Software

Future of Work: Stock Takeaways

"As COVID-19 impacts every aspect of our work and life, we have seen two years' worth of digital transformation in two months. From remote teamwork and learning to sales and customer service to critical cloud infrastructure and security, we are working alongside customers every day to help them stay open for business in a world of remote everything. There is both immediate surge demand and systemic structural changes across all of our solution areas that will define the way we live and work going forward." - Satya Nadella, CEO, Microsoft (04/29/2020)

Technology trends are always in motion, making it one of the most dynamic industries in the market. What defined the industry 40 years ago and drove its growth are barely visible today. As innovations in compute, from mainframes, to client servers, to web and mobility led to changes in application design and deployment, change actually accelerated. Some of the boldest changes of the last 20 years have been defined by the start of Software as a Service (SaaS) back in 1998/1999 with the launch of NetSuite and Salesforce, to the launch of Amazon Web Services (AWS) in 2006 which pioneered the public cloud movement, to the launch of mobility in 2007 with Apple's introduction of the iPhone. There has also been much that has happened behind the scenes as a result of these trends and more to come as these backbones of Enterprise 3.0 continue into the next generation of compute. For example, how applications are designed and developed are undergoing significant changes to make them more modular and less monolithic. Also, how these new applications and architectures are accessed in a secure manner as a result of broader attack surfaces will require significant investment.

In light of COVID-19 and resulting shelter-in-place orders, businesses globally were forced to quickly shift from having employees come into office buildings every day to working from home, fast forwarding the workplace into Enterprise 4.0. According to Forrester Research, there are ~ 1.25bn knowledge workers globally, defined as people who use a technology device (PC, phone, tablet, etc.) for at least an hour

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during their typical work day. When assessing the potential penetration of the global knowledge worker base, we take a conservative approach given the economic differences between developed/emerging markets as well as the potential for software piracy.

While it can be debated for how sustainable remote work trends will be over the longer-term, we see profound changes in the types of applications that will become necessary to drive employee and customer engagement. Furthermore, the related back-end infrastructure software needed to support these application deployments will require significant investment as workforces become more distributed and as the migration to digital commerce sees its penetration increase.

While overall spending on software will certainly be impacted as a result of the pandemic, we nonetheless see the category as the most resilient (declining less than other tech spending categories) and swiftest to recover as companies seek to identify key business continuity processes. We believe this will be a time when organizations look to find new areas of efficiency, innovative ways to collaborate both internally and externally, and how to more effectively engage with customers.

Looking back at history, we highlight technology trends in 20 year increments and the evolution from Enterprise 1.0 to what we see emerging as Enterprise 4.0. As a result of these changes, this report attempts to highlight the type of software that will become increasingly more important as we embark on the transition to Enterprise 4.0. In some cases, software that was only expected to see relatively lower penetration levels will likely see their potential levels of adoption increase materially higher (virtual desktops and desktop as a service for example), while in other cases we will see applications inflect faster and further as they become symbolic of Enterprise 4.0 workplace trends (i.e.: UCaas, video and collaboration and messaging). In some cases, these trends already started taking shape in Enterprise 3.0, for example SaaS and public cloud adoption. Looking ahead, we also expect a host of investments in venture-backed companies that will attempt to address the change in workplace behavior that will define Enterprise 4.0.

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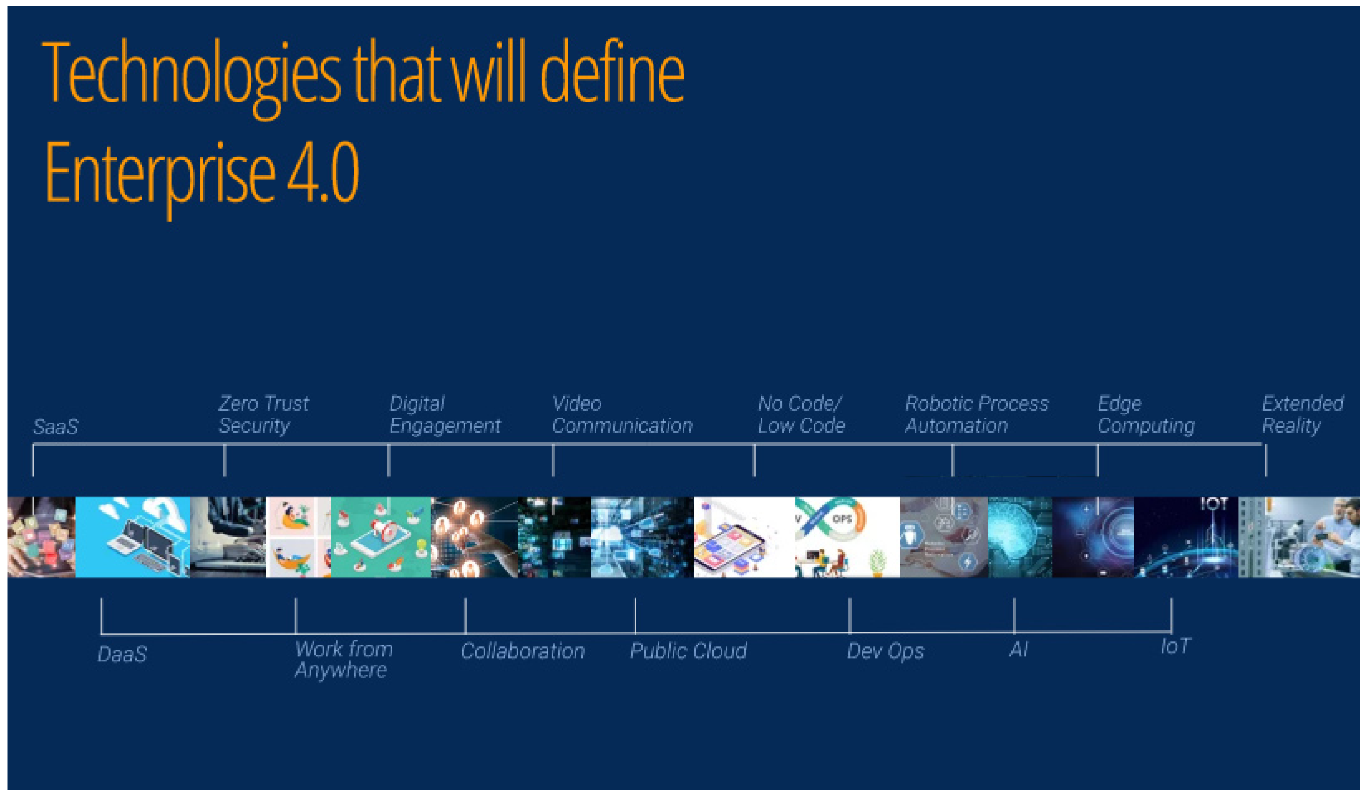
Evolution from Enterprise 1.0 to 4.0
Please see the digital version for an interactive timeline



Source: Goldman Sachs Global Investment Research, Computer History Museum

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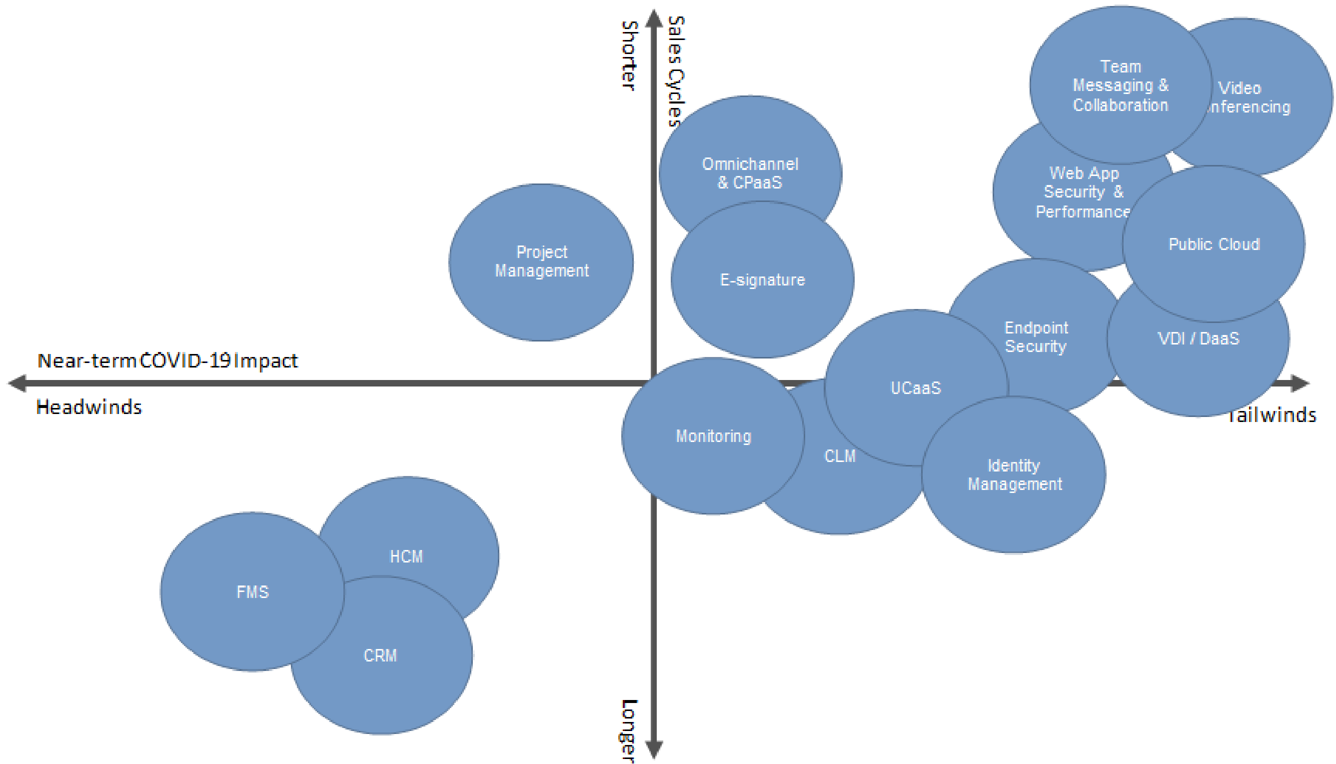
Looking at the near-term impact from the abrupt transition to working from home, we see the following impact on the key themes discussed in this report. We assessed the typical sales cycle for these categories of software while also assessing the tailwind brought on by the pandemic to certain categories due to the requirement to shift to a distributed model in a very short period of time.

While the pandemic is still in its early days, our conversations with industry participants as well as recent earnings results suggest that those applications with longer sales cycles and those deeply intertwined with business processes are going to face more of a headwind in the near-term (financial management, human capital management and customer relationship management) while applications and infrastructure related to the work from home migration will obviously benefit the most as highlighted in Exhibit 1 below.

Exhibit 1: Near-term impact of COVID-19 on Key Software Markets



Source: Goldman Sachs Global Investment Research

Looking further out, we see Enterprise 4.0 as defined by technology that is very lightly penetrated at the moment or in some cases in its infancy. For example, we expect Robotic Process Automation (RPA), IoT platforms (internet of things) and continuous analytics to see robust adoption and inflections in growth. We also expect nascent areas of technology, such as Extended Reality, to see material traction in this next generation of compute. We expect these emerging technologies will have profound impacts on the future of work and the way we interact with both the digital and physical worlds. Not all of these era defining trends will be brand new, as we also expect some that are attacking the old way of doing things to see material inflections in growth that are likely to be faster than what we would have seen without the pandemic. For example, we would expect the transition to a more distributed workforce to lead to PBX displacements and help drive material adoption of UCaaS (unified communications as a service), finally helping to displace legacy technology that first entered the market in the 1960s. Areas like monitoring will also see material boosts in penetration as we enter Enterprise 4.0 as application deployments in more places and the need to ensure key applications and services are running efficiently move to become a more strategic focus. Furthermore, the need to engage with customers across any touchpoint, frequently referred to as omnichannel adoption, will drive even more uptake of digital marketing and CPaaS (communication platform as a service) usage.

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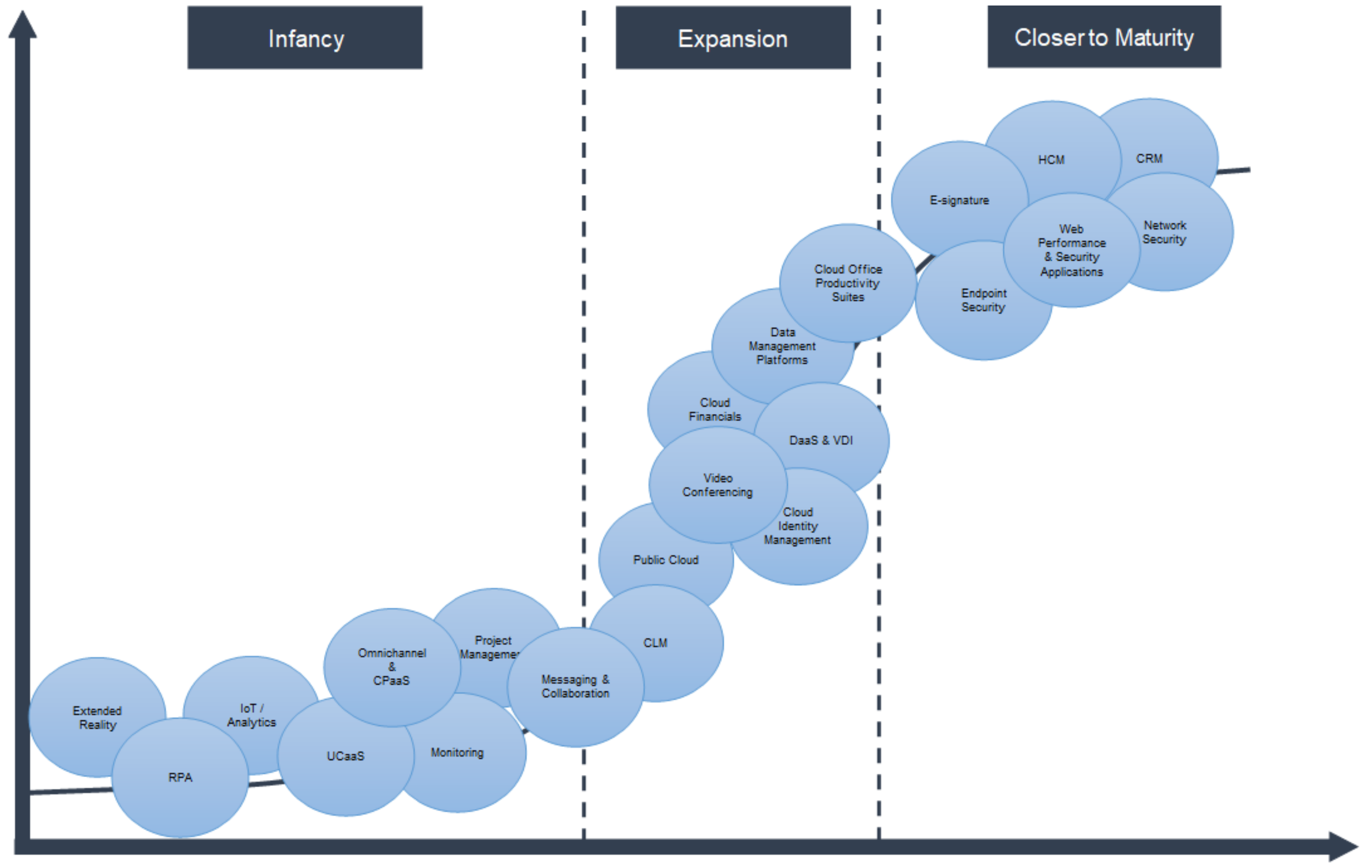
Exhibit 2: Migration to Enterprise 4.0 to Usher in New Trends and Accelerate Existing Ones



Source: Goldman Sachs Global Investment Research

While public cloud adoption will no doubt continue its penetration rate in Enterprise 4.0, we see the impact from the pandemic as causing the slope of its penetration to steepen as a result. On the other hand, areas such as virtual desktops (VDI) and even DaaS will also see their adoption curve take a step function higher as a result of distributed workforce trends and the need to securely manage and access corporate information. While video connectivity and collaboration and messaging were only a few years ago in an early adoption phase in our view, the rapid change to working from home has pushed these technologies more into the mainstream, which we expect will drive faster adoption than would have likely been the case. The key debate going forward in some of these categories will be how the competitive landscape evolves and how the larger tech platforms such as Microsoft and Alphabet try to leverage their office productivity suites (through a combination of functionality and pricing) to become de facto standards versus their best of breed competitors. Thus, the age old best of breed versus suite debate will be alive and well in Enterprise 4.0 just as it has been in past cycles.

It should also be noted that the trends that defined Enterprise 3.0 will still be very relevant in Enterprise 4.0 (for example, SaaS-based HCM, CRM, endpoint and network security) despite the adoption rates of their end markets going from very little at the start of Enterprise 3.0 to highly penetrated in this era (as defined in the “closer to maturity category” in the exhibit below). The growth and success of the industries in this category will be driven by continued displacement of legacy solutions as well as the ability to further increase their addressable markets by leveraging their vast installed

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bases. Even within more mature categories, there is potential for continued innovation and growth as changes in architectures and behaviors spur new technologies and new ways of delivering data and services to employees and consumers.

As we have seen in the past, we expect Enterprise 4.0 to be defined not only by existing technology companies but also by emerging companies that will help define the era. In the exhibit below, we highlight the public players in each of the core markets on which we focus, while also highlighting the current private software market participants.

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Exhibit 3: Competitive Landscape of Key Enterprise 4.0 Trends
Public vendors

Source: PitchBook, Company data, Goldman Sachs Global Investment Research

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Stock takeaways: Software & Select Internet

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Akamai Technologies (AKAM) | Neutral: As companies increasingly leverage their digital web properties and workforce mobility remains a strategic priority, we see the potential for continued demand for web performance products as well as the continued shift from on-premise to cloud-based web security applications. While there are short-term headwinds due to the cancellation of live sporting events and large media events (i.e. Olympics), we view the general increase in Internet traffic and demand for web application security products as offsetting some of the headwinds. That being said, while we view the company as well-positioned, we remain Neutral rated as we see the current valuation as more than factoring in potential upside.

Alphabet (GOOGL) | Buy - CL: While Alphabet's cloud related revenue (Google Cloud Platform + G-Suite) remains a small percentage of revenue, increasing from 6% to 9% of total revenue in CY20, we nonetheless see this segment of its business being underappreciated. We see growth in Google Cloud as being able to sustain a materially higher growth rate than its ad segment, even when looking beyond CY20. Furthermore, we believe that as this business scales (1Q20 annualized revenue of ~$11bn), its gross margin profile should start to see meaningful improvement. Despite being a gross margin headwind, we believe the focus should be on its gross profit contribution, which we see accelerating in each of the next few years, as its gross margin improves. We see changes in its go-to-market as having improved its competitive positioning at the same time public cloud adoption is likely to inflect yet again.

Anaplan (PLAN) | Buy: While there may be some near-term impact from COVID-19, we expect Anaplan to benefit as the macro situation improves and enterprise planning becomes a more strategic priority, particularly as the company's planning software helps companies to become more efficient and increases agility. With a growing number of global systems integrators expanding their practices on its software, we see Anaplan's ability to bounce back from expected spending dislocations faster than many others. We see the company's software as best-in-class and expect the strategic nature of its software to help maintain low churn.

Atlassian (TEAM) | Buy: As companies look to expand efficiency and collaboration, we see Atlassian as well positioned as we emerge from the current crisis. From its Trello project management offerings to its Jira Service Desk product, we see the company as being able to benefit from improved connectivity and efficiency. The company also benefits from its low friction sales model and its top of funnel initiatives that we believe will help conversion as the macro environment improves. While with ~170,000 customers the company certainly has SMB exposure (which will be impacted), we see its penetration rate within its installed base as relatively small (from a user and number of products perspective). At the same time, we see the company's offerings as being in a position to benefit from companies looking for less expensive alternatives to other products on the market.

Citrix Systems (CTXS) | Buy - CL: We believe Citrix remains well positioned as we view the digital workspaces business a likely beneficiary of secular tailwinds including

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workforce mobility and security and we see the possibility for incremental adoption of VDI and DaaS solutions beyond traditional use cases. We note that the company's Workspace segment represented ~70% of the company's total revenue in 2019 and consists of Citrix Virtual Apps and Desktops, Citrix Content Collaboration, Citrix Endpoint Management, and Workspace Intelligence.

Cloudflare (NET) | Neutral: We believe the security and performance of web properties will become increasingly important as enterprises increasingly rely on their digital presence to reach their customers and employees, and attackers shift their focus towards heavily trafficked web applications and APIs. As such, we view the company's web security portfolio as well positioned to benefit from the continued shift from on-premise to cloud-based web security applications. That being said, we remain Neutral rated as we see the current valuation as more than factoring in potential upside.

CrowdStrike (CRWD) | Neutral: With more distributed architectures and the proliferation of devices that are connected to the corporate network, we believe endpoint security will remain a top priority for spending. We view CrowdStrike as an emerging leader in the endpoint security market, and we expect the company will continue to benefit from rising adoption of "next-gen" antivirus and endpoint detection and response (EDR) technologies. We continue to believe CrowdStrike is uniquely positioned as a cloud-native endpoint security provider with a differentiated architectural advantage, and we believe the company will continue to take market share from a long-tail of competitors. However, we remain Neutral rated, primarily due to valuation, as we believe this is reflected in the current market price.

DocuSign (DOCU) | Neutral: We expect COVID-19 to have been a driver of e-signature demand over the last few months, with the industry being a clear beneficiary of work from anywhere trends. While we believe the working from home environment will highlight e-signature's advantages, with DOCU a key beneficiary, when looking at the valuation of the company combined and the puts and takes of increased use cases along with its end market exposure we see the risks in the near-term as fairly well balanced as the market expects material upside to results in our view.

Dropbox (DBX) | Sell: While the company has seen a near-term boost in adoption as people started working from home exclusively, we continue to see an elevated risk of increasing churn in the installed base and outsized exposure to SMB customers who may experience greater impacts from COVID-19 disruption. We note Dropbox has seen an uptick however in top of funnel engagement and has the potential to convert these customers as they see the benefits of their platform. That having been said, we continue to be concerned about the company's medium to long-term growth prospects, as we see increased usage of Office 365 and G Suite as impacting paid user growth given the cloud storage and collaboration features are included in their respective SKUs.

Dynatrace (DT) | Neutral: We see the evolution into enterprise 4.0 as driving an uptick in the percentage of applications being monitored. We also expect the need for real-time monitoring to lead to continued displacement of incumbent vendors. In both cases, we see Dynatrace as a beneficiary. We continue to believe the company is well positioned to capture increasing share of its end market, however we see its valuation

when looked at it with our growth expectations as fairly valued in the near-term.

Microsoft (MSFT) | Buy: We continue to see Microsoft as well positioned to capitalize on long-term, secular growth drivers, including the ongoing shift to the cloud and believe the positive secular shifts as a result of the crisis will be offset in the medium to long-term by their cloud portfolio. Continued momentum in the company's Commercial Cloud business has driven recurring revenue to more than 60% of the mix in FY20 and 70% of gross profit versus ~1/3 of revenue during the GFC resulting in more resiliency in an economic downturn.

Okta (OKTA) | Buy: We believe security will continue to remain a top priority for investment, particularly as the overall attack surface expands with workforces and workloads increasingly distributed. The intersection between increased focus on enterprise security, Zero Trust security architectures, and digital transformation efforts provides strong secular tailwinds, with Okta remaining a clear leader in the IAM market. We remain positive on the company's competitive positioning, as a cloud-native category leader, particularly as Okta continues to innovate across the platform and is seeing increased traction in moving up market. We also see the company as having success in expanding its offering outside of employee identity management as its percentage of ACV is growing over 50% faster than its ACV from employee identity accounts, with customer identity now representing 23% of total ACV.

Ping Identity (PING) | Neutral: While we see identity management as top security spending priority, we believe the expected inflection in public cloud and SaaS as being leading drivers of competitive selection. Although Ping has dominant market share in the enterprise, we currently favor Okta given its cloud first footprint.

RingCentral (RNG) | Buy: We believe continued focus on workforce mobility and business continuity planning in the wake of the COVID-19 crisis has the potential to drive accelerated adoption of UCaaS offerings, were RingCentral is well positioned to compete. We see runway for continued outperformance driven by rising adoption of UCaaS solutions, continued enterprise traction, and evolution in the companies go-to-market strategy, most notably the company's partnership with Avaya.

Salesforce (CRM) | Buy: While recent conversations point to potential for elongating sales cycles and some delays in demand as priorities shifted post COVID-19, we believe the ongoing crisis has the potential to accelerate digital transformation trends and investment in omnichannel capabilities over the medium-term. We believe Salesforce will leverage its competitive and strategic market positioning, with the company sitting at the heart of digital transformation trends across verticals. As we fully expect digital transformation to remain a top strategic priority, we view Salesforce as a solid, multi-year investment.

Slack Technologies (WORK) | Neutral: We consider Slack the mind share leader in the collaboration software market. We also view the product as best-in-class, as and believe that customers will prefer the open ecosystem and elegant integrations with many third-party applications. As a primary beneficiary of the work from anywhere environment, we see the uptake of collaboration software as being a key priority for

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many businesses. While we expect material upside to near-term numbers given the crisis, we do believe this is widely factored into expectations at current levels, and we believe exposure to SMBs and exposed verticals will remain in focus in the near-term while in the long-term the potential impact from Microsoft Teams and its ability to bundle this offering as part of its Office 365 suite may make it harder for Slack to have majority market share. As such, we remain Neutral in the near-term given this view coupled with its valuation.

Twilio (TWLO) | Neutral: As companies seek to increasingly engage with their customers digitally, we see CPaaS as becoming more strategic to omnichannel communication, with Twilio the defacto standard. While the company serves end markets that will/are being negatively impacted from the crisis, we also see new use cases as helping to offset some of the headwinds. We see the company as well positioned but remain Neutral rated as we see the current valuation as more than factoring in the potential upside.

Workday (WDAY) | Buy - CL: While HCM and Financial sales trends are likely to see deferrals in the near-term due to the pandemic, we see the risk/reward as being attractive from current levels. In our view, migrating applications to the cloud will become even more of a strategic priority as we regain our macro footing. Although HCM is already well penetrated, we see Workday as being one of two dominant competitors in this category as the balance of corporates migrate. Furthermore, the uptick in financial SaaS deployments our partner checks had picked up over the course of the last 9 months will regain traction in our view as the macro environment stabilizes. Ultimately, we see financial migrations as a natural evolution as we enter Enterprise 4.0 and as corporates look for real-time consolidated insight from their financial applications.

Zoom Video Communications (ZM) | Sell: We continue to view Zoom as the leading video communications platform as their frictionless video experience coupled with a self-service online channel drives viral user adoption that competitors have been unable to replicate. We believe that as the company continues to build out capacity and continue to publicly address the security and privacy concerns of customers, we believe ZM will be able to maintain a material portion of the new customers it signed up due to COVID-19 as we see workforce mobility and business continuity planning having the potential to drive accelerated adoption of video as a communication & collaboration tool. That being said, our Sell rating is solely the result of valuation concerns. With the stock at ~$175, even in a blue sky scenario for CY21, where we can see revenues as high as $2.8bn (vs. consensus of ~$1.3bn), the stock is trading at ~18x CY21 sales and we are concerned much of the potential upside is already more than factored into expectations. As such, we would look to become more positive on the stock if we could see our upside case as being too conservative or if the stock pulled back from current levels.

Emerging & Infrastructure Software

Alteryx (AYX) | Buy: During COVID, we believe many companies paused their software buying altogether, as they faced unprecedented business disruption. We believe AYX, a

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provider of self-service analytics tools, is even more relevant in times of disruption, as it allows knowledge workers to leverage vast data sets to run analytics and come up with answers to challenging questions and re-position the business, if necessary, for a new reality in a post-COVID world. We believe the democratization of analytics is a long-term structural trend, and therefore we believe a growing number of workers will be empowered with tools like AYX that enhance productivity and decision making. We are Buy-rated on AYX shares.

Avalara (AVLR) | Buy: Last year, when the South Dakota vs. Wayfair supreme court ruling prompted states to implement legislation mandating the remittance of state tax for goods sold across state lines, Avalara saw a very strong uptick in billings and revenue growth as companies looked to implement a sales tax automation solution that would help them comply with new legislation. While comparisons this year are more challenging, and COVID has added another layer of disruption, we believe Avalara is well positioned in a recovery, as SMB and mid-market companies look to upgrade ERP solutions and as part of that implement tax automations solutions not only ensure compliance with local and federal laws, but also help to automate an otherwise very work-intensive and error prone process of sales tax calculation. We are Buy rated on AVLR shares.

Bill.com (BILL) | Neutral: Looking ahead, we believe all businesses – large and small – will look to modernize their software toolsets and automate workflows. Bill.com focuses its efforts on SMB and mid–market companies in need of solutions for automating accounts payable and receivable processes, in addition to managing B2B spending. With an easy-to-use, out-of-the-box solution, we believe BILL is easily adopted by small businesses owners that may not have an IT background. Also, we believe BILL's growing suite of payment products will facilitate the payment of invoices to a growing number of suppliers and eliminate manual, error-prone processes. BILL has relatively limited competition for its target customers in the SMB category. While we see a multi-year runway for rapid top line growth, valuation leaves us Neutral-rated on BILL shares.

Blackline (BL) | Sell: Relative to CRM and HCM, financial management systems (FMS) have lower cloud penetration due to the historical conservatism of finance departments and lack of impetus for a costly upgrade cycle. However, we believe COVID will be a likely catalyst to accelerate the pace of digital transformations in this area. As a provider of financial close solutions, Blackline is a natural adjacency to ERP systems and will likely be pulled into larger modernization projects, particularly when system integrators are involved. Therefore, we believe BL should see growing demand for its core offering, but due to heightened competition in the space and valuation, we are Sell-rated on BL shares.

Ceridian (CDAY) | Neutral: We believe payroll vendors including Ceridian are particularly exposed to the macro environment given their per employer per month (PEPM) pricing model. While CDAY continues to earn revenue on active and inactive (including furloughed) employees, we see further risk to near term revenue if macro worsens and a second wave of job losses emerge. Encouraging, highly impacted industries only represent ~14% of the employee base and the company saw signs of stabilization in Dayforce user growth in April. We expect the new Digital Wallet product to begin

ramping through the year and reach 100 customers by year end and become a larger contributor in FY21. We expect meaningful growth in the company's international operations driven in part by a robust M&A strategy across regions of EMEA and APAC. Lastly, we expect continued pressure to margins over the next year as float revenue declines due to reductions in federal funds rates. We see the company as well positioned longer term but remain Neutral rated as we see the current valuation as more than factoring in the potential upside.

Cornerstone OnDemand (CSOD) | Neutral: CSOD was facing growth challenges prior to the COVID-19 outbreak and we expect COVID will likely exacerbate these issues over the next several quarters. We expect an elongation of sales cycles and slowdown in both new customer acquisition and cross selling activity. We believe competition from HCM suite vendors as well as emerging LXP vendors are also likely impacting growth. However, the recently closed acquisition of Saba should provide additional operational scale and customer set to drive incremental cross selling and margin expansion over time. Despite the weaker growth outlook, we believe valuation is undemanding at 4.0x CY21 sales, resulting in our Neutral rating.

Coupa (COUP) | Buy: As enterprises look to modernize core systems, we believe the broader category of Business Spend Management stands to benefit. BSM tools give companies greater visibility into their spend and increasingly are able to automate workflows in accounts payable and payments functions that have quick time to value and a quantifiable ROI. We believe Coupa in particular is driving modernization in the BSM category and will continue to index well relative to competition as enterprises go through an upgrade cycle for procurement, expense management, and invoicing software. We are Buy rating on COUP shares.

Datadog (DDOG) | Buy: As a growing percentage of workers become remote, we believe enterprises will need to respond by shifting core systems and infrastructure to the cloud. As a provider of IT monitoring tools to enterprises, with a particular focus on cloud, we believe Datadog is among the very best positioned to benefit from this trend in our broader coverage. The more cloud infrastructure and cloud-delivered applications that an enterprise has, the more monitoring they will require. We believe Datadog was early to recognize the theme of convergence in IT monitoring and was first to market with a fully integrated, cross-stack suite of monitoring tools built natively for the cloud. With above-peer growth and heavy investment in R&D, we believe Datadog will be well positioned to keep up the pace of innovation required to drive ongoing convergence in the space. We are Buy rated on DDOG shares.

Hubspot (HUBS) | Buy: As organizations increasingly move their go-to-market strategies online, easy to use B2B marketing and sales software will increasingly become a key priority, in our view. We believe COVID-19 will likely create more reliance on digital and online marketing for new customer acquisition and expect Hubspot to be a key beneficiary of this trend across the SMB segment. We do expect some elevation in customer churn (net retention fell to the low 90s in March from over 100%) which will be a drag to billings and revenue in the short term. However, HUBS saw signs of pick up in business activity in April, which reflects the need of many business to grow their marketing presence online as many offline channels are rendered less effective during

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lockdown. Lastly, we believe the recent launch of the CSM Hub could start to show up as a tailwind to billings in late 2020 / early 2021. We rate shares of HUBS Buy.

Shopify (SHOP) | Neutral: Given Shopify's position as a leading enabler of SMB omnichannel commerce, we believe the company will continue to benefit as brick and mortar only retailers increasingly transition to digital commerce. We expect COVID-19 will likely be a net positive impact as the shift towards online commerce accelerates. Shopify is also steadily increasing the use cases of its platform, which we think will improve retention and revenue per customer - particularly upmarket, with its Shopify Plus customers. Our Neutral rating is largely due to valuation; with the stock trading at 30x CY21 sales, we believe much of the upside is already factored into expectations.

Splunk (SPLK) | Buy: Splunk remains a market leader in core areas like SIEM and on premise log management. But in response to evolving customer needs for cross-stack, and cloud-delivered monitoring tools, Splunk acquired two businesses, SignalFX and Omnition, to deliver a modernized solution across the three pillars of observability – logs, metrics, and traces. While the integration work is ongoing, we believe Splunk's size and incumbent position in log management positions the company well to be one of few consolidators of the broader monitoring space. We view valuation as undemanding, especially for a company compounding ARR over 40% y/y. We rate shares of SPLK Buy.

Sprout Social (SPT) | Buy: While Sprout Social saw some COVID-19 related disruption in mid-March, signs of stabilization began to emerge in April, with a growing sales funnel across all segments of the market. We believe the growing importance of managing social media channels as businesses increasingly move online has likely increased the sense of urgency for adoption. Also, we think Sprout's low initial price point and short sales cycle has helped provide visibility into near term demand has enabled the company to quickly adapt to changing macro conditions and move resources to sectors that were seeing sustained demand. Due to our expectation for an uptick in demand in a recovery, we are Buy rated on SPT shares.

Veeva Sysems (VEEV) | Neutral: We believe Veeva is a best in class vertical software company that is defensively positioned heading into a worsening macro environment. While the CRM segment is becoming increasingly penetrated (~85% global seat penetration), we see opportunity for high single digit growth for this segment as the company continues to cross sell add-on products. On the Vault side, we see some risk of elongation of sales cycles given the size and complexity of deals. However, we believe the longer term opportunity for Vault remains strong, particularly as some of Vault's newer products like CMDS and Safety start to contribute materially to the model. While we are quite bullish on the future opportunity for Vault, we think that investor optimism is largely priced into shares here; with the stock trading at 19x CY21 sales (+19% growth), we believe much of the upside is already factored into expectations.

Zendesk (ZEN) | Buy: Zendesk has seen some disruption to its business due to COVID-19, with contraction in customer spend, driven primarily by reduction in seat count. This was particularly true for smaller customers and companies in highly impacted industries (20% of revenue). However, ZEN is seeing certain situations in

which customers in un-impacted industries increased usage as they ramped up agents to meet increasing customer support demand. We believe ZEN is uniquely positioned to rapidly ramp up support infrastructure for organizations. Longer term, as organizations begin to recover from business disruptions, we expect customer support and retention to be a key investment priority. We continue to find ZEN shares attractively valued at 7x our FY21 sales and are rated Buy.

Security Software

Check Point Software (CHKP) | Sell: As with other Network Security vendors within our coverage universe, we anticipate that Check Point will also benefit from elevated demand for remote and mobile access to corporate networks. However, while the company has also developed technology to address security threats in the cloud, Check Point continues to struggle with sales execution driven share loss. Elevated sales and market spending over the past few years has still not driven better sales growth, with growth decelerating to approximately 3% y/y past quarter. Considering revenue deceleration and margin contraction expected ahead, we remain Sell rated as we wait for evidence of better sales execution.

CyberArk (CYBR) | Neutral: We believe CyberArk is one of the best positioned vendors in the Privileged Account Management (PAM) space. As IT environments become increasingly complex, with workloads distributed between on-premise and cloud environments, we anticipate that enterprises will need to accelerate adoption of PAM solutions by replacing in-house systems to secure critical assets. Additionally, we see incremental opportunity with the adoption of RPA as we anticipate a greater attack surface for credential theft and admin account exploitation as a result. In spite of the opportunity for CYBR to benefit from network complexity ahead, business model risk and valuation keep us Neutral rated.

FireEye (FEYE) | Buy: As a shift toward more distributed networks continues to play out, we see FireEye well positioned to help enterprises manage increasingly complex networks with rapidly expanding attack surfaces. Execution headwinds have pressured the stock as the company continues to transition to a recurring revenue platform model. However, we see a favorable setup for better revenue growth into FY21 driven by Platform, Cloud, and Managed Services growth. Meanwhile, considering cost rationalization efforts under way, we also see the company well positioned for post-pandemic margin expansion, which we expect will enable the stock to re-rate higher.

Fortinet (FTNT) | Buy: Fortinet remains one of several vendors within our coverage that stand to benefit from enterprise demand for more efficient access to corporate networks. While the company continues to take core network security share upmarket, FTNT is also a leading provider of SD-WAN solutions enabling more efficient remote and branch office management of corporate network and direct to Internet traffic. Additionally, we see meaningful tailwinds ahead as the company continues to introduce next generation NP7 chip throughout its product catalog and upgrades, enabling TAM

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expansion into new hyperscale markets.

Mimecast (MIME) | Neutral: We view Mimecast as a prominent email security, continuity and archiving solution provider, delivering a multi-tenant cloud native email security solutions, and a leader in the SMB market, driven by lower total cost of ownership and better scalability because of its architecture. Beyond core email security, we believe the company is benefiting from expansion into other adjacent markets (though organic developments as well as acquisitions), that offer opportunities for better growth and a larger TAM. Additionally, migration of customers to Office 365 has been a significant catalyst for the company, and we believe increased adoption of Office 365 can drive incremental new logo adds for the company. However, we see risk to the sustainability of ARR in the current macro environment due to the concentration of SMB revenue in the company's installed base and expected seat count reduction due to higher unemployment rates. While we think MIME is a stock to keep an eye on should the macro environment improve, we believe the SMB risk is meaningful enough to keep us on the sidelines at this time and remain Neutral rated.

Palo Alto Networks (PANW) | Buy: We continue to see Palo Alto well positioned to benefit from a large installed base of core network security customers and a broad platform of Next Gen Security Software to help enterprises manage hybrid networks becoming increasingly distributed in nature. While the company continues to take share in core network security markets, subscription, support and maintenance revenue has recently grown to comprise 70% of total revenue supported by subscription revenue growth of approximately 37% y/y.

Proofpoint (PFPT) | Neutral: We view PFPT as a dominant vendor in email security that is well positioned to benefit from enterprise migration to cloud email systems. Additionally, with solutions in a number of adjacent markets, the company has exposure to a sizable and attractive TAM, yielding opportunity for further expansion beyond the core email security market. We expect growth for PFPT will remain supported by a more distributed work force, an elevated threat environment going forward, and continued migration to O365 and see an attractive setup for PFPT to realize better attach rates within its installed base, particularly for newer solutions on its platform (including CASB, ITM, and Browser Isolation). However, the company also pointed to several headwinds going forward. These include expected shortening of contract duration, risk of revenue loss due to the company's seat-based model, risk to add-on business, and potential deferral of projects due to exposure to verticals that are highly impacted by current macro issues. We remain Neutral rated as we see risk/reward balanced at these levels.

Qualys Inc (QLYS) | Neutral: Qualys has established itself as one of the more prominent vulnerability and risk management vendors in the market with some of the best fundamentals within our coverage universe. Additionally, the company has expanded into adjacent markets, expanding its TAM in the process. However, with the stock trading at a meaningful premium to its security peers, we are Neutral rated as we believe these opportunities are already reflected in the stock price.

Rapid7 (RPD) | Buy: Rapid7 has positioned itself as one of the dominant vendors in the Vulnerability Assessment and Management market. As enterprises turn to analytics and

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AI/ML based solutions to reduce dependence on manual labor and to implement platforms for risk assessment and threat remediation in increasingly complex IT environments, we see Rapid7 competitively positioned. While near-term macro headwinds have pressured the stock somewhat, we believe the company is well positioned to benefit from distributed networks and accelerated digital transformation efforts and expect an inflection to better performance in 4Q of this year.

SailPoint Technologies (SAIL) | Sell: We view SailPoint poised to address elevated enterprise demand for more streamlined and automated approaches to provisioning and managing digital identities and access. We believe SailPoint will be a long-term beneficiary of a more distributed work environment as a result of greater associated complexity, but we are Sell rated with expectations that revenue will continue to decelerate this year, with elevated spending driving margin contraction as well. Additionally, the company has a largely perpetual license model, deals are relatively complex, and meaningful system integration work is required. As a result, we believe the probability of a materially negative impact on fundamentals due to macro disruption provides an unfavorable risk reward profile near-term.

SecureWorks (SCWX) | Neutral: SecureWorks is one of the more prominent public Managed Security Services vendors in the market place. With virtually no unemployment in the IT Security space, enterprises consistently need to manage a meaningful talent gap in the market. Meanwhile increasingly distributed networks remain exposed to an accelerating threat environment. As a result, we believe Managed Security Services providers stand to benefit from demand as enterprises lack sufficient resources and expertise to manage threats on an ongoing basis. We believe SCWX stands to benefit along with others in its industry, and could see upside with better adoption of its software platform. However, the company has had difficulty executing to expectations and is experiencing material pushouts for services engagements in the current macro environment. While valuation is undemanding, we remain Neutral rated with little evidence of improvement to date and meaningful near-term risk still ahead.

Tenable Holdings (TENB) | Buy: Now that enterprises have more distributed networks to manage, they will need to develop an understanding of what is on their networks, as well as the threat exposure of network assets. Tenable offers a best of breed Vulnerability Assessment and Management platform to address this demand. Share gains have driven some of the best growth among its peers. While the company remains unprofitable, margin expansion has been substantial. TENB inflected to positive free cash flow past quarter and guided to positive free cash flow for the year. With the stock still trading at a discount to peers, we believe the stock will continue to re-rate higher with execution.

Zscaler (ZS) | Neutral: We view Zscaler as a natural beneficiary of a shift to remote work. The majority of the company's revenue is driven by ZIA which enables efficient direct to Internet access to applications hosted in the cloud. Meanwhile, we've seen improving traction with ZPA attach rates as enterprise also leverage the Zscaler platform to access applications hosted on premise. In spite of the company's positioning as a beneficiary of remote and mobile computing, our Neutral rating is a result of decelerating revenue and billings in spite of elevated sales and marketing growth. While

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we expect improvement this quarter, we believe material upside is priced into the stock at these levels.

Europe Technology: Software

Dassault Systemes (DAST.PA) | Buy: Dassault's core PLM market is going mainstream, as pace of digitalization across industries accelerates, providing strong tailwinds to growth. We believe Dassault's integrated end-to-end 3DEXPERIENCE platform that combines design, collaboration, simulation and digital manufacturing capabilities will enable digitization trends in Dassault's core markets (Auto/Aero/Industrials) and new industries (Life sciences). With its Enovia product offering, we believe Dassault should be able to provide collaboration capabilities between OEMs and supply chain across manufacturing industries. Furthermore, Medidata will add clinical trial data alongside Dassault's tools to transform and accelerate drug development process. In our view, 3DX offering should enable it to benefit from continued standardization contract wins driving share gains.

Sage (SGE.L) | Sell: Sage's products cater to businesses which generally have 0-10, 10-200 or 200+ employees; therefore, it has high exposure to SMB segment, which is highly impacted by the current macro environment. Given heightened end-market risks leading to increased churn in Sage's SMB customer base, we expect near-term growth for Sage to remain muted. We note that competition in Sage's TAM is intensifying, with peers pursuing organic and inorganic growth opportunities. Many of Sage's competitors have been cloud native since inception and have brought to market easy to implement and scalable cloud native products. Sage, in contrast, is still in the process of migrating its existing customer base from legacy products to cloud connected and cloud native products.

SAP (SAPG.DE, SAP) | CL-Buy: In our view SAP is 'crossing the chasm' towards a top-line growth profile with a more recurring, subscription-led business model, carrying higher lifetime value. SAP has a leading position in the HCM, FMS and Digital commerce markets. SAP has acquired best-in-class cloud assets portfolio (Success Factors, Ariba, Concur, Qualtrics) and successfully cross-sold it to its vast customer base as well as new customers. It has supplemented this with organically developed products such as HANA Cloud Platform (HCP), Analytics Cloud, Customer Experience solutions and Supply Chain. Furthermore, we see significant runway ahead in the S4Hana product cycle in the SAP installed base.

Teamviewer (TMV.DE) | Buy: TeamViewer is a SaaS company providing a device and operating system agnostic remote connectivity platform, underpinning a product portfolio extending from remote PC access to managing IoT devices. We continue to see Teamviewer as a key beneficiary of increased remote working and connectivity, as well as the digital workplace spreading into homes. TeamViewer operates in a large and growing total addressable market (TAM), which the company estimates to be €10bn (excluding the market for video conferencing) in 2018 and projects to grow at a CAGR of 24% 2018-23 to €30bn.

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Software & Select Internet: Valuation & Key Risks

Akamai Technologies Inc. (AKAM) – Neutral: Our 12-month price target of $102 is based on an equal weighted DCF (~2% perpetuity growth rate), 20x Q5-Q8 P/E and 20x Q5-Q8 EV/FCF.

Key risks: (+) acceleration in cloud security revenues and a ramp in OTT video-related traffic; (-) increased competition, reduction of bandwidth utilization and delayed launches by OTT providers

Alphabet Inc. (GOOGL) – Buy (CL): Our 12-month price target of $1,425 is based on an equal blend of a DCF, EV/EBITDA, and P/E. On P/E, we use a Q5-Q8 multiple of 22x, on EV/EBITDA we use a Q5-Q8 multiple of 13x and our DCF assumes a ~0.5% perpetuity growth rate.

Key risks: revenue impact from potential product changes mandated by regulators, weaker-than-expected cost discipline, competition, and dilutive M&A

Anaplan Inc. (PLAN) – Buy: Our 12-month price target of $51 is based on an equal-weighted blend of DCF (perpetuity of ~2%) and ~11x Q5-Q8 EV/Billings.

Key risks: declining sales productivity, competition, and lower-than-expected customer growth, ramp to target operating model

Atlassian Corp. (TEAM) – Buy: Our 12-month price target of $194 (from $169) is based on an equal weighting of our DCF, EV/Sales and EV/FCF analyses. Our DCF assumes a ~7% perpetuity growth rate (~6% prior), our EV/Sales analysis uses a 20x multiple (18x prior) on our Q5-Q8 estimates and our EV/FCF analysis uses a 75x multiple (60x prior) on our Q5-Q8 estimates. We raise our multiples due to increased peer group multiples.

Key risks: Upmarket friction given non-traditional sales model and competition from large players.

Citrix Systems Inc. (CTXS) – Buy (CL): Our 12-month price target of $154 is based on equally weighted DCF (~0% perpetuity growth rate), 25x Q5-Q8 P/E, and 19x Q5-Q8 EV/FCF.

Key risks: share loss in the VDI and ADC markets and weakening IT spending

Cloudflare Inc. (NET) – Neutral: Our 12-month price target of $27 (from $24) is based on equally weighted DCF (~6% perpetuity growth rate, ~5% prior) and 14x Q5-Q8 EV/Sales (13x prior). We raise our multiples due to increased peer group multiples.

Key risks: (+) better-than-expected enterprise adoption; (-) increased competition.

CrowdStrike Holdings. (CRWD) – Neutral: Our 12-month price target of $60 is based on equally weighted DCF (perpetuity growth rate ~6%) and 15x Q5-Q8 EV/Sales.

Key risks: (+) faster-than-expected new product traction, improving unit economics; (-) competition, FCF burn, faster-than-expected operating expense growth.

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DocuSign Inc. (DOCU) – Neutral: Our 12-month price target of $88 is derived from equal-weighted 12x Q5-Q8 EV/sales and a DCF (perpetuity growth of ~5.5%).

Key risks: (+) faster than expected enterprise adoption and faster than expected international expansion; (-) IT spending, competition with Adobe, and legal and regulatory risk.

Dropbox Inc. (DBX) – Sell: Our 12-month price target of $19 is derived from a fundamental valuation (equal-weighted Q5-Q8 EV/sales, Q5-Q8 EV/uFCF, DCF). We use an equal weight of 3.5x Q5-Q8 EV/sales, 12x Q5-Q8 EV/uFCF, and a DCF analysis (~-7% perpetuity growth rate).

Key risks: (+) faster conversion of free to paid users, stronger uptake of premium SKUs, faster-than-expected operating leverage

Dynatrace Inc. (DT) – Neutral: Our 12-month price target of $32 (from $28) is derived from a fundamental valuation comprised of an equal-weighted Q5-Q8 EV/Sales multiple of 12x (10x prior) and a DCF (~1.5% perpetuity growth rate, ~1.0% prior). We raise our multiples due to increased peer group multiples.

Key risks: (+) faster Classic customer conversion, new product adoption (-) competition, leverage

Microsoft Corp. (MSFT) – Buy: Our 12-month price target of $198 (from $185) is derived from an equal weighting of a DCF (~4% perpetuity growth rate, unchanged), 27x Q5-Q8 EV/FCF (25x prior), and 28x Q5-Q8 P/E (24x prior) analyses. We raise our multiples due to increased peer group multiples.

Key risks: adoption of hybrid cloud, Windows and Office performance, IT spending and macro trends

Okta Inc. (OKTA) - Buy: Our 12-month price target of $151 is derived from a Q5-Q8 EV/billings multiple of 19x, and a DCF component (perpetuity growth rate of ~7%).

Key risks: enterprise IT spending, competition and ramp to target operating model

Ping Identity Holding (PING) – Neutral: Our 12-month price target of $22 is based on an equal-weighted blend of DCF (perpetuity growth rate of ~6%) and 6x Q5-Q8 EV/Sales.

Key risks: (+) faster-than-expected new product traction, improving unit economics; (-) competition from incumbent vendors, a slowdown in the IT spending environment, and new product traction

RingCentral (RNG) – Buy: Our 12-month price target of $275 (from $240) is based on a DCF using ~8% perpetuity growth rate (~7% prior) and 18x Q5-Q8 EV/Sales multiple (16x prior). We raise our multiples due to increased peer group multiples.

Key risks: increased competition, faster-than-expected product innovation from larger platform players, lower-than-expected contributions from channel partners, and softer IT spending

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Salesforce.com Inc. (CRM) – Buy: Our 12-month price target of $178 is based on an equal blend of DCF, EV/FCF, and EV/billings. Our DCF assumes a perpetuity growth rate of ~2%, our Q5-Q8 EV/FCF assumes 31x and our Q5-Q8 EV/Billings analysis assumes 6x Q5-Q8 Billings.

Key risks: (-) macro slowdown, higher expense growth, and sales execution

Slack Technologies Inc. – Neutral: Our 12-month price target of $29 is based on an equal weighted blend of a DCF (~8% perpetuity growth rate) and 15x Q5-Q8 EV/Sales.

Key risks: (+) better-than-expected enterprise adoption, faster-than-expected improvement in margins (-) increased competition, higher customer churn

Twilio (TWLO) – Neutral: Our 12-month price target of $137 (from $120) is based on equal blend of EV/Sales (10x Q5-Q8 Sales, 9x prior) and DCF (~6% perpetuity growth rate ~5% prior). We raise our multiples due to increased revenue visibility in the current environment.

Key Risks: loss of large customers, increased competition, lower spend among variable customers, and an inability to sustain growth while increasing profitability due to increasing customer acquisition costs.

Workday Inc. (WDAY) – Buy (CL): Our 12-month price target of $158 is based on an equal weighting of our DCF (~3% perpetuity growth rate), Q5-Q8 EV/billings (7x), and Q5-Q8 EV/OCF (35x).

Key risks: (-) financials traction remains in early innings; changes in the competitive landscape; slowing SaaS adoption in HCM

Zoom Video Communications Inc. (ZM) – Sell: Our 12-month $90 price target is derived from an equal-weighting of 20x Q5-Q8 EV/Sales and a DCF analysis (perpetuity growth rate ~7%).

Key risks: sales ramp, faster-than-expected adoption of Zoom Phones, ARPU expansion

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Emerging & Infrastructure Software: Valuation & Key Risks

Alteryx (AYX) | Buy: Our 12-month price target of $164 is based on a 50/50 blend of DCF and EV/Sales SNTM. We use an EV/Sales multiple of 15x. Our 10-year DCF assume a sales CAGR of 23%, long-term EBIT margins of 38%, a WACC of 9%, and a terminal multiple of 19x EV/FCF.

Key downside risks include: accounting changes and seasonality, competition, lower adoption of new products, slowing growth in new users.

Avalara (AVLR) | Buy: Our 12-month price target of $117 is based on a 50%/50% weighting of EV/Sales ($121 FV) and DCF ($113 FV). We use an EV/SNTM Sales multiple of 15.0x. Our 10-year DCF assumes a sales CAGR of 26%, long-term operating margins of 30%, a discount rate of 9.2%, and a terminal multiple of 19.2x EV/FCF.

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Key downside risks include: declining sales productivity, increasing competition and lower-than-expected customer growth.

Bill.com (BILL) | Neutral: Our 12-month price target of $60 is based on a 50%/50% weighting of EV/Sales and DCF. We use an EV/SNTM Sales multiple of 20.0x. Our 10-year DCF assumes sales CAGR of 22%, long-term operating margins of 36%, a discount rate of 9.0%, and a terminal multiple of 30x EV/FCF.

Key risks include: (+) better-than-expected ARPC, increased S&M efficiency, and subscription and transaction growth; (-) increased business failure resulting in higher gross churn, competition, lack of traction of newer products, and ramp to target operating model.

Blackline (BL) | Sell: Our 12-month price target of $54 is based on a 50%/50% weighting of EV/Sales ($54 FV) and DCF ($54 FV). We use an EV/SNTM Sales multiple of 7.0x. Our 10-year DCF assumes a sales CAGR of 16.9%, long-term operating margins of 26%, a discount rate of 8.5%, and a terminal multiple of 15.4x EV/FCF.

Key upside risks include: improved cross sell motion, ramping SAP Solex agreement, changes to pricing structure, favorable ERP replacement cycles.

Ceridian (CDAY) | Neutral: Our 12-month price target of $62 is derived from a sum of the parts valuation, valuing the cloud segment at $61/share and the Bureau segment at $1/share. For the cloud segment, we drive our enterprise value based on a 50%/50% weighting of a target EV/Sales multiple and DCF. For the Bureau segment we drive our enterprise value based on a 100% weight of DCF. Our EV/ SNTM sales multiple for the cloud segment is 10.0x. Our 10-year cloud DCF (Dayforce and Powerpay) assumes a sales CAGR of 19%, long-term EBIT margins of 28%, a discount rate of 9%, and a terminal multiple of 18x EV/FCF. Our 10-year Bureau DCF assumes a sales CAGR of -5%, long-term EBIT margins of 35%, a discount rate of 8%, and a terminal multiple of 12x EV/FCF.

Key risks include: (+) better-than expected increase in cloud customer growth, better-than expected S&M efficiency and lower than expected customer churn in Bureau; (-) further decline in interest rates, higher unemployment resulting from COVID-19, declining sales productivity, increasing competition and higher than expected bureau customer churn.

Cornerstone OnDemand (CSOD) | Neutral: Our 12-month price target of $37 is based on a 100% fundamental value. Our fundamental value is based on a 50%/50% blend of a target EV/Sales multiple and DCF. We use an EV/NTM Sales multiple of 4.0x. Our 10-year DCF assumes a sales CAGR of 7%, long-term operating margins of 33%, a discount rate of 8%, and a terminal multiple of 15x EV/FCF.

Key risks include: (+) higher-than-expected adoption of Content, increasing sales productivity and shift in competitive dynamics; (-) higher unemployment rate resulting from COVID-19, increasing competition, lower-than-expected adoption of Content and declining sales productivity; execution and integration risk due to recent acquisition of Saba.

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Coupa (COUP) | Buy: Our 12-month price target of $166 is derived from applying a 50%/50% weighting of a target EV / Sales multiple for SNTM ($162 fair value, 18x multiple) and DCF ($169 fair value). Our 10-year DCF assumes a sales CAGR of 26%, long-term operating margins of 32%, a discount rate of 9.2%, and a terminal multiple of 19.4x EV/FCF.

Key downside risks: Coupa competes directly with legacy suite vendors that are better capitalized and enjoy greater brand recognition. Should these vendors become increasingly competitive through acquisition, organic investment, or price, operating results could suffer; Investments in IT modernization projects are affected by the health of the overall macro. While Coupa's solution provides a near-term payoff and allows organizations to materially cut down on costs, Coupa could be more sensitive to macro headwinds vs. our expectations; There is risk of Coupa's multiple re-rating down driven by a combination of top-line deceleration, execution mis-steps, deteriorating unit economics, and investor rotation out of high-multiple stocks.

Datadog (DDOG) | Buy: Our 12-month price target of $65 is based on a 50%/50% weighting of EV/Sales ($63 FV) and DCF ($67 FV). We use an EV/SNTM Sales multiple of 25.0x. Our 10-year DCF assumes a sales CAGR of 31%, long-term operating margins of 32%, a discount rate of 8.9%, and a terminal multiple of 21.0x EV/FCF.

Key risks include: (-) decline in sales growth from lower SMB contribution resulting from COVID-19, declining sales productivity, competition, lack of traction of newer products, and ramp to target operating model.

Hubspot (HUBS) | Buy: Our 12-month price target of $184 is based on a 50%/50% weighting of EV/Sales and DCF. We use an EV/SNTM Sales multiple of 8.0x, which we increase given better-than-expected near-term execution and our expectation for faster growth next year from a new product launch, we believe a multiple in-line with the comp group is warranted. Our 10-year DCF assumes a sales CAGR of 20%, long-term operating margins of 28%, a discount rate of ~9%, and a terminal multiple of 16.0x EV/FCF.

Key downside risks include: lower-than-expected adoption of newer products, increased competition and lower-than-expected sales efficiency.

Shopify (SHOP) | Neutral: Our 12-month price target of $689 is based on a 50%/50% weighting of EV/Sales and DCF. We use an EV/SNTM Sales multiple of 25.0x. Our 10-year DCF assumes terminal sales of $41.0bn, long-term operating margins of 22%, a discount rate of 9%, and a terminal multiple of 21x EV/FCF.

Key risks include: (+) higher-than-expected growth of Plus merchants, higher-than expected adoption of newer merchant solutions and better-than-expected operating leverage; (-) lower-than expected growth of Plus merchants, lower-than-expected adoption of newer merchant solutions and macro risk.

Splunk (SPLK) | Buy: Our 12-month price target of $181 is based on a 50%/50% weighting of EV/Sales ($184 FV) and DCF ($178 FV). We use an EV/SNTM Sales multiple of 9.0x. Our 10-year DCF assumes a sales CAGR of 16.8%. long-term operating margins

of 32.9%, a discount rate of 8.6%, and a terminal multiple of 18.0x EV/FCF.

Key downside risks include: competition, changes in the regulatory environment, and lack of gross margin expansion.

Sprout Social (SPT) | Buy: Our 12-month price target of $27 is based on a 50%/50% weighting of EV/Sales ($25 FV) and DCF ($29 FV). We use an EV/SNTM Sales multiple of 7. Our 10-year DCF assumes a terminal revenue of $643mn, long-term operating margins of 25%, a discount rate of 9%, and a terminal multiple of 18x EV/FCF.

Key downside risks include: increased competition, reliance on social media platforms, lack of adoption of newer modules and lack of operating leverage.

Veeva Sysems (VEEV) | Neutral: Our 12-month price target of $167 is based on a 50%/50% weighting of EV/Sales ($168 FV) and DCF ($166 FV). We use an EV/SNTM Sales multiple of 16.0x. Our 10-year DCF assumes a sales CAGR of 17.6%, long-term operating margins of 46%, a discount rate of 8.7%, and a terminal multiple of 21.2x EV/FCF.

Key risks include: (+) higher-than-expected growth of Vault and / or QualityOne, and better-than-expected operating leverage; (-) lower-than-expected growth of Vault and / or QualityOne, increasing competition, and multiple risk.

Zendesk (ZEN) | Buy: Our 12-month price target of $96 is based on a 50%/50% weighting of EV/Sales ($93) and DCF ($99). We use an EV/SNTM Sales multiple of 8x. Our 10-year DCF assumes a sales CAGR of 21%, long-term operating margins of 33.0%, a discount rate of 9%, and a terminal multiple of 16x EV/FCF.

Key downside risks include: key verticals facing pressure from COVID-19 and subsequently pulling back on customer support end, lower-than-expected enterprise adoption, increased competition and lower-than-expected operating leverage.

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Security Software: Valuation & Key Risks

Check Point Software (CHKP) | Sell: We maintain our Sell rating and our 12-month price target of $105, based on an equal blend of a 10-year DCF-based valuation of $103 (7.1% WACC and -1% terminal growth rate) and a multiple-based valuation of $107, based on 12x EV/Q5-Q8 FCF.

Key risks: Potential for better than expected traction with Infinity and CloudGuard solutions, product traction from recent acquisitions and improvement in sales execution.

CyberArk (CYBR) | Neutral: We maintain our Neutral rating and our 12-month price target of $103. Our 12-month price target is derived from an equal blend of a 10-year DCF based valuation and an EV/FCF multiple. Our DCF model drives a valuation of $98 (9.3% WACC and terminal growth rate of 3%). On a multiple basis, we arrive at a valuation of $109, utilizing an EV/FCF multiple of 23x on Q5-Q8 FCF numbers.

Key risks: (+) increasing RPA adoption, (+) shift of spending priority to PAM, (-)

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accelerated transition to SaaS and (+) entry of other IAM vendors in PAM market.

FireEye (**FEYE) | Buy**: We maintain our Buy rating and our 12-month price target of $14, derived from 85% on fundamental value, based on an equal-weighted blend of a 10-year DCF valuation of $14 (8.0% WACC and 3% terminal growth rate) and a multiple-driven valuation of $13, based on 3x EV/Q5-Q8 Sales. Our M&A value of $16 is based on 3.8x EV/NTM sales.

Key risks: Longer than anticipated transition cycle, competition from other platform vendors and challenges in execution.

Fortinet (FTNT) | Buy: We maintain our Buy rating our 12-month price target of $129, based on an equal blend of our 10-year DCF-based valuation of $133 (WACC of 8.0% and terminal growth of 2%) and our multiple-based valuation of $125, based on 18.7x EV/Q5-Q8 FCF multiple.

Key risks: Slower than expected firewall growth environment, ASIC technology, a challenging competitive environment, and longer sales cycles and contract duration.

Mimecast (MIME) | Neutral: We maintain our Neutral rating and our 12-month price target of $43. Our price target is derived from an 85% weighting of our fundamental value of $43, based on a blended target from a 10-year DCF and EV/Sales/growth multiple, and a 15% weighting of our theoretical M&A valuation of $44, based on 5.8x EV/NTM sales multiple. Our DCF model drives a valuation of $37 (9.2% WACC and 3% terminal growth rate). On a multiple basis, we arrive at a valuation of $49, utilizing an EV/sales multiple of 5.3x on Q5-Q8 sales numbers and using a 2-year sales CAGR of 16%, implying an EV/sales/growth multiple of 0.33x.

Key risks: (+) Macro recovery, (-) SMB Exposure, (-) volatility from exposure to foreign markets and (-) M&A integration.

Palo Alto Networks (PANW) | Buy: We maintain our Buy rating and raise our 12-month price target to $250 from $219, based on an equal-weighted blend of a 10-year DCF valuation of $233 ($214 prior) (8.7% WACC and unchanged 3% terminal growth rate, down from 9.3% based on lower market risk premium and risk free rate) and a multiple-driven valuation of $266 ($224 prior), based on 19x EV/Q5-Q8 FCF (up from 17x on higher peer multiples, improved visibility into next-gen security segment with ARR disclosure and better outlook as we expect the company to be a beneficiary of a more distributed work environment going forward).

Key risks: Potential management changes, sales disruption due to acquisition integration, inability to execute in driving billings growth, challenging competitive environment, and rapidly changing technology landscape

Proofpoint (PFPT) | Neutral: We maintain our Neutral rating and our 12-month price target of $135. Our price target is derived from an equal blend of a 10-year DCF value of $139, based on 8.9% WACC and 3% terminal growth rate, and a multiple based value of $130, based on an EV/Sales multiple of 6.0x (implying 0.37x EV/Sales/Growth) on Q5-Q8 sales numbers.

Key risks: (+) Traction with recent product bundles, (+) accelerated benefit from capturing legacy vendor email business, (-) competition from security services native to cloud office systems and (-) competitive challenges in moving to mid-market.

Qualys Inc (QLYS) | Neutral: We maintain our Neutral rating and our 12-month price target of $109. Our price target is derived from an equal blend of a 10-year DCF based value of $116 (6.9% WACC and 2% terminal growth rate) and a multiple based valuation of $101, utilizing an EV/FCF multiple of 23x on Q5-Q8 FCF numbers.

Key risks: (+) Accelerated adoption of Cloud Agent Platform, (+) traction with platform approach, (-) competition in the VA and VM market and (-) challenges with penetrating adjacent markets.

Rapid7 (RPD) | Buy: We reiterate our Buy rating and our 12-month price target of $54. Our price target is derived from an equal blend of a 10-year DCF based value of $46 (9.9% WACC and 3% terminal growth rate) and a multiple based valuation of $61 utilizing an EV/sales/growth multiple of 0.34x on Q5-Q8 sales numbers and using a 2-year sales CAGR of 18%.

Key risks: Competition in the VA/VM market and longer than expected adoption cycle of SIEM/SOAR solutions.

SailPoint Technologies (SAIL) | Sell: We maintain our Sell rating and our 12-month price target of $17. Our price target is derived from an equal blend of a 10-year DCF based value of $17 (9.9% WACC and terminal growth rate of 3%) and a multiple based valuation of $17, utilizing an EV/Sales multiple of 3.5x (implying 0.30x EV/Sales/Growth) on Q5-Q8 Sales numbers.

Key risks: RPA growth, accelerated customer conversions and wins due to mission critical nature of IGA and expansion opportunities in related identity markets.

SecureWorks (SCWX) | Neutral: We maintain our Neutral rating and our 12-month price target of $11. Our 12-month price target is based on 1.2x EV/Q5-Q8 sales.

Key risks include: (+) greater traction with the company's new platform, (+) affiliation with Dell Technologies, (-) challenges in execution and (-) lack of liquidity.

Tenable Holdings (TENB) | Buy: We maintain our Buy rating and our 12-month price target of $30. Our price target is derived from an equal blend of a 10-year DCF based value of $26 (9.9% WACC and terminal growth rate of 3%) and a multiple based valuation of $34 utilizing an EV/Sales multiple of 5.8x on Q5-Q8 Sales numbers.

Key risks: Faster than expected margin contraction, industry push for platform offerings and potential deceleration in demand.

Zscaler (ZS) | Neutral: We maintain our Neutral rating and our 12-month price target of $73. Our price target is based on an equal blend of our 10-year DCF value of $79 (9.9% WACC and 4% terminal growth) and a multiple-based valuation of $67 based on an EV/Sales/Growth multiple of 0.48x on Q5-Q8 Sales and a 2-year sales CAGR of 30%.

Key risks: (+) Continued ability to take share in growth markets, (+) potential to expand

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into adjacent markets; (-) elevated valuation, and (-) channel incentives to protect legacy business/competitors.

Europe Technology Software: Valuation & Key Risks

Dassault Systemes (DAST.PA) | Buy: We are Buy rated on Dassault Systemes. Our 12-month price target is €150, based on 35x CY21E PF EPS. Key risks to our thesis include: (1) top-line execution risks, (2) risk associated with over-diversification, (3) acquisition integration risks, (4) lack of margin expansion owing to higher spending, (5) FX exposure, (6) macro weakness, and (7) lower-than-expected adoption of Dassault's product offerings in legacy and new verticals.

Sage (SGE.L) | Sell: We are Sell rated on Sage. Our 12-month price target is 525p, derived from an 85% weighting to our core P/E-based valuation of c.500p/sh (20x CY21E P/E) and a 15% weighting to our M&A valuation of c.670p/sh (based on a CY21E EV/Sales multiple of 4x, broadly in line with historical sector transaction multiples). Key risks: (1) Positive data points around small and medium-sized business momentum; (2) Sooner-than-expected easing of lockdowns; (3) Faster-than-expected shift to online; (4) More resiliency in the renewal rate.

SAP (SAPG.DE, SAP) | CL-Buy: We are Buy rated on SAP, with the stock on Conviction List. Our 12m PT remains is €125 (ADR $136), based on 21.5x 2021E P/E. Key risks to our view and price target include: Macro risks; lack of traction in S/4HANA or cloud; further management changes; large scale M&A; additional opex spending dampening margin expansion.

Teamviewer (TMV.DE) | Buy: We are Buy rated on TeamViewer and our 12-month price target is €50 based on 35x 2021E EV/EBITDA. Key risks: (1) Execution of growth/growing pains; (2) enterprise sales strategy challenges; (3) technology platform and product rollout delays; (4) higher customer churn; (5) R&D intensity and higher spending; (6) higher customer acquisition costs; (7) increased competition; and (8) cybersecurity breaches/denial of service attacks.

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Disclosure Appendix

Reg AC

We, Heather Bellini, CFA, Christopher D. Merwin, CFA, Brian Essex, CFA, Mohammed Moawalla and Gautam Pillai, CFA, hereby certify that all of the views expressed in this report accurately reflect our personal views about the subject company or companies and its or their securities. We also certify that no part of our compensation was, is or will be, directly or indirectly, related to the specific recommendations or views expressed in this report.

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Growth is based on a stock's forward-looking sales growth, EBITDA growth and EPS growth (for financial stocks, only EPS and sales growth), with a higher percentile indicating a higher growth company. **Financial Returns** is based on a stock's forward-looking ROE, ROCE and CROCI (for financial stocks, only ROE), with a higher percentile indicating a company with higher financial returns. **Multiple** is based on a stock's forward-looking P/E, P/B, price/dividend (P/D), EV/EBITDA, EV/FCF and EV/Debt Adjusted Cash Flow (DACF) (for financial stocks, only P/E, P/B and P/D), with a higher percentile indicating a stock trading at a higher multiple. The **Integrated** percentile is calculated as the average of the Growth percentile, Financial Returns percentile and (100% - Multiple percentile).

Financial Returns and Multiple use the Goldman Sachs analyst forecasts at the fiscal year-end at least three quarters in the future. Growth uses inputs for the fiscal year at least seven quarters in the future compared with the year at least three quarters in the future (on a per-share basis for all metrics).

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Rating and pricing information: Akamai Technologies Inc. (Neutral, $100.58), Alphabet Inc. (Buy, $1,409.16), Alteryx Inc. (Buy, $140.87), Anaplan Inc. (Buy, $47.97), Atlassian Corp. (Buy, $183.84), Avalara Inc. (Buy, $103.81), Bill.com Holdings (Neutral, $74.99), Blackline Inc. (Sell, $67.52), Ceridian HCM Holdings (Neutral, $65.22), Check Point Software Tech. (Sell, $107.79), Citrix Systems Inc. (Buy, $137.44), Cloudflare Inc. (Neutral, $27.55), Cornerstone OnDemand Inc. (Neutral, $36.35), Coupa Software Inc. (Buy, $213.87), CrowdStrike Holdings (Neutral, $80.97), CyberArk (Neutral, $97.50), Dassault Systemes (Buy, €141.75), Datadog Inc. (Buy, $70.70), Docusign Inc. (Neutral, $128.77), Dropbox Inc. (Sell, $22.23), Dynatrace Inc. (Neutral, $36.82), FireEye Inc. (Buy, $11.59), Fortinet Inc. (Buy, $145.62), HubSpot Inc. (Buy, $190.86), Microsoft Corp. (Buy, $185.66), Mimecast Ltd. (Neutral, $38.95), Okta Inc. (Buy, $187.70), Palo Alto Networks Inc. (Buy, $234.48), Ping Identity Holding (Neutral, $26.54), Proofpoint Inc. (Neutral, $115.68), Qualys Inc. (Neutral, $111.42), Rapid7 Inc. (Buy, $46.44), RingCentral (Buy, $264.36), SAP (Buy, $120.30), SAP (Buy, €110.20), Sage Group (Sell, 678.8p), SailPoint Technologies Holdings (Sell, $22.34), Salesforce.com Inc. (Buy, $176.93), SecureWorks Corp. (Neutral, $12.07), Shopify Inc. (Neutral, $778.00), Slack Technologies Inc. (Neutral, $31.35), Splunk Inc. (Buy, $163.28), Sprout Social Inc. (Buy, $27.51), TeamViewer (Buy, €43.56), Tenable Holdings (Buy, $29.65), Twilio (Neutral, $191.91), Veeva Systems Inc. (Neutral, $202.17), Workday Inc. (Buy, $159.54), Zendesk Inc. (Buy, $81.16), Zoom Video Communications Inc. (Sell, $175.48) and Zscaler Inc. (Neutral, $77.06)

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Goldman Sachs Investment Research global Equity coverage universe

	Rating Distribution			Investment Banking Relationships		
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