J.P. Morgan Software Outlook 2021

Recovering from All-Time Highs

Enterprise Software

in alphabetical order:

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Introduction

Mark R. Murphy

- *Covering the Enterprise Software industry since 1997*
- *Over 20 years experience*
- *Cornell University*

in alphabetical order:

Pinjalim Bora, CFA

- *Covering Enterprise Software since 2010 at Piper Jaffray*
- *Software Engineer at Oracle and Satyam*
- *Ohio State Univ. MBA and NIT Jamsedpur, Mechanical Eng B.S.*

Matthew J. Coss

- *Covering Enterprise Software since 2004 at Pacific Crest and Piper Jaffray*
- *BYU, Business Management B.S.*

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2021 Investment Considerations

- JPM strategists see a robust backdrop for Equities next year, with Trade War / Pandemic / US Election uncertainty clearing into a business cycle recovery and “market nirvana” scenario driving a “melt-up”, particularly in 1H:21.
- We view the setup as more complicated in Software, as the Recovery starts from All-Time Valuation Highs for SaaS/Subscription models. “Market Nirvana” and “Melt-Up” already happened in this category, this year.
- …Driven by unusual exuberance in the sub-segment of SMID cap growth names trading at 20-100x CY21E revs.
- **Pandemic Trade Over, Recovery Trade Beginning.** We see potential for ownership to broaden out in 2021: both flowing out of Software into non-Digital segments of the economy, and flowing out of Pandemic-Driven Software into cycle-recovery Software.
- Align to category leaders with realizable cash flow support, healthy Rule of 40 balance, and/or survey-validated catalysts – while reconsidering a few laggards with recovery potential post-vaccinations.
- We reaffirm “Software is eating the world” and “Tech is breaking out of tech” as long term durable drivers.
- Favor our ***Fab Five*** elite CIO Survey performers (AMZN, MSFT, GOOGL, CRM, NOW) and appreciate the gravitational pull of the 3 “Black Hole” Infrastructure clouds (Azure/AWS/GCP).

“Market Nirvana” for Equities in 1H 21 (JPM US Equity Markets 2021 Outlook)

Dubravko Lakos-Bujas,
Head of US Equity Strategy and Global Quantitative Research

Published: 12/09/2020

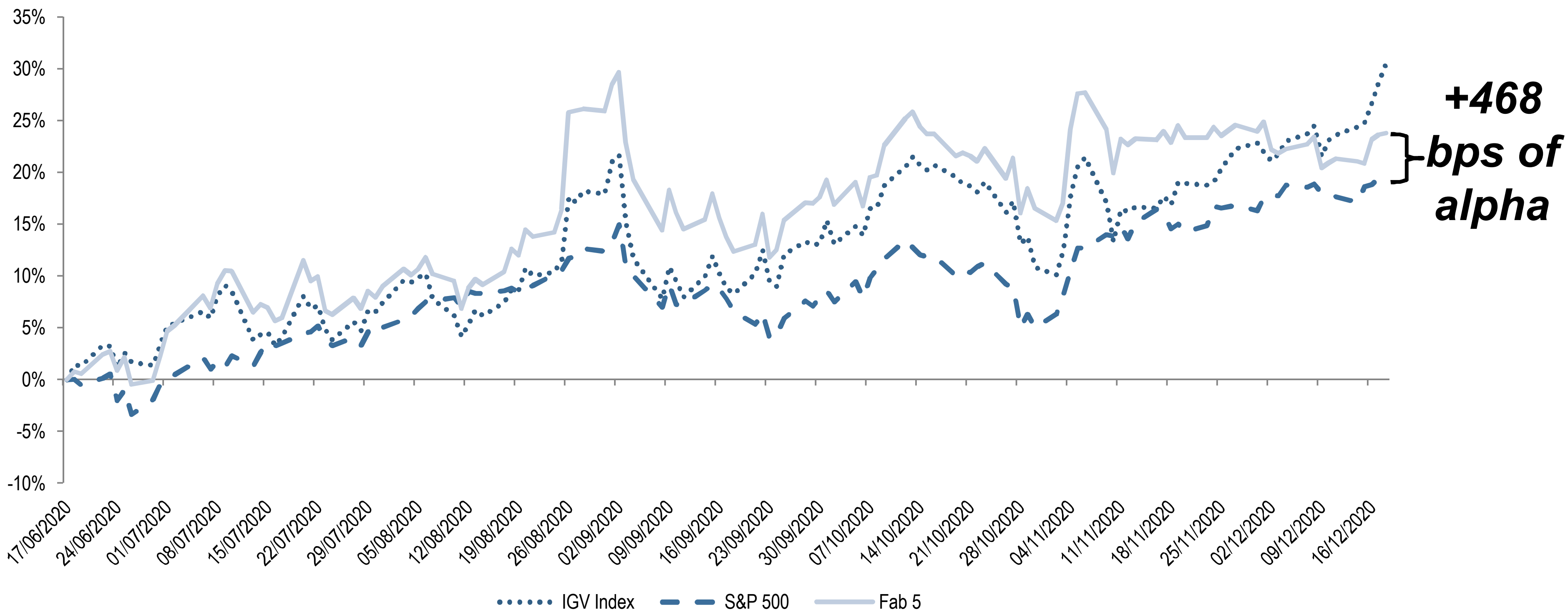
Equities are facing one of the best backdrops for sustained gains next year. After a prolonged period of elevated risks (global trade war, COVID-19 pandemic, US election uncertainty, etc.), the outlook is clearing with the business cycle expanding and risks diminishing. **We expect a “market nirvana” scenario for equities with the melt-up continuing into 1H21, driven by earnings recovery and multiple expansion.** We expect next year to be front-loaded with most of the market upside realized in the first six months of the year, driven by:

- Expectations of continued exceptionally easy monetary policy (US M2 money supply +24% y/y, largest increase since 1940s) and another round of fiscal stimulus ($700-900b) in the near future;
- COVID-19 vaccine distribution and easing of mobility restrictions fueling further earnings, labor market, and business cycle recovery (e.g. US QMI, our leading business cycle indicator, has entered early expansion phase);
- Election outcome with an expected balance of power and likely legislative gridlock is a goldilocks scenario for equities in our view (although Georgia senate race remains a key short-term risk). This expected election outcome significantly reduces risk of higher taxes and regulatory tightening, and increases the likelihood of global trade tensions easing and some tariff rollbacks (we estimate existing tariffs ~$6 headwind to S&P 500 EPS through first order impact alone);
- Steady decline in USD trade-weighted index (-11% since Mar peak and -5% since 1yr ago) is expected to be a significant tailwind for multinational earnings in the coming quarters and for broader liquidity conditions;
- Corporates should begin to release excess balance sheet cash starting next year (S&P 500 record cash balance at ~$2.1 trillion ex-Financials), revitalizing capex, M&A, and capital return, and reducing debt/revolvers – positive for earnings/multiple;
- We expect ~$1 trillion of equity inflow / demand in 2021 driven by systematic flows, hedge fund positioning, retail buying, share buybacks, rotation from non-equity into equity (see details below).

Given the above (and as detailed in our November Strategy report), **we see the S&P 500 reaching 4,000 by early next year. Our base case S&P 500 price target for 2021 is 4,400 with a range of 4,200 to 4,600. Our 2021 EPS estimate is $178** (consensus $168.85) **and 2022 EPS is $200** (consensus $196.79). We expect next year to be front-loaded in terms of performance. While the broader backdrop should still remain constructive in the second half of next year, by then the market will have likely priced in close to a full recovery and investors may start to expect a gradual shift in central bank forward guidance away from the current exceptionally accommodative stance. This could start to pressure the multiple expansion story, making any market upside increasingly dependent on future earnings growth potential. As such, we expect investors to become increasingly more selective in 2H21. We expect the elevated equity multiple to be resilient as upward pressure on bond yields should continue to be restrained by the Fed (JPM FI/Rates Strategy expects US 10-year yield at 1.3% in 2021), while equity risk premium is currently still elevated offering room to absorb moderately higher yields (see below for analysis on Equity Multiples vs. Rates).

Key Calls: CIO Survey *Fab 5* Outperformance

Fab 5 Performance vs. S&P 500 and IGV Index Since June 2020 CIO Survey



Takeaways

- Our '20 CIO Survey identified 5 companies with the strongest CIO feedback – AMZN, CRM, GOOGL, MSFT, NOW.
- An index of the *Fab 5* outperformed the S&P 500 by 468 bps. It outperformed the IGV index for most of the year, IGV has pulled ahead in the last couple of weeks.
- ***Since our 2017 CIO Survey, our Group of Six / Four Horsemen / Fab 5 list is now ~10,350 bps ahead of the S&P 500 (+152% vs. + 48%) and ~3,950 bps ahead of the IGV index (+152% vs. +112%).***

Source: Bloomberg Finance L.P.

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Key Fundamental Bull Thesis For Software

- ***Core trends look unstoppable***: automation, AI/ML, companies becoming data-driven, Digital Transformations.
- ***Global economic growth increasingly driven by "Digital"***, while non-Digital decreases in relevance.
- Target-rich environment for investors seeking ***durable growth runway & recurring models***.
- ***Scarcity of secular growth*** investment opportunities funnels investments into software.
- Strong new-company formation & M&A activity for exits.
- Emergence of $B+ deals for major cloud infr platforms (Azure, AWS, GCP).
- ***Potential for Tech spending to double*** as % of GPD in the coming decade.

The COVID-19 pandemic created a forcing function to increase prioritization of Cloud & Digital Transformation

As the Pandemic Hit… We Saw Deceleration w/ a Silver Lining

- March 5th 2020: We published our first COVID-19 report in early March. After blanketing 50 contacts in our software network, we found that ***1/3rd had already seen impact on software spend***, while ***56% expected to see adverse impact*** in the coming months.
- March 9th 2020: We mentioned certain industries coming under pressure (airlines, hotels, etc.), and expected ***deferral of certain deferring buying decisions*** as companies grappled with "how to operate in this new world."
- March 19th 2020: We expected to see some ***impact on net-new-logo bookings***.
- March 19th 2020: We upgraded Oracle, viewing its resilience across cycles as under-appreciated and doubting it would spend much time trading at <10x earnings.
- April 2nd 2020: We ***cut estimates across all of our March quarter companies***.
- April 2nd 2020: *Pandemic as Forcing Function to adopt Cloud & Digitally Transform. Expressed a view that spending on AWS and Azure may prove to be a particularly resilient vector, much more so than other software categories, as the **shocks from COVID-19 create a forcing function which catalyzes faster public cloud adoption** as companies understand the need to scale up remote work capabilities."*
- In our Q2 Preview*:* We expected to see more resilient growth rates from BAND, DBX, TWLO, ZI, and MSFT, which aligned with our vision of Bite-Sized Digital Transformation.

We Expected a Rough Q2/Q3, Improvement in Q4

- During this period, we repeatedly commented that bookings would be severely challenged in Q2, improve slightly in Q3 and perhaps start to approach normalcy by Q4 or early 2021.
- We expected the highest-multiple stocks would begin to reflect the deceleration, but in many cases the opposite occurred.

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Partners think FULL Recovery Takes Time; Vaccines Should Help

27th May 2020 : CRM Survey

Partners on average think it will take 27 months for their base of salesforce customers and prospects to return to "Pre-COVID-19" levels of spending growth.

11th June 2020 : ORCL Survey

On average, ***partners expect that it will take 1.2 years or 14.6 months*** *for their base of Oracle customers and prospects to return to "PreCOVID-19" levels of spending growth*

21st July 2020 : MSFT Survey

Partners on average think it will take 21.4 *months for their base of Microsoft customers and prospects to return to "Pre-COVID-19" levels of spending growth.*

24th Aug 2020 : CRM Survey

On average, ***partners expect that it will take 19.6 months*** *for their base of Salesforce customers and prospects to return to "PreCOVID-19" levels of spending growth*

9th Sep 2020 : ORCL Survey

Partners on average think it will take ~1.5 years or 16.7 *months for their base of Oracle customers and prospects to return to "Pre-COVID-19" levels of spending growth.*

16th Oct 2020 : MSFT Survey

Partners on average think it will take 28.7 *months for their base of Microsoft customers and prospects to return to "Pre-COVID-19" levels of spending growth.*

23rd Nov 2020 : VMW Survey

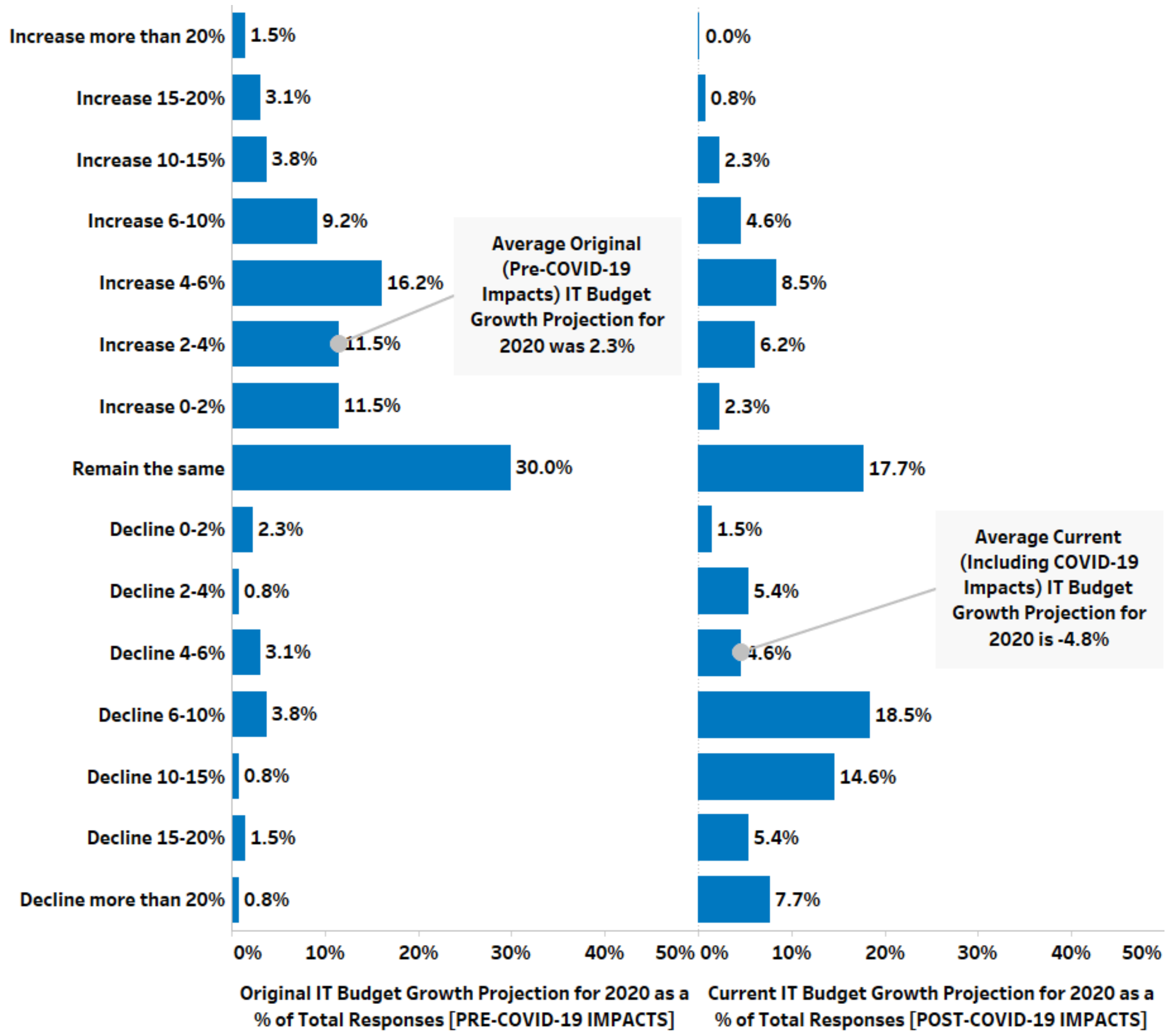
On average, ***partners expect that it will take 15 months*** *for their base of VMware customers and prospects to return to "PreCOVID-19" levels of spending growth*

30th Nov 2020 : CRM Survey

On average, ***partners expect that it will take 17.9 months*** *for their base of Salesforce customers and prospects to return to "PreCOVID-19" levels of spending growth.*

Source: J.P.Morgan.

June JPM CIO Survey Showed IT Budget Contraction…



- June 18th 2020: JPM CIO Survey published June 18th showed ***2020 IT budget contraction of 4.8%***, the most severe in roughly a decade, as plans were curtailed to mission-critical projects due to tension in the economy…

Source: J.P.Morgan.

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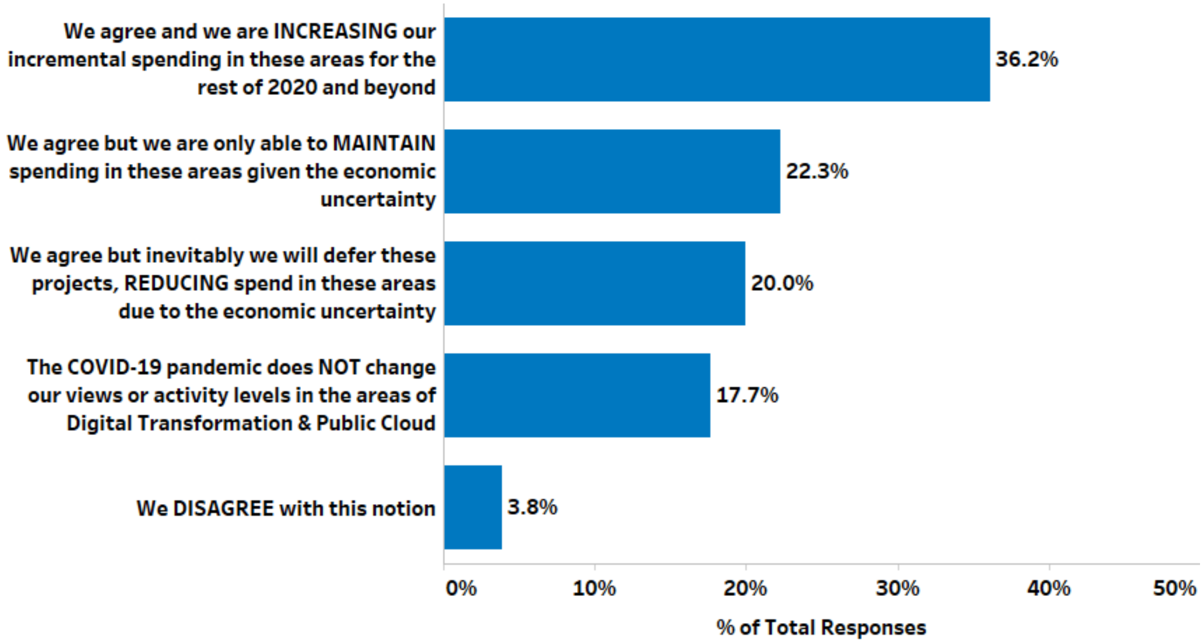
…But Validated Relative Prioritization of Cloud & Digital Transformation

How does your organization view the notion that "The COVID-19 pandemic will act as a forcing function to make us Digitally Transform and move to Public Cloud even Faster than we had planned."?



- ... At the same time, ***79% of CIOs agreed with the notion that the COVID-19 pandemic will act as a forcing function to make them Digitally Transform*** and move to Public Cloud even faster than they had planned.

Source: J.P.Morgan.

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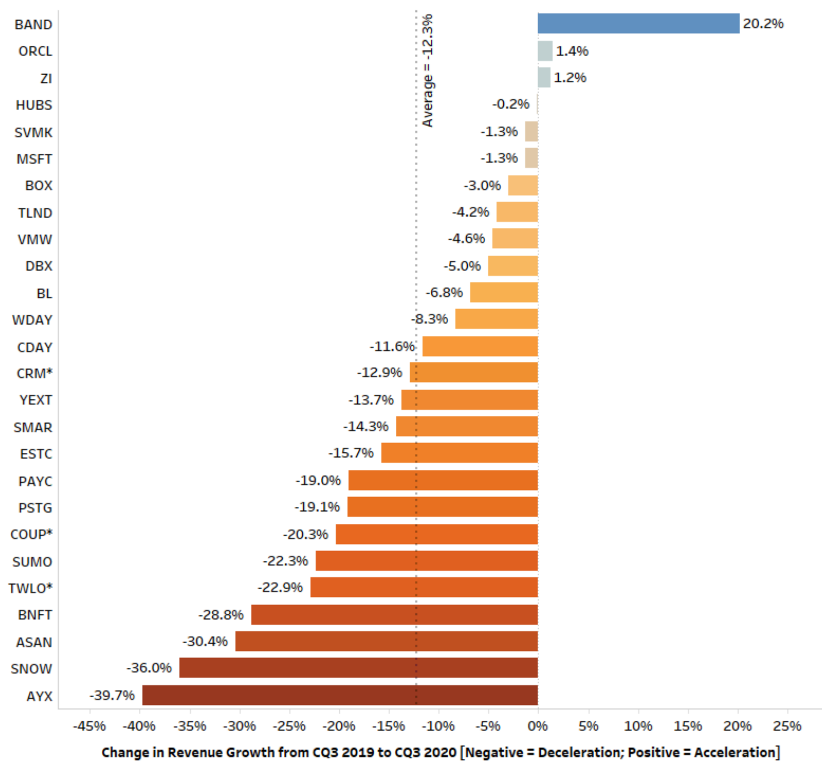
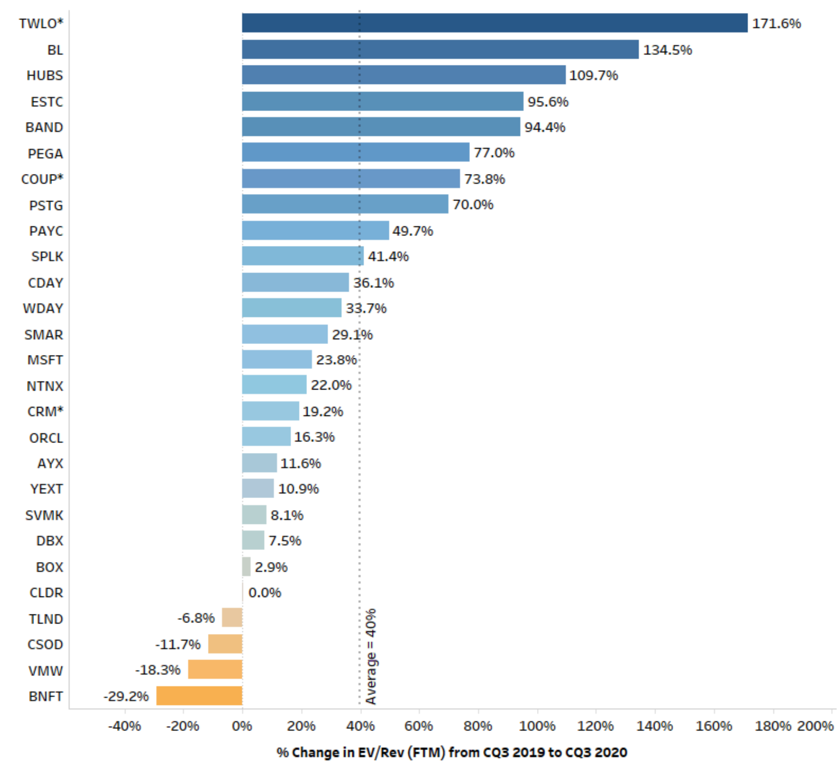
The End Result: Growth Cratered, Multiples Surged

- ***Within our coverage, revenue growth slowed by 12 points from Q3:19 to Q3:20, while valuations expanded by 40% during the same timeframe.***
- 12 points of decel is a lot for a sector growing 25-35%, but net-new bookings decelerated much more severely in most cases.

Change in Revenue Growth



Change in Valuation



*Note: (1) Chart on left excludes merger-of-equals (CLDR/HDP and CSOD/SABA) and significant model transitions (SPLK, PEGA, NTNX). (2) Chart on left shows reported revenue growth rates which may vary from organic underlying growth rates due to acquisitions or the lapping of acquisitions. For example, we estimate CRM organically slowed 3 points y/y in Q3 while we estimate TWLO slowed 6 points. (3) Chart on the right excludes recent IPOs such as SNOW, SUMO, ASAN and ZI, which were not publicly traded as of the end of February, 2020.

Source: Bloomberg Finance LP.

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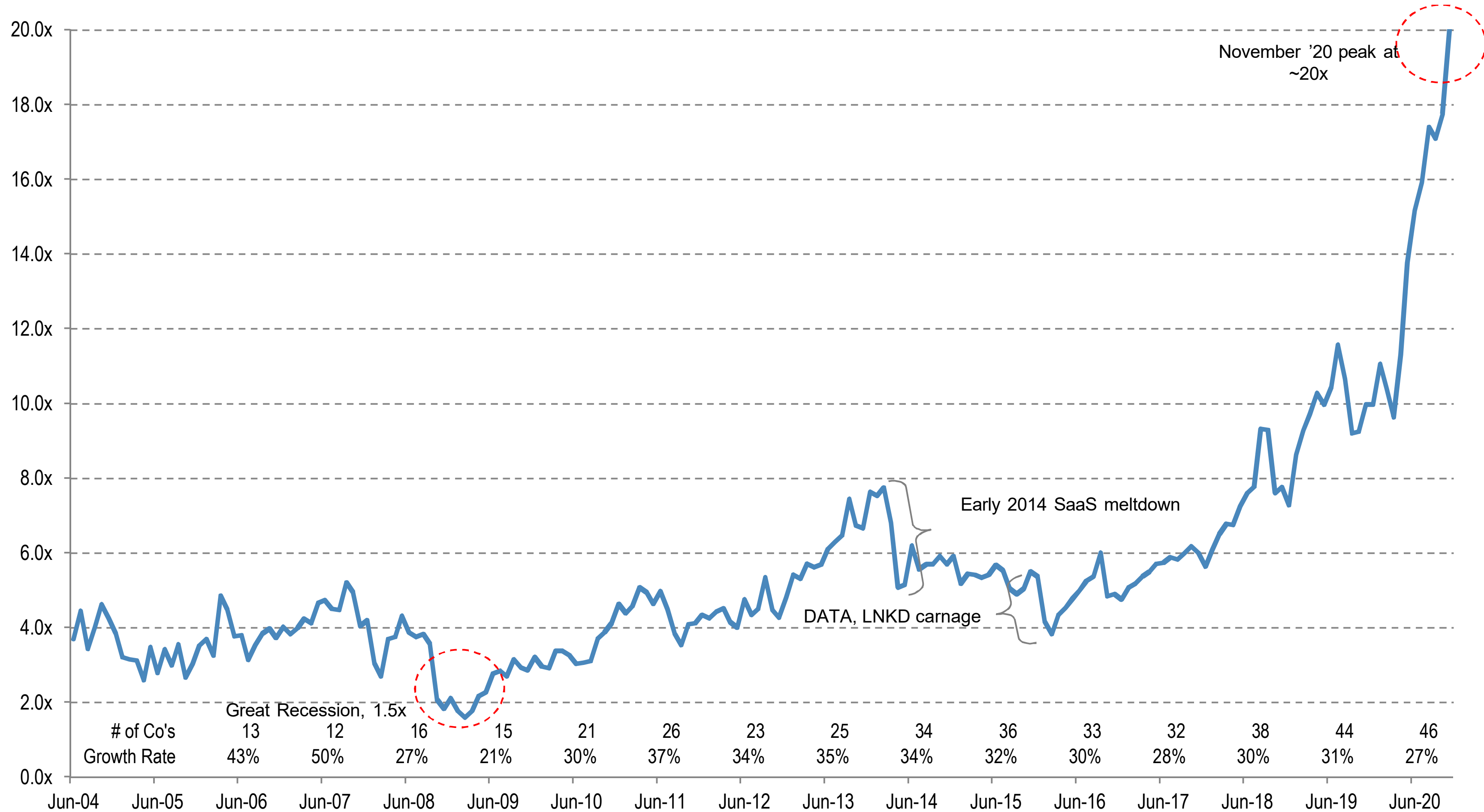
Valuation Surge – SaaS Software at All-Time High



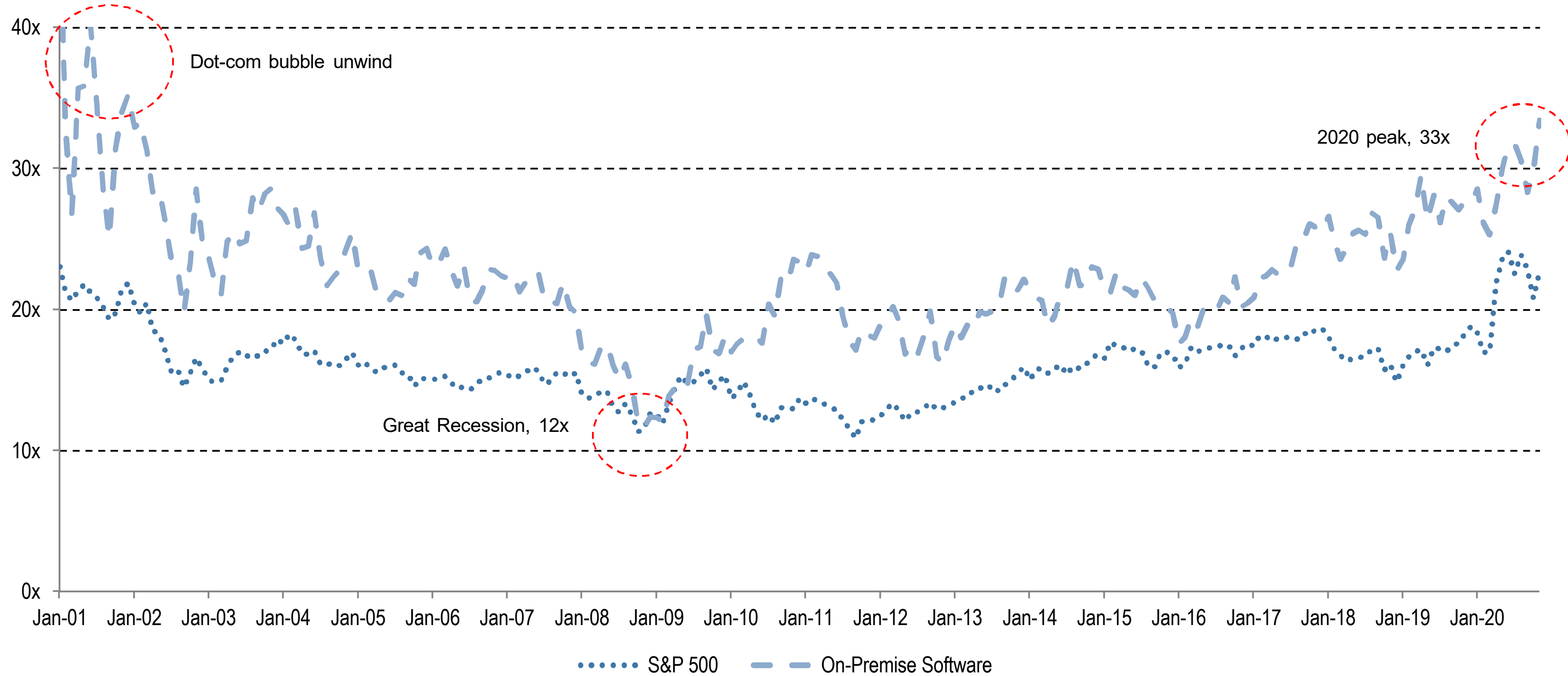
Takeaways

- This chart looks at the average EV/FTM sales multiple for ~80 SaaS companies since mid-2004.
- The table near the x-axis indicates the number of public SaaS companies by year and their ***median*** y/y growth rates. Growth rates were higher 6 to 9 years ago than today, signaling today's valuations may be extended.

Not all companies were publicly traded for the entire history of this chart. Source: Bloomberg Finance L.P. Tickers include APTI, ARBA, ASAN, ATHN, AVLR, BIGC, BILL, BL, BNFT, BOX, CALD, CDAY, CISN, CNQR, CNVO, COUP, CRM, CSOD, CTCT, CVT, DBX, DCT, DDOG, DOCU, DOMO, DT, DWRE, ELOQ, EVBG, FIVN, FLTX, HUBS, IL, JAMF, KNXA, LOGM, LPSN, MDLA, MDSO, MKTG, MKTO, N, NCNO, NOW, OKTA, OPWR, PAYC, PCTY, PD, PLAN, PS, QTWO, RALY, RNG, RNOW, RP, SAAS, SEND, SFSF, SHOP, SMAR, SLRY, SNCR, SNOW, SPSC, SQI, SUMO, SVMK, TEAM, TLEO, TRAK, TXTR, TWLO, ULTI, VEEV, VOCS, WEBX, WDAY, WK, WORK, YEXT, ZEN, ZI, ZM, ZS, ZUO.

Valuation Surge – On-Premise Software at 18-Year High

On-premise software median FTM P/E ratios since 2001



Takeaways

- This chart looks at the median FTM P/E ratios of ~40 on-premise enterprise software companies since 2001. Not all companies were publicly traded for the entire history of this chart.
- The current median P/E ratio is 33x, the highest median P/E we've observed in 18 years.
- The average historical premium for on-prem software vs. the S&P 500 is 41% compared to today's premium of 47%.

Source: Bloomberg Finance L.P. Tickers include ADBE, ADSK, AKAM, ANSS, ATHN, BEAS, BLKB, BMC, BOBJ, CDNS, CERN, CHKP, CTXS, HYSL, INFA, INTU, JCOM, LWSN, MANH, MSFT, MSTR, NUAN, ORCL, OTEX, PEGA, PSFT, PTC, QLIK, RHT, SAP, SNCR, SNPS, SPSS, SYMC, TIBX, VMW, VRSN

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Rationalizing The Valuation Surge in Software

- Drivers of the valuation surge:
  - 1) ***Unprecedented stimulus, proportionally almost 10x that of the Great Financial Crisis**** kept the consumer spending and prevented a normal-duration business cycle contraction.
  - 2) Investors favored recurring revenue models and appreciated the "***pandemic as a forcing function for Cloud & Digital-Transformation***" thesis.
  - 3) Widespread rotation in as software was considered a ***relative safe harbor*** compared to most other segments of the economy.
  - 4) ***Interest rates plummeted since mid-Feb***, with US 10 year rates falling from 1.6% mid-Feb to 0.5% in August and 0.9% today. This jacks up the output of DCF models, creating belief in higher valuation ceilings for recurring revenue models.
  - 5) ***Investor psychology pivoted to "Looking Through***" the short term slowdown as Cloud & Digital Transformation plans were prioritized higher.

* Source: McKinsey & Co, June 11th 2020

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Where Do We Go From Here?

- Our long term fundamental view on Enterprise Software remains very positive.
- Potentially complicated setup in Software, as the Recovery starts from All-Time Valuation Highs for SaaS/Subscription models. “Market Nirvana” and “Melt-Up” already happened in this category, this year.
- …Driven by unusual exuberance in the sub-segment of SMID cap growth names trading at 20-100x CY21E revs.
- ***We see the Pandemic / Work From Home trade as essentially over*** (and think it could reverse) because of the arrival of the vaccines.
- ***We favor the structural cloud winners that were NOT the first order beneficiaries of the pandemic (HUBS, ZI, CRM, MSFT) and might reconsider a few names with recovery potential post-vaccinations (WDAY, VMW, ORCL).***
  - The latter category might require 1H patience in buying dips while monitoring for potential recovery by mid to late 2021.

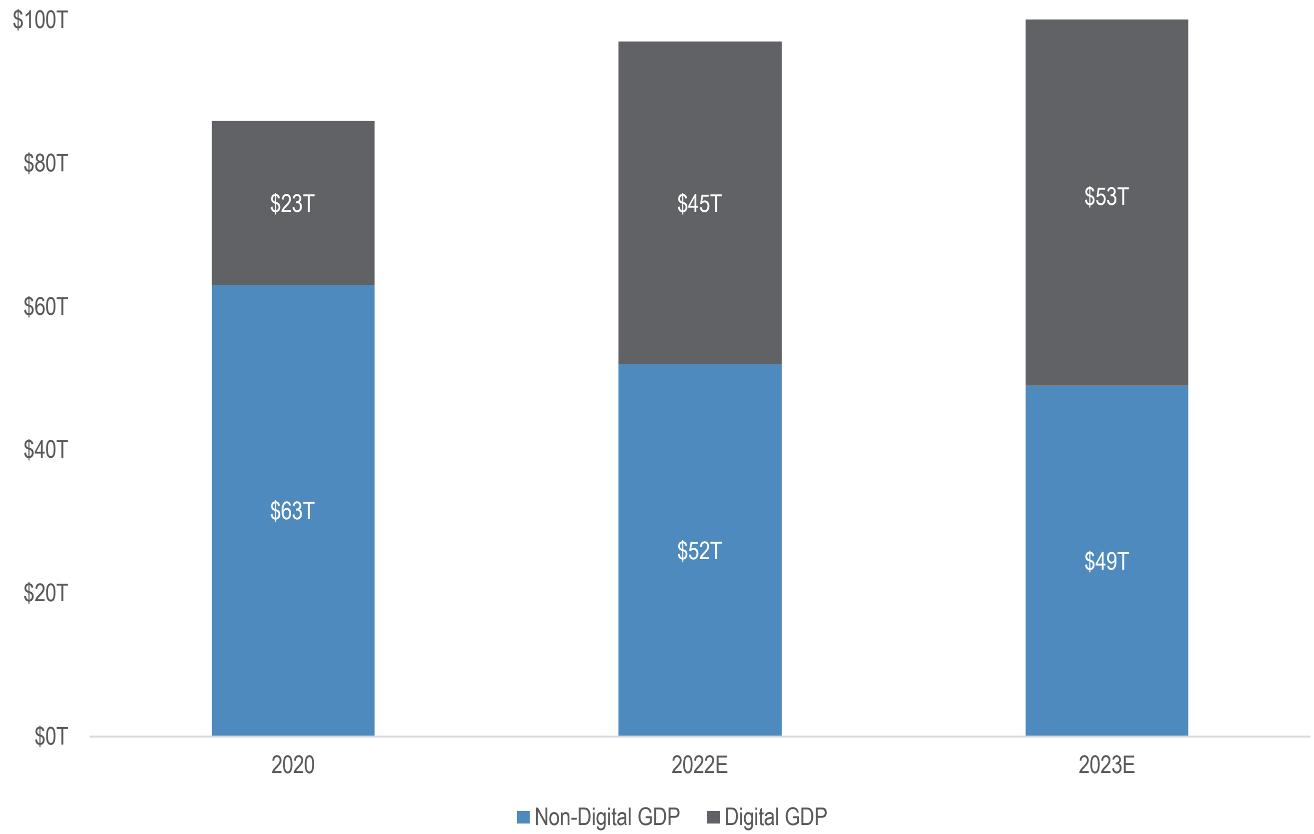
Where Do We Go From Here?

- ***HubSpot***:
  - Company-specific tailwinds into 2021 based on rare ASP uplift in Enterprise editions, Custom Objects, new CMS Hub; surge in Starter customer adds will layer-in on a lagging basis; will ride SMB-recovery theme into easy Q2/Q3 comps.
- ***ZoomInfo***:
  - Differentiated software asset with a network effect; Elite combo of growth-plus-margin; growth-adjusted CF discount; Engage & Recruiting product catalysts; emergence of Intent.
- ***Salesforce***:
  - Shares tend to lag for a couple quarters post-announcing large-scale M&A; but CRM proved its resilience & margin potential in 2020, member of Fab Five, prioritized for DT projects.
- ***Microsoft***:
  - Model setup difficult for now, including current Dec Qtr, but #1 CIO Survey standout & solid recent RPO growth will translate to better Azure trend in FY22, Teams product lifting off.
- ***Workday***:
  - Big-Ticket HCM/Financials de-prioritized as a pandemic response, will benefit from cyclical recovery; unlikely preliminary FY22 guide will excite, but WDAY can outperform thereafter, starting from 11x CY21 Revs vs. top 40 software stocks at 21x.
- ***VMware***:
  - On-Prem and Hybrid data center spend impinged by pandemic/WFH; impact has likely peaked / vaccine recovery play; 5G Telco wave, SaaS & Tanzu strategies build into 2H.
- ***Oracle***:
  - Under-owned, massive discount to S&P 500, $5 EPS on the horizon, one of the better margin-expansion stories, guided to Feb Qtr Accel & then very easy May Qtr comp.

Where Do We Go From Here?

- Long term, Software industry growth remains an unstoppable freight train.
  - Gartner expects global Enterprise Software spend to grow +7% y/y in 2021, which is the fastest expected growth across all IT categories, and marks a rebound relative to 3.6% expected decline in 2020.
  - Additionally, IDC expects the total worldwide digital transformation spending to outstrip other IT spending by 2022, underscoring the multi-year growth runway globally.
  - Continued focus on AI/ML, Automation, companies becoming data-driven, Digital Transformations, Customer Experience projects, all underpinned by durable growth runway for public cloud growth.

Bull Case: Digitally Transformed Enterprises Driving WW GDP



Source: IDC, Business Resiliency: A Stop on the Way to the Future Enterprise, Aug 2020

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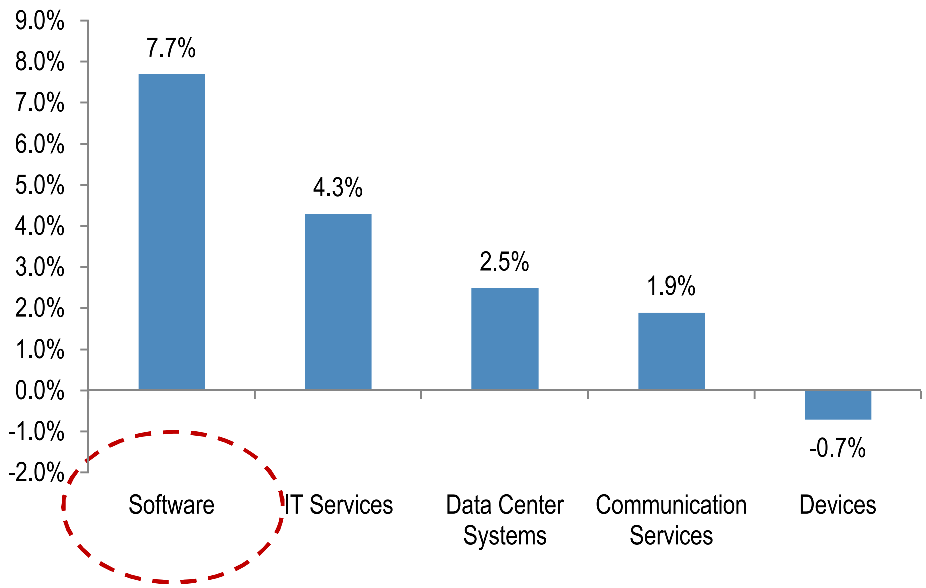
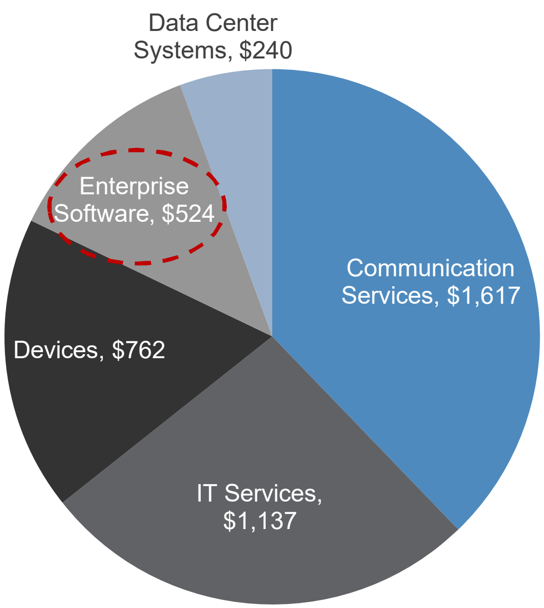
Bull Case: Software Is the Fastest Growing IT Segment

- Software is the fastest growing IT segment and is expected to grow 7.7% from 2019-2024 (Gartner). This is down from Gartner's forecast for 10.3% growth from 2018-2023.
- Expected 2020 Enterprise Software spending of $524B is 12% of Global IT spend of $4.2T.

Gartner: IT Growth by Sector, Worldwide, 2019-2024 (USD)



Gartner: IT Sector Composition, WW, 2020E ($B)



Source: Gartner.

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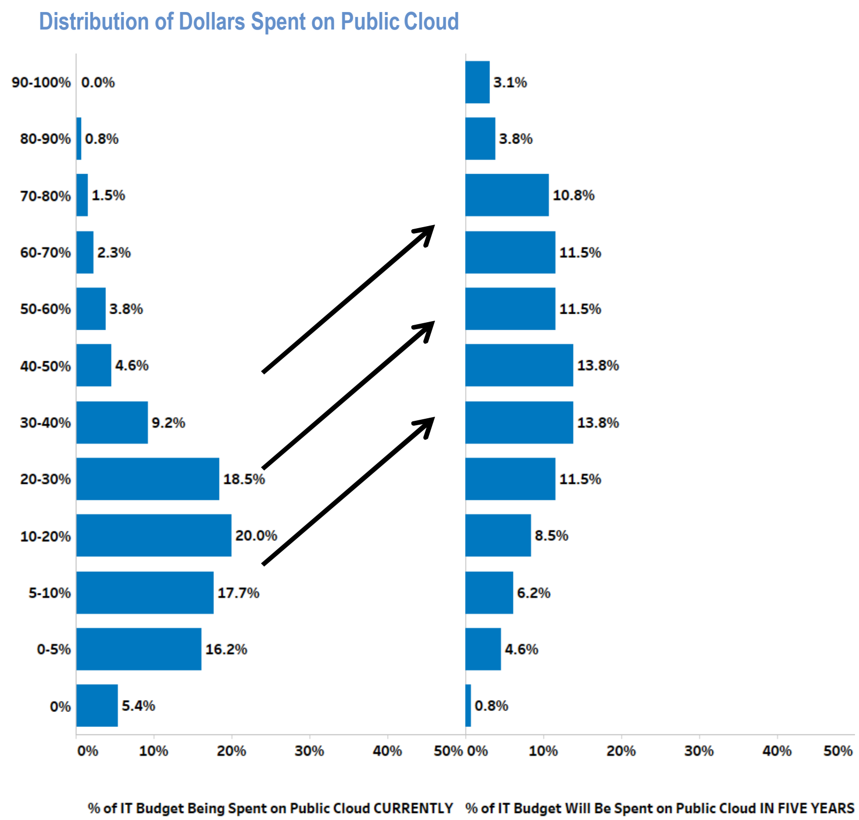
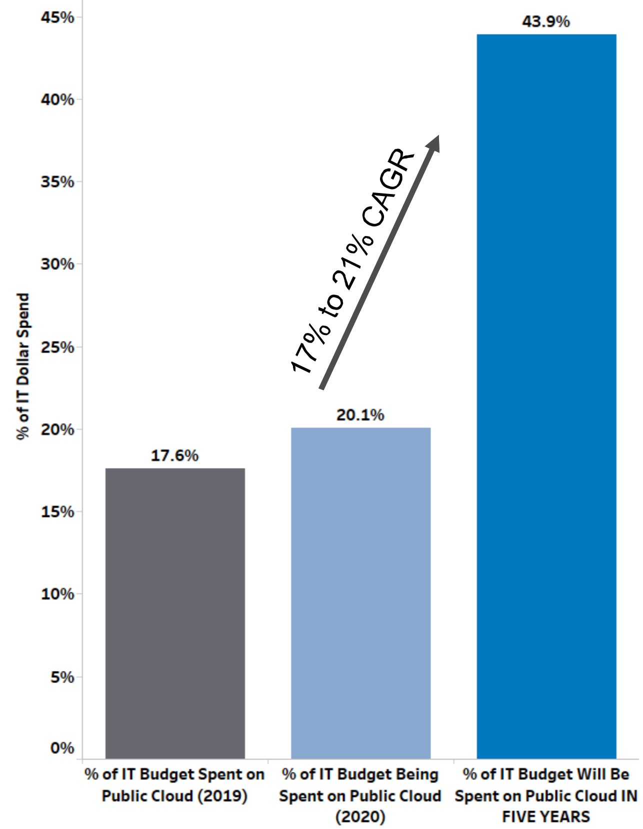
Bull Case: Unwavering Growth in Public Cloud Spending





Key Takeaways

- The leftmost chart shows the distribution of dollars spent on public cloud today and the dollars expected to be spent on public cloud in 5 years.
- The rightmost chart summarizes the percentages of IT dollars spent on the public cloud today vs. the expected spending in 5 years. Currently 20.1% of IT budget is spent on the public cloud, and CIOs expect that 43.9% of IT budget will be spent in the cloud in 5 years.

Source: J.P. Morgan CIO Survey 2020, "Cementing Cloud and Digital Superpowers" June 18, 2020. "Please estimate what percentage of your organization's IT budget is currently being spent on public cloud (e.g., salesforce, AWS, Azure, Workday, etc.), and what you would expect in five years?"

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Appendix

- This appendix lists the most recent content from our deep-dive channel check notes for each company.

~640 Pages of Published Proprietary Research

- Ceridian (CDAY) | 4Q 2019 Preview | Feb 2020 | 5 pages
- Ceridian (CDAY) | 1Q 2020 Preview | April 2020 | 4 pages
- Ceridian (CDAY) | 2Q 2020 Preview | July 2020 | 3 pages

- Cornerstone OnDemand (CSOD) | 4Q 2019 Preview | Feb 2020 | 4 pages
- Cornerstone OnDemand (CSOD) | 1Q 2020 Preview | May 2020 | 8 pages
- Cornerstone OnDemand (CSOD) | 2Q 2020 Preview | July 2020 | 3 pages

- HubSpot (HUBS) | 4Q 2019 Preview | Feb 2020 | 9 pages
- HubSpot (HUBS) | Investor Call w/ HubSpot Partner | Mar 2020 | 2 pages
- HubSpot (HUBS) | 1Q 2020 Preview | May 2020 | 5 pages
- HubSpot (HUBS) | 2Q 2020 Preview | Aug 2020 | 9 pages
- HubSpot (HUBS) | 3Q 2020 Preview | Nov 2020 | 5 pages

- Microsoft (MSFT) | 2Q FY20 Partner Survey | Jan 2020 | 24 pages
- Microsoft (MSFT) | Investor Call w/ Microsoft Partner | April 2020 | 2 pages
- Microsoft (MSFT) | 3Q FY20 Partner Survey | April 2020 | 29 pages
- Microsoft (MSFT) | 4Q FY20 Partner Survey | July 2020 | 26 pages

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~640 Pages of Published Proprietary Research, Continued…

- Microsoft (MSFT) | 1Q FY21 Partner Survey | Oct 2020 | 26 pages

- Nutanix (NTNX) | 2Q FY20 Preview | Feb 2020 | 4 pages
- Nutanix (NTNX) | 3Q FY20 Preview | May 2020 | 14 pages
- Nutanix (NTNX) | 4Q FY20 Preview | Aug 2020 | 10 pages
- Nutanix (NTNX) | 1Q FY21 Preview | Nov 2020 | 11 pages

- Oracle (ORCL) | 3Q FY20 Partner Survey | Mar 2020 | 19 pages
- Oracle (ORCL) | 4Q FY20 Partner Survey | June 2020 | 20 pages
- Oracle (ORCL) | 1Q FY21 Partner Survey | Aug 2020 | 4 pages

- Paycom (PAYC) | 1Q 2020 Preview | April 2020 | 5 pages

- Pure Storage (PSTG) | 4Q FY20 Preview | Feb 2020 | 8 pages
- Pure Storage (PSTG) | Customer Survey | April 2020 | 25 pages
- Pure Storage (PSTG) | 1Q FY21 Preview | May 2020 | 12 pages
- Pure Storage (PSTG) | 2Q FY21 Preview | August 2020 | 15 pages

~640 Pages of Published Proprietary Research, Continued…

- Pure Storage (PSTG) | 3Q FY21 Preview | Nov 2020 | 12 pages

- Salesforce (CRM) | 4Q FY20 Partner Survey | Feb 2020 | 28 pages
- Salesforce (CRM) | Investor Call w/ Tableau Partner | April 2020 | 2 pages
- Salesforce (CRM) | 1Q FY21 Partner Survey | May 2020 | 30 pages
- Salesforce (CRM) | 2Q FY21 Partner Survey | Aug 2020 | 30 pages
- Salesforce (CRM) | 3Q FY21 Partner Survey | Nov 2020 | 29 pages

- Smartsheet (SMAR) | CEO + CFO Fireside Chat | April 2020 | 2 pages

- Splunk (SPLK) | 4Q FY20 Preview | March 2020 | 9 pages
- Splunk (SPLK) | 1Q FY21 Preview | May 2020 | 6 pages
- Splunk (SPLK) | 2Q FY21 Preview | August 2020 | 5 pages
- Splunk (SPLK) | 3Q FY21 Preview | Nov 2020 | 3 pages

- Twilio (TWLO) | 4Q FY20 Preview | Feb 2020 | 4 pages
- Twilio (TWLO) | 1Q FY21 Preview | May 2020 | 4 pages
- Twilio (TWLO) | 2Q FY21 Preview | July 2020 | 3 pages

~640 Pages of Published Proprietary Research, Continued…

- VMware (VMW) | 4Q FY20 Partner Survey | Feb 2020 | 23 pages
- VMware (VMW) | CEO Fireside Chat | April 2020 | 3 pages
- VMware (VMW) | 1Q FY21 Partner Survey | May 2020 | 17 pages
- VMware (VMW) | 2Q FY21 Partner Survey | Aug 2020 | 21 pages
- VMware (VMW) | 3Q FY21 Partner Survey | Feb 2020 | 23 pages

- Workday (WDAY) | 4Q FY20 Preview | Feb 2020 | 6 pages
- Workday (WDAY) | F1000 Customer Fireside Chat | April 2020 | 2 pages
- Workday (WDAY) | 1Q FY21 Preview | May 2020 | 8 pages
- Workday (WDAY) | 2Q FY21 Preview | Aug 2020 | 6 pages
- Workday (WDAY) | 3Q FY21 Preview | Nov 2020 | 4 pages

Initiations

- Asana (ASAN) | Initiation (Customer Due Diligence) | Oct 2020 | 8 pages
- Pega Systems (PEGA) | Initiation (Customer Due Diligence) | Aug 2020 | 7 pages
- Snowflake (SNOW) | Initiation (Customer Due Diligence) | Oct 2020 | 11 pages
- SumoLogic (SUMO) | Initiation (Customer Due Diligence) | Oct 2020 | 6 pages
- ZoomInfo (ZI) | Initiation (Customer Due Diligence) | June 2020 | 13 pages

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