

FOCUS

Investment Banking

Telecom Technology and Services Group

Enterprise-Focused Telecom Technology Quarterly



Investment Banking and Advisory Services

FOCUS Investment Banking LLC is a leading investment bank with specialized telecom technology and services expertise, concentrating on providing highly tailored services to emerging middle market and larger organizations in this sector:

- Mergers & Acquisition Advisory
- Corporate Development Consulting
- Strategic Partnering & Alliances
- Capital Financing, Debt & Equity
- Corporate Valuations

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Enterprise-Focused Telecom Technology Quarterly

By **Richard Pierce**, FOCUS Managing Director and Telecom Technology and Services Team Leader

FOCUS believes that the Enterprise-Focused Telecom Technology sector is one of the most exciting in Telecom. Businesses today have an unprecedented opportunity to enhance operating efficiency and reduce costs by converging separate voice and data networks, empowering remote and mobile workers, extending communications to harsh outdoor and industrial environments, enhancing customer service and moving applications to a hosted or “cloud” environment. However, to achieve these benefits organizations must overcome a host of non-trivial challenges including bandwidth management, quality of service prioritization and monitoring, device proliferation and network security. While many of the largest players in the communications equipment industry are indeed helping to meet these challenges, we believe there is significant innovation among middle market technology providers and ample opportunities for them to create meaningful value for their shareholders. FOCUS is proud of its commitment to the Enterprise-Focused Telecom Technology sector and we are excited about the prospects for middle market companies in this space.

The FOCUS Telecom Technology and Services group consists of two professionals with a combined 30+ years of transaction experience across a wide variety of telecommunications-related companies. The FOCUS Telecom team is uniquely qualified to help middle market clients reach their strategic objectives because the group:

- Devotes significant senior level resources to executing transactions for lower middle market clients,
- Has a breadth of knowledge that covers most segments of the telecom industry,

- Has bankers with C-level operating experience in the telecom industry,
- Has a proven transaction methodology for delivering results,
- Is equally comfortable with buy side and sell side M&A,
- Leverages an experienced team of research professionals,
- Has a national presence with coverage of both East and West coasts.

Sub Sector Definitions

Enterprise Networking: Enterprise-grade switches and routers (wireline and wireless), enterprise CPE and application and bandwidth management tools such as WAN optimization and application acceleration

Industrial Networking and M2M: Ruggedized equipment designed for communications in harsh environments as well as equipment utilized for machine-to-machine communications

Network Management: Software used by enterprises to manage and monitor their voice communications and data networks

Network Security: Software applications designed to identify and protect against a wide variety of network security-related threats

Unified Communications and Contact Center: PBXs, videoconferencing-related products and software products designed to enhance the efficiency of contact center networks.

Summary Comments

Public Markets

While a 2.0% drop in the Focus Enterprise-Focused Telecom Technology Index (EFTTI) over the course of a three-month period would normally be considered disappointing, given the current environment for public equities it seems like a victory. This is highlighted by comparing it to the three-month drop in the S&P 500 of nearly 10%, and it also beats out the 2.9% decline in the NASDAQ over the same time frame. Sector performance is not as strong when measured over the full year period as the 11.9% decline in the EFTTI stacks up unfavorably compared to the 1.1% decline in the S&P 500 and the 9.8% gain in the NASDAQ. Sector multiples are also down significantly compared to this same time last year. The sector revenue multiple dropped nearly a full turn from 4.8x to 4.0x, while the sector EBITDA multiple fell from 20.3x to 16.6x.

Enterprise Networking

The Enterprise Networking sub sector was down 4.5% in our spring reporting period with seven of the 12 stocks in negative territory for the period. This included a 7.8% decline at Cisco and a 42.4% decline at Extreme Networks. Other vendors fared significantly better, including strong gains at Accton (up 36.3%), Aerohive Networks (which more than doubled in value) and Citrix (up nearly 20%). The sub sector's drop this period continues a trend that had started well before the pandemic, and it is now down 20.5% year-over-year. Only three of the companies in the sub sector are trading higher than they were at this time last year. These companies are A10 Networks, Accton and Citrix. As one might expect, sub sector multiples are down year-over-year and closed out the period at 3.3x revenue (down from 4.4x a year ago) and 11.4x EBITDA (down from 15.9x a year ago).

Industrial and M2M

The Industrial and M2M sub sector was the worst performing sub sector in the EFTTI this period with a three-month decline of 13.7%. Losses were broad-based as five of the seven companies in the index had double digit losses. Inseego was the only company in the sub sector to buck the trend and close out the period in the black. On the bright side, it did so in relatively spectacular fashion with a gain of nearly 80% for the period. The Industrial and M2M sub sector's 12-month return of negative 20.7% puts it in the EFTTI's cellar over this time period as well. Surprisingly, even with the sub sector's losses, multiples are higher than they were in the year-ago period. The sub sector revenue multiple climbed from 1.1x to 1.3x, while the EBITDA multiple shot up from 8.9x to 12.6x.

Network Management

The Network Management sub sector had a second straight reporting period in negative territory with a three-month drop of 6.1%. This was entirely due to a 10.3% loss at SolarWinds. The other two companies in the sub sector actually posted gains for the period. The sub sector is also down year-over-year with a loss of 12.4%. Losses are fairly evenly distributed over this time period, ranging from negative 9.9% to negative 14.2%. Multiples are also lower than they were last year and ended the period at 4.7x revenue and 25.4x EBITDA. Both of these are lower than year-ago multiples of 5.3x revenue and 39.5x EBITDA.

Network Security

The Network Security sub sector was yet another sub sector in the red this reporting period with a decline of 8.5% over the past three months. Seven of the stocks in the index had double digit losses including Cheetah Mobile, CyberArk, FireEye, NortonLifeLock, Palo Alto Networks, Rapid7 and SecureWorks. Conversely, the only companies to manage positive returns were CrowdStrike, Ping Identity, Qualys and Zscaler. The Network Security sub sector's performance for the full year is strikingly similar to its three-month performance with a year-over-year decline of 8.0%. Decliners significantly outnumbered gainers over this time frame as well, including 9 stocks that suffered double digit declines. Like so many other sub sectors this period, multiples are lower than they were a year ago. The current sub sector revenue multiple of 5.4x compares unfavorably to last year's multiple of 6.6x, and the same conclusion can be made when comparing this period's EBITDA multiple of 37.6x to last year's multiple of 42.6x.

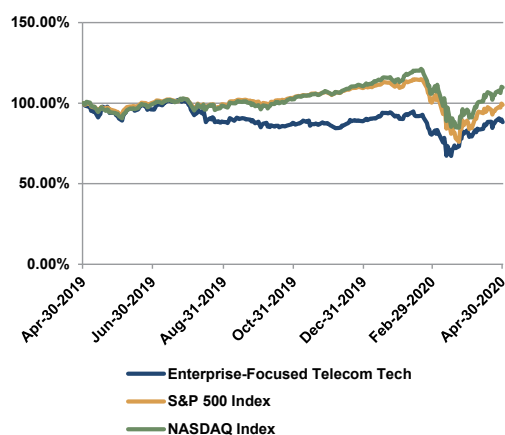
Unified Communications and the Contact Center

Not only was the Unified Communications and the Contact Center sub sector the only sub sector to boast a positive return this period, but it did so with an extremely strong gain of more than 40% in the past three months. It will come as no surprise to anyone that the company leading the charge was Zoom Communications, which gained 77.2%. The other strong performers for the sub sector were cloud contact center provider Five9, which enjoyed a gain of 29.2%, and eGain, which increased by slightly more than 15%. Beyond these three stocks the situation looks considerably bleaker, with the remaining five compa-

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Enterprise-Focused Telecom Technology: Public Market Summary

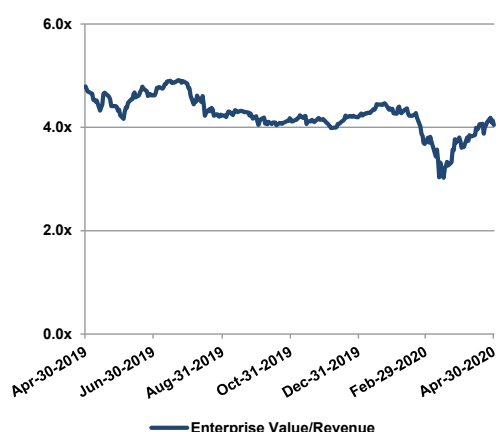
Twelve Month Index Returns



Sector and Sub Sector Returns

	12 Month	3 Month
Enterprise-Focused Telecom Tech	-11.9%	-2.0%
Enterprise Networking	-20.5%	-4.5%
Industrial and M2M	-20.7%	-13.7%
Network Management	-12.4%	-6.1%
Network Security	-8.0%	-8.5%
Unified Comms & Contact Center	53.1%	42.3%
S&P 500	-1.1%	-9.7%
NASDAQ	9.8%	-2.9%

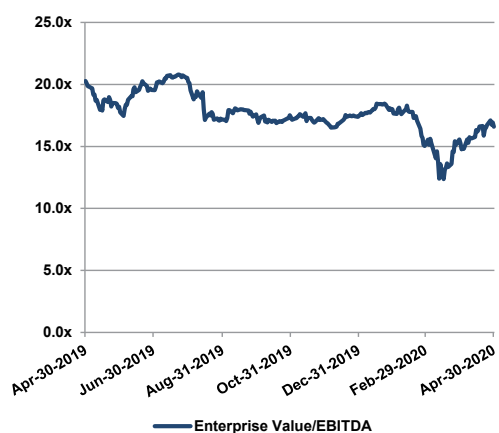
Revenue Multiple Trends



Sector and Sub Sector Revenue Multiples

	4/30/2020	4/30/2019
Enterprise-Focused Telecom Tech	4.0x	4.8x
Enterprise Networking	3.3x	4.4x
Industrial and M2M	1.3x	1.1x
Network Management	4.7x	5.3x
Network Security	5.4x	6.6x
Unified Comms & Contact Center	9.2x	6.5x

EBITDA Multiple Trends



Sector and Sub Sector EBITDA Multiples

	4/30/2020	4/30/2019
Enterprise-Focused Telecom Tech	16.6x	20.3x
Enterprise Networking	11.4x	15.9x
Industrial and M2M	12.6x	8.9x
Network Management	25.4x	39.5x
Network Security	37.6x	42.6x
Unified Comms & Contact Center	75.7x	55.3x

Source: Capital IQ

M&A Summary Comments

M&A

As might be expected, M&A activity in the Enterprise-Focused Telecom Technology sector slowed significantly this period. The total of 36 announced transactions is down more than 30% from the number of transactions we counted in our winter report. The total announced transaction dollar volume still came in relatively strong at \$4.8 billion in the last three months, but the two transactions that accounted for the vast majority of this total were both inked in February prior to the general COVID-19 shutdown. For the year we now stand at 67 total transactions with a total announced transaction dollar volume of \$6.9 billion. This means that 2020 is still on pace for a very strong year of M&A activity. However, it seems probable that activity will slow over these next few months and our level of M&A activity will begin to fall behind what we typically see.

Enterprise Networking

Activity in the Enterprise Networking sub sector continued at a relatively brisk pace with three transactions for the period. The largest of these was the \$420 million purchase of software-defined WAN vendor CloudGenix by security company Palo Alto Networks. Kemp Technologies also made its inaugural acquisition following its change of private equity backers with its pickup of India-based application management company Lithops. Finally, Han Tang Technology acquired router company R Squared Technologies.

Industrial and M2M

There were no transactions in the Industrial and M2M sub sector this reporting period.

Network Management

After a robust level of activity in our winter report, the Network Management sub sector slowed down considerably with only two transactions this period. Martello Technologies acquired GSX for \$13.3 million. GSX provides end-user experience monitoring software for Microsoft Office 365. In the sub sector's second transaction, cloud-based IT resources management vendor Shanghai Qianyun Information Technology was acquired by Shanghai Guao Electronic Technology.

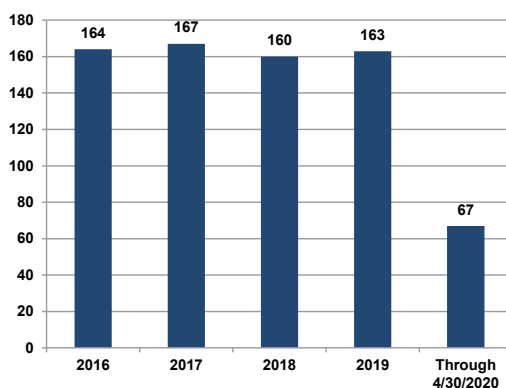
Network Security

Activity in the Network Security sub sector remained strong with 25 total transactions this period. These transactions included the two largest acquisitions this period; the acquisition of Dell's RSA Security division by Symphony Technology Group for \$2.1 billion and the acquisition of Forescout by Advent International and Crosspoint Capital for \$1.8 billion. A number of other significant players in the security space were also active this period as Rapid7, Zscaler, HelpSystems, Avast Software and McAfee all notched acquisitions. Finally, we noted two new platform companies in the space with the acquisition of Tavve Software by Defiance Ventures and the acquisition of Heimdal Security by Marlin Equity Partners.

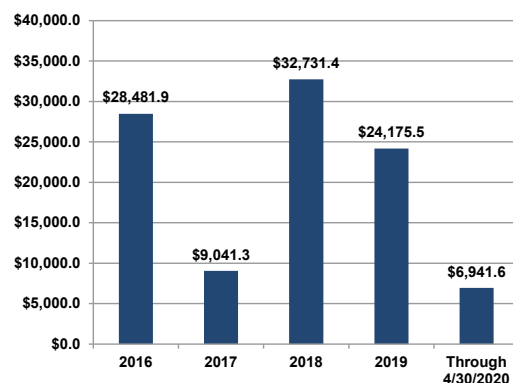
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Enterprise-Focused Telecom Technology: M&A Summary

M&A Activity: Number of Transactions



M&A Activity (\$ Value of Transactions in Millions)



Unified Communications and the Contact Center

M&A activity in the Unified Communications and the Contact Center sub sector slowed somewhat but still remained at respectable levels with six transactions this period. Perhaps the most interesting of these was Verizon's effort to capitalize on the popularity of videoconferencing tools with its acquisition of BlueJeans Networks. This was not the only videoconferencing transaction this period as Serenova also acquired LifeSize. Outside of videoconferencing, Sinch acquired customer messaging company Wavy. The final three transactions in the sub sector all involved contact center software vendors. This includes Five9's second acquisition in as many reporting periods, as the company added the operations of Virtual Observer to its existing solutions portfolio.

Transactions with Announced Multiples

We had three transactions with announced revenue multiples in our spring reporting period, including two that also had announced EBITDA multiples. In the first transaction with both revenue and EBITDA multiples, Sinch's acquisition of Wavy weighed in at multiples of 1.3x revenue and 12.4x EBITDA. The acquisition of GSX by Martello Technologies came in at a significantly higher revenue multiple of 2.7x, but the EBITDA multiple was lower at 10.8x. Finally, the multiple for Shanghai Qianyun Information Technology was 4.8x revenue. No EBITDA multiple information was made available for this transaction.

Summary Comments (continued from page 3)

nies exhibiting losses ranging from 5.3% to 41.6%. The situation for the full year is similar, with the sub sector's 53.1% gain making it the only sub sector in the EFTTI to deliver a positive year-over-year return. Five9 and Zoom were once again the top performers, although Enghouse Systems replaced eGain as the third company to sup-

port the sub sector's year-over-year gains. As one might expect, sub sector multiples expanded rapidly and ended the period at 9.2x revenue (up from 6.5x a year ago) and 75.7x EBITDA (up from 55.3x a year ago). Zoom itself is now trading at nearly 60x revenue despite being roughly breakeven in EBITDA.

M&A Announced Transactions (2/1/20 – 4/30/20)

Acquiror	Target	Sector	Date Announced	Purchase Price	Description
Martello Technologies	GSX	Network Management	4/29/20	\$13.3	Provides end-user experience monitoring software for Microsoft Office 365 for businesses.
Rapid7	Divvy Cloud	Security	4/28/20	\$145.0	Automated prevention and real-time remediation of risk for cloud environments.
Kreditschutzverband	Nimbusec	Security	4/23/20	NA	Scans websites around the clock and informs users immediately if they have been hacked or manipulated.
Shanghai Guao Electronic Technology	Shanghai Qianyun Information Technology	Network Management	4/21/20	\$3.4	Cloud management platforms that help enterprises use and manage cloud-based IT resources.
Verizon	BlueJeans Networks	Unified Comms & Contact Center	4/16/20	NA	Videoconferencing, webinar and online event management SaaS for businesses.
Swimlane	Syncurity	Security	4/16/20	NA	Security alert and incident response management system to remediate incidents before they become breaches.
CollabNet	Arxan Technologies	Security	4/15/20	NA	Web, desktop and mobile application anti-tampering, anti-malware and code protection software for businesses.
Investcorp	Avira	Security	4/9/20	\$180.0	Desktop and mobile anti-virus, anti-malware and anti-spam software and SaaS for businesses and consumers.
Zscaler	Cloudneeti	Security	4/9/20	NA	Cloud security posture management SaaS for businesses that prevents cloud application misconfigurations.
Signicat	Connectis	Security	4/2/20	NA	Online identification, authentication and authorization SaaS for businesses.

M&A Announced Transactions (2/1/20 – 4/30/20) continued

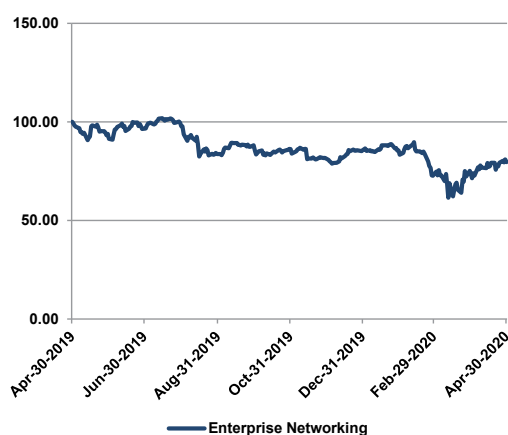
Acquiror	Target	Sector	Date Announced	Purchase Price	Description
Palo Alto Networks	CloudGenix	Enterprise Networking	3/31/20	\$420.0	Enterprise networking WAN software and appliances that enable the creation and monitoring of software-defined wide area networks.
Defiance Ventures	Tavve Software	Security	3/31/20	NA	Application-layer proxy firewall appliance for management protocol traffic.
Sinch	Wavy	Unified Comms & Contact Center	3/26/20	\$116.0	AI-based customer messaging SaaS and APIs for businesses that can be integrated into existing CRM systems.
Brex	Neji	Security	3/24/20	NA	Blockchain-based networking security systems that enable scaling of blockchain distributed ledgers.
AudioEye	RedOwl Analytics	Security	3/23/20	NA	Cyber security platform that offers information security and regulatory surveillance.
Constellation Software	Collab - Soluções Informáticas de Comunicação e Colaboração	Unified Comms & Contact Center	3/19/20	NA	Multi-media contact center and cloud PBX solutions for telecommunications services providers and contact centers.
Han Tang Technology	R Squared Technologies	Enterprise Networking	3/17/20	NA	Manufactures routers for portable communications between wired and Wi-Fi enabled devices.
Auth0	Apility.io	Security	3/12/20	NA	Threat intelligence SaaS that extracts information from IP addresses, domains and emails and filters those classified as malicious.
AgilePQ	Centri Technology	Security	3/11/20	NA	IoT device data communication security software that includes features for data encryption and compression.
OUTSOC	SIEMplexus	Security	3/11/20	NA	Security information center, security information and event management software.
Serenova	LifeSize	Unified Comms & Contact Center	3/10/20	NA	Videoconferencing SaaS that enables businesses to host free video and audio calls instantly via a shared link to their teams.
Watchguard Technologies	Panda Security	Security	3/9/20	NA	Provides advanced endpoint protection solutions.
Marlin Equity Partners	Heimdal Security	Security	3/5/20	NA	Data security software that blocks malware and ransomware for consumer and corporate endpoints.
HelpSystems	Cobalt Strike	Security	3/4/20	NA	Threat emulation software that executes targeted attacks and replicates advanced threats.
Akamai	Instart Logic	Security	2/27/20	NA	Cloud, web and mobile application security and optimization SaaS as well as a hosted content delivery network for businesses.
Avast Software	Emerald Cactus Ventures	Security	2/26/20	\$4.3	Private encrypted browser for travelers, students, employees and others who want to protect their privacy online.
McAfee	Light Point Security	Security	2/24/20	NA	Browser isolation technology that protects users from zero-day and other emerging malware.
Nominet	CyGlass	Security	2/20/20	NA	Network-centric dark threat detection solutions that identify and respond to non-signature based cyber threats.
Five9	Virtual Observer	Unified Comms & Contact Center	2/19/20	\$32.0	Contact center SaaS with features including agent interface, call recording, screen capture and call evaluation and scoring.
Symphony Technology Group	Dell (RSA Security Group)	Security	2/18/20	\$2,075.0	Network identity authentication, access control and management security software.
Kemp Technologies	Lithops	Enterprise Networking	2/17/20	NA	Application networking and network security solutions and services in India.
Advent International and Crosspoint Capital Partners	ForeScout	Security	2/6/20	\$1,786.0	Software that enables users to discover and classify IP-based devices in real time and continuously monitors security threats.
ziwit	CloudFilt	Security	2/5/20	NA	Bot detection technology that provides security for websites, web apps and APIs.
Virtual Hold Technology	TEN DIGIT Communications	Unified Comms & Contact Center	2/4/20	NA	Mobile-first engagement platform for real time, two-way mobile conversations between organizations and their customers.
Hewlett Packard Enterprise	Scytale	Security	2/3/20	NA	User authentication across cloud, container and on-premises infrastructures for secure access to applications and systems.
Zelnick Media Corporation	Simeio	Security	2/3/20	NA	Identity and access management software solutions.

M&A Announced Transactions with Revenue Multiples (5/1/19 – 4/30/20)

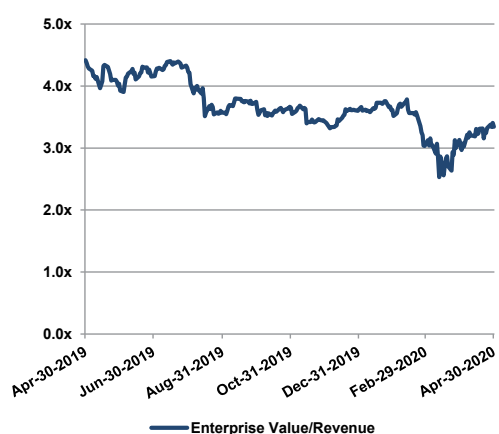
Acquiror	Target	Sector	Date Announced	Purchase Price	Revenue Multiple	EBITDA Multiple	Description
Martello Technologies	G SX	Network Management	4/29/20	\$13.3	2.7 x	10.8 x	Provides end-user experience monitoring software for Microsoft Office 365 for businesses.
Shanghai Guao Electronic Technology	Shanghai Qianyun Information Technology	Network Management	4/21/20	\$3.4	4.8 x	NA	Cloud management platforms that help enterprises use and manage cloud-based IT resources.
Sinch	Wavy	Unified Comms & Contact Center	3/26/20	\$116.0	1.3 x	12.4 x	AI-based customer messaging SaaS and APIs for businesses that can be integrated into existing CRM systems.
F5 Networks	Shape Security	Security	12/19/19	\$1,000.0	16.7 x	NA	AI-enabled web and mobile application fraud protection software for banks, airlines, retailers and government agencies.
Beijer Electronics	Virtual Access	Industrial and M2M	10/30/19	\$20.0	1.5 x	NA	Wireless industrial routers and gateways as well as network performance activators for controlled connectivity.
Thoma Bravo	Sophos	Security	10/14/19	\$3,913.5	5.5 x	49.2 x	Provides cloud-enabled end-user and network security solutions including endpoint protection, firewall and cloud security analytics.
Hewlett Packard Enterprise	Bromium	Security	9/19/19	\$30.0	1.5 x	NA	Endpoint security SaaS that isolates browser-based attacks, malicious downloads and attachments and other applications.
VMware	Carbon Black	Security	8/22/19	\$2,139.7	9.3 x	NM	Cloud-native platform that leverages big data and behavioral analytics to provide comprehensive endpoint protection.
Broadcom	Symantec (Enterprise Security Assets)	Security	8/8/19	\$10,700.0	4.6 x	NA	Endpoint and information protection products including endpoint security, advanced threat protection and information protection.
8x8	Wavecell	Unified Comms & Contact Center	7/17/19	\$125.0	3.9 x	NA	Communications platform-as-a-service software that enables SMS, chat, push notifications, voice and video communications.
Westermo Teleindustri	Neratec Solutions	Industrial and M2M	7/8/19	\$5.0	0.8 x	NA	Hardware, software and wireless local area network products for industrial applications.
Extreme Networks	Aerohive Networks	Enterprise Networking	6/26/19	\$228.4	1.5 x	NM	Cloud networking and enterprise Wi-Fi solutions including wireless access points, branch routers and switches.
Enghouse Systems	Vidyo	Unified Comms & Contact Center	5/14/19	\$40.0	0.7 x	NA	Enterprise-class video software solutions that support visual communications across diverse end-points and networks.

Sub Sector Analysis: Enterprise Networking

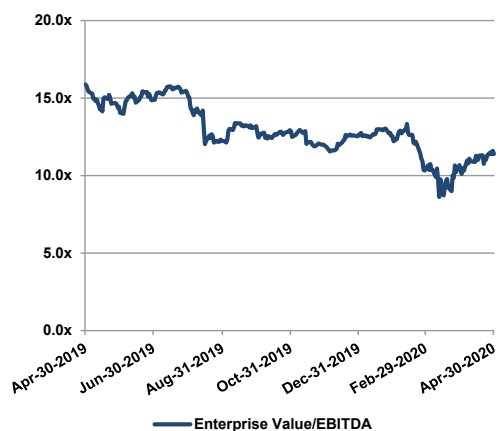
Twelve Month Index Returns



Revenue Multiple Trends



EBITDA Multiple Trends



Source: Capital IQ

Company Returns

	12 Month	3 Month
Enterprise Networking Index	-20.5%	-4.5%
A10 Networks	5.7%	0.3%
Accton	72.7%	36.3%
Aerohive Networks	-20.4%	114.9%
Arista Networks	-29.8%	-1.8%
Cisco	-24.3%	-7.8%
Citrix	43.6%	19.6%
D-Link	-11.9%	-10.0%
Extreme Networks	-57.5%	-42.4%
F5 Networks	-11.2%	14.0%
NetGear	-22.7%	-6.8%
Radware	-9.2%	-7.0%
Unizyx Holding (Zyxel)	-28.7%	-5.9%

Company Revenue Multiples

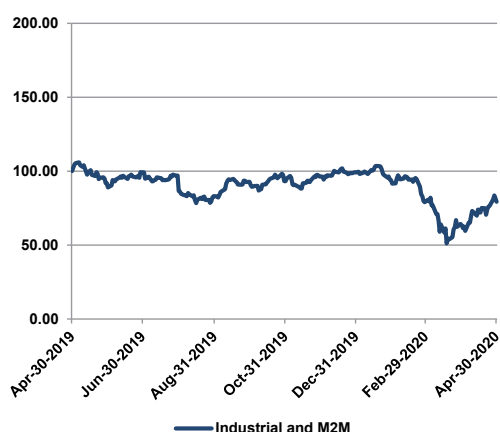
	4/30/2020	4/30/2019
Enterprise Networking Index	3.3x	4.4x
A10 Networks	2.1x	1.6x
Accton	2.0x	1.5x
Aerohive Networks	2.9x	3.5x
Arista Networks	6.0x	9.7x
Cisco	3.3x	4.5x
Citrix	6.1x	4.6x
D-Link	0.4x	0.3x
Extreme Networks	0.7x	1.0x
F5 Networks	3.6x	3.7x
NetGear	0.5x	0.7x
Radware	3.7x	3.8x
Unizyx Holding (Zyxel)	0.2x	0.4x

Company EBITDA Multiples

	4/30/2020	4/30/2019
Enterprise Networking Index	11.4x	15.9x
A10 Networks	NM	NM
Accton	17.5x	16.8x
Aerohive Networks	178.9x	NM
Arista Networks	17.3x	28.8x
Cisco	10.5x	15.0x
Citrix	24.9x	17.0x
D-Link	NM	29.0x
Extreme Networks	15.5x	13.2x
F5 Networks	15.3x	11.9x
NetGear	15.5x	10.8x
Radware	35.1x	37.6x
Unizyx Holding (Zyxel)	13.0x	NM

Sub Sector Analysis: Industrial and M2M

Twelve Month Index Returns



Company Returns

	12 Month	3 Month
Industrial and M2M Index	-20.7%	-13.7%
Belden	-38.5%	-30.6%
CalAmp	-54.0%	-30.1%
Digi International	-11.8%	-28.1%
Inseego	161.5%	78.1%
Lantronix	-13.2%	-17.3%
Sierra Wireless	-29.5%	-2.6%
Telit Communications	-38.3%	-25.5%

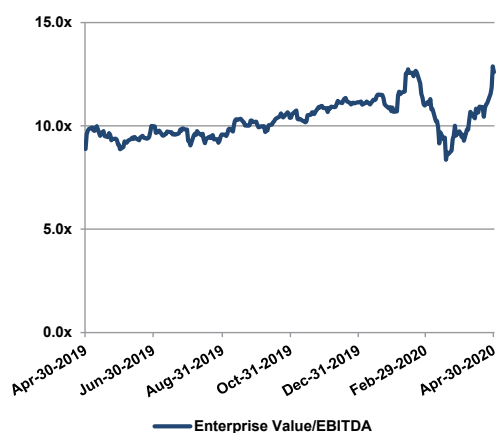
Revenue Multiple Trends



Company Revenue Multiples

	4/30/2020	4/30/2019
Industrial and M2M Index	1.3x	1.1x
Belden	1.3x	1.6x
CalAmp	1.0x	1.4x
Digi International	1.6x	1.1x
Inseego	5.7x	2.2x
Lantronix	1.8x	1.3x
Sierra Wireless	0.4x	0.5x
Telit Communications	0.4x	0.8x

EBITDA Multiple Trends



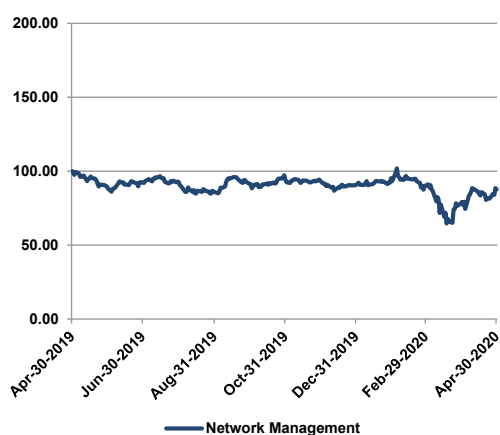
Company EBITDA Multiples

	4/30/2020	4/30/2019
Industrial and M2M Index	12.6x	8.9x
Belden	8.4x	8.6x
CalAmp	24.0x	11.2x
Digi International	18.6x	9.8x
Inseego	NM	43.8x
Lantronix	398.7x	23.8x
Sierra Wireless	57.7x	13.9x
Telit Communications	7.6x	44.5x

Source: Capital IQ

Sub Sector Analysis: Network Management

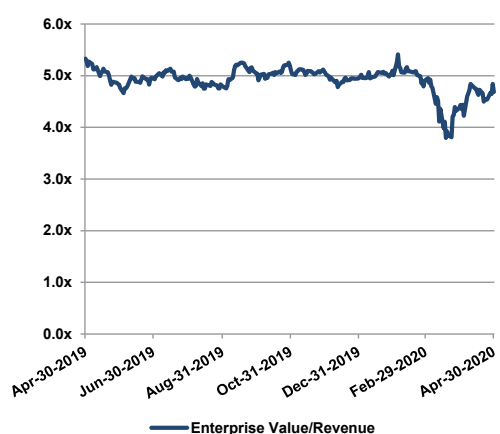
Twelve Month Index Returns



Company Returns

	12 Month	3 Month
Network Management Index	-12.4%	-6.1%
MobileIron	-14.2%	6.7%
NetScout	-9.9%	3.0%
SolarWinds	-13.1%	-10.3%

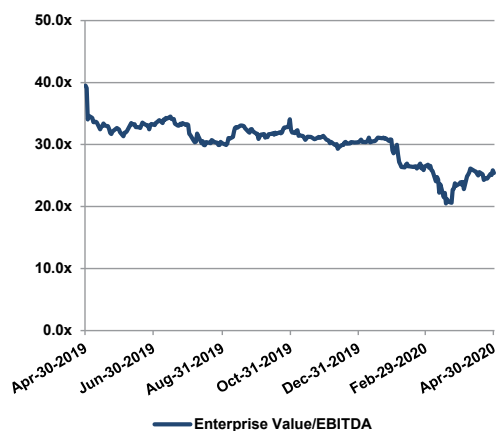
Revenue Multiple Trends



Company Revenue Multiples

	4/30/2020	4/30/2019
Network Management Index	4.7x	5.3x
MobileIron	2.4x	2.8x
NetScout	2.4x	2.7x
SolarWinds	7.3x	8.8x

EBITDA Multiple Trends



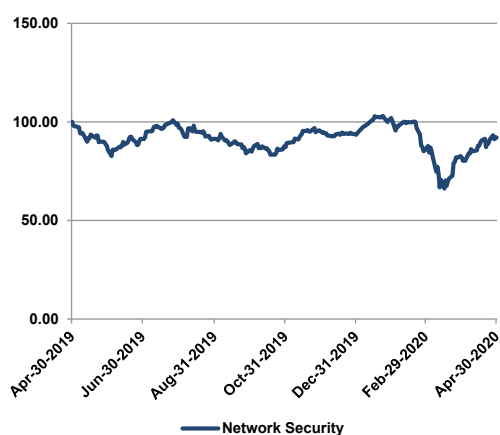
Company EBITDA Multiples

	4/30/2020	4/30/2019
Network Management Index	25.4x	39.5x
MobileIron	NM	NM
NetScout	15.6x	18.7x
SolarWinds	32.2x	37.2x

Source: Capital IQ

Sub Sector Analysis: Network Security

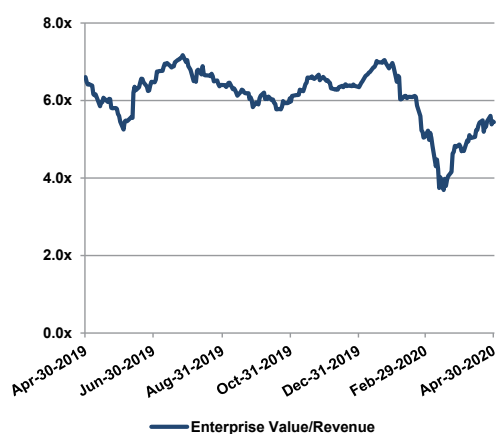
Twelve Month Index Returns



Company Returns

	12 Month	3 Month
Network Security Index	-8.0%	-8.5%
Checkpoint	-12.4%	-7.5%
Cheetah Mobile	-67.5%	-40.8%
CrowdStrike	NA	10.8%
CyberArk	-23.4%	-28.6%
FireEye	-28.2%	-28.0%
Fortinet	15.3%	-6.6%
NortonLifeLock	-12.1%	-25.2%
Palo Alto Networks	-21.0%	-16.3%
Ping Identity	NA	2.8%
Proofpoint	-2.9%	-0.9%
Qualys	16.8%	23.0%
Rapid7	-16.2%	-23.3%
SecureWorks	-41.4%	-27.7%
Tenable	-27.4%	-4.4%
Trend Micro	2.6%	-3.8%
Zscaler	-1.8%	19.6%

Revenue Multiple Trends



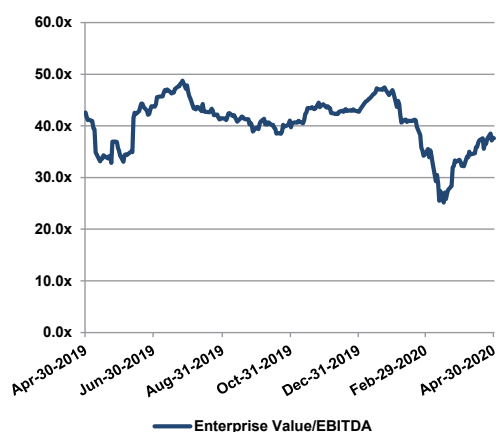
Company Revenue Multiples

	4/30/2020	4/30/2019
Network Security Index	5.4x	6.6x
Checkpoint	6.8x	8.8x
Cheetah Mobile	NM	0.6x
CrowdStrike	28.1x	NA
CyberArk	7.4x	11.9x
FireEye	2.9x	3.6x
Fortinet	6.8x	8.0x
NortonLifeLock	1.0x	3.8x
Palo Alto Networks	5.9x	8.2x
Ping Identity	7.8x	NA
Proofpoint	7.8x	9.0x
Qualys	12.0x	11.2x
Rapid7	7.1x	9.6x
SecureWorks	1.4x	2.8x
Tenable	6.4x	11.0x
Trend Micro	3.6x	3.7x
Zscaler	23.1x	29.8x

Source: Capital IQ

Sub Sector Analysis: Network Security (continued)

EBITDA Multiple Trends

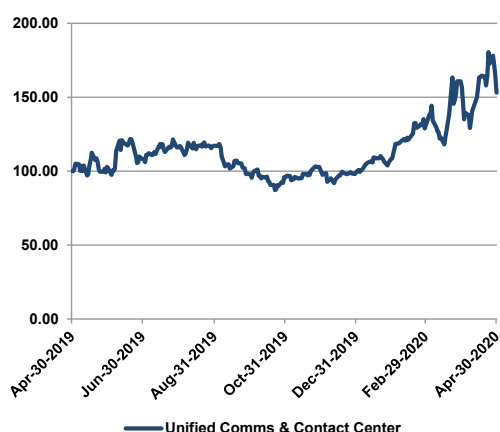


Company EBITDA Multiples

	4/30/2020	4/30/2019
Network Security Index	37.6x	42.6x
Checkpoint	15.2x	18.4x
Cheetah Mobile	NM	7.5x
CrowdStrike	NM	NA
CyberArk	44.0x	64.4x
FireEye	NM	NM
Fortinet	35.2x	48.7x
NortonLifeLock	4.5x	17.9x
Palo Alto Networks	388.3x	154.5x
Ping Identity	88.3x	NA
Proofpoint	NM	NM
Qualys	37.9x	37.8x
Rapid7	NM	NM
SecureWorks	NM	NM
Tenable	NM	NM
Trend Micro	11.2x	11.5x
Zscaler	NM	NM

Sub Sector Analysis: Unified Communications and the Contact Center

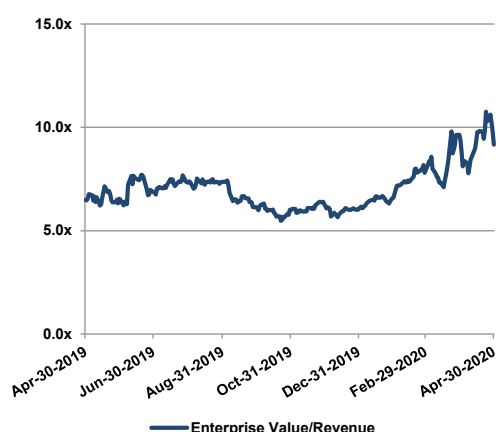
Twelve Month Index Returns



Company Returns

	12 Month	3 Month
Unified Comms & Contact Center Index	53.1%	42.3%
Avaya	-47.9%	-22.2%
ClearOne	-19.8%	-14.1%
eGain	-16.9%	15.3%
Enghouse Systems	54.1%	-5.3%
Five9	74.6%	29.2%
Liveperson	-18.4%	-41.6%
Verint	-29.2%	-26.3%
Zoom	86.5%	77.2%

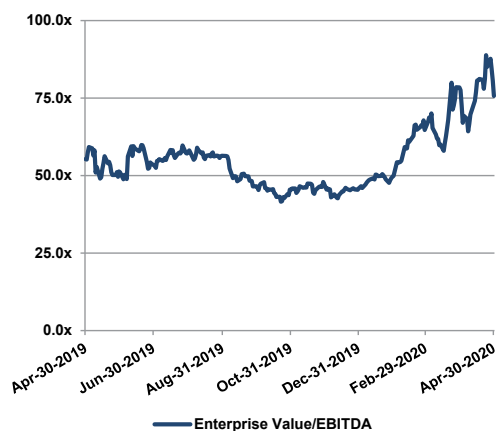
Revenue Multiple Trends



Company Revenue Multiples

	4/30/2020	4/30/2019
Unified Comms & Contact Center Index	9.2x	6.5x
Avaya	1.2x	1.6x
ClearOne	1.0x	0.9x
eGain	3.2x	4.4x
Enghouse Systems	6.5x	4.6x
Five9	16.2x	11.3x
Liveperson	5.4x	7.1x
Verint	2.6x	3.5x
Zoom	59.3x	47.9x

EBITDA Multiple Trends



Company EBITDA Multiples

	4/30/2020	4/30/2019
Unified Comms & Contact Center Index	75.7x	55.3x
Avaya	8.5x	11.0x
ClearOne	NM	NM
eGain	34.6x	56.3x
Enghouse Systems	25.0x	15.9x
Five9	413.7x	172.2x
Liveperson	NM	NM
Verint	20.9x	23.2x
Zoom	1267.1x	1012.5x

Source: Capital IQ

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