



D|A|DAVIDSON
INVESTMENT BANKING

CLOUD INFRASTRUCTURE & COMMUNICATIONS INSIGHTS – Q4 2021

Macro trends, mergers & acquisitions and capital raising activity in the public and private markets

FEBRUARY 2022
PRIVATE & CONFIDENTIAL



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D.A. Davidson Investment Banking

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D.A. Davidson Technology Group Overview



Highly Experienced and Growing Technology Group

LEADING MIDDLE MARKET TECHNOLOGY INVESTMENT BANK

39 dedicated investment bankers, including **11** partners in **4** offices nationwide

16 dedicated technology equity research professionals

\$20B+ raised for technology clients since 2019

150+ technology companies under research coverage

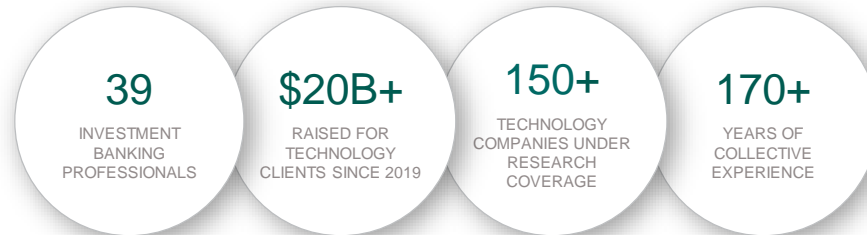
38 public offerings completed since 2019

Dedicated equity sales and trading team that makes a market in **~180** technology stocks

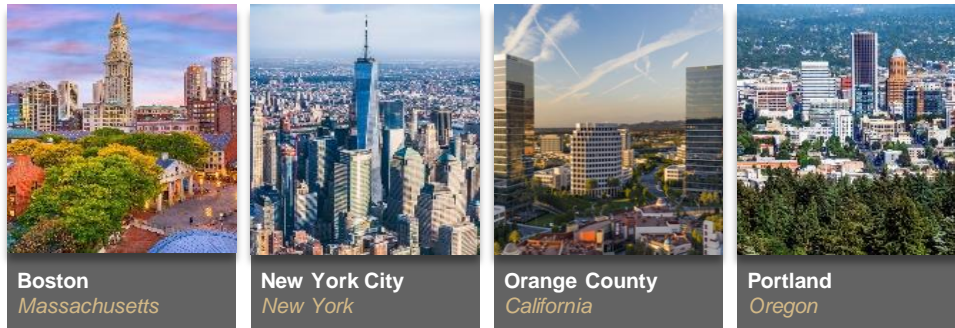
Annual tech conference with **350+** public, private companies and institutional investors

Trusted M&A and debt and equity capital raise advisor to technology companies

Broad and deep relationships with technology middle-market buyer universe



39 TECHNOLOGY INVESTMENT BANKERS ACROSS FOUR MAJOR CITIES



D.A. Davidson's technology practice brings deep sector knowledge, transactional expertise, and full service capabilities across eight key technology verticals

I Application Software	<ul style="list-style-type: none"> Sales & Marketing Solutions ERP Human Capital Collaboration 	<ul style="list-style-type: none"> Expense & Procurement Content Management BI /Analytics
II Infrastructure Software	<ul style="list-style-type: none"> Application Monitoring Data Warehouse Internet of Things 	<ul style="list-style-type: none"> IT Management Security RPA
III Vertical Software	<ul style="list-style-type: none"> Construction Government Healthcare IT Education 	<ul style="list-style-type: none"> Real Estate & Travel Telematics Agriculture
IV Financial Technology	<ul style="list-style-type: none"> Banking Investment Financing / Lending 	<ul style="list-style-type: none"> Insurance Crypto / Blockchain Payments
V Technology Enabled Services	<ul style="list-style-type: none"> Marketing Services Business Services IT Services 	<ul style="list-style-type: none"> Professional Outsourced Services
VI Internet & Digital Media	<ul style="list-style-type: none"> E-Commerce Search Video 	<ul style="list-style-type: none"> Content Marketing Internet Services Mobile
VII Communications & Digital Infrastructure	<ul style="list-style-type: none"> Data Center Managed Services Fiber Networks Telecom Wireless IoT/IloT 	<ul style="list-style-type: none"> Communications Software, Hardware & Infrastructure CCaaS / CPaaS IaaS / UCaaS
VIII Data & Analytics	<ul style="list-style-type: none"> Digital Engagement Optimization Credit Analytics Real-Time Risk Analytics 	<ul style="list-style-type: none"> Marketing Analytics Artificial Intelligence Business / Market Intelligence



Significant Expertise in Cloud Infrastructure and Communications

LEADERS OF THE CLOUD INFRASTRUCTURE & COMMUNICATIONS SECTOR



Brad Gevurtz

Managing Director
*Technology
Investment Banking*

- Over 30 years of technology investment banking experience
- Worked for 20 years on Wall Street as a senior banker at JPMorgan Chase, KeyBanc Capital Markets, and Broadview Int'l (now Jefferies)
- Started his career at AT&T and has executed M&A, private capital raises, and public equity transactions worldwide for public and private communications and technology companies such as Alltel, AT&T, Cable Exchange, Fastly, IBM, Limelight, Lumos, Radisys, Towerstream, Vast Networks, Verizon, Wavcom, Zayo, and many others
- MBA, Columbia University; JD, Oregon Law; BA, Pomona College



Amy Johnson

Managing Director
*Technology
Investment Banking*

- Over 30 years of investment banking and capital markets experience
- Senior banker at Swiss Bank Corp/SBC Warburg (now UBS) and Bank Street Group
- Has executed M&A and capital markets transactions globally for public and private communications companies, including 365 Data Centers, AboveNet, Colo ATL/American Tower, Airband, Digital Crossroads, Hibernia Networks, Highwinds, and OnFiber, among others
- Deep domain expertise in fiber networks, data centers, subsea cable, and wireless infrastructure and services
- BBA Finance with honors, University of Notre Dame

SIGNIFICANT COMBINED SECTOR KNOWLEDGE & DEAL EXPERIENCE

\$41B+

DEAL VALUE COMPLETED

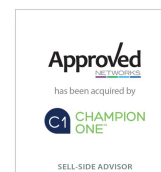
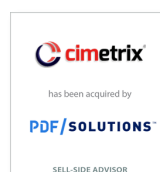
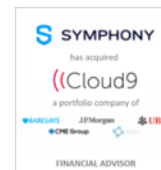
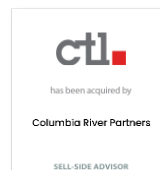
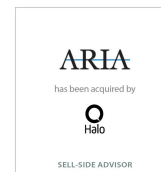
350+

DEALS COMPLETED

65+

YEARS OF EXPERIENCE

Recent Cloud & Communications Transactions Completed Over Last 18 Months



Cloud, Communications, & Digital Infrastructure

- Deep expertise in advising cloud infrastructure and communications companies on M&A as well as public and private capital raises
- 50+ relevant transactions completed by our Communications senior bankers throughout their careers
- Real-time dialogues with global network of industry buyers
- Dedicated private equity and private debt groups
- Senior bankers with investment banking and industry experience



Leading Middle Market Technology Investment Bank

D.A. Davidson's technology team has significant experience advising technology clients

<p>has been acquired by</p> <p>SELL-SIDE ADVISOR</p>	<p>has received an investment from</p> <p>FINANCIAL ADVISOR</p>	<p>a portfolio company of</p> <p>has been acquired by</p> <p>a portfolio company of</p> <p>FINANCIAL ADVISOR</p>	<p>has been acquired by</p> <p>GL PARTNERS</p> <p>SELL-SIDE ADVISOR</p>	<p>has established a multi-currency asset-backed financing with</p> <p>FINANCIAL ADVISOR</p>	<p>a portfolio company of</p> <p>has agreed to be acquired by</p> <p>SELL-SIDE ADVISOR</p>	<p>has completed an initial public offering of common stock</p> <p>\$146,117,600</p> <p>CO-MANAGER</p>	<p>has been acquired by</p> <p>SELL-SIDE ADVISOR</p>	<p>has agreed to be acquired by</p> <p>FINANCIAL ADVISOR</p>	<p>has completed an initial public offering of common stock</p> <p>\$621,000,000</p> <p>CO-MANAGER</p>
<p>has agreed to be acquired by</p> <p>SELL-SIDE ADVISOR</p>	<p>has completed an initial public offering of common stock</p> <p>\$127,875,000</p> <p>CO-MANAGER</p>	<p>a portfolio company of</p> <p>has been acquired by</p> <p>SELL-SIDE ADVISOR</p>	<p>has been acquired by</p> <p>FINANCIAL ADVISOR</p>	<p>has been acquired by</p> <p>SELL-SIDE ADVISOR</p>	<p>a company backed by</p> <p>has acquired</p> <p>FINANCIAL ADVISOR</p>	<p>has acquired</p> <p>FINANCIAL ADVISOR</p>	<p>has been acquired by</p> <p>a portfolio company of</p> <p>SELL-SIDE ADVISOR</p>	<p>has been acquired by</p> <p>SELL-SIDE ADVISOR</p>	<p>has been acquired by</p> <p>SELL-SIDE ADVISOR</p>
<p>has acquired</p> <p>FINANCIAL ADVISOR</p>	<p>has acquired</p> <p>FINANCIAL ADVISOR</p>	<p>has been acquired by</p> <p>SELL-SIDE ADVISOR</p>	<p>has completed an initial public offering of common stock</p> <p>\$828,000,000</p> <p>CO-MANAGER</p>	<p>has been acquired by</p> <p>FINANCIAL ADVISOR</p>	<p>has received an investment from</p> <p>in conjunction with its acquisitions of</p> <p>FINANCIAL ADVISOR</p>	<p>has been acquired by</p> <p>SELL-SIDE ADVISOR</p>	<p>has acquired</p> <p>FINANCIAL ADVISOR</p>	<p>has acquired</p> <p>FINANCIAL ADVISOR</p>	<p>has acquired</p> <p>a portfolio company of</p> <p>FINANCIAL ADVISOR</p>
<p>a portfolio company of</p> <p>has received a minority equity investment from</p> <p>FINANCIAL ADVISOR</p>	<p>has made significant equity investments into</p> <p>and</p> <p>FINANCIAL ADVISOR</p>	<p>has received a significant equity investment from</p> <p>FINANCIAL ADVISOR</p>	<p>has agreed to combine with</p> <p>Informa Financial Intelligence and</p> <p>FINANCIAL ADVISOR</p>	<p>has completed an initial public offering of common stock</p> <p>\$1,538,566,008</p> <p>CO-MANAGER</p>	<p>has completed a follow-on offering of common stock</p> <p>\$258,750,000</p> <p>CO-MANAGER</p>	<p>has completed a follow-on offering of common stock</p> <p>\$300,000,000</p> <p>CO-MANAGER</p>	<p>has completed a follow-on offering of common stock</p> <p>\$351,900,000</p> <p>CO-MANAGER</p>	<p>has completed an initial public offering of common stock</p> <p>\$596,937,000</p> <p>CO-MANAGER</p>	<p>has received an investment from</p> <p>FINANCIAL ADVISOR</p>
<p>has completed a follow-on offering of common stock</p> <p>\$245,000,000</p> <p>CO-MANAGER</p>	<p>has completed a follow-on offering of common stock</p> <p>\$86,250,000</p> <p>CO-MANAGER</p>	<p>has completed a follow-on offering of common stock</p> <p>\$233,392,500</p> <p>CO-MANAGER</p>	<p>has completed a public offering of senior convertible notes</p> <p>\$1,306,000,000</p> <p>CO-MANAGER</p>	<p>has completed a follow-on offering of common stock</p> <p>\$817,500,000</p> <p>CO-MANAGER</p>	<p>has completed a follow-on offering of common stock</p> <p>\$476,100,000</p> <p>CO-MANAGER</p>	<p>has completed a follow-on offering of common stock</p> <p>\$149,868,000</p> <p>CO-MANAGER</p>	<p>has agreed to be acquired by</p> <p>a portfolio company of</p> <p>FINANCIAL ADVISOR</p>	<p>has been acquired by</p> <p>a portfolio company of</p> <p>FINANCIAL ADVISOR</p>	<p>has completed a follow-on offering of common stock</p> <p>\$146,050,000</p> <p>CO-MANAGER</p>



Leading Middle Market Technology Investment Bank, Cont'd

D.A. Davidson's technology team has significant experience advising technology clients

 has completed an initial public offering of common stock \$3,830,000,108 CO-MANAGER	 has completed a follow-on offering of secondary common stock \$305,900,000 CO-MANAGER	 a portfolio company of has received an investment from abry PARTNERS FINANCIAL ADVISOR	 has been acquired by PDF/SOLUTIONS™ SELL-SIDE ADVISOR	 has been acquired by a portfolio company of PERMIRA FINANCIAL ADVISOR	 has completed an initial public offering of common stock \$292,641,179 CO-MANAGER	 has completed a follow-on offering of secondary common stock \$377,200,000 CO-MANAGER	 a venture portfolio company of servicenow has received an investment from SELL-SIDE ADVISOR	 has received a growth equity and debt investment from FINANCIAL ADVISOR	 has completed an initial public offering of common stock \$3,864,000,000 CO-MANAGER
 has agreed to sell the Munifloros business to FINANCIAL ADVISOR	 has completed a follow-on offering of common stock \$87,831,250 CO-MANAGER	 has completed a public offering of senior convertible notes \$517,600,000 CO-MANAGER	 has completed an initial offering of common stock \$465,750,000 CO-MANAGER	 has been acquired by GEMSPRING CAPITAL SELL-SIDE ADVISOR	 has been acquired by BlueYonder SELL-SIDE ADVISOR	 has completed a follow-on offering of common stock \$184,000,000 CO-MANAGER	 has completed a follow-on offering of common stock \$266,350,000 CO-MANAGER	 has completed a follow-on offering of common stock \$422,400,000 CO-MANAGER	 has completed a public offering of senior convertible notes \$565,000,000 CO-MANAGER
 has been acquired by Profile Capital Management SELL-SIDE ADVISOR	 has completed a public offering of senior convertible notes \$253,000,000 CO-MANAGER	 has agreed to be acquired by FINANCIAL ADVISOR	 has completed a public offering of senior convertible notes \$600,000,000 CO-MANAGER	 has been acquired by DOVER SELL-SIDE ADVISOR	 has been acquired by SELL-SIDE ADVISOR	 has been acquired by Cboe FINANCIAL ADVISOR	 has received a majority equity investment from FINANCIAL ADVISOR	 a division of Greenwich Associates was acquired by a portfolio company of STG FINANCIAL ADVISOR	 has been acquired by CRISIL FINANCIAL ADVISOR
 has received an investment from FINANCIAL ADVISOR	 has completed a follow-on offering of common stock \$78,562,000 CO-MANAGER	 has completed a public offering of convertible senior notes \$550,000,000 CO-MANAGER	 has been acquired by FINANCIAL ADVISOR	 has received growth capital from FINANCIAL ADVISOR	 has been acquired by FNZ FINANCIAL ADVISOR	 has been acquired by SELL-SIDE ADVISOR	 has been acquired by SELL-SIDE ADVISOR	 has received an investment from FINANCIAL ADVISOR	 has received an investment from LEVEL EQUITY FINANCIAL ADVISOR
 has completed a follow-on offering of common stock \$175,000,000 CO-MANAGER	 has been acquired by a portfolio company of FINANCIAL ADVISOR	 has received a majority equity investment from FINANCIAL ADVISOR	 has been acquired by a portfolio company of NORDIC CAPITAL FINANCIAL ADVISOR	 has been acquired by a portfolio company of FINANCIAL ADVISOR	 has received a majority equity investment from FINANCIAL ADVISOR	 has been acquired by SELL-SIDE ADVISOR	 has completed an initial public offering of common stock \$207,000,000 CO-MANAGER	 has sold Preqin Solutions to a portfolio company of FINANCIAL ADVISOR	 has sold a minority equity interest in its subsidiary to SGX FINANCIAL ADVISOR



Deep Experience in Cloud Infrastructure and Communications Technologies

ALLIANCE CORPORATION
THE POWER OF BEING CONNECTED
a portfolio company of
Lumbridge

has been acquired by

LEE TWIN POINT EQUITY CAPITAL

SELL-SIDE ADVISOR

ARIA

has been acquired by

Halo

SELL-SIDE ADVISOR

ctl.

has been acquired by

Columbia River Partners

SELL-SIDE ADVISOR

NBA New Business Acquisition
has acquired

Airspan

FINANCIAL ADVISOR

S SYMPHONY

has acquired

Cloud9

a portfolio company of

BARCLAYS JPMorgan CHS LBS
CHE Group

FINANCIAL ADVISOR

Approved NETWORKS

has been acquired by

C1 CHAMPION ONE

SELL-SIDE ADVISOR

fastly.

has completed a follow-on offering of common stock

\$286,350,000

CO-MANAGER

MobiChord
a venture portfolio company of
servicenow.

has completed an investment from

PERISCOPE EQUITY

SELL-SIDE ADVISOR

cimetrix

has been acquired by

PDF/SOLUTIONS

SELL-SIDE ADVISOR

fastly.

has completed an initial public offering of common stock

\$207,000,000

CO-MANAGER

AXIOM

has been acquired by management through a leveraged recapitalization

FINANCIAL ADVISOR

zayo GROUP

has completed a follow-on offering of common stock

\$597,597,500

CO-MANAGER

vast NETWORKS

has raised unitranche debt from

ATALAYA

PLACEMENT AGENT

TELEKENEX

has been acquired by

SpireCapital

SELL-SIDE ADVISOR

towerstream

has completed a follow-on offering of primary common stock

\$33,000,000

CO-MANAGER

OC iX
Orange County Internet Exchange

has been acquired by

TelePacific COMMUNICATIONS

SELL-SIDE ADVISOR

mobile SOLUTIONS

has been acquired by

PERISCOPE EQUITY

SELL-SIDE ADVISOR

WAVECOM

has been acquired by

Hawaiian Telcom

SELL-SIDE ADVISOR

Limelight NETWORKS

has completed a follow-on offering of primary common stock

\$81,650,000

CO-MANAGER

SMART/RG

has been acquired by

ADRAN

SELL-SIDE ADVISOR

Cable Exchange

has been acquired by

COMMSCOPE

SELL-SIDE ADVISOR

LUMOS NETWORKS

has completed a follow-on offering of secondary common stock

\$57,778,780

CO-MANAGER

Fiber Network SOLUTIONS

has been acquired by

cogent COMMUNICATIONS

SELL-SIDE ADVISOR


TOYOTA TSUSHO CORPORATION

has sold its interest in its affiliate
Pacific LightNet, Inc.
to
SK Telecom Holdings

SELL-SIDE ADVISOR




Deep Experience in Cloud Infrastructure and Communications Technologies, Cont'd



has completed a Public offering of Senior Notes

\$2,000,000,000


CO-MANAGER




has completed an offering of convertible preferred stock

\$460,000,000


CO-MANAGER




has been acquired by




SELL-SIDE ADVISOR




has been acquired by




a portfolio company of




SELL-SIDE ADVISOR




has been acquired by



SELL-SIDE ADVISOR



has completed a unitranche credit facility in support of majority sale to




FINANCIAL ADVISOR




has raised a senior secured credit facility in support of a dividend recapitalization

\$135,000,000

JOINT LEAD ARRANGER




has provided senior secured financing for



\$205,000,000


FINANCIAL ADVISOR



has completed a follow-on offering of primary common stock


\$22,287,000

CO-MANAGER




has raised a senior secured credit facility


FINANCIAL ADVISOR & PLACEMENT AGENT



has been acquired by




SELL-SIDE ADVISOR



has raised a senior secured credit facility

\$165,000,000

FINANCIAL ADVISOR & SOLE ARRANGER



has raised a senior secured credit facility

\$250,000,000


FINANCIAL ADVISOR



has raised a senior secured credit facility


\$35,000,000

FINANCIAL ADVISOR & PLACEMENT AGENT



has obtained a letter of credit commitment in support of CAF funding


FINANCIAL ADVISOR




has obtained a senior secured credit facility

\$45,000,000


FINANCIAL ADVISOR



has obtained senior secured financing in connection with its sale to




FINANCIAL ADVISOR



has obtained a senior secured financing


FINANCIAL ADVISOR



has obtained a senior secured credit facility

\$25,000,000


FINANCIAL ADVISOR




has completed a private offering of senior notes

\$20,000,000


FINANCIAL ADVISOR & PLACEMENT AGENT



has received an investment from



SELL-SIDE ADVISOR



has completed a Public offering of Senior Notes

\$1,405,490,000

CO-MANAGER




a portfolio company of




has completed an equity financing

\$40,000,000

FINANCIAL ADVISOR



has been acquired by



SELL-SIDE ADVISOR

Note: Includes transactions completed by current D.A. Davidson professionals prior to joining the firm.



M&A Case Study: Alliance Corporation

ALLIANCE CORPORATION
THE POWER OF BEING CONNECTED.

a portfolio company of

Ironbridge
EQUITY PARTNERS

has been acquired by

LEE
EQUITY

TWIN POINT
CAPITAL

SELL-SIDE ADVISOR

CLIENT DESCRIPTION

Distributor, solutions provider, and cable terminator for the wireless industry

DEAL TYPE

Sell-Side M&A

SECTOR

Communications Equipment and Distribution

Company Background

Alliance is Canada's largest value-added distributor of wireless communications technology and is one of the fastest growing distributors in the United States, providing mission-critical solutions to the leading wireless carriers across North America. The Company is one of only two scaled North American distributors with cable termination capabilities and supports the construction, maintenance and upgrades of cellular towers, indoor cellular service and broadband internet. Alliance distributes over 5,000 SKUs comprising virtually every product necessary for network builds, maintenance and upgrades, as well as terminates technologically advanced, custom cabling, for a broad range of end customers including carriers, internet service providers, contractors, building owners and other enterprises and government entities that utilize broadband infrastructure.

D.A. Davidson Role

D.A. Davidson served as exclusive financial advisor to Alliance. Davidson worked closely with Alliance's management to position the Company as an industry leader and conducted a targeted process that generated significant competitive interest from both strategic and financial parties, resulting in a premium valuation for shareholders.

Transaction Conclusion

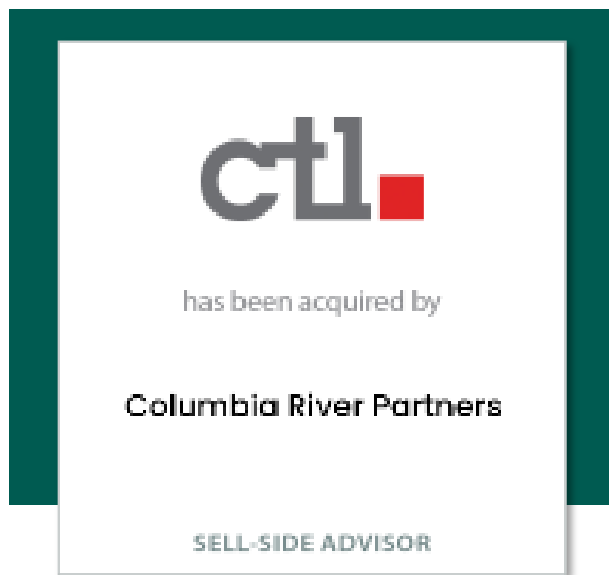
The Company's unique wireless services platform and leadership position in both distribution and cable termination, diversified customer base across all major U.S. and Canadian wireless carriers, and broad and experienced management team with deep relations in the industry made Alliance an attractive platform investment for Lee Equity and Twin Point Capital. Plans are in place to further accelerate growth, both organically and through strategic acquisitions, and expand the Company's leadership position in its core services and new adjacent services.

"We are incredibly thankful for the advice and expertise delivered by the D.A. Davidson technology investment banking team working on this transaction. Their industry knowledge in communications, transaction proficiency and ability to drive an efficient process delivered an outstanding outcome that has us confident about our next phase of growth."

– Ron Moss, President of Alliance Corporation



M&A Case Study: Computer Technology Link (CTL)



CLIENT DESCRIPTION

Provider of communications hardware and systems

DEAL TYPE

Sell-Side M&A

SECTOR

Communications Equipment and EdTech

Company Background

Founded in 1989, CTL is a leading provider of Google Chrome devices and other communications technology solutions and services to the education and business markets. The Company offers a comprehensive line of high quality, customer-driven computing devices, including laptop, tablet and mobile devices, desktop solutions, high performance monitors, video conferencing solutions, and server and storage solutions.

D.A. Davidson Role

D.A. Davidson served as exclusive financial advisor to CTL. The Company was owned by two shareholders consisting of CTL's founder and President. The founder was seeking liquidity for his stake in the company and, as a result, Davidson was hired to evaluate strategic options that would provide the best possible outcome for both the founder and the management team. The Davidson team leveraged its deep relationships with both strategic and financial parties and spent a significant amount of time working with the management team to best present the CTL story. As a result, Davidson was able to run an efficient process, guide the preferred buyer to a premium valuation, and structure a transaction that provided the desired liquidity for the Company's founder and a private equity partner for the management team.

Transaction Conclusion

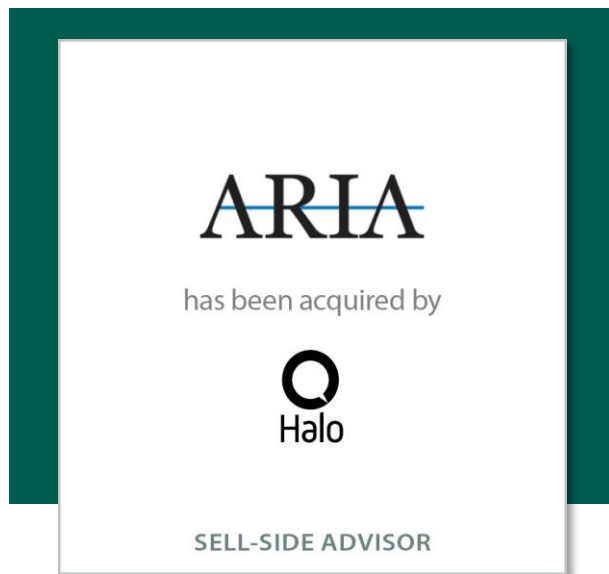
The founder and President were concerned with finding the right party that was optimal for the long-term viability of the business, while still maximizing value. Columbia River Partners brings significant relevant sector expertise and the additional growth capital necessary to continue to accelerate and execute on CTL's strategic growth opportunities, both domestically and internationally.

"D.A. Davidson's experience and transaction expertise were critical in allowing CTL's shareholders to realize an optimal outcome while also finding CTL a partner that provides the capital and expertise to help best position the company for continued growth."

– Erik Stromquist, President of CTL



M&A Case Study: Aria Technologies, Inc.



CLIENT DESCRIPTION

Designer and manufacturer of fiber optic connectivity solutions

DEAL TYPE

Sell-Side M&A

SECTOR

Communications Equipment and Networking

Company Background

Aria Technologies is an industry leading designer, manufacturer, and provider of fiber optic connectivity solutions located in the San Francisco Bay Area. The Company specializes in fiber optic assemblies, patch panels and other fiber optic and copper-based network components as well as in-house custom engineering, design, and fabrication services. Aria Technologies' dedication to customer satisfaction has made the company a trusted partner to 270+ customers, including Fortune 500 companies and some of the world's most recognized and demanding cable TV, telecommunications, and data center providers.

D.A. Davidson Role

D.A. Davidson served as exclusive financial advisor to Aria Technologies. Davidson worked closely with Aria Technologies' management team to conduct a targeted M&A process that provided the Company with competitive interest from financial and strategic acquirers, resulting in multiple pre-emptive bids and an accelerated close for the founders.

Transaction Conclusion

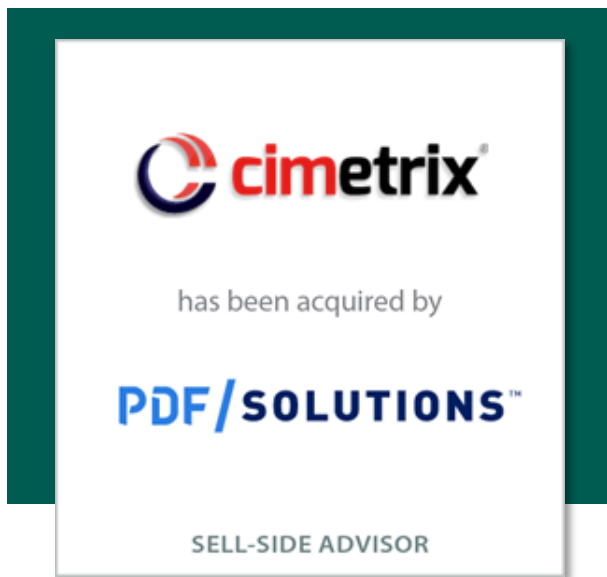
The combination of Aria's design capabilities coupled with their pre-assembled and tested enterprise-class optical components strengthen Halo's product offering allowing them to meet the optical solution needs of any customer across the globe.

"The D.A. Davidson technology investment banking team was invaluable in the outcome of this transaction. The team's industry expertise and transaction execution capabilities enabled the shareholders to realize the optimal outcome while also best positioning Aria Technologies for future growth."

– Joe McGuinness, President of Aria Technologies



M&A Case Study: Cimatrix, Inc.



CLIENT DESCRIPTION

Provider of smart factory connectivity software solutions

DEAL TYPE

Sell-Side M&A

SECTOR

IIoT Software & Communications

Company Background

Cimatrix is a leading global provider of equipment connectivity software solutions for smart manufacturing, Industrial IoT and Industry 4.0, with products and platforms that connect factory equipment to increase productivity, reduce costs, and improve quality. The company's software solutions are used by equipment manufacturers around the world, providing factory automation connectivity for multiple equipment types. Headquartered in Salt Lake City, Utah, Cimatrix has offices worldwide in China, Germany, Japan, Korea and Taiwan.

D.A. Davidson Role

D.A. Davidson served as exclusive financial advisor to Cimatrix. Davidson worked closely with Cimatrix's management to conduct a targeted M&A process that provided the Company with competitive interest from multiple acquirers, resulting in a merger with PDF solutions, a leading provider of advanced analytics solutions and differentiated data for semiconductor and electronics manufacturing.

Transaction Conclusion

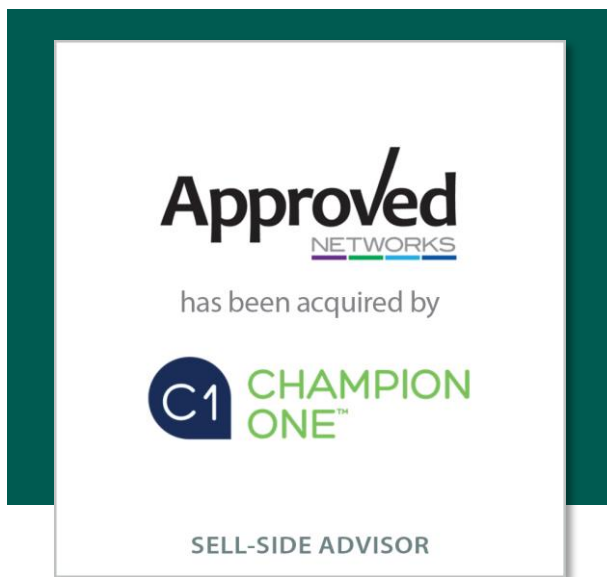
The combination of Cimatrix connectivity products and platforms with PDF Solutions Exensio® analytics platform, enables semiconductor and electronics manufacturers to extract more intelligence, not just data, from their factory floor, and as a result, build more reliable ICs and systems at lower manufacturing costs. As a combined entity the Company is able to deliver the highest level of tool and manufacturing intelligence from the factory floor to enable customers to realize the benefits of Industry 4.0.

"The D.A. Davidson team was invaluable in this process, providing the transaction expertise and industry knowledge necessary to achieve an optimal outcome for Cimatrix and its shareholders. We are excited to move forward as the Cimatrix Connectivity Group within PDF Solutions to continue serving our customers by providing innovative connectivity and smart manufacturing software products, platforms, and solutions."

– Bob Reback, CEO of Cimatrix



M&A Case Study: Approved Networks, Inc.



CLIENT DESCRIPTION

Provider of networking equipment and cable solutions

DEAL TYPE

Sell-Side M&A

SECTOR

Communications Equipment and Networking

Company Background

Based in Lake Forest, California, and founded in 2009, Approved Networks is a leading provider of optical networking solutions for the smart data center. Approved Networks has created one of the most comprehensive and innovative testing facilities in the U.S. and boasts relationships with 3,000+ clients in 30+ countries, including Fortune 500 companies and many of the largest data centers, telecommunications companies, and enterprises across the globe. Approved's stellar industry reputation for high-quality products and services augmented by its consistent innovation has allowed it to deliver first-to-market compatibility solutions in the most rigorous optical networking environments for over a decade.

D.A. Davidson Role

D.A. Davidson served as exclusive financial advisor to Approved Networks. Davidson worked closely with Approved Network's management to conduct a targeted M&A process that provided management with competitive interest from a select group of acquirers, resulting in a premium valuation for shareholders.

Transaction Conclusion

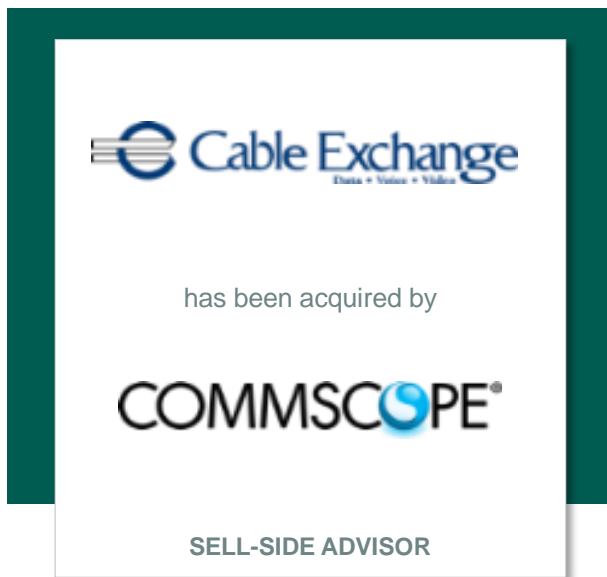
The combination of Approved Networks and Champion ONE has created one of the most comprehensive designers, marketers, and providers of carrier grade optical transceivers and related mission critical components to telecommunications, cable, data center, and enterprise customers in North America and International markets.

"We are incredibly thankful for the advice and expertise delivered by the D.A. Davidson technology investment banking team working on this transaction. Their buyer knowledge, transaction proficiency, and ability to drive an efficient process delivered an impressive outcome that has us excited about our next phase of growth."

– Kurt Dunteman, CEO of Approved Networks



M&A Case Study: Cable Exchange, Inc.



CLIENT DESCRIPTION

Manufacturer of fiber optic and copper cables, trunks and related products for enterprise applications.

DEAL TYPE

Sell-Side M&A

SECTOR

Communications Equipment and Networking

Company Background

Based in Santa Ana, California, Cable Exchange manufactures a variety of fiber optic and copper cables, trunks and related products used in high-capacity data centers and other business enterprise applications. The company, founded in 1986, specializes in quick-turn delivery of its infrastructure products to customers from its two U.S. manufacturing centers located in Santa Ana, CA, and Pineville, N.C.

D.A. Davidson Role

D.A. Davidson served as exclusive financial advisor to Cable Exchange. Having scaled the business to a leadership position in its niche, the Company's founders hired D.A. Davidson to sell Cable Exchange to a buyer that would retain the existing team and be able to execute on its strategic growth initiatives. D.A. Davidson presented Cable Exchange as a technology leader, providing quick-turn capabilities that were unheard of in the industry but were quickly becoming the standard for hyper-converged data center customers. Having received significant interest from several strategic parties, Davidson ran a targeted process focused on several strategic and highly relevant financial parties.

Transaction Conclusion

Despite concerns around cyclicality and customer concentration, Davidson was able to solicit multiple bids and drive the preferred buyer to a premium valuation, all in less than 90 days from initial outreach to completion of the transaction. With the acquisition, CommScope is now able to add quick-turn capabilities to its high-growth data center business.

"D.A. Davidson played a critical role in helping us realize this partnership with CommScope. The team's expertise and capabilities allowed us to efficiently come to an agreement while maintaining our focus on serving our customers."

– Dan Bowlin, CFO of Cable Exchange



Trends in Cloud Infrastructure and Communications

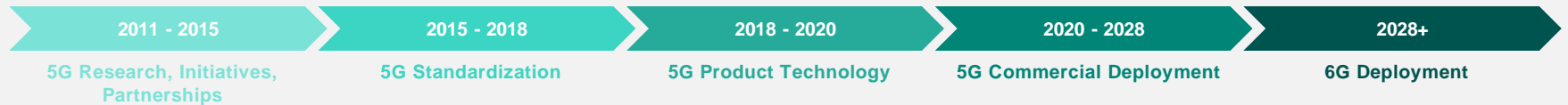


Key Trends in the Cloud Infrastructure and Communications Industry in 2021

5G CONNECTIVITY IS POISED TO EXPAND FOLLOWING AMERICA'S LARGEST EVER SPECTRUM AUCTION

- The FCC kicked off its auction of C-Band spectrum (Auction 107) on December 8, 2020, in the first big auction of valuable, unencumbered mid-band spectrum licenses in the US. The C-Band auction raised a historic \$81 billion, indicating the tremendous value carriers see in the next generation 5G network. Worldwide 5G connections are projected to grow by 101x to \$1.0 billion in 2023, driven by rapidly rising global data needs. ^(1,2,3)
- Spectrum spend is expected to accelerate the 5G build-out as carriers are highly motivated to build quickly or lose their spectrum licenses, as well as customers. These licenses are especially valuable to 5G network operators, as available mid-band frequencies are a key component to deploying 5G wireless networks.
- Auction 107 was easily the largest-ever spectrum auction, far exceeding the record for gross bid proceeds of \$45 billion raised in 2015 by the AWS-3 spectrum auction. Canada hosted a similar auction in July 2021 boasting 3500 MHz spectrum, which generated a record \$7.2 billion. ⁽⁴⁾
- In January 2022, AT&T led bidders in a Federal Communications Commission (FCC) 5G spectrum auction of 3.45 GHz band spectrum, generating proceeds of \$22.5 billion. ⁽⁵⁾

5G Rollout Roadmap by Year



CLOUD SPENDING AND USAGE IS BOOMING

- Cloud infrastructure spending is expected to grow 12% to \$74.3 billion for 2021. In Q2 2021 alone, service providers spent \$17.1 billion on compute and storage infrastructure, up 13.6% from Q1 2021. ⁽⁶⁾
- Accelerated cloud adoption is dependent on a fast and reliable communications network, whether it is in the data center, fiber to the home, edge networking, 5G or elsewhere. ^(7,8)
- COVID-19 has accelerated the long-term shift to the cloud, as 92% of enterprises now employ a multi-cloud strategy, while 80% employ a hybrid cloud strategy. The mass migration to a remote, digital-first society has directly driven increased cloud demand, as worldwide end-user spending on public cloud services is forecasted to grow 23% in 2021 to total \$332 billion, up from \$270 billion in 2020. ⁽⁹⁾

GOV. STIMULUS IS DRIVING BROADBAND INFRASTRUCTURE DEVELOPMENT

- The United States and Canadian governments have proposed/allocated an approximate combined \$275 billion between both the federal and state level in potential funding for broadband infrastructure.
- Currently, over 21 million Americans lack broadband access, and the government is focused on reducing the digital divide by providing internet access to these underserved populations. ^(1,10)
- The United States government is prepared to spend tens of billions of dollars in order to bridge this digital divide. The total amount needed in order to achieve universal broadband in the United States is estimated to be ~\$80 billion, of which \$20.4 billion has already been allocated through Rural Digital Opportunity Fund.
- Virtually every city in the U.S. and Canada has enacted local ordinances and building codes making in-building wireless mandatory for first responders.



Rising Global Data Volume Needs

The global datasphere is projected to triple in growth by 2025 as enterprises and consumers become more dependent on it in business and personal applications



5G Tailwinds

Over the course of the next 5-7 years, carriers in North America are projected to spend over \$250 billion on wireless, not including spectrum spend



IoT Device Explosion

5 billion connections will be related to IoT by 2025, driven by massive end market expansion. Investor interest is evident as IoT VC exit activity reached historic levels in 2020



Public Safety DAS

New government regulations requiring wireless connectivity in all buildings for emergency responders will propel the public safety DAS market to grow 9x by 2027

(1) Federal Communications Commission (March 2020)

(2) Gartner, 'Gartner Forecasts Worldwide Public Cloud End-User Spending to Grow 23% in 2021' (April 2021)

(3) Barron's 'Telecom Companies Just Spent \$81 Billion on 5G Spectrum' (February 2021)

(4) Reuter's 'Canada's spectrum auction raises record \$7.2 bln as firms gear for high-speed internet' (July 2021)

(5) Reuter's 'AT&T leads bidders in \$22.5 billion U.S. spectrum auction' (January 2022)

(6) IDC, 'Cloud Infrastructure Spending' (March 2020)

(7) Markets and Markets, 'Artificial Intelligence (AI) Market worth \$309.6 billion by 2026' (May 2021)

(8) Bond Capital, 'Our New World 2020' (April 2020)

(9) Gartner, 'Gartner Forecasts Worldwide 5G Network Infra. Rev. to Reach \$4.2 Billion in 2020' (August 2020)

(10) Microsoft



Data Volume and Global Connectivity are Driving the Proliferation of Cloud Services

ACCELERATING CLOUD GROWTH & RATE OF ADOPTION...

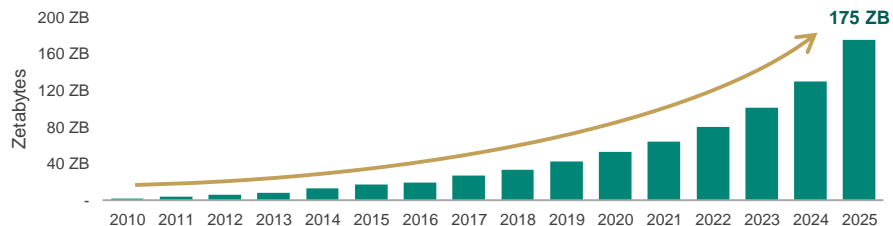
- Cloud services is one of the most dramatic emerging technologies of the past decade and remains the main driver of change in enterprise technology stacks, from SaaS to Infrastructure as a Service (IaaS), Platform as a Service (PaaS), Communications Platform as a Service (CPaaS), Unified Communications as a Service (UCaaS), Video Conferencing as a Service (VCaaS) and more, hosted in public and private datacenters. ⁽¹⁾
- A shift in the top PaaS services used by organizations in 2021, favoring data warehousing, relational Database as a Service (DBaaS) and Container as a Service (CaaS), is driven by growing interest in leveraging containers to speed deployment, scale operations, and increase cloud-run workload efficiency. ⁽²⁾

...SUPPORTED BY INCREASED INVESTMENT & INTERNET SPEED

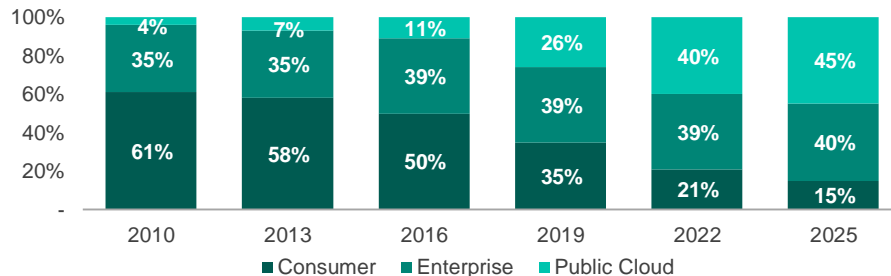
- Rising global internet usage has enabled growth and innovation in cloud-based platforms, including greater access to fast wireless and broadband communications infrastructure, emerging 5G technology, smartphone proliferation, video on demand, VoIP, and digital media.
- Major technology and cloud service providers have reacted by investing in hyperscale datacenters, used by organizations managing massive levels of data generated by VR, big data, social media, analytics and data gathered by IoT devices. Hyperscale data centers have experienced a straight line trajectory, with an average of 16 new data centers emerging per quarter over the last three years. By the end of 2021, there were more than 700 hyperscale data centers. ⁽³⁾
- The growing importance of cloud services and corresponding infrastructure is driven by an explosive expansion in data that companies want to manage, analyze and draw conclusions from. Cloud services are being adopted at a rapid rate and are already a massive market, projected to grow 18% in 2021. ⁽⁴⁾ Furthermore, by 2024, public and private cloud deployment will account for nearly 65% of worldwide IT infrastructure spending. ⁽⁵⁾

CLOUD DOMINATES IN AN INCREASINGLY DATA-DRIVEN WORLD

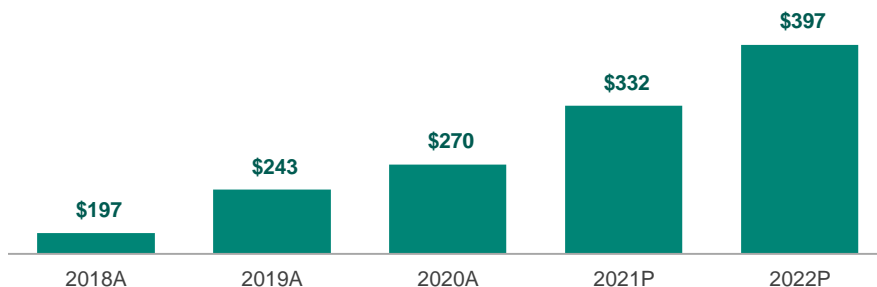
Global Datasphere: New Data Captured / Created / Replicated ^(6,7)



Data Stored by Manager ^(6,7)



Worldwide Public Cloud Service Revenue Forecast, per Gartner (Billions of U.S. Dollars) ⁽⁴⁾



(1) Calero, 'Top 5 Emerging Trends Impacting Communications Technology for 2019' (December 2018)

(2) Gartner, '2021 State of the Cloud Report' (March 2021)

(3) Statista Estimates, 'Number of hyperscale data centers worldwide from 2015 to 2021'; Synergy Research Group (9/13/2021)

(4) Gartner, 'Gartner Forecasts Worldwide Public Cloud Revenue to Grow 18% in 2021' (November 2020)

(5) IDC; Statista Estimates, 'IT Infrastructure Spending Forecast by Type' (7/30/2021)

(6) Bond Capital, Mary Meeker 'Internet Trends 2019' (5/11/2019)

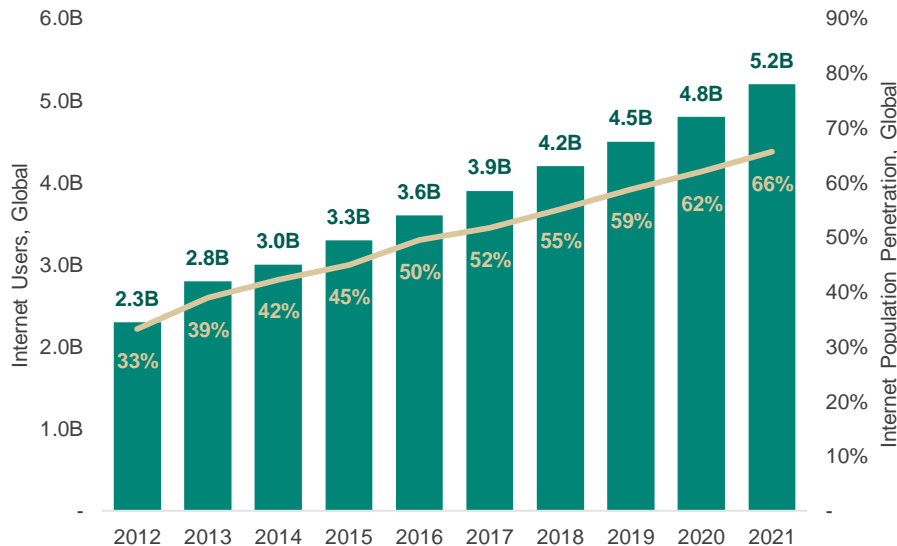
(7) IDC, 'Digitization of the World From Edge to Core White Paper' developed in collaboration with Seagate (1/1/18). Note: Consumer refers to devices owned by end users; Note: 2018 = last full year before release of report. 2019-2025 are estimated from current trends



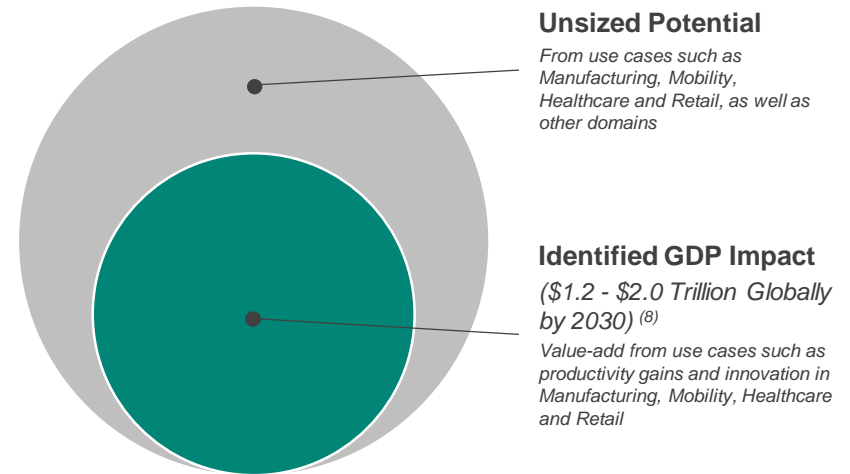
5G Rollout is Poised to Supercharge Network Speeds and Data Usage

- 5G is the fifth generation of cellular mobile communications and represents a fundamental shift in communication network architectures, promising lower latency, higher bandwidth and much greater speeds relative to its predecessors. Major players in the transformation to 5G include telecommunications services providers, transmission equipment makers, antenna manufacturers, and data center infrastructure providers. ⁽¹⁾
- 5G is driving a number of new connected services that were not previously possible, or harder to accomplish at scale with 4G. Core 5G use cases include enhanced mobile broadband, mission-critical communications, and massive IoT, although increasingly relevant use cases include self-driving automobiles, virtual reality and augmented reality, edge computing acceleration, smart factory 4.0, smart cities and buildings, and energy preservation applications.
- 5G must be deployed across network infrastructure at every stage, and billions of dollars of capex will be needed. While 5G could take years to achieve ubiquity, it is already a massive market with strong momentum and is becoming increasingly deployed.
 - The worldwide 5G market size is projected to reach \$720 billion by 2030, primarily comprised of mobile services, fixed wireless services, and narrow-band IoT. Specifically, 5G contribution to United States GDP by 2030 is expected to eclipse \$484B, doubling the economic gain accruing to the next closest country. ^(2,3)
 - 5G commercial rollouts accelerated in the past year despite disruptions due to the COVID-19 pandemic, reaching 158 local operators with active networks in 67 markets worldwide as of April 2021. ⁽⁴⁾
 - Worldwide 5G connections are projected to grow at a CAGR of 216% from roughly 10.0 million in 2019 to 1.0 billion in 2023. ⁽³⁾
 - Wireless capital expenditures for major carriers such as T-Mobile, AT&T, Verizon and Dish are projected to begin ramping up significantly over the next 5 years with these carriers expected to spend 41% more a year on average in capex through 2025, in comparison to annual capex spending in years 2018-2020. ⁽⁵⁾

5G IS POISED TO SUPPORT A MASSIVE AND GROWING WORLD OF INTERNET USERS ⁽⁶⁾



SPECIFIC 5G APPLICATIONS CAN UNLOCK TRILLIONS IN GLOBAL VALUE ⁽⁷⁾



⁽¹⁾ Qualcomm, 'Everything you need to know about 5G'

⁽²⁾ IDTechEx, '5G Technology, Market and Forecasts 2020-2030' (1/12/2021)

⁽³⁾ Gartner, 'Gartner Forecasts Worldwide 5G Network Infra. Rev. to Reach \$4.2 Billion in 2020' (8/22/2020)

⁽⁴⁾ S&P Global Market Intelligence (May 2021)

⁽⁵⁾ Credit Suisse, 'American Tower – 1Q Preview – Pos. Well for C-Band Act...' (April 2021)

⁽⁶⁾ Internet Growth Statistics, Internet World Stats (March 2021)

⁽⁷⁾ McKinsey Global Institute, 'Connected World'; Segment of distinctive B2B use cases



Fiscal Stimulus is Supporting the Development of Broadband Infrastructure

BRIDGING A DIGITAL DIVIDE

Meeting Needs of Underserved Communities

- Prior to the COVID-19 pandemic, states and carriers began organizing to facilitate broadband access for underserved areas of the United States. Currently, more than 21 million Americans lack any broadband access and over 162 million lack high-speed internet access. ^(1,2)
- Communities without reliable high-speed internet service lack the same opportunities existing in neighborhoods with a more robust network. Oftentimes, wireless is the preferred method used to connect underserved communities.
- The government is prepared to spend a significant amount of dollars in order to bridge this digital divide. In November 2021, President Joe Biden signed a \$1.2 trillion infrastructure bill (Infrastructure Investment and Jobs Act) that includes \$65 billion for broadband, expanding internet access to more Americans in efforts to close the digital divide.

RAPIDLY GROWING MARKET FOR PUBLIC SAFETY IN-BUILDING DAS

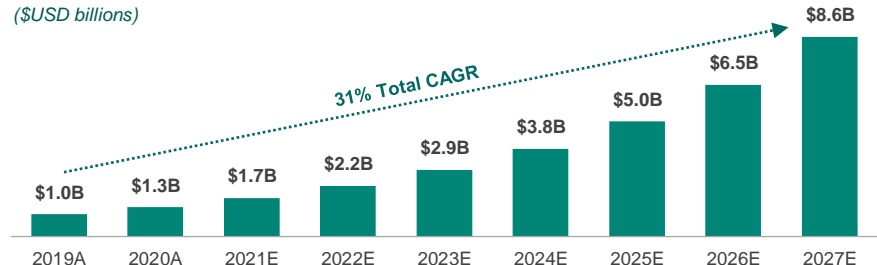
Public Safety Distributed Antenna Systems (DAS)

- Virtually every city in the U.S. and Canada has enacted local ordinances and building codes making in-building coverage for first responders mandatory.
- These government regulations to enable first responder communications are driving the demand for public safety DAS products and are often required prior to receiving an occupancy permit. As a result, the global market for public safety in-building DAS is expected to grow at 31% CAGR through 2027.
- The public safety DAS market includes FirstNet, an entirely new network focused on first responders that began deployment in 2018 with AT&T. The network is federally mandated and its purpose is to create a nationwide blanket of coverage for first responders.

TOTAL FEDERAL STIMULUS

Rural Digital Opportunity Fund (RDOF) ⁽³⁾	<ul style="list-style-type: none"> • \$20.4B 10-year fund established by the FCC in January 2020 to bring reliable and affordable high speed fixed broadband service to rural areas ⁽⁴⁾ • In the Phase I auction (Auction 904), 180 bidders won \$9.2 billion to provide broadband to 5.2M locations. As of December 2021, \$2.7 billion has been approved
Consolidated Appropriations Act, 2021 (CAA) ⁽⁵⁾	<ul style="list-style-type: none"> • \$7.2B allocated for broadband projects to support broadband access for students, families and unemployed workers • Broadband provisions focused on building out network infrastructure in underserved communities with significant "rip and replace" efforts
Connect America Fund (CAF) ⁽⁶⁾	<ul style="list-style-type: none"> • \$1.5B awarded in November 2020 for Rural Broadband under phase 2 to support 2021 network construction • A majority of companies accepting CAF Phase II support have six years to plan and deploy broadband to consumers
Additional Federal Broadband Funding	<ul style="list-style-type: none"> • \$1.9T American Rescue Plan Act of 2021 establishes \$10B Capital Project Fund to carry out critical capital projects ⁽⁷⁾ • CARES Act included \$150B to cover expansion of connectivity ⁽⁸⁾ • \$1.2T Infrastructure Investment and Jobs Act signed in November 2021 includes \$65 billion for broadband, expanding internet access to more Americans ⁽⁹⁾

GLOBAL PUBLIC SAFETY IN-BUILDING WIRELESS DAS MARKET SIZE ⁽¹⁰⁾
(USD billions)



(1) Federal Communications Commission

(2) Microsoft

(3) Federal Communications Commission (1/29/2021)

(4) Fierce Telecom 'FCC unleashes \$1.04B in RDOF funding but big bidders still waiting' (12/17/2021)

(5) National Conference of State Legislatures (1/1/2021)

(6) Universal Service Administration Co. 'CAF Phase II'

(7) National Conference of State Legislatures (3/1/2021)

(8) Next infrastructure bill aims to end 'digital divide' (3/16/2021)

(9) CNET, 'Digital divide fix gets a boost as Biden signs \$1.2 trillion infrastructure bill' (10/14/2021)

(10) Verified Market Research



Emerging Applications in Private Networking

IMPLEMENTATION OF PRIVATE BROADBAND SYSTEMS IN THE U.S.

- Rather than relying on public networks, organizations have begun deploying private networks to provide wireless broadband connectivity while maintaining control of the system. This grants organizations access to the benefits of on-premise traffic, including improved speed, latency, security, and privacy.
- The private LTE market globally is projected to grow from \$4.0B in 2020 to \$7.5B by 2025, representing a CAGR of 13.4%. Some key drivers shaping market outlook are the availability of unlicensed spectrums, growing demand in industrial and commercial IoT, and mobile robotics and machine learning. ⁽¹⁾
- Cellular in-building DAS systems are becoming a critical part of both carrier cellular networks and enterprise infrastructure, and the market is expected to grow at a 13% CAGR through 2025. ⁽²⁾
- DAS provides a high capacity network within locations that would typically overload a local network (stadiums, airports, colleges, music venues, etc.) or would normally not allow for usable signals to reach users (high-rise buildings, concrete-walled structures, etc.). Because so many new builds utilize materials that block RF signals, internal DAS systems will play an integral role in delivering uninterrupted coverage.

PRIVATE NETWORKS HELP COMPANIES GO GREEN

- Private wireless networks are helping companies conserve energy and reduce their carbon footprint by using cellular networks to monitor HVAC equipment, giving them more control over power consumption. Some companies report that their networks can produce a 25% decrease in energy consumption and 75% decrease in wastewater. ⁽³⁾
- At the end of 2020, on average almost 80% of organizations worldwide either have or are developing an ESG plan, according to a report published by HSBC. ⁽⁴⁾ As CEOs around the world commit to reducing emissions, private broadband could play an important role in supporting those objectives, especially in conjunction with data analytics technologies like edge computing.
- Further bolstering this trend is the FCC's 2020 ruling granting U.S. utilities access to more of the spectrum available for private wireless broadband. The change will allow utilities to develop LTE networks to perform real-time monitoring and active control of their energy distribution systems, per Pixabay. ⁽⁵⁾ The Wireless Telecommunications Bureau started accepting applications for the 900MHz segment in FQ2 2021, so the benefits of the change have yet to be fully realized.

DISRUPTIVE POTENTIAL OF PRIVATE BROADBAND ACROSS A VARIETY OF SECTORS ⁽⁶⁾



Healthcare

The use cases of private networks in healthcare are endless. Expansive sites like hospitals can benefit from broader area coverage, increased speed and reliability, as well as improved security to protect sensitive patient information.



Agriculture

Farmers using real-time IoT devices delivered over private networking systems can expect to see remarkable increases in profitability. These benefits are derived primarily through the cost reductions and efficiency boosts associated with these IoT products.



Mining

The benefits of private broadband in mining operations are two-fold. First, mining relies on large amounts of data, which is more efficiently handled over a private network. Second, mining sites occupy large, often rural areas, which limits high-speed coverage using public broadband.



Transportation

Private networking would limit interference in high-traffic areas like airports and train stations. Private networks would also support the growing demand for high-speed data transfer necessary for advanced fleet monitoring and logistics.



Education

Schools turned to private networks to better serve rural students during the pandemic. While many schools have reinstated pre-pandemic norms, they will still benefit from the ease of deployment, reliability, and cost-effectiveness of private broadband.

(1) Research and Markets, 'Private LTE Industry to be Worth \$7.5 Billion by 2025 – Global Market Growth, Trends and Opportunity Analysis' (9/2/2020)

(2) Mordor Intelligence, 'In-Building Wireless Market – Growth, Trends, Covid-19, Impact and Forecasts'

(3) Fierce Wireless, 'Private Networks Help Companies Go Green' (7/9/2021)

(4) HSBC, 'Global ESG Policy Adoption 2020, by Organization Type' (Oct 2020)

(5) Fierce Wireless, 'Private Networks to get a Boost from FCC Ruling on 900 MHz Band' (8/14/2020)

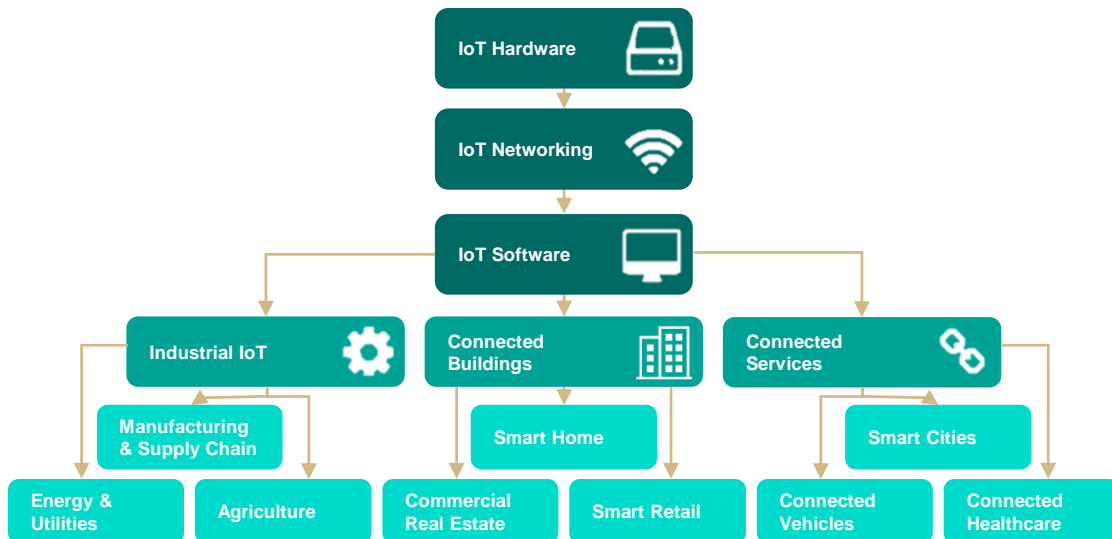
(6) Blinq Networks, 'How Private LTE and CBRS will Revolutionize These 5 Sectors in 2021 and Beyond' (Dec 2020)



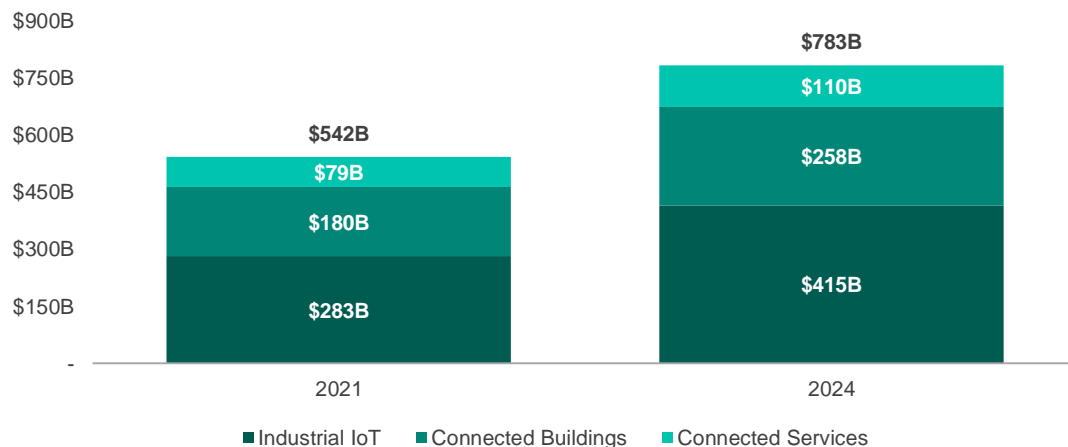
IoT is Fueling Innovation Across the Data and Communications Landscape

- The Internet of Things (IoT) is a network of assets containing embedded technology to communicate, sense and interact with their internal states or external environment.
- IoT is a major enabling technology for radical digital change in many core industries; some examples include:
 - Machine connectivity and factory automation in manufacturing
 - Smart city connectivity (parking meters, traffic lights, etc.)
 - Physical security and surveillance in the smart home
 - Preventive patient monitoring in healthcare
- Actionable and real-time data being collected by interconnected IoT devices provides the potential to transform the above industries via increased analytical decision making.
- End market expansion is driving the global IoT market as its projected to grow from \$381.3 billion in 2021 to \$1.9 trillion in 2028 (CAGR of 25.4%).⁽¹⁾
- IoT is developing into a more mature market with attractive growth opportunities and several factors driving its growth:
 - The spread of mobile devices with advanced sensors has dramatically enhanced data collection and transmission efficiencies.
 - Powerful analytical tools including AI & ML are bolstering the value of IoT data through predictive inferencing.
 - Increasing speed of connectivity driven by expanding cloud infrastructure, edge computing and the continuous deployment (expanding reach) of 5G networks is making it easier to integrate IoT devices.
- VC activity has been propelling the IoT market, with IoT companies raising \$11.1 billion in VC capital across 982 deals in 2020, a 42%+ increase in deal value relative to 2019.⁽²⁾

CURRENT STATE OF THE IoT VALUE CHAIN⁽²⁾



IoT MARKET BY SEGMENT, 2021-2024, WORLDWIDE (USD in Billions)⁽²⁾



(1) Fortune Business Insights 'Internet of Things Market' (May 2021)
 (2) Pitchbook 'Emerging Tech Research: Internet of Things (IoT) H2 2020' (Mar 2020)

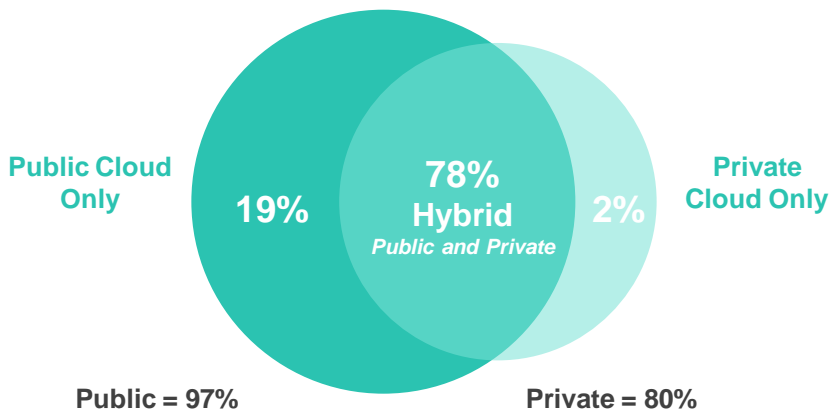


Enterprises are Embracing Cloud Hybridization Strategies

- Hybrid-cloud models are implemented when enterprises utilize both public and private cloud infrastructure to host data and workloads. Hybrid strategies allow organizations to realize the power of public cloud computing along with the security and control of a private network.
- Many more organizations are using hybrid cloud architecture to protect and control their data while still managing and analyzing it in a public cloud environment, alleviating some security concerns. 42% of enterprises with a hybrid cloud strategy are leveraging multi-cloud management tools, up 9% YoY with survey respondents already running applications across an average of 5.3 clouds, in addition to experimenting with an additional average of 3.3 clouds. ⁽¹⁾
- The most common multi-cloud enterprise approach is a mix of multiple public and private clouds, providing a superior option to address the rapidly evolving cloud usage needs presented by the COVID-19 pandemic's impact on business. ⁽¹⁾
- Hybrid cloud strategy goes hand in hand with other core trends in enterprise networking:
 - Software Defined Networking:** Software-defined data center technologies are becoming more widespread and allow server virtualization and containerization into software form, enabling multiple users to install and manage their own services on the same physical server.
 - Co-Location:** A colocation data center is a physical facility that offers space with the proper power, cooling and security to host businesses' computing hardware and servers. This allows businesses to centralize their IT operations and create an efficient architecture that can reduce costs.
 - Edge Computing and AI:** By 2022, 60% of companies will rely on colocation partners to provide most of the connectivity services and power-optimized facilities designed to improve performance for edge-based AI investments. ⁽²⁾

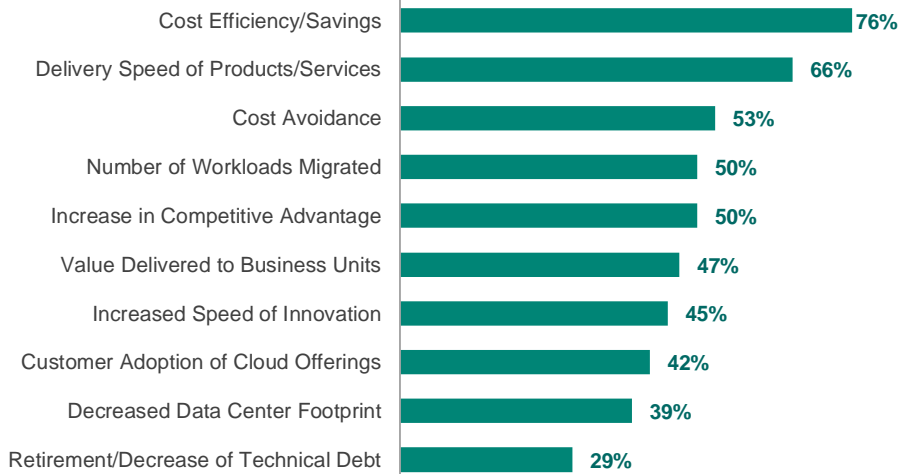
MULTI-CLOUD IS THE PREFERRED STRATEGY AMONG ENTERPRISES ⁽¹⁾

Breakdown of Types Clouds Used for all Organizations, % of all Respondents



#1 ENTERPRISE PRIORITY IS EXISTING USE OF CLOUD OPTIMIZATION ⁽¹⁾

Top Cloud Priority for Enterprises Surveyed



⁽¹⁾ Flexera, '2021 State of the Cloud Survey' (March 2021)

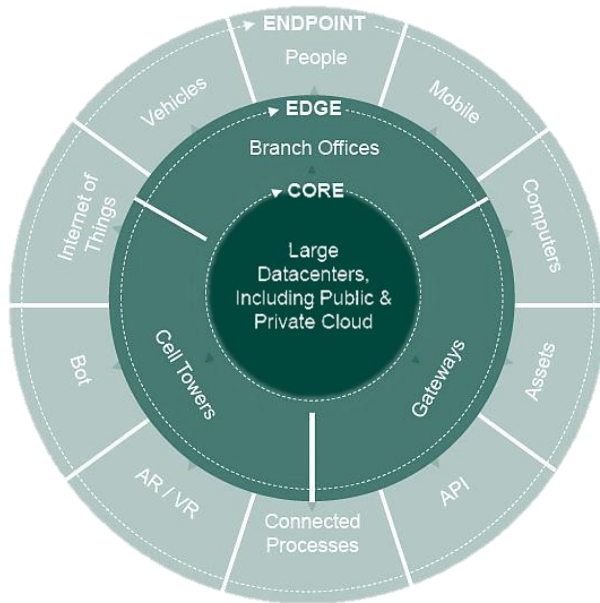
⁽²⁾ International Data Corporation, 'Worldwide Datacenter 2020 Predictions' (October 2019)



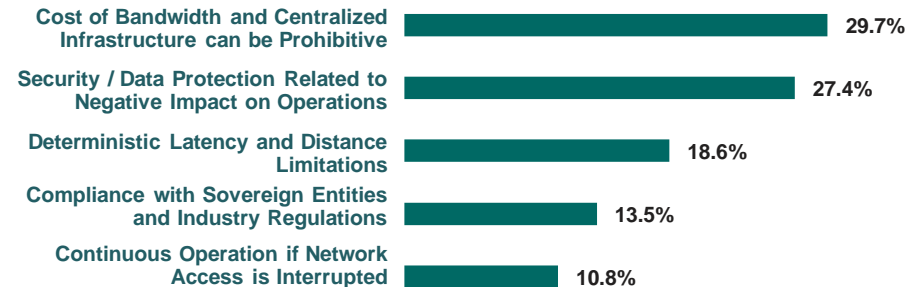
Cloud Computing is Moving to the Edge

- Edge Computing brings data and computations closer to the device, expanding the reach of core cloud networks and pushing key processing functions to the edge of the network, closer to where the data itself is gathered by endpoints such as PCs, phones, industrial sensors, connected cars, and wearables.
- The case for edge computing is rapidly increasing with 5G, AI/ML and IoT technologies converging to create the need for real-time computing on edge locations. Edge computing is faster, more scalable, and more reliable for critical IoT applications as opposed to traditional cloud computing which requires transferring data to a central server location that can be thousands of miles away.
- Edge computing enabling technologies are a major opportunity for emergent and existing IT stakeholders. IDC has identified over 150 use cases for edge computing, with the greatest investment dollars pouring into content delivery networks and virtual network functions. ⁽¹⁾
- Global edge computing spending is projected to reach \$274B by 2025, up from \$176B expected in 2022, representing a 15.9% CAGR over the period. This boom is primarily driven by the exponential growth in data creation, capture, copy, and consumption over the next several years as well as the demand for low-latency processing, data protection and computing capabilities at reduced cost. Among a plethora of other use cases, edge computing adoption will spark monumental improvements in global security by enabling edge-based threat detection, data minimizations, and decentralized infrastructure. ⁽²⁾

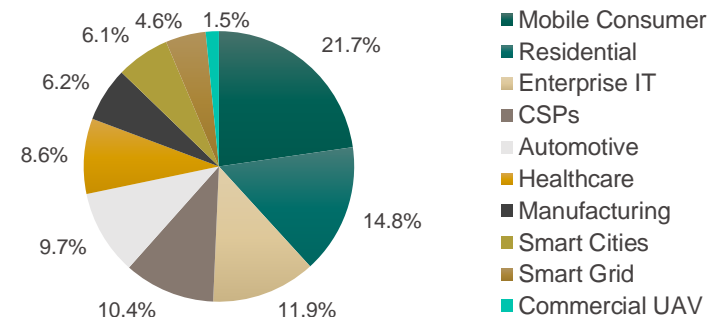
DATA PROPAGATION IS EXPANDING FROM ENDPOINTS TO CORE AND BACK ⁽³⁾



PRIMARY MOTIVATIONS DRIVING EDGE COMPUTING INVESTMENT ^(4,5)



BY 2028, THE GLOBAL INFRASTRUCTURE EDGE WILL SUPPORT 10 KEY APPLICATIONS ⁽⁴⁾



(1) IDC, 'Worldwide Edge Spending Guide (Jan 2022)

(2) ReportLinker, 'Edge Computing Market with COVID-19 Impact - Global Forecast to 2026' (Nov 2021)

(3) Bond Capital, Mary Meeker 'Internet Trends 2019' (May 2019)

(4) The Linux Foundation, 'State of the Edge 2021' (Mar 2021)

(5) IDC, 'Edge Computing Solutions Powering the Fourth Industrial Revolution' (Jan 2021)

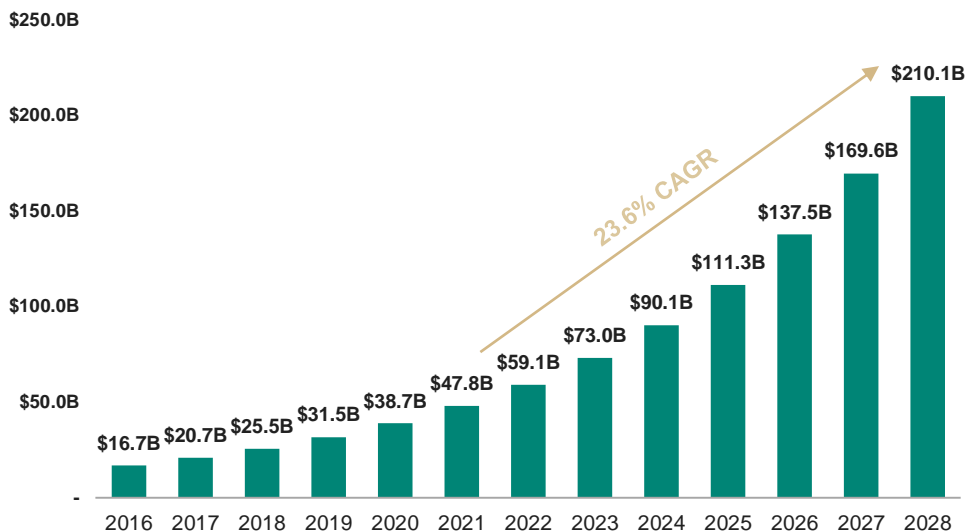


UCaaS is Seamlessly Connecting Workforces That Are More Widely Distributed Than Ever

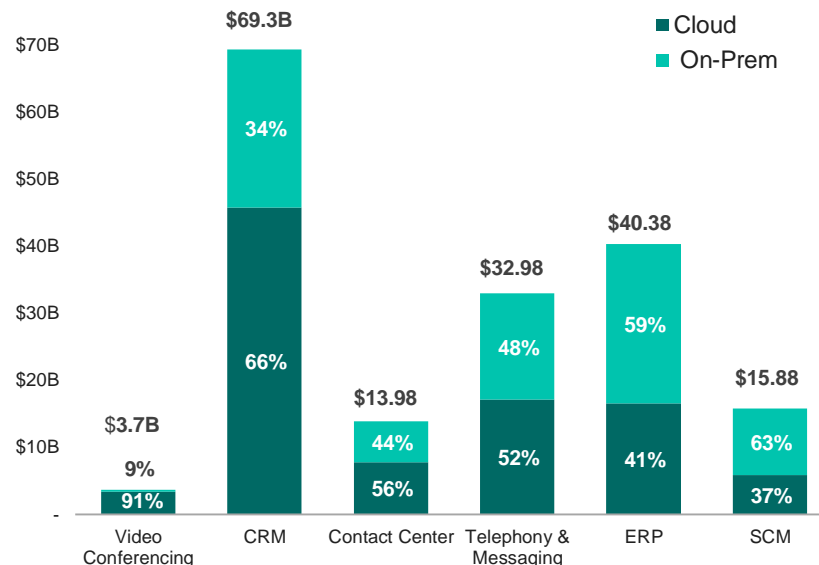
- Unified Communications as a Services (UCaaS) is the modern as-a-service model of the traditional unified communications concept, which includes critical business communication functions such as voice and telephony, video and audio conferencing, real-time messaging and presence.
- The traditional unified communications model requires businesses to acquire, install, manage and update onsite infrastructure to facilitate local and long-range business communication. UCaaS is alternatively hosted by a provider, making disruptive, leading edge communications technologies more accessible to businesses of all sizes by avoiding the initial expenses often associated with setting up an advanced communications strategy.
- Adoption of cloud-based UCaaS solutions remains in the low single digits, with the alternative solutions of on-premises accounting for an estimated 97% of the market. This is primarily attributable to the hurdles associated with transferring historically hardware-centric systems coupled with the security, availability, and cost concerns to enterprises. ⁽⁵⁾ COVID-19 served as a catalyst for cloud adoption, driving companies to allocate spend away from physical infrastructure and accelerating the shift towards hosted UCaaS solutions, enabling distributed workforces to seamlessly communicate in more flexible and agile ways.
 - Enterprise communications issues reportedly result in \$42.6 billion in lost productivity annually. ⁽¹⁾
 - Gartner reports that 82% and 70% of CFO respondents said they will increase investments in digital capabilities and information technology, respectively, in FY21, likely in partial response to the nearly 78% of surveyed employees that want to continue working from home in some capacity post COVID-19. ^(2,3)

THE LARGE UCaaS MARKET IS EXPERIENCING RAPID GROWTH ⁽⁴⁾

UCaaS Market Size (Billions of U.S. Dollars)



CY20 ENTERPRISE & COMMUNICATIONS SOFTWARE END-USER SPEND ⁽⁵⁾



(1) Provoke Media, 'The Cost Of Poor Communications' (2017)

(2) Gartner CFO Survey (April 2020)

(3) Statista Research Department, 'Share of employees that prefer to continue working from home permanently...' (July 2020)

(4) Grand View Research, 'Unified Communication As A Service Market Size, Share & Trends Analysis Report By Deployment (Public Cloud, Private Cloud), By Industry Vertical, By Region, And Segment Forecasts, 2021 - 2028' (March 2021)

(5) UBS Global Research, 'The Future of Communications as a Service' (5/26/2021)

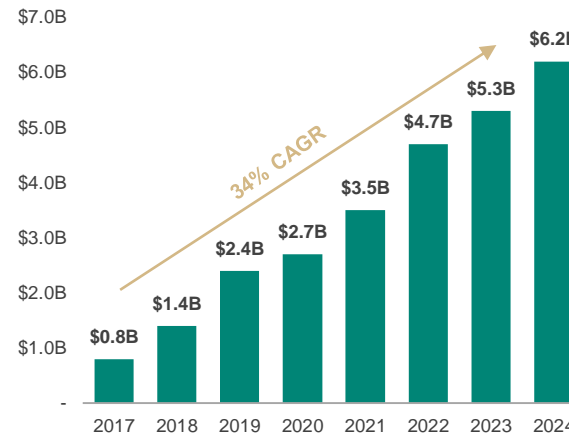


SD-WAN Bringing Principals of the Cloud to Network Management

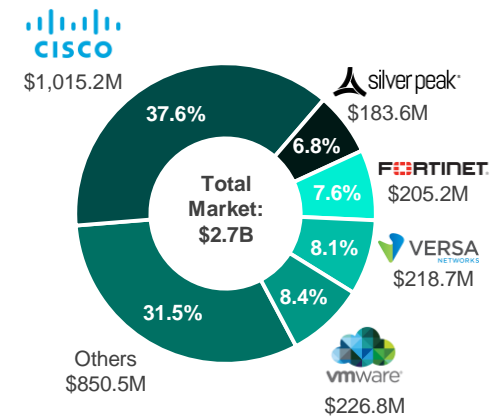
- SD-WAN (software-defined wide area network), is a software approach to managing wide area networks (WANs) to offer ease of deployment, central manageability, reduced costs, and improved connectivity to branch offices and the cloud. SD-WANs are programmatically configured and managed so they can effectively and affordably meet changing business needs.
- Enterprise adoption of SD-WAN technologies is rapidly accelerating to keep pace with the large shifts towards consumption of cloud-based applications “at the edge”.
 - An increased reliance on the cloud is driving increased WAN traffic, with global business WAN traffic expected to double by 2022 and reach 5.3 exabytes per month. ⁽¹⁾
 - SD-WAN traffic is expected to grow at a CAGR of 34% and grow five times its size while accounting for 29% of WAN traffic by 2022. ⁽²⁾
 - In a 2020 survey of enterprise IT leaders completed by Cato Networks, 40% of organizations globally are actively planning their SD-WAN deployment. ⁽³⁾
 - Many enterprise networking incumbents are attempting to gain a foothold or leadership position in the large and crowded SD-WAN market. As a result, there has been rapid vendor consolidation in the space with over 15 acquisitions in the past eight years by large strategic providers. While much of the market is still up for grabs, Cisco has strong leadership with nearly 40% of the worldwide SD-WAN market share.

SD-WAN MARKET IS LARGE & RAPIDLY EXPANDING, AMPLE MARKET SHARE REMAINS ⁽⁴⁾

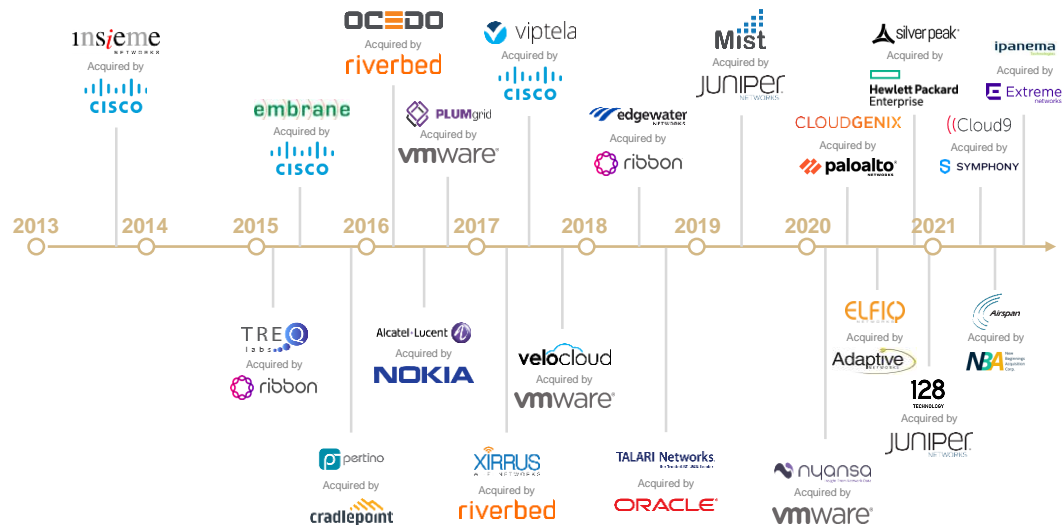
SD-WAN Market Size (Billions of U.S. Dollars)



SD-WAN Market Share as of 2020



ENTERPRISE NETWORKING INCUMBENTS ARE BUYING SHARE IN THE SD-WAN MARKET ⁽⁵⁾



(1) Cisco, 'VNI Forecast Highlights Tool' (2017)
 (2) Virtualization & Cloud Review, 'Cisco Forecasts Exploding SD-WAN Traffic' (11/28/2018)
 (3) Cato Networks, 'SD-WAN Deployment in Organizations Worldwide 2020, by Level' (Jan 2020)

(4) Evercore ISI; IDC, 'Telecom & Networking Equipment 2021 Primer – Secular Tailwinds Ahead' (5/21/2021)
 (5) S&P CapitalIQ; Pitchbook; 2020



Cloud Infrastructure and Communications Valuation Environment



Cloud Infrastructure and Communications Market Overview

Networking & Communications Equipment



Constituents: 26
Combined Market Cap: \$850B

Communications Technology Distributors



Constituents: 12
Combined Market Cap: \$69B

Diversified Communications



Constituents: 12
Combined Market Cap: \$963B

Networking Systems Software and Services



Constituents: 10
Combined Market Cap: \$256B

Core Cloud Infrastructure Technology



Constituents: 9
Combined Market Cap: \$90B

Data Center and Wireless Infrastructure



Constituents: 8
Combined Market Cap: \$410B

Unified Communications



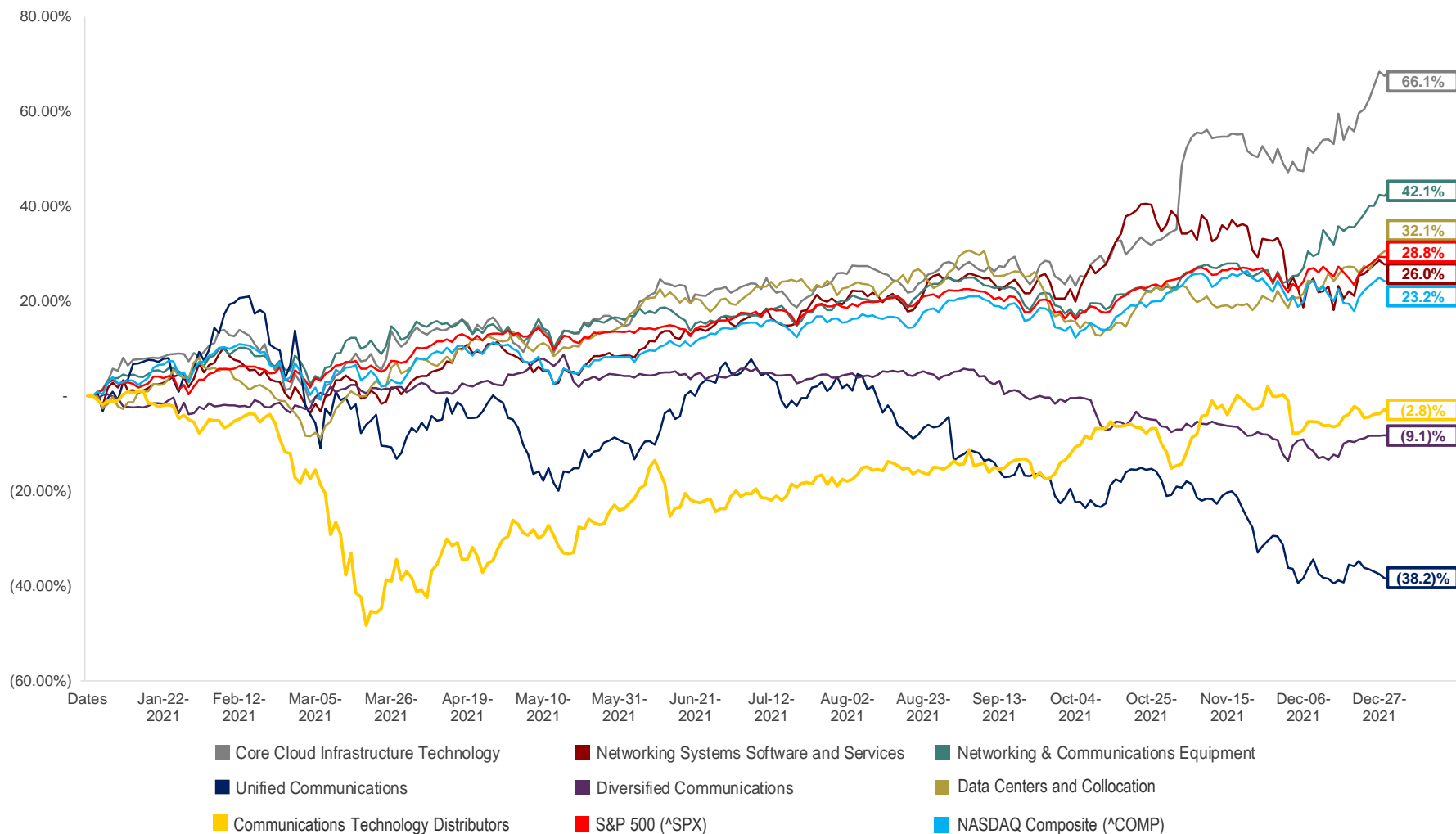
Constituents: 9
Combined Market Cap: \$143B



Cloud Infrastructure and Communications Public Market Performance in 2021

Cloud infrastructure and communications companies have continued to experience growth despite the COVID-19 pandemic fallout in 2020

RELATIVE INDEX PERFORMANCE ⁽¹⁾



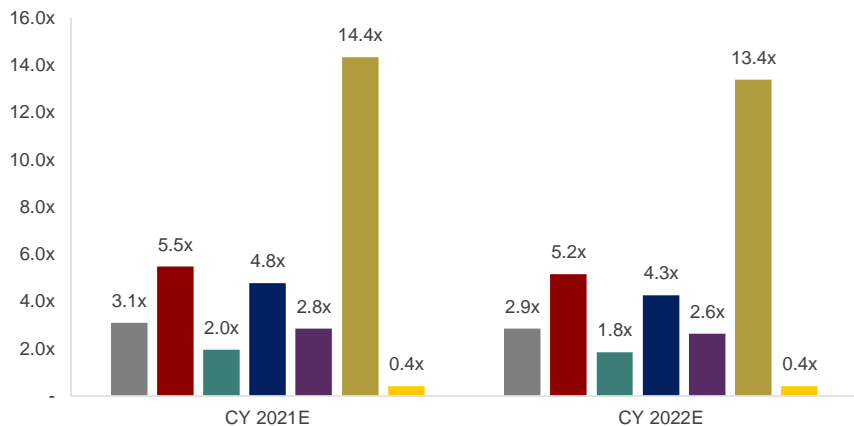
Source: S&P CapitalIQ as of close on 12/31/21

(1) Market value weighted index for each sector as noted in public trading comparables detail

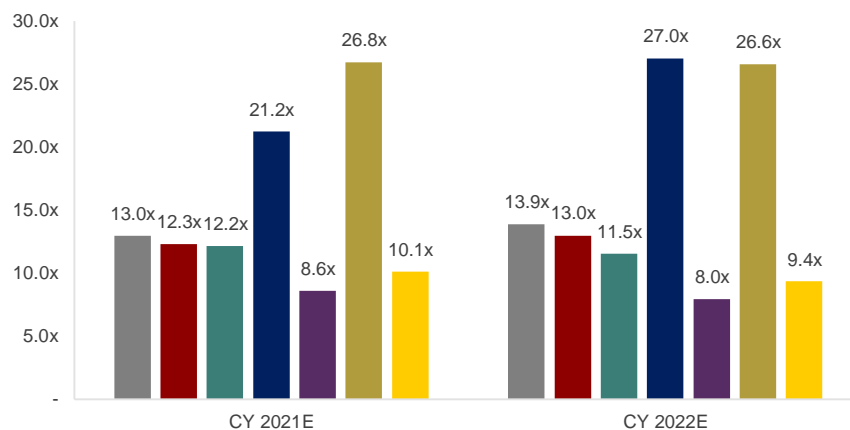


Relative Valuation and Trading Detail By Sector

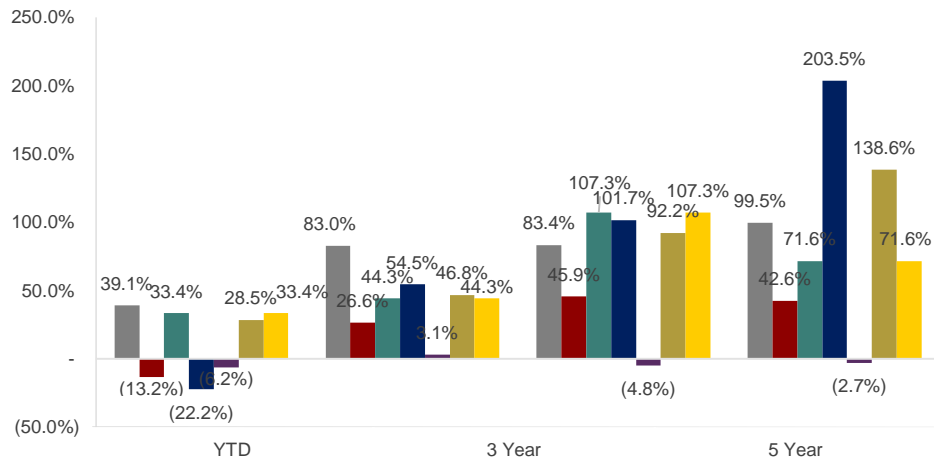
VALUATION MULTIPLES: EV REVENUE⁽¹⁾



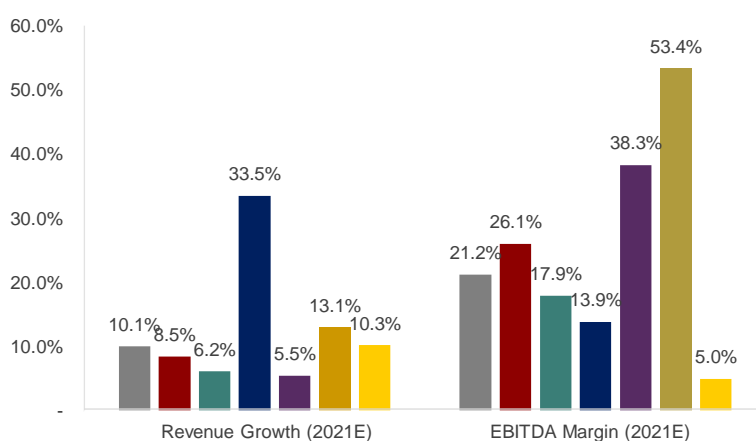
VALUATION MULTIPLES: EV EBITDA⁽¹⁾



RELATIVE STOCK PRICE PERFORMANCE⁽¹⁾



GROWTH AND MARGIN CONSENSUS ESTIMATES⁽¹⁾



- Core Cloud Infrastructure Technology
- Networking Systems Software and Services
- Networking & Communications Equipment
- Unified Communications
- Diversified Communications
- Data Centers and Collocation
- Communications Technology Distributors

Source: S&P CapitalIQ as of close on 12/31/21
 (1) Represents median for each sector



Recent Transaction Activity

































Notable 2021 Cloud Infrastructure and Communications Transactions

Date	Target	Acquirer	Sector	Target Description	Transaction Type	Implied EV (\$M)	EV/Revenue	EV/EBITDA
Dec 2021	online nw NORTHWEST	HUNTER COMMUNICATIONS	Networking Systems Software and Services	Provider of fiber-optic and fixed-wireless internet services	M&A	NA	NA	NA
Dec 2021	ULTRA COMMUNICATIONS	samtec	Networking & Communications Equipment	Designer and manufacturer of high-speed fiber-optic components	M&A	NA	NA	NA
Dec 2021	TriStruX	HURON SYSTEMS	Diversified Communications	Provider of telecommunications service intended to serve the business industry	M&A	NA	NA	NA
Dec 2021	involta	CARLYLE	Core Cloud Infrastructure Technology	Owner and operator of IT intelligence and end-to-end infrastructure services	M&A	NA	NA	NA
Dec 2021	TENFOUR	ACUATIVE Be Ready!	Core Cloud Infrastructure Technology	Operator of an IT network infrastructure utility model for IT organizations	M&A	\$6	NA	NA
Dec 2021	CATO SYSTEMS	swisscom	Networking Systems Software and Services	Developer of a secure access service edge (SASE) platform	Private Placement	NA	NA	NA
Dec 2021	Chayora 朝亞	edgeconnex	Data Centers and Colocation	Provider of infrastructure development services focusing on building data center platforms	Private Placement	NA	NA	NA
Dec 2021	Microlab	RF	Networking & Communications Equipment	Manufacturer of radio frequency components developed for broadband applications	M&A	\$24	1.5x	6.6x
Dec 2021	911 Datamaster	motorola	Networking Systems Software and Services	Developer of 9-1-1 data validation and routing software	M&A	NA	NA	NA
Dec 2021	iland	IIS SYSTEMS	Core Cloud Infrastructure Technology	Provider of cloud hosting services	M&A	NA	NA	NA
Dec 2021	RootMetrics By IHS Markit	OOKLA	Networking Systems Software and Services	Provider of tools for testing wireless coverage on mobiles	M&A	NA	NA	NA
Dec 2021	WIRELESS APPLICATIONS, CORP. Connecting Worlds	OTODATA	Networking & Communications Equipment	Provider of telemetry services	M&A	NA	NA	NA
Dec 2021	Network-Centric Data Center in Denver	IPI	Data Centers and Colocation	A data center in Denver	M&A	NA	NA	NA
Dec 2021	MCC MULTI-CORE CABLES	NEUTRIK	Networking & Communications Equipment	Manufacturer of data and communication cables	M&A	NA	NA	NA
Dec 2021	ITRENEW	IRON MOUNTAIN	Networking Systems Software and Services	Provider of information technology asset disposition (ITAD) services	M&A	\$906	2.2x	12.0x
Dec 2021	CloudBees	Goldman Sachs Asset Management	Networking Systems Software and Services	Developer of a cloud-based platform designed to provide an end-to-end automated software delivery system	Private Placement	\$1,245	NA	NA
Dec 2021	MainOne	EQUINIX	Networking Systems Software and Services	Provider of telecom and internet services in Nigeria	M&A	\$320	NA	NA

Source: S&P Capital IQ; Telecom Ramblings
Based on date announced or closed



Notable 2021 Cloud Infrastructure and Communications Transactions, Cont'd

Date	Target	Acquirer	Sector	Target Description	Transaction Type	Implied EV (\$M)	EV/Revenue	EV/EBITDA
Dec 2021	 tessco		Communications Technology Distributors	Distributor of telecommunications products and services	M&A	\$115	0.3x	NA
Dec 2021	 AgJunction		Diversified Communications	Developer of navigation solutions for the agriculture industry	M&A	\$84	5.5x	NA
Dec 2021	 Vilicom <small>signalling the future</small>		Networking Systems Software and Services	Designer of telecommunication services intended to provide connectivity in hard-to-reach places	M&A	NA	NA	NA
Dec 2021	 HALO		Networking & Communications Equipment	Developer of optical and networking equipment	M&A	\$715	NA	NA
Dec 2021	 fuze		Unified Communications	Operator of a unified communications platform	M&A	\$250	1.9x	NA
Nov 2021	Portfolio of 10 data centers in NA	 DIGITAL REALTY 	Data Centers and Colocation	Portfolio of 10 data centers in North America	M&A	\$581	NA	NA
Nov 2021	 STARRY		Networking & Communications Equipment	Manufacturer of touchscreen Wi-Fi router devices and applications	IPO/Merger	\$1,380	NA	NA
Nov 2021	 VONAGE		Unified Communications	Provider of unified communication services	M&A	\$6,316	4.9x	46.6x
Nov 2021	 smartbiz TELECOM		Unified Communications	Provider of voice termination and short message services for VoIP	M&A	\$3	NA	NA
Nov 2021	 nitel		Networking Systems Software and Services	Provider of internet connectivity and networking technology services	Private Placement	\$700	NA	NA
Nov 2021			Networking & Communications Equipment	Provider of communications equipment, infrastructure, and logistics services	M&A	NA	NA	NA
Nov 2021			Diversified Communications	Operator of subsea fiber cables and managed services	M&A	\$512	NA	NA
Nov 2021			Data Centers and Colocation	Operator of 53 data centers in the U.S., Europe, and Asia	M&A	\$15,183	13.1x	26.8x
Nov 2021			Data Centers and Colocation	Owner and operator of 25 data centers in the U.S.	M&A	\$9,505	14.9x	26.3x
Nov 2021	32,000 sq/ft Colorado data center		Data Centers and Colocation	32,000 sq/ft Colorado data center	M&A	NA	NA	NA
Nov 2021			Networking Systems Software and Services	Provider of managed network services specializing in secure satellite and wireless communications	M&A	NA	NA	NA
Nov 2021			Data Centers and Colocation	3 data centers across Philadelphia, Colorado Springs and Albany	M&A	NA	NA	NA

Source: S&P Capital IQ; Telecom Ramblings
Based on date announced or closed



Notable 2021 Cloud Infrastructure and Communications Transactions, Cont'd

Date	Target	Acquirer	Sector	Target Description	Transaction Type	Implied EV (\$M)	EV/Revenue	EV/EBITDA
Nov 2021	McAfee	ADIA	Networking Systems Software and Services	Provider of device-to-cloud cybersecurity software	M&A	\$20,014	11.0x	30.1x
Nov 2021	COREDIAL	bcm one	Networking Systems Software and Services	Operator of a SaaS platform intended to support channel partners with private labeled communication services	M&A	NA	NA	NA
Nov 2021	TRUVISTA	TRUVISTA	Diversified Communications	Provider of telecommunications and fiber network services	M&A	NA	NA	NA
Nov 2021	Orbital Media Networks, Inc.	LINKUP	Diversified Communications	Provider of satellite communication and broadcasting services	M&A	NA	NA	NA
Nov 2021	CORY	HELM	Unified Communications	Provider of VoIP, business internet and data connectivity solutions	M&A	NA	NA	NA
Nov 2021	SA Photonics	CACI	Diversified Communications	Developer of photonic systems designed to facilitate reliable communications	M&A	\$275	NA	NA
Nov 2021	ROGERS CORPORATION	DUPONT	Networking & Communications Equipment	Developer of engineered materials and components for communications infrastructure applications	M&A	\$5,255	5.5x	23.4x
Nov 2021	peerless network	infobip	Unified Communications	Provider VoIP solutions	M&A	NA	NA	NA
Nov 2021	colt Data Centre Services	Atlas Edge	Data Centers and Colocation	12 data centers across Europe	M&A	NA	NA	NA
Nov 2021	Four data centers in Illinois, New York and Wyoming	fifteenfortyseven	Data Centers and Colocation	4 data centers across Chicago, Orangeburg, and Cheyenne	M&A	NA	NA	NA
Nov 2021	SecureCircle	CROWDSTRIKE	Networking Systems Software and Services	Developer of a data loss and data access governance platform	M&A	\$61	NA	NA
Nov 2021	COMTECH	acacia	Networking & Communications Equipment	Provider of advanced 911 emergency systems and wireless communications technology	M&A	\$1,057	1.9x	14.6x
Nov 2021	Ventus	DIGI	Networking Systems Software and Services	Developer of managed network-as-a-service solutions	M&A	\$348	NA	NA
Oct 2021	2sms.com	VoiceSage	Networking Systems Software and Services	Developer of a text messaging application with routing and audit trail capabilities	M&A	NA	NA	NA
Oct 2021	NeuVector	SUSE	Networking Systems Software and Services	Developer of a container firewall software	M&A	\$133	NA	NA
Oct 2021	vodatacode	42.com	Unified Communications	Provider of international and domestic voice traffic and SMS services	M&A	NA	NA	NA
Oct 2021	veracast	OpenExchange	Unified Communications	Developer of web-based solutions to enhance product offerings in virtual communications	M&A	NA	NA	NA

Source: S&P Capital IQ; Telecom Ramblings
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Notable 2021 Cloud Infrastructure and Communications Transactions, Cont'd

Date	Target	Acquirer	Sector	Target Description	Transaction Type	Implied EV (\$M)	EV/Revenue	EV/EBITDA
Oct 2021	SONTIQ	TransUnion	Networking Systems Software and Services	Developer of identity and fraud protection software	M&A	\$638	NA	NA
Oct 2021	OCULII	Ambarella	Diversified Communications	Developer of a high-resolution imaging radar and virtual aperture software	M&A	\$308	NA	NA
Oct 2021	MEDALLEY	DIGITAL REALTY	Diversified Communications	Provider of interconnecting clearing and co-location data service	M&A	NA	NA	NA
Oct 2021	SecureTrust	sysnet	Networking Systems Software and Services	Provider of compliance, data privacy, and risk management services	M&A	\$80	NA	NA
Oct 2021	GIGABIT	innercity fiber net	Unified Communications	Provider of data and voice services	M&A	NA	NA	NA
Oct 2021	Stratus	NOVACAP	Core Cloud Infrastructure Technology	Provider of fiber-optic bandwidth infrastructure services	M&A	NA	NA	NA
Oct 2021	superloop	DIGITAL BRIDGE COLUMBIA CAPITAL	Core Cloud Infrastructure Technology	Provider of independent dark fiber infrastructure services	M&A	NA	NA	NA
Oct 2021	Clear Rate	LINX PARTNERS	Networking Systems Software and Services	Provider of fiber internet, hosted phone systems, cloud servers, and managed IT services	M&A	NA	NA	NA
Oct 2021	CATO	Lightspeed	Networking Systems Software and Services	Developer of a secure access service edge (SASE) platform	Private Placement	\$2,500	NA	NA
Oct 2021	DataPlex	JAMAC	Data Centers and Colocation	Provider of data center engineering and construction services	Private Placement	\$222	NA	NA
Oct 2021	GON	UPSTACK	Diversified Communications	Provider of integrated services for telecom companies	M&A	NA	NA	NA
Oct 2021	AirAdvantage	TEC	Networking Systems Software and Services	Provider of fixed wireless broadband services	M&A	NA	NA	NA
Oct 2021	simply bits	tucows	Networking Systems Software and Services	Provider of wireless internet services	M&A	NA	NA	NA
Oct 2021	AtlasEdge	DIGITAL REALTY	Data Centers and Colocation	Developer of data centers	Private Placement	NA	NA	NA
Oct 2021	optimize	elasticsearch	Core Cloud Infrastructure Technology	Developer of cloud resource optimization platform	M&A	\$20	NA	NA
Oct 2021	sifi Networks	apg	Networking Systems Software and Services	Developer of fiber to the home network intended for internet service providers	Private Placement	\$2,900	NA	NA
Oct 2021	greencloud	I:I SYSTEMS	Data Centers and Colocation	Provider of data center, backup, and restoration services	M&A	NA	NA	NA

Source: S&P Capital IQ; Telecom Ramblings
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Notable 2021 Cloud Infrastructure and Communications Transactions, Cont'd

Date	Target	Acquirer	Sector	Target Description	Transaction Type	Implied EV (\$M)	EV/Revenue	EV/EBITDA
Oct 2021	 ARCADIAN	 TIAA	Core Cloud Infrastructure Technology	Provider of fiber infrastructure intended to build and operate networks	Private Placement	NA	NA	NA
Oct 2021	ComSites West	 EVEREST	Networking & Communications Equipment	Portfolio of wireless towers located in northern California	M&A	NA	NA	NA
Oct 2021	A hyperscale data center in Santa Clara	 DIGITAL BRIDGE	Data Centers and Colocation	24MW hyperscale data center in Santa Clara, CA	M&A	NA	NA	NA
Oct 2021	 ALLIANCE CORPORATION THE POWER OF BEING CONNECTED	 LEE EQUITY	Networking & Communications Equipment	Distributor of wireless network accessories and systems	M&A	NA	NA	NA
Oct 2021	 USA COMMUNICATIONS	 GREAT PLAINS COMMUNICATIONS	Diversified Communications	Provider of internet, telecommunication and cable services	M&A	NA	NA	NA
Sep 2021	 TRIWIRE Engineering Solutions Inc. a member of hycor	 ITE	Networking Systems Software and Services	Provider of broadband installation services	M&A	\$9	NA	NA
Sep 2021	 epsilon	 kt	Diversified Communications	Provider of voice and data connectivity solutions	M&A	NA	NA	NA
Sep 2021	 AGILE DATA CENTERS	 VANTAGE	Data Centers and Colocation	Provider of data centers	M&A	NA	NA	NA
Sep 2021	Comconexx	 FORTRAN	Networking Systems Software and Services	Provider of telecommunications sales, installation, and services	M&A	NA	NA	NA
Sep 2021	 VERNE GLOBAL	 D/9 DIGITAL INFRASTRUCTURE	Data Centers and Colocation	Provider of sustainable data center solutions for high intensity computing	M&A	\$319	NA	NA
Sep 2021	 T	 futurefund sunsuper CSC Communications Infrastructure Investment Company	Networking Systems Software and Services	Operator of mobile tower infrastructure	M&A	\$2,800	NA	NA
Aug 2021	 CONSOLIDATED COOPERATIVE	 HORIZON TELECOM	Core Cloud Infrastructure Technology	Provider of commercial fiber services	M&A	NA	NA	NA
Aug 2021	 spok	 acacia	Diversified Communications	Provider of healthcare communications systems	M&A	\$226	1.2x	7.3x
Aug 2021	 AVANAN	 Check Point SOFTWARE TECHNOLOGIES LTD.	Core Cloud Infrastructure Technology	Developer of cloud email security solutions	M&A	NA	NA	NA
Aug 2021	 MASERGY	 COMCAST BUSINESS	Networking Systems Software and Services	Provider of network services intended to manage vital communications	M&A	NA	NA	NA
Aug 2021	 Omni-ID	 HID	Networking & Communications Equipment	Developer of radio-frequency identification tags	M&A	NA	NA	NA
Aug 2021	 T	 tevano	Networking Systems Software and Services	Provider of security software	M&A	\$3	NA	NA

Source: S&P Capital IQ; Telecom Ramblings
Based on date announced or closed


































Notable 2021 Cloud Infrastructure and Communications Transactions, Cont'd

Date	Target	Acquirer	Sector	Target Description	Transaction Type	Implied EV (\$M)	EV/Revenue	EV/EBITDA
Aug 2021	ipanema	Extreme networks	Networking Systems Software and Services	Developer of WAN governance software	M&A	\$70.4	NA	NA
Aug 2021	verticalbridge	DIGITALBRIDGE	Networking Systems Software and Services	Developer of wireless communications infrastructure	M&A	NA	NA	NA
Aug 2021	4EOS	NETGAIN TECHNOLOGIES	Networking Systems Software and Services	Provider of network managed services, design, and installation services	M&A	NA	NA	NA
Aug 2021	COMSTAR SUPPLY	LSTC CORP.	Communications Technology Distributors	Distributor of broadband materials and equipment	M&A	NA	NA	NA
Aug 2021	MKTTELCO	SCHURZ	Networking Systems Software and Services	Provider of broadband and communications services	M&A	NA	NA	NA
Aug 2021	LUMEN®	APOLLO	Diversified Communications	Telecommunications carrier serving global enterprises	M&A	\$7,500	NA	NA
Aug 2021	IMMCO	GTS	Networking & Communications Equipment	Manufacturer of devices for wireless applications	M&A	\$19	NA	NA
Aug 2021	57 Communication Sites	SBA	Data Centers and Colocation	57 communications sites located in the United States	M&A	\$67	NA	NA
Aug 2021	azūga™	BRIDGESTONE Bridgestone Americas, Inc.	Diversified Communications	Developer of GPS vehicle tracking and road usage charging solutions	M&A	\$391	NA	NA
Aug 2021	Layer0	Limelight NETWORKS	Networking Systems Software and Services	Provider of edge-enabled, SaaS telecommunications solutions	M&A	\$33	NA	NA
Jul 2021	FIRSTDIGITAL TELECOM	APOLLO	Diversified Communications	Provider of network architecture and fiber networks services	Private Placement	\$200	NA	NA
Jul 2021	ICTX WAVEMEDIA	ezeefiber	Networking & Communications Equipment	Provider of fiber optic equipment and network services	M&A	NA	NA	NA
Jul 2021	HAWAIIKI	BB	Diversified Communications	Operator of a submarine cable system	M&A	\$311	NA	NA
Jul 2021	LUMEN®	STONEPEAK	Diversified Communications	Provider of a variety of communications solutions	M&A	\$3	NA	NA
Jul 2021	PCCW	DIGITALBRIDGE	Data Centers and Colocation	Operator of data center businesses in Hong Kong and Malaysia	M&A	\$750	NA	NA
Jul 2021	Idaho Towers Portfolio	EVEREST	Networking & Communications Equipment	Developer of communications towers in Idaho	M&A	NA	NA	NA
Jul 2021	WALKER AND ASSOCIATES INC.	LSTC CORP.	Networking & Communications Equipment	Distributor of telecommunications products and services	M&A	NA	NA	NA

Source: S&P Capital IQ; Telecom Ramblings
Based on date announced or closed



Notable 2021 Cloud Infrastructure and Communications Transactions, Cont'd

Date	Target	Acquirer	Sector	Target Description	Transaction Type	Implied EV (\$M)	EV/Revenue	EV/EBITDA
Jul 2021			Unified Communications	Provider of voice and data communications services	M&A	NA	NA	NA
Jul 2021			Networking Systems Software and Services	Developer of cloud security software	M&A	NA	NA	NA
Jul 2021	Indy Telecom Center		Data Centers and Colocation	Provider of solutions for IP carriers and cloud storage companies	M&A	NA	NA	NA
Jul 2021			Networking Systems Software and Services	Provider of fiber-to-the-home services across Central Texas	M&A	NA	NA	NA
Jul 2021			Networking Systems Software and Services	Provider of network test and measurement solutions	M&A	NA	NA	NA
Jul 2021			Diversified Communications	Provider of a variety of broadband and connectivity services	M&A	\$500	NA	NA
Jul 2021			Core Cloud Infrastructure Technology	Operator of fiber optic infrastructure	M&A	\$3	NA	NA
Jul 2021			Communications Technology Distributors	Provider of design, manufacturing, and distribution services for the wireless and wireline industries	M&A	\$3	NA	NA
Jul 2021			Unified Communications	Provider of unified communications and cyber security services	M&A	NA	NA	NA
Jul 2021			Networking Systems Software and Services	Provider of gigabit internet network services	Private Placement	NA	NA	NA
Jul 2021			Core Cloud Infrastructure Technology	Provider of cloud SaaS solutions	M&A	NA	NA	NA
Jul 2021			Networking Systems Software and Services	Provider of telecommunication services intended to serve enterprise and SME sectors	M&A	NA	NA	NA
Jul 2021			Core Cloud Infrastructure Technology	Developer of managed secure network infrastructure	M&A	NA	NA	NA
Jul 2021			Data Centers and Colocation	A data center in Orange County, CA	M&A	\$181	NA	NA
Jul 2021			Networking Systems Software and Services	Developer of threat protection software	M&A	NA	NA	NA
Jul 2021			Core Cloud Infrastructure Technology	Provider of cloud consulting and cloud engineering services	M&A	NA	NA	NA
Jul 2021			Networking Systems Software and Services	Provider of fiber-to-the-home and fixed-wireless broadband internet technology to home and businesses	M&A	NA	NA	NA

Source: S&P Capital IQ; Telecom Ramblings
Based on date announced or closed



Notable 2021 Cloud Infrastructure and Communications Transactions, Cont'd

Date	Target	Acquirer	Sector	Target Description	Transaction Type	Implied EV (\$M)	EV/Revenue	EV/EBITDA
Jul 2021	Integrity Networks	AMERICAN ENGINEERING CORPORATION	Networking & Communications Equipment	Provider of structured cabling and wireless solutions	M&A	NA	NA	NA
Jul 2021	TELCO EXPERTS	Evergreen Service Group	Unified Communications	Provider of voice and data telecommunications services	M&A	NA	NA	NA
Jul 2021	ARIA TECHNOLOGIES INC. Rise with Clarity	inflexion Holo	Networking & Communications Equipment	Designer and manufacturer of fiber optical connectivity solutions	M&A	NA	NA	NA
Jul 2021	WOW! Internet - by phone	RCN GRANDE WAVE ATLANTIC	Networking Systems Software and Services	Provider of broadband services	M&A	\$1,786	NA	11.0x
Jun 2021	CONFERRA NETWORKS Fiber Driven. People Powered.	apg	Diversified Communications	Provider of fiber-based fixed wireless services	M&A	NA	NA	NA
Jun 2021	twoSix	CARLYLE	Diversified Communications	Developer of cyber threat intelligence and data visualization solutions	M&A	NA	NA	NA
Jun 2021	mobilitie	bai communications	Networking Systems Software and Services	Provider of outdoor and indoor wireless infrastructure platforms	M&A	NA	NA	NA
Jun 2021	Cloud9	SYMPHONY	Networking Systems Software and Services	Provider of a communication and analytics platform for financial markets applications	M&A	NA	NA	NA
Jun 2021	PRIME DATA CENTERS	MACQUARIE	Data Centers and Colocation	Developer and operator of wholesale data centers in California	M&A	NA	NA	NA
Jun 2021	VIRTUAL ARMOR	Evergreen Service Group	Networking Systems Software and Services	Provider of enterprise networking and cybersecurity products and services	M&A	\$14	1.4x	35.4x
Jun 2021	OMNIVIGIL	cloudifi	Networking Systems Software and Services	Provider of cloud PBX, mass notification, and call center solutions	M&A	NA	NA	NA
Jun 2021	RADIO BRIDGE	MULTITECH	Networking & Communications Equipment	Designer and manufacturer of long-range wireless sensors for the IoT industry	M&A	NA	NA	NA
Jun 2021	Bearing Cybersecurity	PONDURANCE	Core Cloud Infrastructure Technology	Developer of a cloud-based cybersecurity platform	M&A	NA	NA	NA
Jun 2021	CLARUS Communications	tdm	Diversified Communications	Provider of wireless and fixed-line telecommunication services	M&A	NA	NA	NA
Jun 2021	zayo	cologix	Data Centers and Colocation	Provider of communications infrastructure services	M&A	NA	NA	NA
Jun 2021	TRUE WIRELESS	Blue Skies Connections, LLC	Diversified Communications	Wireless service provider for those who qualify for Lifeline	M&A	NA	NA	NA
Jun 2021	Cambridge Network Solutions	Lightpath	Networking & Communications Equipment	Provider of network design, engineering, and construction services	M&A	NA	NA	NA

Source: S&P Capital IQ; Telecom Ramblings
Based on date announced or closed



Notable 2021 Cloud Infrastructure and Communications Transactions, Cont'd

Date	Target	Acquirer	Sector	Target Description	Transaction Type	Implied EV (\$M)	EV/Revenue	EV/EBITDA
Jun 2021	Fiber Network Assets of Fiber Hub	Lightpath	Networking & Communications Equipment	Operator of high-count fiber network	M&A	NA	NA	NA
Jun 2021	MEDIACLOUD	Telstra	Core Cloud Infrastructure Technology	Provider of cloud-based content management solutions	M&A	NA	NA	NA
Jun 2021	indonet	Digital Edge™	Core Cloud Infrastructure Technology	Provider of digital infrastructure services	M&A	NA	NA	NA
Jun 2021	Surf Broadband Solutions	Bain Capital CREDIT	Networking Systems Software and Services	Provider of broadband services	M&A	NA	NA	NA
Jun 2021	CellTeq™	LEAF COMMUNICATIONS	Networking & Communications Equipment	Manufacturer of cellular connectivity, WiFi communications, and first-responder system equipment	M&A	NA	NA	NA
Jun 2021	bivio NETWORKS	SS8™	Networking & Communications Equipment	Provider of federal and commercial network security products	M&A	NA	NA	NA
Jun 2021	GTS	Blackstone	Data Centers and Colocation	Provider of secure, compliant data center infrastructure	M&A	\$10,000	NA	NA
Jun 2021	COLOHOUSE	VALTERRA PARTNERS	Data Centers and Colocation	Provider of data center, cloud hosting, storage, and colocation services	M&A	NA	NA	NA
Jun 2021	CodeDx	SYNOPSYS™	Networking Systems Software and Services	Developer of application security management solutions targeting software vulnerabilities	M&A	NA	NA	NA
Jun 2021	Two Way Radio, Inc.	MCA Mobile Communications America	Networking Systems Software and Services	Provider of wireless communication services	M&A	NA	NA	NA
Jun 2021	fiberon	SANWA	Networking & Communications Equipment	Designer and developer of fiber optic components	M&A	NA	NA	NA
Jun 2021	Shieldy	linch	Diversified Communications	Operator of an anti-spam bot for Telegram application	M&A	NA	NA	NA
Jun 2021	epik	Granite	Networking & Communications Equipment	Manufacturer of plain old telephone service (POTS) replacement devices	M&A	NA	NA	NA
Jun 2021	trueface	PANGIAM	Networking Systems Software and Services	Developer of AI-based facial recognition software solutions	M&A	NA	NA	NA
Jun 2021	Uniti Fiber	everstream FIBER NETWORKS	Diversified Communications	Operator of a business-only high-capacity fiber network	M&A	NA	NA	NA
Jun 2021	Transaction Network Services	KOCH EQUITY DEVELOPMENT	Core Cloud Infrastructure Technology	Global provider of infrastructure-as-a-service solutions for mission-critical applications	M&A	NA	NA	NA
Jun 2021	NOVETTA SOLUTIONS	accenture	Networking Systems Software and Services	Provider of government and enterprise fraud and threat-detecting analytics software	M&A	\$1,000	NA	NA

Source: S&P Capital IQ; Telecom Ramblings
Based on date announced or closed



Notable 2021 Cloud Infrastructure and Communications Transactions, Cont'd

Date	Target	Acquirer	Sector	Target Description	Transaction Type	Implied EV (\$M)	EV/Revenue	EV/EBITDA
Jun 2021	datacoral	CLOUDERA	Core Cloud Infrastructure Technology	Provider of end-to-end data infrastructure as a service	M&A	NA	NA	NA
Jun 2021	DENIM GROUP	CALFIRE	Networking Systems Software and Services	Designer and developer of security software	M&A	NA	NA	NA
Jun 2021	refirm labs	Microsoft	Networking Systems Software and Services	Developer of a domestic and foreign cyber threat-detecting platform	M&A	NA	NA	NA
Jun 2021	ID R&D	Mitek	Networking Systems Software and Services	Developer of authentication biometric software for mobile login, chatbots, and virtual assistants	M&A	\$50	NA	NA
Jun 2021	HD FREQUENCY	SiliconDust	Networking & Communications Equipment	Manufacturer and distributor of television antennas	M&A	NA	NA	NA
Jun 2021	nws	GRAIN MANAGEMENT	Networking Systems Software and Services	Provider of logistics services to carriers and telecommunication contractors	M&A	NA	NA	NA
May 2021	Bump.	Bolstered Equity Group, LLC	Networking & Communications Equipment	Provider of a social networking device enabling near-field communication to exchange contact information	M&A	NA	NA	NA
May 2021	PENTEK	mercury	Networking & Communications Equipment	Provider of recording systems, digital signal processors, and data acquisition and software radio products	M&A	\$65	NA	NA
May 2021	CYBER WURX	AMERICAN YOWIE	Data Centers and Colocation	Provider of web hosting and colocation services	M&A	NA	NA	NA
May 2021	sift		Networking Systems Software and Services	Provider of an automated dispute management platform	M&A	NA	NA	NA
May 2021	19 Cell Towers & Related Assets	STRATEGIC WIRELESS	Networking & Communications Equipment	Owner of cell towers and related assets in the United States	M&A	NA	NA	NA
May 2021	29-Property U.S. Data Center Portfolio	maple tree industrial	Data Centers and Colocation	Owner of data center properties in the United States	M&A	\$1,320	NA	NA
May 2021	LANDMARK DIVIDEND	digitalcolony	Core Cloud Infrastructure Technology	Real estate and infrastructure acquisition and development company	M&A	\$972	NA	NA
May 2021	IONIC	twilio	Networking Systems Software and Services	Developer of a distributed data protection platform	M&A	NA	NA	NA
May 2021	riskfocus	VSS	Networking Systems Software and Services	Provider of specialist risk solutions and DevOps services for the global capital markets	M&A	NA	NA	NA
May 2021	CloudPassage	Fidelis Cybersecurity	Networking Systems Software and Services	Developer of on-demand automated server and cloud workload security platforms for hosting environments and data centers	M&A	NA	NA	NA
May 2021	RTA	RTA	Diversified Communications	Provider of wireless internet services	M&A	NA	NA	NA

Source: S&P Capital IQ; Telecom Ramblings
Based on date announced or closed



Notable 2021 Cloud Infrastructure and Communications Transactions, Cont'd

Date	Target	Acquirer	Sector	Target Description	Transaction Type	Implied EV (\$M)	EV/Revenue	EV/EBITDA
May 2021	Give	Liquid Web™	Networking Systems Software and Services	Provider of WordPress plugins	M&A	NA	NA	NA
May 2021	DSS	proof	Networking Systems Software and Services	Provider of anti-counterfeit, authentication, and brand protection solutions	M&A	\$5	NA	NA
May 2021	exlence systems	Manulife Investment Management	Core Cloud Infrastructure Technology	Operator of converged communications mobile and fiber infrastructure	M&A	NA	NA	NA
May 2021	TrustComm	OneWeb	Diversified Communications	Provider of managed satellite communications and professional services	M&A	NA	NA	NA
May 2021	ACCESS NETWORKS	WEBE PATH	Networking Systems Software and Services	Provider of networking solution services	M&A	\$40	NA	NA
May 2021	MELODY WIRELESS INFRASTRUCTURE	Diamond Sculptor	Diversified Communications	Operator of wireless cellular sites	M&A	\$1,625	NA	NA
May 2021	TACHUS	GRAIN MANAGEMENT	Diversified Communications	Provider of fiber-optic network and internet services	M&A	NA	NA	NA
May 2021	360 DATA	Involt	Data Centers and Colocation	Operator of data center assets	M&A	NA	NA	NA
May 2021	Clarus	PAVILY media	Diversified Communications	Operator of home and commercial broadband services	M&A	NA	NA	NA
May 2021	itegria	RIA in a Box	Core Cloud Infrastructure Technology	Provider of managed network infrastructure services for RIAs	M&A	NA	NA	NA
May 2021	DAS42	M C CONSULTING	Networking Systems Software and Services	Provider of data technology implementation and advisory services	Private Placement	NA	NA	NA
May 2021	ALPINE	ALPINE	Networking Systems Software and Services	Provider of integrated OSS, telephony, and IPTV systems for telecommunications companies	Private Placement	NA	NA	NA
May 2021	secucloud.	aryaka	Networking Systems Software and Services	Provider of an all-in-one, global, cloud-based firewall-as-a-service, secure web gateway with advanced threat protection capabilities	M&A	NA	NA	NA
May 2021	aimvest technologies, inc.	Lifeworks™	Networking Systems Software and Services	Provider of an asset management platform for financial planners	M&A	NA	NA	NA
May 2021	CounterFlow®	LiveAction	Networking Systems Software and Services	Developer of an AI-backed cybersecurity platform for security operation centers	M&A	NA	NA	NA
May 2021	SCT Broadband - RTV	RTA	Diversified Communications	Provider of residential, commercial, and governmental wireless and fiber internet connection services	M&A	NA	NA	NA
May 2021	SiteLock.	SECTIGO	Networking Systems Software and Services	Provider of cloud-based technology and website repair services for online businesses	M&A	NA	NA	NA



Notable 2021 Cloud Infrastructure and Communications Transactions, Cont'd

Date	Target	Acquirer	Sector	Target Description	Transaction Type	Implied EV (\$M)	EV/Revenue	EV/EBITDA
May 2021	verizon media	APOLLO	Unified Communications	Division of Verizon Communications that focuses on media and online business	M&A	\$5,000	NA	NA
May 2021	CLOUDVECTOR	imperva	Networking Systems Software and Services	Developer of an API threat protection platform for cybersecurity	M&A	NA	NA	NA
May 2021	DATA FOUNDRY	switch	Data Centers and Colocation	Provider of wholesale and retail data center outsourcing, colocation, and disaster recovery services	M&A	\$420	3.2x	19.0x
May 2021	Hotwire COMMUNICATIONS	Blackstone	Diversified Communications	Provider of fiber-to-the-home telecommunications and internet services	Private Placement	NA	NA	NA
Apr 2021	sensemetrics	Bentley	Networking Systems Software and Services	Developer of industrial IoT sensor platform solutions	M&A	NA	NA	NA
Apr 2021	TRANSITION NETWORK NET2EDGE	LANTRONIX	Networking & Communications Equipment	Designer, manufacturer, and supplier of fiber networking products	M&A	\$32	NA	NA
Apr 2021	ITDN, Ltd.	AVELACOM	Core Cloud Infrastructure Technology	Provider of IT infrastructure solutions for financial services firms	M&A	NA	NA	NA
Apr 2021	The Fusion Network an RTA company	RTA	Diversified Communications	Provider of internet access, colocation, and transport services	M&A	NA	NA	NA
Apr 2021	SEGRA	COX	Core Cloud Infrastructure Technology	Provider of fiber-based bandwidth infrastructure	M&A	NA	NA	NA
Apr 2021	creditability	credit sesame	Networking Systems Software and Services	Aggregator of consumer financial data for the major credit bureaus	M&A	NA	NA	NA
Apr 2021	EMPIRIX	infovista	Networking Systems Software and Services	Provider of network testing, monitoring, and analytics services	M&A	NA	NA	NA
Apr 2021	Strategic Data Center	serverfarm	Data Centers and Colocation	Provider of communications and computing technologies	M&A	NA	NA	NA
Apr 2021	CIS SECURE	hkwi	Networking & Communications Equipment	Supplier of government and commercial computing and communications solutions	M&A	NA	NA	NA
Apr 2021	AvaLAN WIRELESS	DOVER FUELING SOLUTIONS	Networking & Communications Equipment	Supplier of wireless Ethernet equipment for commercial and retail fueling stations	M&A	NA	NA	NA
Apr 2021	POINT BROADBAND	GTCR	Diversified Communications	Provider of residential and commercial fiber-to-the-premise high-speed data services	Private Placement	NA	NA	NA
Apr 2021	AXONIX	Emodo	Core Cloud Infrastructure Technology	Manufacturer of network multimedia and data storage sharing appliances	M&A	NA	NA	NA
Apr 2021	VXCHNGE	cologix	Data Centers and Colocation	Operator of data center assets	M&A	\$180	NA	NA

Source: S&P Capital IQ; Telecom Ramblings
Based on date announced or closed



Notable 2021 Cloud Infrastructure and Communications Transactions, Cont'd

Date	Target	Acquirer	Sector	Target Description	Transaction Type	Implied EV (\$M)	EV/Revenue	EV/EBITDA
Apr 2021	ensono	KKR	Core Cloud Infrastructure Technology	Provider of managed IT advisory and infrastructure services	M&A	NA	NA	NA
Apr 2021	ES	ARG	Networking & Communications Equipment	Provider of network design, implementation, and maintenance services	M&A	NA	NA	NA
Apr 2021	Sabre Industries	Blackstone	Core Cloud Infrastructure Technology	Manufacturer of infrastructure solutions for utility and wireless industries	M&A	NA	NA	NA
Apr 2021	WANRack™ PRIVATE CLOUD NETWORKS	CBRE CALEDON	Networking Systems Software and Services	Provider of private fiber optic wide area networking solutions for school districts	M&A	NA	NA	NA
Apr 2021	ORBCOMM	GI PARTNERS	Networking Systems Software and Services	Provider of various IoT solutions	M&A	\$1,149	4.7x	23.2x
Apr 2021	W WHINTECH	RIOT BLOCKCHAIN	Data Centers and Colocation	Operator of cryptocurrency-mining colocation data centers	M&A	\$651	NA	NA
Apr 2021	STRIKEFORCE TECHNOLOGIES	STRIKEFORCE TECHNOLOGIES	Networking Systems Software and Services	Provider of cyber, privacy, and data protection solutions	M&A	NM	NA	NA
Apr 2021	.club, .design, 28 Domain extensions, & MMX Business Assets	GoDaddy Registry	Networking Systems Software and Services	Operator of a domain registry business	M&A	\$120	NA	NA
Apr 2021	WINTERS BROADBAND	Cal.net Internet and Telephone	Networking Systems Software and Services	Provider of residential and commercial fixed wireless internet and connection solutions	M&A	NA	NA	NA
Apr 2021	FULL CIRCLE	FULL CIRCLE	Networking Systems Software and Services	Provider of communications construction services	Private Placement	NA	NA	NA
Apr 2021	AQUACORPUS	optum TECHNOLOGIES	Data Centers and Colocation	Provider of cloud and carrier-neutral data centers	M&A	NA	NA	NA
Apr 2021	Structure	D9 DIGITAL INFRASTRUCTURE	Networking Systems Software and Services	Provider of low-latency, reliable and scalable connectivity to support web-scale providers	M&A	NA	NA	NA
Apr 2021	LS NETWORKS	INSTARAGF	Networking & Communications Equipment	Operator of a fiber optic network in the Pacific Northwest	M&A	NA	NA	NA
Apr 2021	ottc OPTICAL TRANSMISSION TECHNOLOGIES CORPORATION	OAK HILL CAPITAL	Diversified Communications	Provider of telecommunications services	M&A	NA	NA	NA
Apr 2021	GTS	ORBITAL NETWORKS	Unified Communications	Provider of technology services and equipment for cable system operators and equipment manufacturers	M&A	\$48	1.2x	8.7x
Mar 2021	haxiot	DIGI	Networking & Communications Equipment	Developer of low power wide area (LPWA) solutions	M&A	NA	NA	NA
Mar 2021	Connected2Fiber	Harbert Management Corporation	Unified Communications	Developer of a marketing automation platform	Private Placement	\$12	NA	NA

Source: S&P Capital IQ; Telecom Ramblings
Based on date announced or closed



Notable 2021 Cloud Infrastructure and Communications Transactions, Cont'd

Date	Target	Acquirer	Sector	Target Description	Transaction Type	Implied EV (\$M)	EV/Revenue	EV/EBITDA
Mar 2021			Networking Systems Software and Services	Provider of satellite group station technology	M&A	\$38	NA	NA
Mar 2021			Diversified Communications	Developer of undersea fiber-optic communications systems	M&A	NA	NA	NA
Mar 2021			Data Centers and Colocation	Owner and operator of data centers	M&A	NA	NA	NA
Mar 2021			Data Centers and Colocation	Operator of a network of data centers	M&A	NA	NA	NA
Mar 2021			Networking Systems Software and Services	Provider of IoT and CaaS services	IPO/Merger	\$225	NA	NA
Mar 2021			Networking Systems Software and Services	Provider of fiber-based connectivity services	M&A	NA	NA	NA
Mar 2021			Unified Communications	Provider of VoIP services	M&A	NA	NA	NA
Mar 2021			Networking Systems Software and Services	Provider of high-speed telecommunications services	M&A	\$3,418	2.6x	14.2x
Mar 2021			Networking Systems Software and Services	Provider of long-term evolution radio access network (LTE RAN) solutions	Private Placement	\$75	NA	NA
Mar 2021			Networking Systems Software and Services	Provider of long-term evolution radio access network (LTE RAN) solutions	M&A	\$682.7	NA	NA
Mar 2021			Networking Systems Software and Services	Provider of hybrid WiFi and cellular network services	M&A	NA	NA	NA
Mar 2021			Core Cloud Infrastructure Technology	Developer of a network virtualization platform designed to turn physical networks into cloud software	M&A	NA	NA	NA
Mar 2021			Networking Systems Software and Services	Provider of connectivity infrastructure products and services for deployments of broadband networks worldwide	M&A	NA	NA	NA
Mar 2021			Unified Communications	Developer of VoIP solutions	M&A	NA	NA	NA
Mar 2021			Data Centers and Colocation	Operator of a data center designed to provide colocation, power, and connectivity	M&A	NA	NA	NA
Mar 2021			Networking Systems Software and Services	Operator of internet service and broadband providers	M&A	\$310	NA	23.8x
Mar 2021			Networking Systems Software and Services	Provider of wireless connectivity solutions for wireless-enabled consumer devices	M&A	\$845	NA	NA

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Based on date announced or closed



Notable 2021 Cloud Infrastructure and Communications Transactions, Cont'd

Date	Target	Acquirer	Sector	Target Description	Transaction Type	Implied EV (\$M)	EV/Revenue	EV/EBITDA
Mar 2021	TEK-HUT	ednetics xtbeam	Core Cloud Infrastructure Technology	Provider of infrastructure technology services	M&A	NA	NA	NA
Feb 2021	PINNACLE SOLUTIONS <small>An Employee Owned Company</small>	Dobson FIBER	Diversified Communications	Provider of high-speed fiber business	M&A	NA	NA	NA
Feb 2021	videns <small>CLAR. SIMPLICI. EFFICACIA.</small>	expero	Networking Systems Software and Services	Provider of global next-generation SD-WAN networking services and application aware network services	M&A	NA	NA	NA
Feb 2021	Intellouent	sinch	Diversified Communications	Provider of voice telecommunications services on a wholesale basis	M&A	\$1,140	NA	8.4x
Feb 2021	DTC	CODAN	Networking & Communications Equipment	Developer of communication equipment and wireless broadcast solutions	M&A	\$104	NA	NA
Feb 2021	HARGRAY	Cable One	Diversified Communications	Provider of telecommunications services	M&A	\$2,200	NA	17.2x
Feb 2021	CHAMPION ONE	legrand	Networking Systems Software and Services	Provider of optical networking components and solutions	M&A	NA	NA	NA
Feb 2021	FLAGSHIP	Data Storage CORPORATION	Diversified Communications	Provider of IBM solutions, managed services, and cloud solutions	M&A	\$11	NA	10.5x
Feb 2021	bics	proximis	Diversified Communications	Provider of telecommunications services	M&A	\$680	NA	NA
Feb 2021	expero	VITRUVIAN PLATFORM	Networking & Communications Equipment	Provider of managed internet, cloud access, and SD-WAN solutions	M&A	NA	NA	NA
Feb 2021	triangle MOBILE	verizon	Networking & Communications Equipment	LTE in Rural America (LRA) assets of Triangle Mobile comprises cellular services business	M&A	NA	NA	NA
Feb 2021	AIS	NEXTLINK <small>POWERING FIBER SPEED</small>	Networking & Communications Equipment	Provider of high-speed fiber backed wireless internet services	M&A	NA	NA	NA
Feb 2021	OMNISPACE	FORTRESS	Unified Communications	Operator of a non-geostationary satellite infrastructure designed for mobile connectivity	Private Placement	\$60	NA	NA
Feb 2021	BS BLUE SKY <small>COMMUNICATIONS</small>	Peppertree Capital	Networking Systems Software and Services	Operator of wireless infrastructure solutions	Private Placement	\$320	NA	NA
Feb 2021	verticalbridge	dish	Data Centers and Colocation	Operator of communications infrastructure	Other	NA	NA	NA
Feb 2021	CLOUDNEXA	GLOBAL	Core Cloud Infrastructure Technology	Provider of cloud managed services	M&A	NA	NA	NA
Feb 2021	Star2Star COMMUNICATIONS	SANGOMA	Unified Communications	Provider of cloud-based voice and unified communications solutions	M&A	\$437	5.5x	29.8x

Source: S&P Capital IQ; Telecom Ramblings
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Notable 2021 Cloud Infrastructure and Communications Transactions, Cont'd

Date	Target	Acquirer	Sector	Target Description	Transaction Type	Implied EV (\$M)	EV/Revenue	EV/EBITDA
Jan 2021			Diversified Communications	Provider of corporate IT and managed services	Private Placement	NA	NA	NA
Jan 2021			Networking Systems Software and Services	Provider of internet, data, and cloud services	M&A	NA	NA	NA
Jan 2021			Networking Systems Software and Services	Provider of wireless data solutions	M&A	NA	NA	NA
Jan 2021			Diversified Communications	Manufacturer of optical transport systems	M&A	\$5	NA	NA
Jan 2021			Data Centers and Colocation	Provider of enterprise-grade, managed private, public, and hybrid clouds, colocation, and advanced services	M&A	NA	NA	NA
Jan 2021			Networking Systems Software and Services	Provider of VoIP solutions, internet and network services, voice services, and cloud-based phone systems (Hosted PBX)	M&A	NA	NA	NA
Jan 2021			Networking Systems Software and Services	Provider of fiber-to-the-home and fiber-fixed wireless Internet services to residential and business customers	M&A	NA	NA	NA
Jan 2021			Core Cloud Infrastructure Technology	Provider of information technology multi-cloud consulting and management services	M&A	NA	NA	NA
Jan 2021			Diversified Communications	Developer of multi-entity threat detection and response platform	M&A	NA	NA	NA
Jan 2021			Networking Systems Software and Services	Provider of broadband internet services	M&A	NA	NA	NA
Jan 2021			Networking Systems Software and Services	Provider of broadband internet services	M&A	NA	NA	NA
Jan 2021			Diversified Communications	Developer of cellular based solutions that include carrier-certified embedded modems and asset tracking solutions	M&A	\$23	NA	NA
Jan 2021			Diversified Communications	A full-service engineering and outside plan firm servicing rural communications providers	M&A	NA	NA	NA
Jan 2021			Networking Systems Software and Services	Provider of telecommunications services	M&A	NA	NA	NA
Jan 2021			Data Centers and Colocation	A client-focused data center facility	M&A	NA	NA	NA
Jan 2021			Unified Communications	Provider of enterprise networking, data center and cloud design, unified communications as a service (UCaaS), and contact center solutions	M&A	NA	NA	NA
Jan 2021			Networking Systems Software and Services	Provider of voice, video, and cable television services	M&A	\$59	NA	NA

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Notable 2021 Cloud Infrastructure and Communications Transactions, Cont'd

Date	Target	Acquirer	Sector	Target Description	Transaction Type	Implied EV (\$M)	EV/Revenue	EV/EBITDA
Jan 2021	Trace, LLC	 CRESTONE SERVICES GROUP	Networking Systems Software and Services	Operator of a telecom infrastructure provider that builds wireless network	M&A	NA	NA	NA
Jan 2021	 3-GIS	 SSP	Core Cloud Infrastructure Technology	Provider of fiber network management software	M&A	NA	NA	NA
Jan 2021	 TPX COMMUNICATIONS	 GEOLINKS	Unified Communications	Provider of unified communications, managed information technology services, and continuity and connectivity services	M&A	NA	NA	NA
Jan 2021	 BROOKINGS municipal utilities	 T-Mobile	Data Centers and Colocation	Operator of cell sites and provider of wireless and data services	M&A	NA	NA	NA
Jan 2021	Pittock Block Building	 fifteenfortyseven OFFICIAL SYSTEMS REALTY HARRISON STREET	Data Centers and Colocation	A vital carrier hotel, colocation data center, and office building	M&A	\$330	NA	NA



Public Comparables Trading Detail



Public Company Trading Details, Cont'd

(USD in millions, except per share data)

Company	Capitalization			Share Price Performance				Price / Earnings		EV / Revenue		EV / EBITDA		Revenue		Revenue Growth		Gross Margin		EBITDA Margin	
	Share Price	Equity Value	Enterprise Value	YTD	2 Year	3 Year	5 Year	2021E	2022E	2021E	2022E	2021E	2022E	2021E	2022E	2021E	2022E	2021E	2022E	2021E	2022E
Unified Communications																					
8x8, Inc. (EGHT)	\$16.76	\$1,915	\$2,176	(51.4%)	(8.4%)	(7.1%)	17.2%	NM	NM	3.7x	3.2x	NM	NM	\$585	\$682	14.9%	16.6%	NA	NA	3.1%	5.0%
Bandwidth Inc. (BAND)	71.76	1,804	1,980	(53.3%)	12.0%	76.1%	NA	NM	NM	4.1x	3.5x	NM	NM	483	569	40.8%	17.7%	48.4%	48.9%	10.0%	9.5%
Five9, Inc. (FIVN)	137.32	9,344	9,548	(21.3%)	109.4%	214.1%	867.7%	NM	NM	15.9x	12.8x	NM	NM	601	745	38.2%	24.0%	63.2%	63.1%	17.7%	15.8%
Ooma, Inc. (OOMA)	20.44	486	470	41.9%	54.5%	47.3%	127.1%	NM	NM	2.5x	2.2x	NM	NM	192	209	13.5%	9.0%	61.7%	64.2%	7.7%	7.4%
RingCentral, Inc. (RNG)	187.35	17,507	18,595	(50.6%)	11.1%	127.3%	809.5%	NM	NM	11.8x	9.5x	NM	NM	1,580	1,963	33.5%	24.2%	77.6%	77.8%	13.9%	13.6%
Twilio Inc. (TWLO)	263.34	46,961	42,857	(22.2%)	167.9%	194.9%	812.8%	NM	NM	15.5x	11.7x	NM	NM	2,765	3,651	57.0%	32.0%	53.9%	54.3%	9.0%	8.7%
Vonage Holdings Corp. (VG)	20.79	5,253	5,701	61.5%	180.6%	138.1%	203.5%	NM	NM	4.1x	3.7x	29.0x	27.0x	1,405	1,561	18.5%	11.1%	51.4%	50.3%	14.0%	13.5%
Ziff Davis, Inc. (ZD)	110.86	5,346	6,594	13.5%	18.3%	59.8%	35.5%	15.4x	15.4x	4.8x	4.3x	13.5x	12.2x	1,382	1,543	(7.2%)	11.7%	85.2%	85.2%	35.3%	35.0%
Zoom Video Communications, Inc. (ZM)	183.91	54,804	49,484	(45.5%)	170.3%	NA	NA	NM	NM	12.1x	10.4x	NM	27.7x	4,081	4,768	53.9%	16.9%	75.0%	75.0%	40.4%	37.5%
Median				(22.2%)	54.5%	101.7%	203.5%	15.4x	15.4x	4.8x	4.3x	21.2x	27.0x	\$1,382	\$1,543	34%	17%	62%	64%	14%	14%
Diversified Communications																					
Alice USA, Inc. (ATUS)	\$16.18	\$7,356	\$34,293	(57.3%)	(40.8%)	(2.1%)	NA	9.3x	9.3x	3.4x	NA	7.7x	8.0x	\$10,091	\$9,980	2.0%	(1.1%)	66.5%	66.2%	44.0%	42.8%
AT&T Inc. (T)	24.60	175,669	381,402	(14.5%)	(37.1%)	(13.8%)	(42.2%)	7.7x	7.7x	2.3x	2.4x	7.3x	7.4x	168,359	157,846	(2.0%)	(6.2%)	57.1%	58.2%	30.9%	32.8%
ATN International, Inc. (ATNI)	39.95	623	1,181	(4.3%)	(27.9%)	(44.1%)	(50%)	NM	NM	2.0x	1.6x	9.2x	6.9x	600	738	31.8%	22.9%	NA	NA	21.4%	23.1%
Cable One, Inc. (CABO)	1,763.45	10,661	14,164	(20.8%)	18.5%	115.0%	184%	NM	NM	8.8x	7.9x	16.8x	14.9x	1,606	1,783	21.2%	11.0%	72.1%	73.0%	52.4%	53.2%
Charter Communications, Inc. (CHTR)	651.97	116,892	210,778	(1.4%)	34.4%	128.8%	126%	21.1x	21.1x	4.1x	3.9x	10.3x	9.6x	51,756	54,336	7.6%	5.0%	61.9%	61.7%	39.6%	40.4%
Cogent Communications Holdings, Inc. (CCC)	73.18	3,382	4,296	22.2%	11.2%	61.9%	77%	NM	NM	7.3x	7.0x	18.7x	17.5x	592	618	7.0%	4.3%	62.1%	62.8%	38.8%	39.8%
Comcast Corporation (CMCSA)	50.33	229,954	322,578	(4.0%)	11.9%	47.8%	46%	13.5x	13.5x	2.8x	2.6x	9.3x	8.4x	115,663	122,332	11.7%	5.8%	63.2%	64.6%	29.9%	31.3%
Consolidated Communications Holdings, Inc	7.48	852	2,744	53.0%	92.8%	(24.3%)	(72%)	27.7x	27.7x	2.1x	2.2x	5.4x	5.8x	1,280	1,234	(1.8%)	(3.7%)	55.5%	56.8%	39.4%	38.3%
Lumen Technologies, Inc. (LUMN)	12.55	12,850	42,365	28.7%	(5.0%)	(17.2%)	(47%)	8.1x	8.1x	2.1x	2.3x	5.0x	5.5x	19,707	18,467	(4.9%)	(6.3%)	56.8%	56.2%	42.8%	41.6%
T-Mobile US, Inc. (TMUS)	115.98	144,865	248,489	(14.0%)	47.9%	82.3%	102%	NM	NM	3.1x	3.0x	9.2x	8.8x	80,340	82,360	17.5%	2.5%	55.2%	54.7%	33.6%	34.5%
Verizon Communications Inc. (VZ)	51.96	218,116	388,393	(1.1%)	(15.4%)	(7.6%)	(3%)	9.6x	9.6x	2.9x	2.9x	9.8x	7.9x	133,432	132,076	4.0%	(1.0%)	58.2%	59.1%	36.2%	37.3%
Vodafone Group Public Limited Company (VC)	1.52	41,318	112,910	(8.1%)	(21.8%)	(22.0%)	(38%)	13.2x	13.2x	2.5x	2.5x	6.7x	6.4x	44,565	45,835	(17.5%)	2.9%	NA	NA	37.8%	38.5%
Median				(6.2%)	3.1%	(4.8%)	(2.7%)	11.4x	11.4x	2.8x	2.6x	8.6x	8.0x	\$32,136	\$32,151	6%	3%	60%	60%	38%	38%
Data Centers and Colocation																					
American Tower Corporation (AMT)	\$292.50	\$133,209	\$176,351	30.3%	27.3%	84.9%	176.8%	NM	NM	18.9x	17.7x	29.5x	27.5x	\$9,324	\$9,981	16.0%	7.0%	71.5%	71.4%	64.1%	64.2%
Crown Castle International Corp. (CCI)	208.74	90,218	116,571	31.1%	46.8%	92.2%	140.6%	NM	NM	18.5x	17.6x	NM	28.7x	6,315	6,627	8.1%	5.0%	68.7%	69.0%	60.2%	61.2%
CyrusOne Inc. (CONE)	89.72	11,624	15,050	22.7%	37.1%	69.7%	101%	NM	NM	12.6x	11.9x	25.7x	23.5x	1,193	1,260	15.4%	5.6%	56.7%	58.5%	49.1%	50.7%
Cytera Technologies, Inc. (CYXT)	12.61	2,093	3,876	21.7%	NA	NA	NA	NM	NM	5.5x	5.3x	17.1x	16.9x	701	736	1.5%	4.9%	44.7%	47.0%	32.3%	31.2%
Digital Realty Trust, Inc. (DLR)	176.87	50,193	66,973	26.8%	47.7%	66.0%	80%	NM	NM	15.1x	14.2x	27.8x	26.6x	4,423	4,703	15.0%	6.3%	60.0%	59.4%	54.5%	53.5%
Equinix, Inc. (EQIX)	845.84	76,160	89,843	18.4%	44.9%	139.9%	136.7%	NM	NM	13.6x	12.5x	28.7x	26.6x	6,626	7,172	11.1%	8.2%	66.6%	66.7%	47.3%	47.1%
SBA Communications Corporation (SBAC)	389.02	42,318	56,244	37.9%	61.4%	140.3%	277%	NM	NM	24.4x	23.1x	NM	NM	2,304	2,432	10.6%	5.5%	76.3%	76.6%	69.7%	70.2%
Switch, Inc. (SWCH)	28.64	4,115	6,025	75.0%	93.3%	309.1%	NA	NM	NM	10.2x	8.9x	19.5x	17.2x	593	676	15.9%	14.1%	43.1%	44.4%	52.2%	51.7%
Median				28.5%	46.8%	92.2%	138.6%	NA	NA	14.4x	13.4x	26.8x	26.6x	\$3,364	\$3,567	13%	6%	63%	63%	53%	53%
Communications Technology Distributors																					
Arrow Electronics, Inc. (ARW)	\$134.27	\$9,349	\$11,586	38.0%	58.4%	94.7%	88.3%	8.3x	8.3x	0.3x	0.3x	6.8x	6.4x	\$34,338	\$35,645	19.8%	3.8%	12.0%	12.2%	5.0%	5.1%
Annet, Inc. (AVT)	41.23	4,096	5,474	17.4%	(2.9%)	14.2%	(13.4%)	8.6x	8.6x	0.3x	0.2x	8.0x	6.8x	20,443	22,423	14.5%	9.7%	NA	NA	3.4%	3.6%
CDW Corporation (CDW)	204.78	27,793	32,114	55.4%	43.4%	152.7%	293.1%	24.1x	24.1x	1.6x	1.5x	18.7x	17.4x	20,369	21,775	10.3%	6.9%	17.1%	17.8%	8.5%	8.5%
Computacenter plc (CCC)	39.40	4,459	4,503	17.7%	67.8%	207.3%	298.9%	26.0x	26.0x	0.7x	0.7x	10.0x	9.8x	6,521	6,810	(12.2%)	4.4%	13.3%	13.4%	6.9%	6.7%
Datacenter Limited (DTC)	2.41	523	721	44.1%	1.7%	26.8%	(33.1%)	10.4x	10.4x	0.2x	0.2x	NA	3.9x	4,450	4,696	10.3%	5.5%	NA	NA	NA	4.0%
ePlus inc. (PLUS)	53.88	1,456	1,623	22.5%	27.8%	51.4%	87.1%	13.7x	13.7x	1.0x	0.9x	10.2x	10.8x	1,689	1,775	6.7%	5.1%	NA	NA	9.4%	8.5%
Insight Enterprises, Inc. (NSIT)	106.60	3,719	4,542	40.0%	51.7%	161.6%	163.6%	13.8x	13.8x	0.5x	0.5x	11.5x	10.4x	9,329	9,790	11.9%	9.0%	15.4%	15.5%	4.2%	4.5%
PC Connection, Inc. (CNXN)	43.13	1,130	1,052	(8.8%)	(13.1%)	45.1%	53.5%	14.8x	14.8x	0.4x	0.4x	10.4x	9.4x	4,852	2,974	10.1%	4.3%	16.1%	16.3%	3.5%	3.8%
Rexel S.A. (RXL)	20.28	6,182	9,092	27.6%	52.5%	90.4%	22.9%	11.7x	11.7x	0.6x	0.6x	7.1x	6.7x	14,363	15,409	(6.8%)	7.3%	25.3%	25.2%	8.9%	8.8%
Synnex Technology International Corporation	2.39	3,984	5,177	42.7%	90.6%	100.9%	138.2%	0.4x	0.4x	0.0x	0.0x	14.9x	13.2x	387,357	415,392	3156.1%	7.2%	4.4%	4.5%	0.1%	0.1%
TESSCO Technologies Incorporated (TESS)	6.31	57	110	1.1%	(43.8%)	(47.4%)	(51.5%)	NM	NM	0.3x	0.2x	NM	NM	412	443	(21.0%)	7.6%	NA	NA	(0.5%)	0.6%
WESCO International, Inc. (WCC)	131.59	6,633	11,382	67.6%	121.6%	174.1%	97.7%	12.3x	12.3x	0.6x	0.6x	9.8x	8.9x	18,020	18,857	46.2%	4.6%	20.9%	21.1%	6.5%	6.8%
Median				33.4%	47.5%	92.6%	87.7%	12.3x	12.3x	0.4x	0.4x	10.1x	9.4x	\$9,329	\$9,790	10%	5%	16%	16%	5%	5%

Source: S&P Capital IQ as of 12/31/21
 "NA" means not available; "NM" means not meaningful



D.A. Davidson Technology Investment Banking



D.A. Davidson's Technology Practice

200+

M&A TRANSACTIONS

\$20B+

RAISED IN PUBLIC
OFFERINGS SINCE 2019

27

COUNTRIES WHERE
TRANSACTIONS HAVE
TAKEN PLACE

39

INVESTMENT BANKERS

16

TECHNOLOGY RESEARCH
PROFESSIONALS
COVERING 150+ STOCKS

60+

TECHNOLOGY-FOCUSED
EQUITY CAPITAL
MARKETS PROFESSIONALS

SELECTED D.A. DAVIDSON TRANSACTIONS

 has been acquired by SELL-SIDE ADVISOR	 has received an investment from FINANCIAL ADVISOR	 a portfolio company of CENTINENTAL INVESTORS has been acquired by a portfolio company of PSG TPG FINANCIAL ADVISOR	 has been acquired by a portfolio company of GI PARTNERS TCA ASSOCIATES SELL-SIDE ADVISOR	 has established a multi-currency asset-backed financing with FINANCIAL ADVISOR	 a portfolio company of NCP NORTHLEAF CAPITAL PARTNERS has agreed to be acquired by SELL-SIDE ADVISOR	 has completed an initial public offering of common stock \$146,117,600 CO-MANAGER
 has been acquired by SELL-SIDE ADVISOR	 has agreed to be acquired by FINANCIAL ADVISOR	 has completed an initial public offering of common stock \$621,000,000 CO-MANAGER	 has agreed to be acquired by SELL-SIDE ADVISOR	 has completed an initial public offering of common stock \$127,875,000 CO-MANAGER	 THE POWER OF BEING CONNECTED a portfolio company of InVestbridge has been acquired by SELL-SIDE ADVISOR	 has been acquired by FINANCIAL ADVISOR

EIGHT SECTORS OF COMBINED FOCUS

APPLICATION SOFTWARE 	INFRASTRUCTURE SOFTWARE 	VERTICAL SOFTWARE 	COMMUNICATIONS & DIGITAL INFRASTRUCTURE
FINANCIAL TECHNOLOGY 	INTERNET & DIGITAL MEDIA 	TECHNOLOGY-ENABLED SERVICES 	DATA & ANALYTICS



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D.A. Davidson's industry knowledge spans across the entire technology industry with transactional experience over a wide range of verticals

D.A. Davidson's technology practice brings deep sector knowledge, transactional expertise, and full service capabilities across eight key technology verticals; with 200+ completed transactions, 170+ years of combined experience, and 150+ public technology companies under research coverage

I	Application Software	<ul style="list-style-type: none"> Sales & Marketing Solutions ERP Human Capital Collaboration 	<ul style="list-style-type: none"> Expense & Procurement Content Management BI /Analytics 	 <small>has completed an initial public offering of common stock</small> \$26,000,000 <small>CO-MANAGER</small>	 <small>has completed a public offering of senior convertible notes</small> \$1,306,000,000 <small>CO-MANAGER</small>	 <small>has received an investment from</small> <small>SELL SIDE ADVISOR</small>	 <small>has received senior secured financing from</small> <small>FINANCIAL ADVISOR</small>	 <small>has completed a growth equity round of financing from</small> <small>FINANCIAL ADVISOR</small>	 <small>has completed a public offering of convertible notes</small> \$600,000,000 <small>CO-MANAGER</small>
II	Infrastructure Software	<ul style="list-style-type: none"> Application Monitoring Data Warehouse Provisioning / Deployment Machine Learning 	<ul style="list-style-type: none"> IT Management Security Robotic Process Automation Internet of Things 	 <small>has completed an initial public offering of common stock</small> \$1,528,566,000 <small>CO-MANAGER</small>	 <small>has completed a follow on offering of common stock</small> \$200,000,000 <small>CO-MANAGER</small>	 <small>has completed a follow on offering of common stock</small> \$317,500,000 <small>CO-MANAGER</small>	 <small>has completed an initial public offering of common stock</small> \$294,611,179 <small>CO-MANAGER</small>	 <small>has completed a round of public offering of common stock</small> \$3,864,000,000 <small>CO-MANAGER</small>	 <small>has completed a follow on offering of common stock</small> \$286,300,000 <small>CO-MANAGER</small>
III	Vertical Software	<ul style="list-style-type: none"> Construction Government Healthcare IT Education Energy 	<ul style="list-style-type: none"> Real Estate & Travel Telematics Agriculture 	 <small>has completed an initial public offering of common stock</small> \$596,937,000 <small>CO-MANAGER</small>	 <small>has received an investment from</small> <small>FINANCIAL ADVISOR</small>	 <small>has been acquired by</small> <small>SELL SIDE ADVISOR</small>	 <small>has received an investment from</small> <small>FINANCIAL ADVISOR</small>	 <small>has been acquired by</small> <small>SELL SIDE ADVISOR</small>	 <small>has been acquired by</small> <small>SELL SIDE ADVISOR</small>
IV	Financial Technology	<ul style="list-style-type: none"> Banking Investment Financing / Lending 	<ul style="list-style-type: none"> Insurance Crypto / Blockchain Payments 	 <small>has completed a public offering of common stock</small> <small>has received a minority equity investment from</small> <small>FINANCIAL ADVISOR</small>	 <small>has made significant equity investments into</small> <small>FINANCIAL ADVISOR</small>	 <small>has received a significant equity investment from</small> <small>FINANCIAL ADVISOR</small>	 <small>has been acquired by</small> <small>FINANCIAL ADVISOR</small>	 <small>has completed a follow on offering of convertible common stock</small> \$305,900,000 <small>CO-MANAGER</small>	 <small>has completed a follow on offering of convertible common stock</small> \$377,200,000 <small>CO-MANAGER</small>
V	Technology Enabled Services	<ul style="list-style-type: none"> Marketing Services Business Services IT Services 	<ul style="list-style-type: none"> Professional Outsourced Services 	 <small>has received an investment from</small> <small>FINANCIAL ADVISOR</small>	 <small>has been acquired by</small> <small>SELL SIDE ADVISOR</small>	 <small>has received an investment from</small> <small>FINANCIAL ADVISOR</small>	 <small>has been acquired by</small> <small>SELL SIDE ADVISOR</small>	 <small>has been acquired by</small> <small>SELL SIDE ADVISOR</small>	 <small>has been acquired by</small> <small>SELL SIDE ADVISOR</small>
VI	Internet & Digital Media	<ul style="list-style-type: none"> E-Commerce Search Video 	<ul style="list-style-type: none"> Content Marketing Internet Services Mobile 	 <small>has completed an initial public offering of common stock</small> \$3,830,000,158 <small>CO-MANAGER</small>	 <small>has completed a public offering of senior convertible notes</small> \$861,000,000 <small>CO-MANAGER</small>	 <small>has completed a follow on offering of common stock</small> \$422,400,000 <small>CO-MANAGER</small>	 <small>has received an investment from</small> <small>FINANCIAL ADVISOR</small>	 <small>has received an investment from</small> <small>FINANCIAL ADVISOR</small>	 <small>has completed a public offering of convertible senior notes</small> \$560,000,000 <small>CO-MANAGER</small>
VII	Communications & Digital Infrastructure	<ul style="list-style-type: none"> Data Center Managed Services Fiber Networks Telecom Wireless IoT/IloT 	<ul style="list-style-type: none"> Communications Software, Hardware & Infrastructure CCaaS / CPaaS IaaS / UCaaS 	 <small>has been acquired by</small> <small>SELL SIDE ADVISOR</small>	 <small>has been acquired by</small> <small>SELL SIDE ADVISOR</small>	 <small>has been acquired by</small> <small>SELL SIDE ADVISOR</small>	 <small>has been acquired by</small> <small>SELL SIDE ADVISOR</small>	 <small>has completed an initial public offering of common stock</small> \$207,000,000 <small>CO-MANAGER</small>	 <small>has completed a public offering of convertible senior notes</small> \$86,250,000 <small>CO-MANAGER</small>
VIII	Data & Analytics	<ul style="list-style-type: none"> Digital Engagement Optimization Credit Analytics Real-Time Risk Analytics 	<ul style="list-style-type: none"> Marketing Analytics Artificial Intelligence Business / Market Intelligence 	 <small>has acquired</small> <small>has been acquired by</small> <small>SELL SIDE ADVISOR</small>	 <small>has agreed to combine with</small> <small>has been acquired by</small> <small>FINANCIAL ADVISOR</small>	 <small>has been acquired by</small> <small>has been acquired by</small> <small>FINANCIAL ADVISOR</small>	 <small>has been acquired by</small> <small>has been acquired by</small> <small>FINANCIAL ADVISOR</small>	 <small>has been acquired by</small> <small>FINANCIAL ADVISOR</small>	 <small>has received a majority equity investment from</small> <small>FINANCIAL ADVISOR</small>



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Brad Gevurtz

Managing Director
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Brad Gevurtz is a Managing Director in the Investment Banking group, focused on the technology sector. He has been with D.A. Davidson since 2005 and during his time with the firm has served as the Head of Investment Banking and as a member of the Board of Directors and the Public Equity Commitment Committee. Prior to D.A. Davidson, Mr. Gevurtz worked for over 20 years on Wall Street as a senior banker at JPMorgan Chase, KeyBanc Capital Markets and Broadview Int'l (now Jefferies). He has significant experience in M&A, private placements and public offerings, and has advised some of the largest companies in the world on technology transactions. Mr. Gevurtz started his career at AT&T and has executed M&A and capital raising transactions worldwide for public and private communications companies such as Allen Telecom, Alltel, AT&T, Fastly, Limelight, Lumos, Radisys, Towerstream, Vast Networks, Verizon, Wavecom, and Zayo. He is a current board member and President of his regional ACG, an investor in numerous private equity and venture capital funds, a former board member of Thinking Machines Corporation (parallel processing software company), and a former member of the valuation committee of OVP Venture Partners. Mr. Gevurtz has spoken at industry conferences and has been quoted in numerous publications about corporate finance and M&A issues. He holds a B.A. with Distinction in Economics from Pomona College, a J.D. from the University of Oregon School of Law, and an MBA with Honors in Finance and Accounting from Columbia University.



Amy Johnson

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Technology Investment Banking

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Amy Johnson is a Managing Director focused on the Communications and Digital Infrastructure ecosystem for the Investment Banking group. Previously, Ms. Johnson was a managing director and head of debt advisory at The Bank Street Group LLC where she was instrumental in growing the practice from a start-up to a leading boutique firm. During her Bank Street tenure, Ms. Johnson executed investment banking and capital markets transactions for private and public companies spanning fiber networks, data centers, subsea cable, mobile wireless and wireless infrastructure including 365 Data Centers, AboveNet Inc., Airband Communications, Alpheus Communications, ColoAtl, Digital Crossroads, GeoLinks, Hibernia Networks, Highwinds Network Group, OnFiber Communications and Pocket Communications. Ms. Johnson was previously an Executive Director at Swiss Bank Corporation/SBC Warburg (now UBS) where she executed nearly \$10 billion in debt capital markets transactions for a variety of companies. Ms. Johnson graduated with honors from the University of Notre Dame with a B.B.A. in Finance. Upon graduation, she joined Chase Manhattan Bank in New York and completed their formal credit training program before serving in the bank's New York middle market lending division.



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COMPANIES AVAILABLE FOR 1-1 MEETINGS

ACI Worldwide, Inc.	ACIW	Telos Corporation	TLS
Akamai Technologies, Inc.	AKAM	The Real Brokerage, Inc.	REAXF
Alight Group Inc.	ALIT	The Trade Desk, Inc.	TTD
Allot Ltd.	ALLT	TripAdvisor, Inc.	TRIP
Aterian, Inc.	ATER	TrueCar, Inc.	TRUE
Bottomline Technologies, Inc.	EPAY	Turtle Beach Corp.	HEAR
Boxed, Inc.	SVOK	Tyler Technologies, Inc.	TYL
Broadridge Financial Solutions, Inc.	BR	tZERO Group, Inc.	TZROP
Cadence Design Systems, Inc.	CDNS	Voxo International Corp.	VOXX
Cargurus, Inc.	CARG	Wisekey International Holding AG - ADR	WKEY
Carparts.com, Inc.	PRTS	Yext, Inc.	YEXT
Cars.com, Inc.	CARS	Zillow Group	ZG
Chicken Soup for the Soul Entertainment, Inc.	CSSE		
Clearfield, Inc.	CLFD	<u>Privates:</u>	
Coursera, Inc.	COUR	Apruve	
Criteo S.A.	CRTO	Avii	
CuriosityStream Inc.	CURI	Bigleaf Networks, Inc.	
Diebold Nixdorf, Inc.	DBD	Bigrentz	
Digerati Technologies	DTGI	Bridgit Inc.	
Doma Holdings Inc.	CAP	Canopy Tax	
Donelley Financial Solutions, Inc	DFIN	Corcentric	
eGain Corporation	EGAN	CreatorIQ	
Envestnet, Inc.	ENV	Decisiv	
eXp World Holdings, Inc.	EXPI	eClear	
Fathom Holdings, Inc.	FTHM	Edgevana	
GTY Technology Holdings, Inc.	GTYH	Elevate Services	
iMedia Brands, Inc.	IMBI	Freightwaves	
Intellicheck, Inc.	IDN	Grow.com	
Intelligent Systems Corp.	INS	Kidkare	
Iteris, Inc.	ITI	Kryon Systems	
Jack Henry & Associates, Inc.	JKHY	Locus	
LifeMD, Inc.	LFMD	Ohmyhome	
Limelight Networks, Inc.	LLNW	Open Sesame Inc.	
NCR Corporation	NCR	Rialto Markets	
OneSpan, Inc.	OSPN	SAVVYY	
Overstock.com, Inc.	OSTK	Status Money	
PagerDuty, Inc.	PD	TaxDome	
PDF Solutions, Inc.	PDFS	The Muse	
Redfin Corp.	RDFN	United Real Estate	
Rover, Inc.	NEBC	Vizlib Ltd.	
Secureworks Corp	SCWX	Work Truck Solutions	
SS&C Technology Holdings, Inc.	SSNC		
Synopsys, Inc.	SNPS		



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SELECT PANELS:



“How to Bridge the Digital Divide in an Age of \$250B of Government Stimulus Funds”

FEATURED PARTICIPANTS:

- **JIM PATTERSON** – CSO, American Broadband
- **CHERI BERANEK** – President & CEO, Clearfield
- **RANDY MUENCH** – CEO, TriStruX
- **CARTER VENKAT** – CFO, TriStruX

ADDITIONAL CONTEXT:

“...The digital lives of Americans with lower and higher incomes remain markedly different. About four-in-ten adults with lower incomes do not have home broadband services (43%) or a desktop or laptop computer (41%). By comparison, these technologies are nearly ubiquitous among adults in households earning \$100,000 or more a year...”

– Amy Johnson and Brad Gevurtz, Managing Directors in D.A. Davidson’s Technology Investment Banking Group

D.A. DAVIDSON HOSTS:



BRAD GEVURTZ

MANAGING DIRECTOR,
TECHNOLOGY INVESTMENT BANKING



AMY JOHNSON

MANAGING DIRECTOR,
TECHNOLOGY INVESTMENT BANKING

“Financing Strategies for Technology Growth Companies”

FEATURED PARTICIPANTS:

- **PAUL GIBSON** – MD, CIBC Innovation Banking
- **DAVID ORLANDELLA** – MD, ORIX Growth Capital
- **DICK SWEENEY** – MD, Sixth Street Specialty Lending

D.A. DAVIDSON HOSTS:



AMY JOHNSON

MANAGING DIRECTOR,
TECHNOLOGY INVESTMENT BANKING

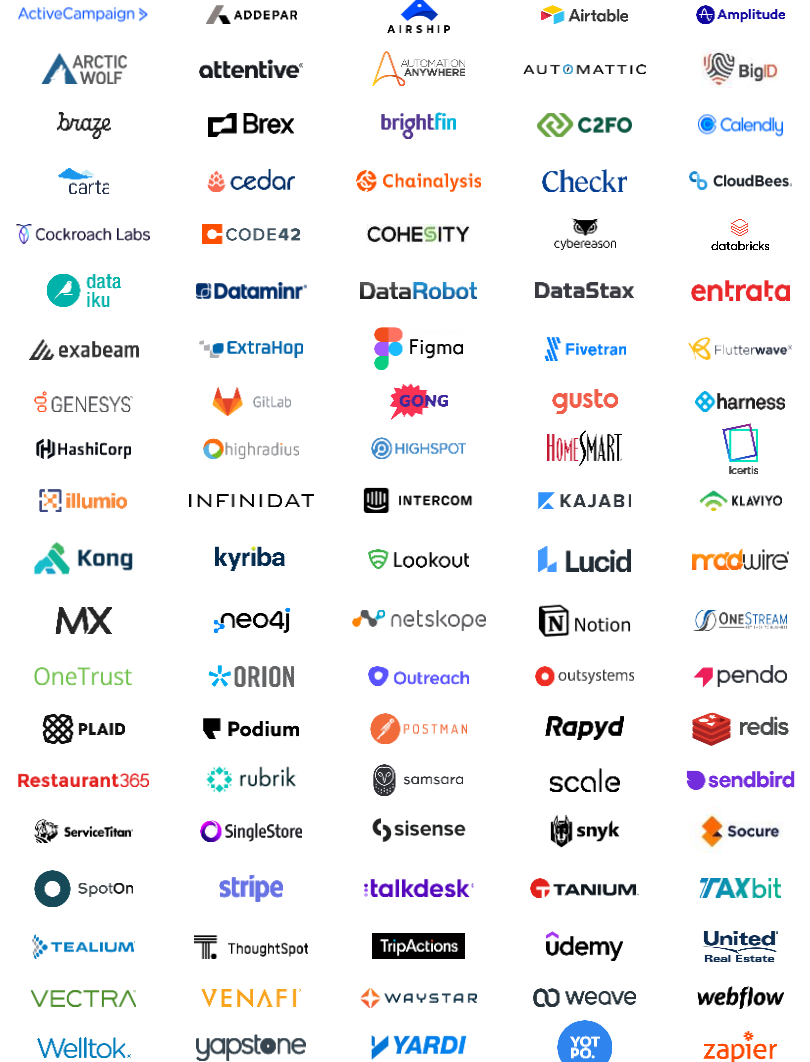
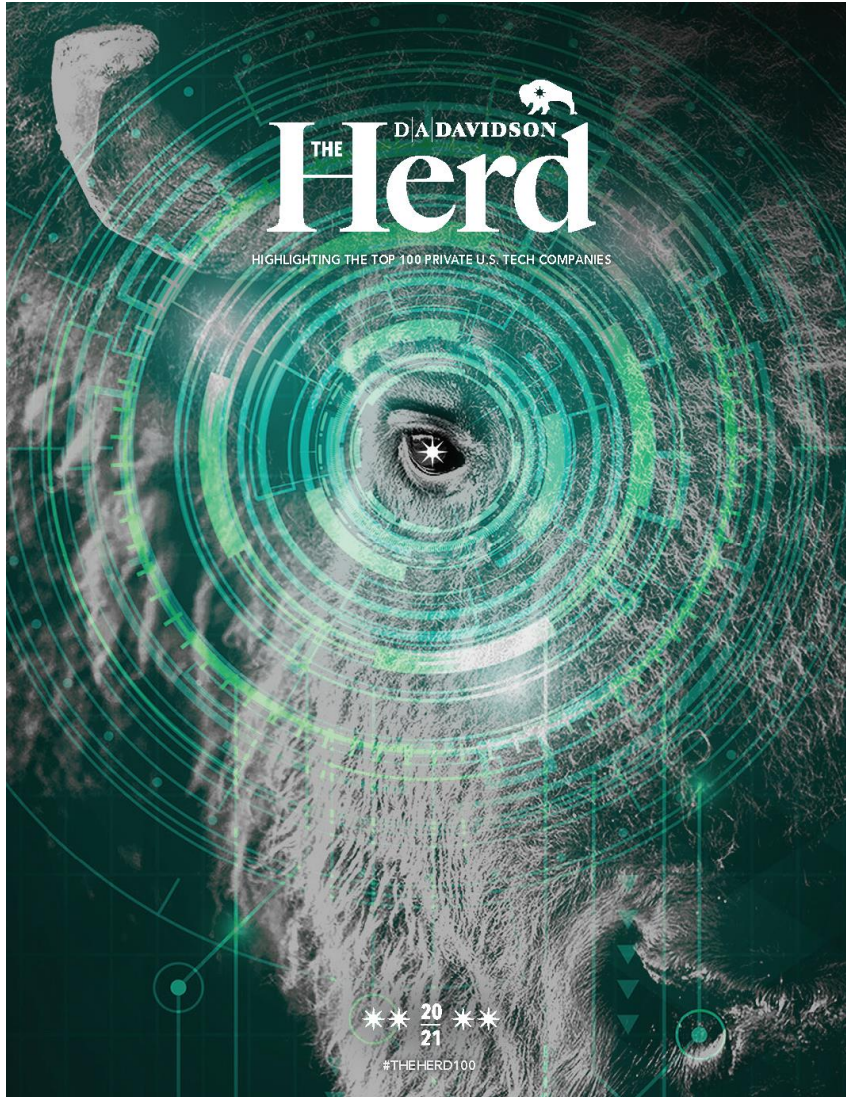
SELECT PARTICIPATING COMPANIES





Proprietary Thought Pieces Geared Towards the Technology Sector

Consistent goal across the partnership to rapidly support the brand and firm investment in Technology





D.A. Davidson Investment Banking



Bulge Bracket Capabilities.

We offer expansive capabilities, delivered by experienced advisors, supported by advanced analysis



Boutique Focus on Clients.

Each client transaction meaningfully impacts our firm results and receives the attention it deserves

FULL SERVICE CAPABILITIES

M&A advisory, public and private capital raising, and corporate services

LEADING EQUITY RESEARCH

Award winning institutional equity research

COMPREHENSIVE ACCESS

Broad access to strategic and financial buyers

INTERNATIONAL REACH

Wide scale and strategic partnership with MCF Corporate Finance

INDUSTRY EXPERTISE

Significant experience within core verticals

PUBLIC MARKET INSIGHTS

Provided through institutional sales, trading and syndicate

SENIOR LEVEL ATTENTION

Senior bankers will maintain presence throughout the process

MIDDLE MARKET EXPERTISE

M&A and capital markets knowledge for mid-sized companies

UNIQUE PERSPECTIVES

Knowing challenges and opportunities for mid-sized companies

INDEPENDENT

Employee-owned firm focused exclusively on client objectives

RELATIONSHIP DRIVEN

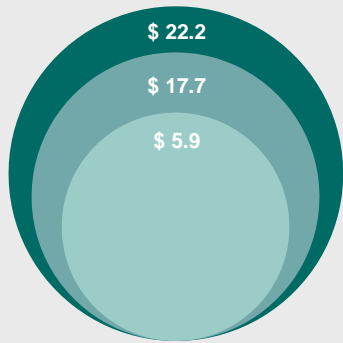
Highly customized solutions supporting long-term client success



100% Employee Owned. Consistent Growth.

\$22.2B

2021 TRANSACTION VOLUME⁽¹⁾

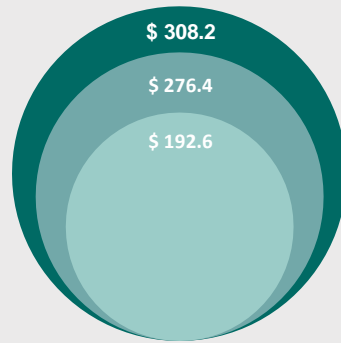


INVESTMENT BANKING VOLUME OF
TRANSACTIONS CLOSED

(BILLION)

\$308.2M

2021 SHAREHOLDERS' EQUITY⁽²⁾

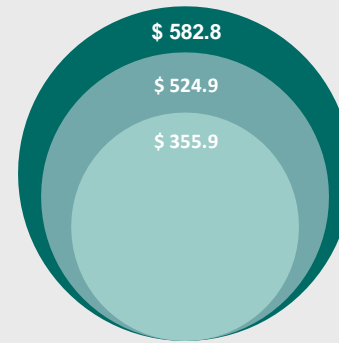


SHAREHOLDERS'
EQUITY

(MILLIONS)

\$582.8M

2021 NET REVENUE⁽²⁾

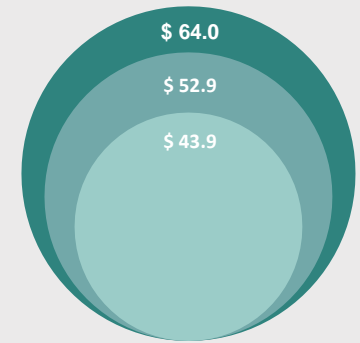


NET
REVENUE

(MILLIONS)

\$64.0B

2021 AUA⁽²⁾



ASSETS UNDER
ADMINISTRATION

(BILLION)

■ 2015

■ 2020

■ 2021

(1) Financials based on calendar year end
(2) Financials based on D.A. Davidson fiscal year-end September 30th



Full-service Platform Offering Depth and Expertise



D|A DAVIDSON
EQUITY CAPITAL MARKETS

Equity Capital Markets

INVESTMENT BANKING

Mergers & Acquisitions

Equity & Debt Financing

Public Offerings

Private Placements

EQUITY RESEARCH

Award-Winning Research

20+ Senior Analysts

~400 Covered Companies

Bison Select Coverage

SALES & TRADING

Market Maker for 1,000+ Stocks

Coverage of 500+ Institutions

350+ Non-Deal Roadshows / Year

Coast-to-Coast Coverage

WEALTH MANAGEMENT

Personal Wealth Management

Financial Planning

~400 Financial Advisors

Investment Advisory

Significant Distribution Capabilities

~\$64 billion in client AUA

FIXED INCOME CAPITAL MARKETS

Public Finance

Institutional Sales & Trading

Fixed Income Strategy Group

Structured Investments



A Partnership That Bridges The Atlantic

In an increasingly interconnected world, our clients require a global approach

ATLANTA, GEORGIA

BOSTON, MASSACHUSETTS

CHICAGO, ILLINOIS

DENVER, COLORADO

GREAT FALLS, MONTANA

NEW YORK, NEW YORK

ORANGE COUNTY, CALIFORNIA

PORTLAND, OREGON

SALT LAKE CITY, UTAH

SEATTLE, WASHINGTON

HAMBURG, GERMANY

HELSINKI, FINLAND

LONDON, ENGLAND

STOCKHOLM, SWEDEN

1,000+

M&A TRANSACTIONS

47

SENIOR BANKERS

150+

INVESTMENT BANKING PROFESSIONALS

15

INVESTMENT BANKING OFFICES

D | A | DAVIDSON | *mcf*
INTERNATIONAL

Founded in 1994, MCF is a leading independent and international corporate finance advisory firm with offices in Hamburg, Helsinki, Stockholm, and London

The collaboration between the two firms brings together 150+ investment banking professionals, working across 15 global offices

The D.A. Davidson MCF International brand, established in 2018, is a true strategic partnership between the two firms offering:

- Expanded geographic footprint
- Transatlantic M&A execution capabilities and expertise
- Unparalleled corporate access
- Enhanced industry coverage

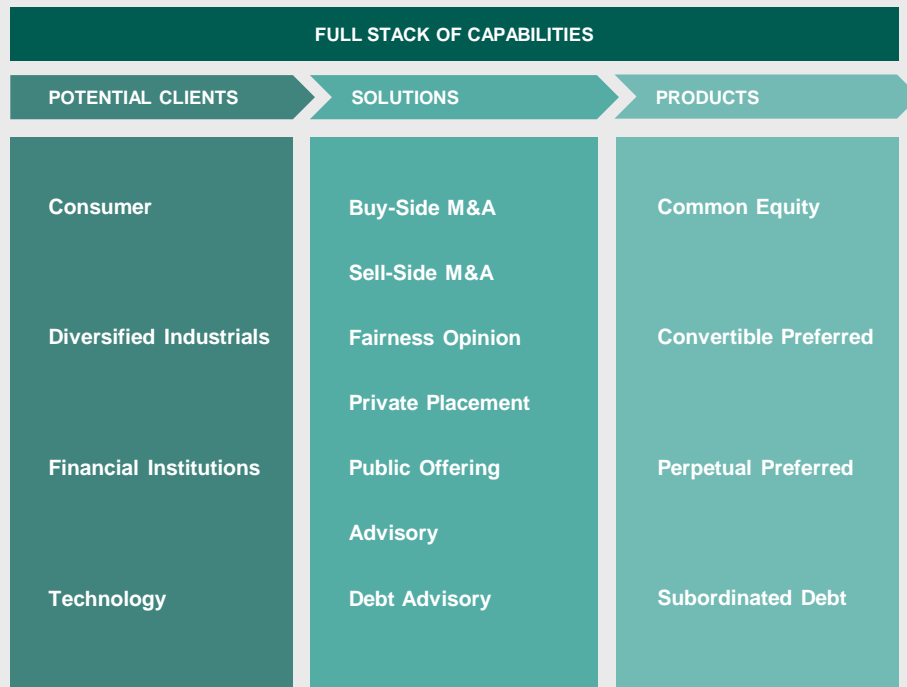


D.A. Davidson's M&A Advisory Summary























Davidson's leading M&A Advisory platform and experienced, knowledgeable team drive superior outcomes for clients on a nationwide basis

Significant Deal Activity And Industry Experience

580+ TRANSACTIONS SINCE 2016⁽¹⁾ **\$66B** AGGREGATE TRANSACTION VOLUME SINCE 2016⁽¹⁾



SELECT RECENT M&A TRANSACTIONS

 THE POWER OF BEING CONNECTED a portfolio company of  has been acquired by   EQUITY CAPITAL SELL-SIDE ADVISOR	 has been acquired by Columbia River Partners SELL-SIDE ADVISOR	 has been acquired by  a portfolio company of  SELL-SIDE ADVISOR
 has been acquired by  SELL-SIDE ADVISOR	 has been acquired by LEVEL EQUITY SELL-SIDE ADVISOR	 has acquired  a portfolio company of     FINANCIAL ADVISOR
 has been acquired by PDF/SOLUTIONS™ SELL-SIDE ADVISOR	 has been acquired by  SELL-SIDE ADVISOR	 has been acquired by  SELL-SIDE ADVISOR

(1) Financials based on calendar year end



D.A. Davidson Has a Differentiated Equity Research Product

Research analysts consistently publishing widely distributed coverage reports and thought pieces

- 150+ technology companies under research coverage
- 60+ technology focused equity capital markets professionals
- 11 senior equity research professionals dedicated to publishing coverage reports and thought pieces across the technology sector:
 - Clean Technology
 - Consumer Technology
 - Financial Technology
 - Gaming
 - Industrial Technology
 - Internet Services
 - SemiCap Equipment
 - Communications Technologies
 - Software – Enterprise
 - Software – Financial Technology and Vertical
 - Software – Security and Infrastructure
 - Technology Strategy

SELECT COVERAGE COVERAGE:

D.A. DAVIDSON
HEALTH MANAGEMENT

American Tower Corporation (AMT)
Rating on Edge Computing

Key Statistics: Price \$31.00, P/E Ratio 19.43, Dividend Yield 3.15%, Market Capitalization \$19.12 Billion, 52-Week Price Range \$18.6 - \$30.4

Investment Thesis for AMT: American Tower Corp. (AMT) is a REIT that specializes in leasing, operating, and developing multi-tenant communication and estate sites. It provides a critical infrastructure to service providers, which enables mobile and wireless services to be used by consumers.

Recent Developments: AMT announced on 11/15/21 that it had received a deal to acquire CoreSite (COR) for \$17.0 billion (cash plus debt). COR is a leading U.S. data center (DC) REIT with a 50%+ high margin and 3200+ colocation.

Table for the Long-Term Investor: Shows metrics for EV, EBITDA, and EBITDA Margin for 2021 and 2022.

D.A. DAVIDSON

Airspan Networks Inc.
NBA, NYSE

Rating: Buy

Investment Thesis: Airspan Networks Inc. is a world-wide network provider of 5G and 4G LTE network services. It provides a critical infrastructure to service providers, which enables mobile and wireless services to be used by consumers.

Recent Developments: Airspan Networks Inc. announced on 11/15/21 that it had received a deal to acquire CoreSite (COR) for \$17.0 billion (cash plus debt).

Table for the Long-Term Investor: Shows metrics for EV, EBITDA, and EBITDA Margin for 2021 and 2022.

D.A. DAVIDSON

Financial Technology
Sector Brief

What's In Focus: We're initiating coverage on top four Bitcoin mining stocks with a positive near-term view. Bitcoin is expected to see a significant price increase in 2022, which will drive Bitcoin mining stocks to see a significant price increase.

Bitcoin on Bitcoin: Cryptomining is highly energy-intensive and Bitcoin is a carbon-intensive asset. This sector requires a fundamental belief in Bitcoin's long-term value proposition.

But Further Upside Not Required: Bitcoin mining stocks are highly (>70%) correlated with Bitcoin prices with good response to Bitcoin price movements.

Supply Chain Expands Window: Pandemic-driven supply chain disruptions have slowed the industry's access to most raw materials.

D.A. DAVIDSON

Internet Services
Industry Update

U.S. Online Auto Advertising/Tech - Dealer Call Takeaways: We focused on insights from meetings with JiffRush, COO for Carvertise Auto, a leading NYC-based car-sharing company.

Inventory shortage remains the biggest challenge: Amazon and Carvertise Auto are selling more units but are still facing inventory shortages.

How might we invest: Inventory might be a good indicator for the overall health of the car-sharing industry.

Marketing Strategy and Profitability: Amazon and Carvertise Auto are both focused on expanding their market share.

D.A. DAVIDSON

Crypto
Sector Brief

Blockchain or the Field - The New Cloud Wars: Our research covers how blockchain, crypto assets and blockchain technology will have an impact on the field.

EV: We believe the race to dominate Layer 1 (L1) of the crypto software stack is the most important crypto market. Bitcoin is the most established crypto market.

EV: We expect the L1 market to be dominated by Bitcoin, Ethereum, and Solana.

EV: We expect the L2 market to be dominated by Polygon, Optimism, and Arbitrum.

D.A. DAVIDSON

Clean Tech
Industry Update

EV: We are following news on the following news: The Biden-Biden plan, which included enhanced incentives for clean energy investments.

EV: We expect the clean energy market to see a significant price increase in 2022.

EV: We expect the clean energy market to see a significant price increase in 2022.

EV: We expect the clean energy market to see a significant price increase in 2022.



Our Technology Research Team



CHRISTOPHER BRENDLER

MANAGING DIRECTOR, SR. RESEARCH ANALYST
CBRENDLER@DADCO.COM

Christopher Brendler joined D.A. Davidson in June 2021 to cover the financial technology sector. Brendler joins the firm with decades of experience in equity research with the bulk of his time spent at Stifel Nicolaus and most recently with Seaport Global. Throughout his career, Brendler has received multiple Institutional Investor recognitions as well as Starmine awards. Christopher holds a bachelor's degree in Economics from the University of Virginia and a master's degree in business administration, accounting and finance from the University of Chicago.



TOM DIFFELY, CFA

MANAGING DIRECTOR, DIRECTOR OF RESEARCH
TDIFFELY@DADCO.COM

Tom Diffely is a Senior Research Analyst focused on telecommunications, semiconductor capital equipment, and technical design software. He spent more than a decade as an equity analyst at Merrill Lynch in San Francisco, where he covered a variety of semiconductor equipment names, and three years as a global product manager at Applied Materials. He received honorable mention in Institutional Investor's survey of the top semiconductor and semiconductor capital equipment analysts in 2006 and 2007. Tom holds an MBA from the Haas School of Business at the University of California, Berkeley, a bachelor's degree in engineering from Harvey Mudd College and the Chartered Financial Analyst® designation.



PETE HECKMANN, CFA

MANAGING DIRECTOR, SR. RESEARCH ANALYST
PHECKMANN@DADCO.COM

Pete Heckmann joined D.A. Davidson in May 2017. His research is primarily focused on public companies in the financial technology (FinTech), vertical software & SaaS, and IT consulting sectors. Pete has over 20 years of experience in equity research, primarily on the sell side, but with three years on the buy side managing a market neutral technology portfolio. Prior to D.A. Davidson, he worked as a senior sell-side research analyst at Avondale Partners, AG Edwards and Stifel Nicolaus. Pete earned his MBA and bachelor's degree from Creighton University in Omaha and holds the Chartered Financial Analyst® designation.



TOM FORTE, CFA

MANAGING DIRECTOR, SR. RESEARCH ANALYST
TFORTE@DADCO.COM

Tom Forte joined D.A. Davidson in July 2017 to cover Consumer Technology companies. Tom has more than 15 years of experience in equity research, including both buy side and sell side. Prior to joining D.A. Davidson, Tom was at Maxim Group, Brean Capital, Telsey Advisory Group and Geneva Investment Management. He has published 14 white papers on the convergence of technology and retail. Tom holds a Master of Professional Writing from USC and a bachelor's degree in economics from the University of Illinois.



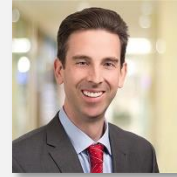
Our Technology Research Team, Cont'd



RUDY KESSINGER, CFA

SR. VICE PRESIDENT, SR. RESEARCH ANALYST
RKESSINGER@DADCO.COM

Rudy Kessinger joined D.A. Davidson in July 2021 to cover the enterprise software sector. Rudy was previously with Craig-Hallum Capital Group, where he built his expertise predominately across the customer engagement, contact center, content delivery and payroll sectors. Rudy holds a bachelor's degree in Finance from George Mason University.



GIL LURIA

MANAGING DIRECTOR, TECHNOLOGY STRATEGIST
GLURIA@DADCO.COM

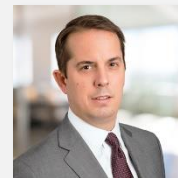
Gil Luria joined D.A. Davidson in March 2017 as Managing Director, Head of Institutional Research. Prior to joining D.A. Davidson, he was an analyst and head of technology research at Wedbush Securities for 11 years, primarily focused on e-commerce and financial technology companies. He previously covered large U.S. telecommunications companies at Sanford C. Bernstein and served as a Manager at Deloitte Consulting. Gil holds a bachelor's degree in economics from Hebrew University and an MBA from Columbia Business School.



ROBERT SIMMONS, CFA

SR. VICE PRESIDENT, SR. RESEARCH ANALYST
RSIMMONS@DADCO.COM

Robert Simmons joined D.A. Davidson in August 2021 to cover the software sector. Robert joins D.A. Davidson with 15 years of equity research experience, most recently serving as assistant vice president at RBC Capital Markets, where he covered enterprise application software. He previously held roles with Janney Capital Markets and Mizuho Securities. He earned a master's degree in finance from Boston College and a bachelor's degree in economics from Brandeis University.



TOM WHITE

MANAGING DIRECTOR, SR. RESEARCH ANALYST
TWHITE@DADCO.COM

Tom White joined D.A. Davidson in December 2017 to cover internet companies. Tom joined with more than 12 years of experience in sell-side equity research, having previously worked at Macquarie Capital, Gleacher & Company, and UBS covering the Internet and Interactive Entertainment sectors. Before Wall Street, Tom spent five years working in the internet advertising industry, including four years in various sales and business development roles at ValueClick, Inc. Tom holds a bachelor's degree in economics from Hamilton College and a master's degree in finance from the Fordham University Graduate School of Business.



Powerful Equity Sales And Trading Platform

DAVIDSON INSTITUTIONAL SALES OVERVIEW

A Tradition of Quality Research, Sales, Execution, and Service

Committed to providing liquidity and best execution services to a wide range of institutional investors, including many of the largest mutual fund and money managers in the world

20+ INSTITUTIONAL SALES & TRADING EXPERTS

7 TEAMS IN 6 LOCATIONS ACROSS THE U.S

15+ YEARS AVERAGE EXPERIENCE

500+ INSTITUTIONAL TRADING DESKS (COVERAGE)

COMPETITIVE ADVANTAGE

TRADING & MARKET MAKING



Distribution

Strong relationships with niche, small and mid-cap investor

Stability

Sector specialist in sales and trading

Liquidity

Leading market maker in trading volume for 1,100+ stocks

1,100+

STOCKS IN MARKET MAKING

500+

SMALL / MID-CAP STOCKS

INSTITUTIONAL SALES & TRADING OFFICES

Coast-To-Coast Coverage



NEW YORK CITY
NEW YORK



BOSTON
MASSACHUSETTS



DENVER
COLORADO



PORTLAND
OREGON



MINNEAPOLIS
MINNESOTA



RED BANK
NEW JERSEY



D.A. Davidson's Technology Debt Advisory Practice

Leveraging our relationships with over 300 debt and alternative capital sources, we work closely with corporates and sponsors to place financings of \$10M - \$250M+ with the appropriate capital partner, often accessing multiple touch points across a single lender to achieve the optimal capital solution

CAPITAL MARKETS & CREDIT EXPERTISE

- Knowledge of market terms, both financial and legal, allows us to interact with prospective lenders knowing their particular investment theses
- The Debt Advisory team maintains multiple contacts across large asset management organizations to provide solutions to our clients regardless of the situation: ABL, non-sponsored cash flow, software ARR, sponsored cash flow, specialty finance, special situations, venture loans, etc.
- We leverage our Tech team's deep industry expertise to optimize a Company's positioning and employ our credit knowledge to address key risks and mitigating factors in the financing memorandum
- The combination of market knowledge and credit positioning allow us to create a multitude of financing options that meet our clients' needs
- Debt Advisory works with public companies, sponsor-backed companies, founder and family owned businesses and their investors

SELECTED TECHNOLOGY DEBT TRANSACTIONS

QuickFee.

has completed multi-currency
asset-backed financing

\$70,000,000

from

Northleaf
Capital Partners

FINANCIAL ADVISOR

Process Summary

- Davidson was retained as exclusive financial advisor to arrange an omnibus multi-currency asset-backed financing to replace the Company's existing individual asset-backed facilities in Australia and the US
- Davidson ran a broadly targeted process including banks and private credit funds that had multi-currency funding capabilities and experience in the BNPL and/or litigation finance space
- The new \$70 million facility enables QuickFee to refinance its existing debt and create significant funding capacity for growth in both its existing and future markets

NINJACAT

has received senior secured
financing from



FINANCIAL ADVISOR

Process Summary

- Davidson was retained as exclusive financial adviser in order to identify an investor who would be a true partner and has a track record investing in marketing technology businesses
- Davidson ran a broad process inclusive of 200 financial investors focused on late-stage venture and growth equity investments
- Within three weeks of signing an LOI with Clovis Point Capital, Davidson's Debt Advisory group sourced and closed a highly-competitive debt financing from CIBC Innovation Bank
- Davidson was able to deliver a significant capital and debt raise in ~45 days from LOI sign to close without any parties (Company, Investor, diligence vendor, etc.) physically meeting



Deep Relationships with Financial Sponsors

D.A. Davidson provides in-depth coverage of private equity firms that invest in tech-enabled services businesses

DEDICATED FINANCIAL SPONSORS COVERAGE TEAM

In-depth coverage of the private equity community, from institutional funds to family offices

Strong relationships with decision makers at these firms give our clients access to capital across the spectrum from equity to debt and from control to growth and minority

A consistent, long term partner to private equity, selling companies to and for these firms



 has been acquired by SELL-SIDE ADVISOR	 has been acquired by Columbia River Partners SELL-SIDE ADVISOR	 has been acquired by SELL-SIDE ADVISOR	 has acquired a majority of BUY-SIDE ADVISOR	 has been acquired by SELL-SIDE ADVISOR	 has been acquired by a portfolio company of GREENBRIAR PARTNERS and First Aviation Services Inc. SELL-SIDE ADVISOR	 has been acquired by a portfolio company of SELL-SIDE ADVISOR	 has received an investment from FINANCIAL ADVISOR	 has been acquired by SELL-SIDE ADVISOR
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D.A. Davidson | MCF International Office Locations



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611 Anton Blvd.
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(714) 327-8800

BOSTON

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HELSINKI*

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PORTLAND

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SALT LAKE CITY

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DENVER

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NEW YORK CITY

757 Third Ave.
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