24 FCF (or 1.3x EV/FCF/G) results in our bull case of \$88, and implies 6x CY23 EV/S and 0.35x growth adjusted.

Discount of 18x Base Case CY24e FCF of \$589M

Navigating tough comps post-COVID, DOCU grows at a 11% CAGR from CY22-24.. As growth slows from 39% in CY19, business scales and sales investments improve productivity. Op margins improve to 18% in CY24 (from 5% in CY19) to generate FCF of \$589M. Applying 18x to our CY24 FCF estimate, or 1.3x EV/FCF/G, results in our one-year forward base case value of \$47, assuming a ~10.8% WACC. Our PT implies 3.7x EV/CY23 Sales.

Discount of 12x Bear Case CY24e FCF of \$453M

Competing eSignature products challenge DOCU's market position as growth decelerates faster than expected. DOCU grows a 8% CAGR CY22-24. Leverage is less than hoped given limited scale and pricing pressure, but does improve. Op margins reach 18% in CY24 (from 5% in CY19). A discount of 12x our CY24 FCF of \$453M (or 2.1x EV/FCF/G) results in our bear case of \$26, assuming a 10.8% WACC. This implies 1.8x EV/CY23 sales and 0.15x growth adjusted.

Risk Reward - DocuSign Inc (DOCU.O)

KEY EARNINGS INPUTS

Drivers	2022	2023e	2024e	2025e
Subscription Revenue YoY Growth (%)	47.5	18.3	10.4	12.2
Total Revenue YoY Growth (%)	45.0	17.5	10.3	12.1
Total Billings YoY Growth (%)	36.9	7.9	10.2	13.0
Net Revenue Retention (%)	121.9	110.7	110.9	112.3

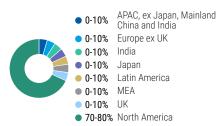
INVESTMENT DRIVERS

Sustaining enterprise net rev. retention of 110%+.

Improving sales productivity from recent sales investments.

Expanding partner ecosystem.

GLOBAL REVENUE EXPOSURE



Source: Morgan Stanley Research Estimate View explanation of regional hierarchies here

MS ALPHA MODELS

3 Month T Horizon

Source: Refinitiv, FactSet, Morgan Stanley Research; 1 is the highest favored Quintile and 5 is the least favored Quintile

SUSTAINABILITY & ESG

Indicator of Change	-0.12	+1.0	•	-1.0
Disclosure Rate	29%			

RISKS TO PT/RATING

RISKS TO UPSIDE

Rebound to pre-COVID levels of execution faster than expected. Restructuring drives more material margin expansion. CLM product scales and contributes meaningfully to growth.

RISKS TO DOWNSIDE

Increased competitive pressure from Adobe, a well established vendor, as well as the field of vendors an in increasingly commoditized market. Competition and commoditization lead to pricing pressure.

OWNERSHIP POSITIONING

Inst. Owners, % Active	64.3%	
HF Sector Long/Short Ratio	2.4x	
HF Sector Net Exposure	33.3%	

Refinitiv; MSPB Content. Includes certain hedge fund exposures held with MSPB. Information may be inconsistent with or may not reflect broader market trends. Long/Short Ratio = Long Exposure / Short exposure. Sector % of Total Net Exposure = (For a particular sector: Long Exposure - Short Exposure) / (Across all sectors: Long Exposure - Short Exposure).

MS ESTIMATES VS. CONSENSUS

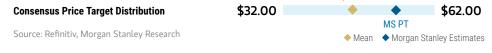


Risk Reward - Smartsheet Inc (SMAR.N)

Strong Growth Profile and Attractive Risk-Reward Skew at Current Levels

PRICE TARGET \$54.00

Discount Base Case CY33e FCF of \$1.2Bn by 10.8% WACC, implying ~7.5x EV/Sales



RISK REWARD CHART

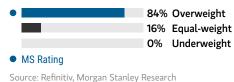


OVERWEIGHT THESIS

■ We see Smartsheet going after a large \$21B total addressable market as its platform addresses a growing number of use cases. With >100K customers of all sizes, Smartsheet has seen viral adoption within its customer base, as highlighted by a best-in-class 120%+ net retention rate. Given the company's low market penetration and a strong competitive moat, we see sustainable >20% rev CAGR over the next 10 years.

■ Our \$54 PT is based off of 23x CY32e FCF of \$1.2Bn, discounted back at 10.8%. Our PT implies ~7.5x EV/CY23 Sales and 0.24x

Consensus Rating Distribution



growth adjusted, in line with SaaS peers.

Risk Reward Themes

BEAR CASE

Secular Growth: Positive

View descriptions of Risk Rewards Themes here

BULL CASE

\$73.00

BASE CASE

\$54.00

\$20.00

EV/FCF of 25x Base Case CY31e FCF of \$1.4B

Source: Refinitiv, Morgan Stanley Research

Smartsheet is able to penetrate an increasing proportion of the enterprise IT budget, driving sustained 30% CAGR over the next 5 years to surpass \$1B revenue by CY24. Longer term growth trends towards a 10-year revenue CAGR of 23% through CY33, with improved op leverage on a larger revenue scale. The company achieves 21% op margin by CY33 and FCF of \$1.4B, yielding our bull case valuation of \$73, after applying 25x EV/FCF and discounting back at 10.8% WACC.

EV/FCF of 21x Base Case CY32e FCF of \$1.2B

SMAR delivers ~28% rev CAGR over the next 5 years and surpasses \$1B by CY24, while growth slows to 22% CAGR over a 10-yr period to >\$6B by CY33. Op margins improve from (22%) in CY18 to ~20% in CY33 to generate FCF of \$1.2B. Applying 21x to our CY33 FCF estimate results in our base case PT of \$54, assuming a 10.8% WACC. Our PT implies ~7.5x EV/CY23 Sales and 0.24x growth adjusted, in line with SaaS peers.

EV/FCF of 13x Bear Case CY33e FCF of \$689M

Smartsheet faces intensifying competition as legacy project management vendors are able to retool their offerings for the Cloud age. Growth slows faster than expected, to 17% CAGR through CY33. Leverage is less than hoped given limited operating scale and pricing pressure, reaching 18% op margin by CY33 and FCF of ~\$689M. This yields our bear case valuation of \$20, after applying 13x EV/FCF in CY33 and discounting back at 10.8% WACC.

Risk Reward – Smartsheet Inc (SMAR.N)

KEY EARNINGS INPUTS

Drivers	2022	2023e	2024e	2025e
Subscription Revenue YoY (%)	43.8	38.2	26.2	26.9
Total Revenue YoY (%)	43.8	38.2	26.2	26.9
Total Billings YoY (%)	46.8	32.3	32.1	26.6
Net Revenue Retention (%)	135.5	124.8	128.1	126.1
Domain Customers YoY (%)	3.5	3.9	2.0	2.0

INVESTMENT DRIVERS

- Sustained net revenue retention of 120%+.
- Higher sales force productivity as new hires ramp.
- Ability to drive S&M leverage to drive operating profitability.

GLOBAL REVENUE EXPOSURE



Source: Morgan Stanley Research Estimate View explanation of regional hierarchies <u>here</u>

MS ALPHA MODELS

4/5	24 Month	5/5	3 Month
Best	Horizon	most	Horizon
BEST	Horizon	MOST	Horizor

Source: Refinitiv, FactSet, Morgan Stanley Research; 1 is the highest favored Quintile and 5 is the least favored Ouintile

SUSTAINABILITY & ESG

Indicator of Change	0.50	+1.0	-1.0
Disclosure Rate	29%		

RISKS TO PT/RATING

RISKS TO UPSIDE

- Traction in international markets is faster than expected
- Mgmt achieves FCF targets ahead of schedule

RISKS TO DOWNSIDE

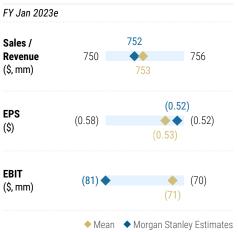
- Increased competitive pressure from larger project management vendors like Microsoft and greater overlap with collaboration vendors (such as Atlassian).
- Difficulty achieving operating profitability over the next few years.
- Investments in new sales hires fail to generate meaningful productivity.

OWNERSHIP POSITIONING

Inst. Owners, % Active	75.4%		
HF Sector Long/Short Ratio	2.4x		
HF Sector Net Exposure	33.3%		

Refinitiv; MSPB Content. Includes certain hedge fund exposures held with MSPB. Information may be inconsistent with or may not reflect broader market trends. Long/Short Ratio = Long Exposure / Short exposure. Sector % of Total Net Exposure = (For a particular sector: Long Exposure - Short Exposure) / (Across all sectors: Long Exposure - Short Exposure).

MS ESTIMATES VS. CONSENSUS



Source: Refinitiv, Morgan Stanley Research



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(as of September 30, 2022)

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	COVERAGE UN	NIVERSE	INVESTMENT BANKING CLIENTS (IBC)		OTHER MATERIAL		
						INVESTMENT	SERVICES
						CLIENTS (MISC)
STOCK RATING	COUNT	% OF	COUNT	% OF	% OF	COUNT	% OF
CATEGORY		TOTAL		TOTAL IBC	RATING		TOTAL
				(CATEGORY		OTHER
							MISC
Overweight/Buy	1342	38%	295	41%	22%	590	39%
Equal-weight/Hold	1582	45%	335	47%	21%	702	46%
Not-Rated/Hold	0	0%	0	0%	0%	0	0%
Underweight/Sell	610	17%	84	12%	14%	219	14%
TOTAL	3,534		714			1511	

Data include common stock and ADRs currently assigned ratings. Investment Banking Clients are companies from whom Morgan Stanley received investment banking compensation in the last 12 months. Due to rounding off of decimals, the percentages provided in the "% of total" column may not add up to exactly 100 percent.

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INDUSTRY COVERAGE: Software

COMPANY (TICKER)	RATING (AS OF)	PRICE* (09/30/2022)
Elizabeth Porter, CFA		
Amplitude Inc. (AMPL.O) GoDaddy Inc (GDDY.N) LegalZoom.com Inc (LZ.O) Liveramp Holdings Inc (RAMP.N) Matterport Inc (MTTR.O) Semrush Holdings Inc-A (SEMR.N) Sprinklr Inc (CXMN) Sprout Social Inc (SPT.O) UserTesting Inc. (USER.N) WixCom Ltd (WXO) Zendesk, Inc (ZEN.N) Zeta Global Holdings Corp (ZETAN)	E (10/25/2021) E (07/19/2021) U (07/28/2022) O (07/15/2019) E (04/19/2022) E (06/06/2022) E (07/19/2021) E (11/17/2020) O (12/13/2021) E (05/19/2022)	\$15.47 \$70.88 \$8.57 \$18.16 \$3.79 \$11.21 \$9.22 \$60.68 \$3.92 \$78.23 \$76.10 \$6.61

Hamza Fodderwala

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Check Point Software Technologies Ltd. (CHKP.O) CrowdStrike Holdings Inc (CRWD.O) CyberArk Software Ltd (CYBR.O) ForgeRock Inc (FORG.N) Fortinet Inc. (FTNT.O) KnowBe4 (KNBE.O) NortonLifeLock Inc (NLOK.O) Okta, Inc. (OKTAO) Palo Alto Networks Inc (PANW.O) Qualys Inc (QLYS.O) Rapid7 Inc (RPD.O) Secureworks Corp (SCWX.O) SentinelOne, Inc. (S.N) Tenable Holdings Inc (TENB.O) Varonis Systems, Inc. (VRNS.O) Zscaler Inc (ZS.O)	U (01/13/2020) O (06/06/2022) O (10/01/2020) E (10/11/2021) E (04/10/2018) ++ E (03/29/2022) E (09/01/2022) O (10/10/2017) U (02/09/2021) E (08/11/2015) E (09/09/2020) O (07/25/2021) O (01/15/2019) E (06/27/2022) O (01/18/2022)	\$112.02 \$164.81 \$149.94 \$14.53 \$49.13 \$20.81 \$20.14 \$56.87 \$163.79 \$139.39 \$42.90 \$8.05 \$25.56 \$34.80 \$26.52 \$164.37
Josh Baer, CFA		
2u Inc (TWOU.O) Box Inc (BOXN) Chegg Inc (CHGG.N) Coursera, Inc. (COUR.N) Cvent (CVT.O) DigitalOcean Holdings Inc (DOCN.N) Docebo Inc. (DCBO.O) Instructure Holdings Inc (INST.N) Lightspeed POS Inc. (LSPD.N) Sabre Corp (SABR.O) Toast, Inc. (TOST.N) UdemyInc (UDMY.O) WalkMe Ltd (WKWE.O)	E (11/24/2020) O (08/17/2022) E (11/02/2021) O (04/26/2021) E (06/17/2022) U (07/11/2022) E (04/26/2022) O (12/09/2021) E (02/18/2021) E (03/16/2021) O (12/16/2021) E (11/23/2021) E (06/07/2022)	\$6.25 \$24.39 \$21.07 \$10.78 \$5.25 \$36.17 \$27.01 \$22.28 \$17.58 \$5.15 \$16.72 \$12.09 \$8.50
Keith Weiss CFA		
Keith Weiss, CFA Adobe Inc. (ADBE.O) Akamai Technologies, Inc. (AKAMO) Asana Inc (ASAN.N) Allassian Corporation PLC (TEAMO) Autodesk (ADSK.O) Avalara, Inc. (AVLR.N) BigCommerce Holdings, Inc. (BIGC.O) Bill.com Holdings (BILL.N) Cloudflare Inc (NET.N) Coupa Software Inc (COUP.O) DocuSign Inc (DOCU.O) Freshworks Inc (FRSH.O) HubSpot, Inc. (HUBS.N) Intuit (INTU.O) Microsoft (MSFT.O) Oracle Corporation (ORCL.N) Palantir Technologies Inc. (PLTR.N) Qualtrics (XMO) Salesforce.com (CRMN) Samsara Inc (IOT.N) ServiceNow Inc (NOW.N) Shopify Inc (SHOP.N) Smartsheet Inc (SMAR.N) Snowflake Inc. (SNOW.N) Splunk Inc (SPLK.O) UiPath Inc (PATH.N) Veeva Systems Inc (VEEV.N) Vertex Inc. (VERX.O) VMware Inc (VMAY.O) Zoomlinfo Technologies Inc (ZI.O)	E (06/21/2022) E (04/29/2020) E (04/29/2020) E (10/26/2020) O (01/13/2020) E (08/19/2021) E (08/16/2022) E (05/11/2021) O (09/12/2022) E (06/18/2020) O (04/14/2020) U (08/17/2022) E (10/18/2021) O (03/25/2020) O (10/05/2020) O (01/13/2016) E (01/15/2019) E (03/07/2022) O (12/16/2021) O (05/19/2021) O (01/10/2022) O (11/12/2020) E (06/24/2022) O (05/22/2018) O (02/07/2022) E (04/27/2021) E (09/07/2022) E (12/16/2021) U (04/07/2021) +++ O (04/14/2020) O (11/18/2020)	\$275.20 \$80.32 \$22.23 \$210.59 \$186.80 \$91.80 \$14.80 \$132.37 \$55.31 \$58.80 \$53.47 \$12.97 \$270.12 \$387.32 \$232.90 \$61.07 \$8.13 \$10.18 \$143.84 \$12.07 \$377.61 \$26.94 \$34.36 \$169.96 \$75.20 \$12.61 \$164.88 \$13.67 \$106.46 \$152.22 \$41.66
Meta A Marshall 8x8 Inc (EGHT.N) Five9 Inc (FIVN.O) NICE Ltd. (NICE.O) RingCentral Inc (RNG.N) Twilio Inc (TWLO.N) Zoom Video Communications Inc (ZMO)	E (01/13/2020) O (10/18/2021) E (12/16/2021) E (12/16/2021) O (09/19/2019) O (08/26/2021)	\$3.45 \$74.98 \$188.296 \$69.14 \$73.59
Roy D Campbell Karooooo Ltd (KARO.O)	O (04/27/2021)	\$23.79

Sanjit K Singh		
Alteryx Inc (AYXN)	E (04/01/2021)	\$55.84
Appian Corp (APPN.O) C3.ai (Al.N)	E (12/03/2021) U (01/04/2021)	\$40.83 \$12.50
Citrix Systems Inc (CTXS.O)	U (11/05/2021)	\$103.90
Confluent, Inc. (CFLT.O)	E (07/19/2021)	\$23.77
Couchbase, Inc. (BASE.O)	E (08/16/2021)	\$14.27
Datadog, Inc. (DDOG.O)	O (05/21/2021)	\$88.78
Domo Inc (DOMO.O)	O (12/17/2020)	\$17.99
Fastly Inc. (FSLY.N)	U (07/11/2022)	\$9.16
HashiCorp (HCP.O)	E (01/03/2022)	\$32.19
JFrog Ltd. (FROG.O)	E (10/12/2020)	\$22.11
MongoDB Inc (MDB.O)	O (12/17/2020)	\$198.56
New Relic Inc (NEWR.N)	E (07/11/2022)	\$57.38
PagerDuty, Inc. (PD.N)	E (05/06/2019)	\$23.07
Solarwinds Corp (SWI.N)	E (11/13/2018)	\$7.75
Sumo Logic Inc (SUMO.O)	E (10/12/2020)	\$7.50

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