

M&A INDUSTRY REPORT

# Telecom Technology

FOCUS is a leading national M&A brand for the lower middle market. With over 40 years of experience, a global footprint, and hundreds of successful deals across myriad industries, FOCUS continues its mission to redefine the banker/client relationship.

SUMMER 2024



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## OVERVIEW

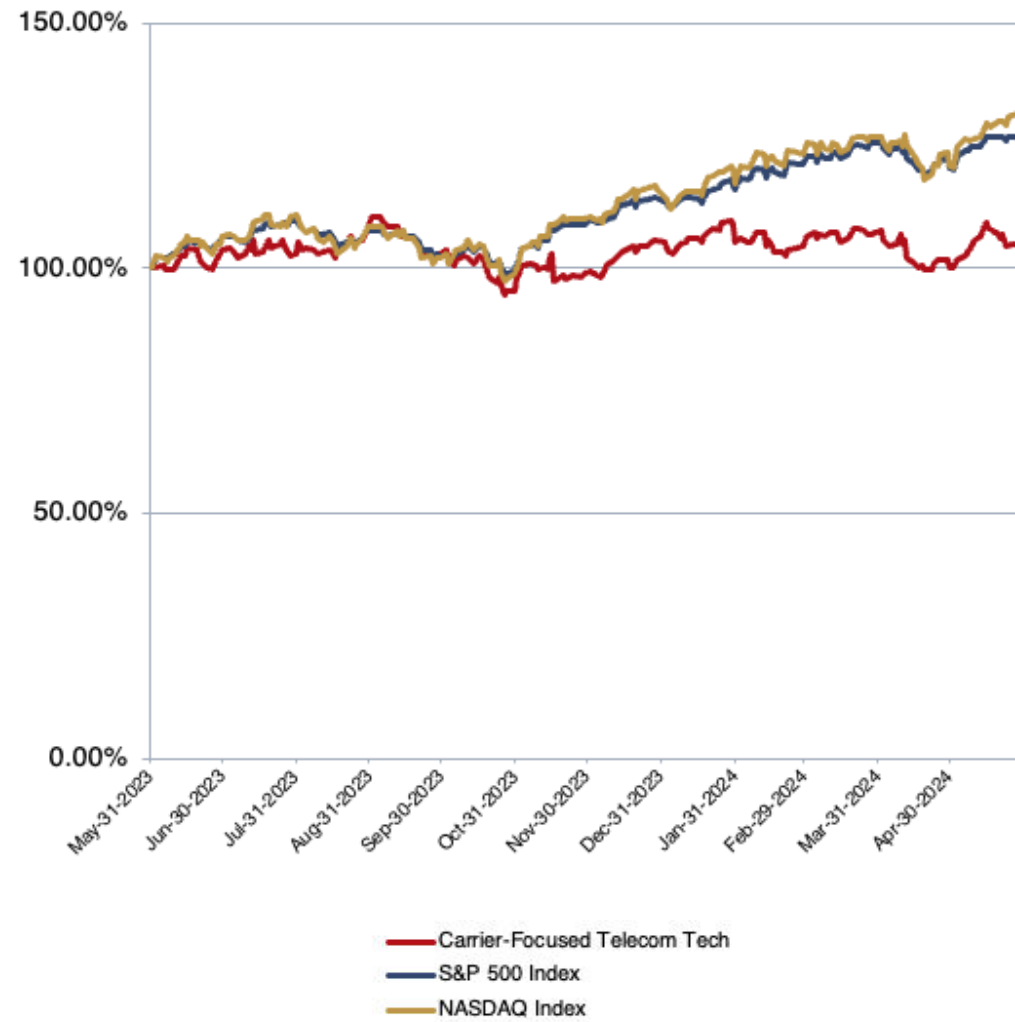
# The FOCUS Telecom Technology Index (TTI) returned to negative territory this reporting period as the sector dropped 1.4% over the past three months.

This was despite a generally favorable market that pushed the S&P 500 up 3.6% and the NASDAQ up 4.0%. Even with this period's loss, the TTI still remains in positive territory for the last 12 months with a gain of 4.1%. However, the sector still lagged both the S&P 500 and NASDAQ by a wide margin over the past year. The S&P 500 is up 26.3% over this time frame, while the NASDAQ gained 29.4%.

The Broadband Wireless sub sector had a particularly strong reporting period with a three-month gain of 18.3%. This gain was entirely attributable to a 22.2% gain at Ubiquiti Networks. The only other sub sector in the TTI in positive territory for our summer reporting period was Enterprise Networking. This sub sector gained a more modest 4.1% behind solid increases at A10 Networks and Arista Networks. At the opposite end of the spectrum, the OSS/BSS Software sub sector was the TTI's worst performing sub sector over the past three months with a loss of 11.4%. The sub sector's losses were broad-based, with seven of the nine companies in the sub sector in the red for the period.

**PUBLIC MARKETS SUMMARY**

## Twelve Month Index Returns



## Sector and Sub Sector Returns

	12 Month	3 Month
Telecom Technology	4.1%	-1.4%
Large Cap	-5.2%	-2.1%
Broadband Access and Transport	-7.2%	-8.9%
Broadband Wireless	-13.7%	18.3%
Enterprise Networking	58.8%	4.1%
OSS/BSS	-10.6%	-11.4%
Test and Measurement	-13.3%	-0.9%
Unified Comms and Contact Center	-13.9%	-10.6%
S&P 500	26.3%	3.6%
NASDAQ	29.4%	4.0%

**PUBLIC MARKETS SUMMARY CONTINUED**

## Sector and Sub Sector Revenue Multiples

	5/31/24	5/31/23
Telecom Technology	2.6x	2.3x
Large Cap	2.1x	1.9x
Broadband Access and Transport	1.7x	2.0x
Broadband Wireless	3.6x	4.1x
Enterprise Networking	7.1x	4.6x
OSS/BSS	2.6x	2.6x
Test and Measurement	1.7x	1.7x
Unified Comms and Contact Center	2.2x	3.0x

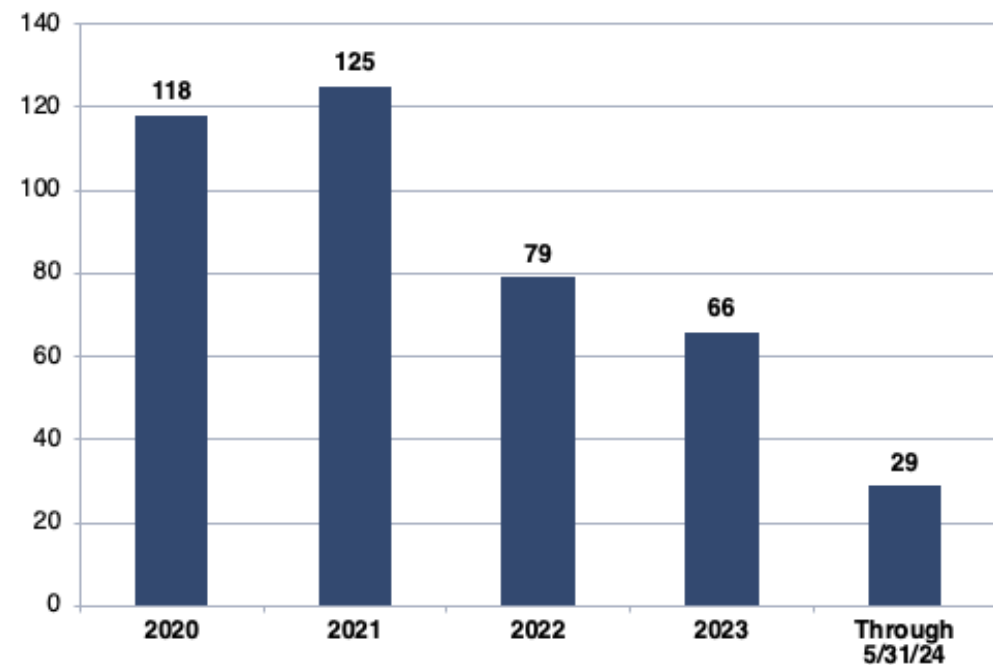
## Sector and Sub Sector EBITDA Multiples

	5/31/24	5/31/23
Telecom Technology	13.5x	12.6x
Large Cap	10.3x	9.5x
Broadband Access and Transport	18.9x	21.1x
Broadband Wireless	18.8x	18.6x
Enterprise Networking	28.0x	21.5x
OSS/BSS	13.6x	12.5x
Test and Measurement	14.9x	9.4x
Unified Comms and Contact Center	29.1x	NM

## M&A ACTIVITY

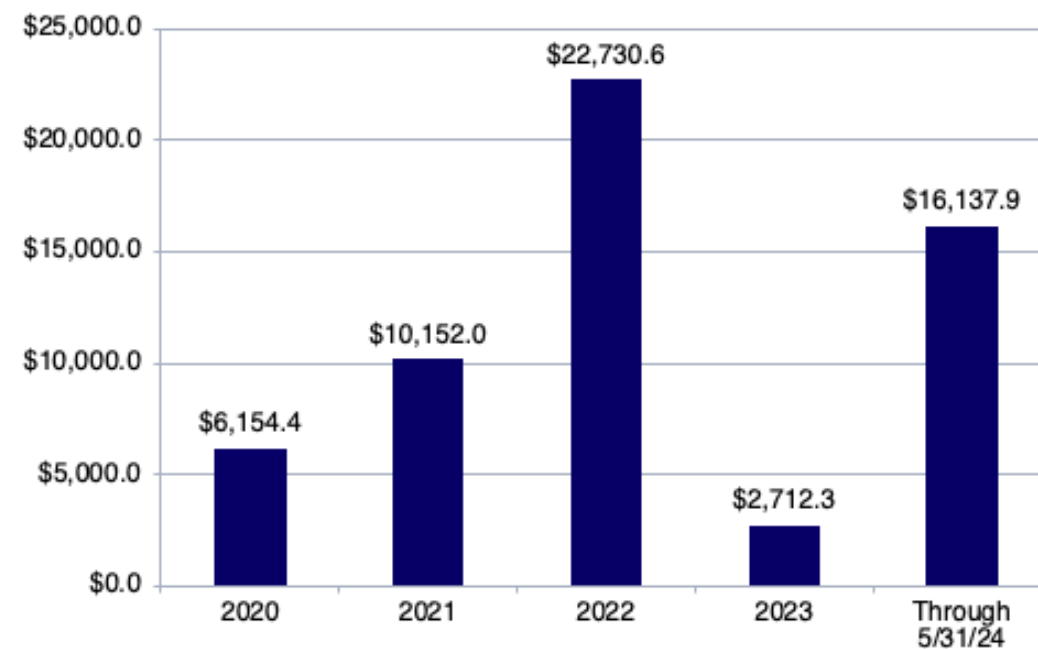
The level of M&A activity in the Telecom Technology sector picked up nicely with 19 announced transactions over these past three months. Much of the pickup in M&A activity was the result of the Enterprise Networking sub sector, which tallied six transactions this period. Total announced transaction dollar volume was also strong, coming in at a total of \$1.9 billion. Through the first five months of 2024 we have now tracked a total of 29 transactions.

### Number of Transactions



This pace puts us roughly on par with M&A activity levels from 2023, but still well below the levels of activity we saw in 2021 and 2022. On the plus side, total announced transaction dollar value so far this year stands at \$16.1 billion, which is already well above any year in the last five with the lone exception of 2022. In fact, this period saw another billion dollar transaction with the acquisition of Spirent Communications by Keysight Technologies for \$1.4 billion.

### \$ Value of Transactions in Millions





## ANNOUNCED TRANSACTIONS (3/1/24 - 5/31/24)

Acquirer	Target	Date Announced	Sector	Purchase Price	Description
CommScope	Casa Systems (Cable Business Unit)	5/30/24	Broadband Access and Transport	\$45.1	Virtual CMTS and PON product offerings.
EV3 Global	Mobilize AI	5/16/24	Unified Communications and Contact Center	NA	AI-based customer communication software with features for calling and texting, virtual agents, customer service and other features.
KKR	IQGeo	5/14/24	OSS/BSS Software	\$377.0	Geospatial network management software for planning, design, construction, inspection and monitoring, CAD and fiber network management.
Oakley Capital	vitroconnect	5/14/24	OSS/BSS Software	NA	Open access software that connects broadband providers with resellers through a proprietary, single interface software platform.
Avaya	Edify	5/8/24	Unified Communications and Contact Center	NA	Contact center and unified communication software with features for orchestration, collaboration, MMS messaging and artificial intelligence.
DASAN Zhong Solutions	NetComm Wireless	5/6/24	Broadband Wireless	\$7.0	Broadband networking products in the 5G fixed wireless, home broadband, fiber-extension and IoT technology domains.
Freshworks	Device42	5/1/24	Unified Communications and Contact Center	NA	IT asset management software, with features for discovery, mapping and optimization of infrastructure and applications.
Enghouse Systems	Seachange International	4/24/24	OSS/BSS Software	\$22.5	Video delivery, advertising and streaming software with features for cable TV broadcasting, advertising insertion and managed OTT streaming.
BMC Software	Netreo	4/16/24	Enterprise Networking	NA	Application performance management, network performance monitoring and diagnostics and IT infrastructure management software.
Lumine Group	Casa Systems (Axyom Business)	4/3/24	OSS/BSS Software	\$32.3	Cloud native 5G core software and radio access network assets.
Keysight Technologies	Spirent Communications	3/28/24	Test and Measurement	\$1,387.2	Testing solutions for 5G mobile core networks, cellular and Wi-Fi devices, virtualized networks and Ethernet/IP networks.
ASSA ABLOY	Nomadix	3/27/24	Enterprise Networking	NA	Wireless access gateways, casting and cloud PBX services, and related Wi-Fi service delivery software to hospitality businesses and MDUs.
Connexant	Trextel	3/27/24	Enterprise Networking	NA	Unified WAN management software with features for WAN intelligence, enterprise connectivity, mobility, security and optimization.
Sagility	Birch Technologies	3/26/24	Unified Communications and Contact Center	NA	AI-powered real-time call center automation software with features for speech-to-text, customer analytics and automation.
IBM Corporation	IntelliMagic	3/22/24	Enterprise Networking	NA	Software with features for performance and availability management, cost optimization and application infrastructure performance management.
IBM Corporation	Pliant	3/20/24	Enterprise Networking	NA	Software that provides features for workload automation and orchestration, application delivery and security and network performance monitoring.
Identidad Technologies	46Labs (SwitchRay Technologies Business)	3/12/24	OSS/BSS Software	NA	VoIP software for telecom carriers globally with features for traffic routing, load balancing, switching, fraud protection and IVR and call center.
e2Companies	Minim	3/12/24	Broadband Access and Transport	\$9.6	Modems, routers, gateways, adapters, networking systems, IoT security, Wi-Fi management and network management solutions.
Cloudflare	Nefeli Networks	3/6/24	Enterprise Networking	NA	Cloud network management software to centralize network deployment, expand visibility and manage across clouds.

## M&A TRANSACTIONS WITH ANNOUNCED MULTIPLES (6/1/23 – 5/31/24)

We had four transactions with announced multiples this period. The period's largest transaction by a wide margin was the aforementioned Keysight/Spirent transaction. This deal had multiples of 2.9x revenue and 24.9x EBITDA. The next largest transaction was in the OSS/BSS Software sub sector. This was the take-private transaction for IQGeo by KKR for \$377 million.

This was the highest multiple transaction for the period, weighing in at 6.7x revenue and 98.9x EBITDA. The remaining two transactions with multiples were both significantly lower. Home networking company Minim got purchased by e2Companies for a multiple of 0.4x revenue, while DZS acquired Casa Systems' NetComm Wireless division out of bankruptcy for an even lower revenue multiple of 0.1x.

Acquiror	Target	Date Announce	Sector	Purchase Price	Revenue Multiple	EBITDA Multiple	Description
KKR	IQGeo	5/14/24	OSS/BSS Software	\$377.0	6.7 x	98.9 x	Geospatial network management software for planning, design, construction, inspection and monitoring, CAD and fiber network management.
DASAN Zhone Solutions	NetComm Wireless	5/6/24	Broadband Wireless	\$7.0	0.1 x	NA	Broadband networking products in the 5G fixed wireless, home broadband, fiber-extension and IoT technology domains.
Keysight Technologies	Spirent Communications	3/28/24	Test and Measurement	\$1,387.2	2.9 x	24.9 x	Testing solutions for 5G mobile core networks, cellular and Wi-Fi devices, virtualized networks and Ethernet/IP networks.
e2Companies	Minim	3/12/24	Broadband Access and Transport	\$9.6	0.4 x	NM	Modems, routers, gateways, adapters, networking systems, IoT security, Wi-Fi management and network management solutions.
Hewlett Packard Enterprise	Juniper Networks	1/9/24	Large Cap	\$13,980.6	2.5 x	16.1 x	Switches and routers for a broad variety of applications including high bandwidth services, data centers, SDN and Wi-Fi access points.
Vantiva	Commscope (Home Networks Business)	1/9/24	Broadband Access and Transport	\$169.6	0.1 x	NA	Provides devices that supply residential connectivity and video set top box solutions.
Lumine Group	Synchronoss (Messaging and NetworkX Business)	11/1/23	OSS/BSS Software	\$41.8	0.5 x	NA	White label messaging, order and expense management and management, planning and design of physical networks.
Ceragon Networks	Siklu Communications	10/24/23	Broadband Wireless	\$27.0	0.5 x	NA	Provides multi-gigabit wireless fiber connectivity systems and SaaS for video security, internet access, network design and backhaul networks.
Ooma	2600Hz	10/23/23	Unified Communications and Contact Center	\$33.0	4.7 x	NA	AI-based and open-source unified communication SaaS and related open APIs for businesses.
Nice Systems	LiveVox	10/4/23	Unified Communications and Contact Center	\$423.8	3.0 x	NM	AI-based contact center SaaS and related APIs with features for workforce management, recording and inbound and outbound voice.
Proximus Opal	Route Mobile	7/17/23	Unified Communications and Contact Center	\$1,243.2	2.9 x	22.4 x	AI-based communications platform-as-a-service (CPaaS) solution.
OMNIQ	tadiran Telecom	7/10/23	Unified Communications and Contact Center	\$15.3	0.6 x	9.0 x	Provides unified communications and collaboration SaaS, PBX systems and related mobile applications for businesses.



## OUR TEAM

# FOCUS Telecom Technology and Services Team



### **Richard H. Pierce**

**Managing Director and Telecom Technology and Services Team Leader, Washington, DC**

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Rich Pierce has more than 20 years of investment banking experience advising middle market clients on a variety of mergers and acquisitions and capital raising transactions. During that time, Mr. Pierce's primary emphasis has been on serving clients in the telecommunications industry including providers of network related hardware and software products, wireless and wireline telecommunications service providers and network engineering and construction companies.



### **David Freeland**

**Managing Director, San Francisco, California**

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David Freeland, a FOCUS Managing Director, has more than fifteen years of experience providing investment banking and management consulting services to a variety of corporate clients, ranging from the Fortune 500 to start-up businesses. He has been an investment banker since 2003, advising clients on mergers and acquisitions and capital raising transactions. Mr. Freeland has broad experience in the telecom and technology industry and has significant experience with data center companies.

## APPENDIX

### SUB SECTOR ANALYSIS:

- Large Cap
- Broadband Access Transport
- Broadband Wireless
- Enterprise Networking
- OSS/BSS Software
- Test and Measurement
- Unified Communications and Contact Center

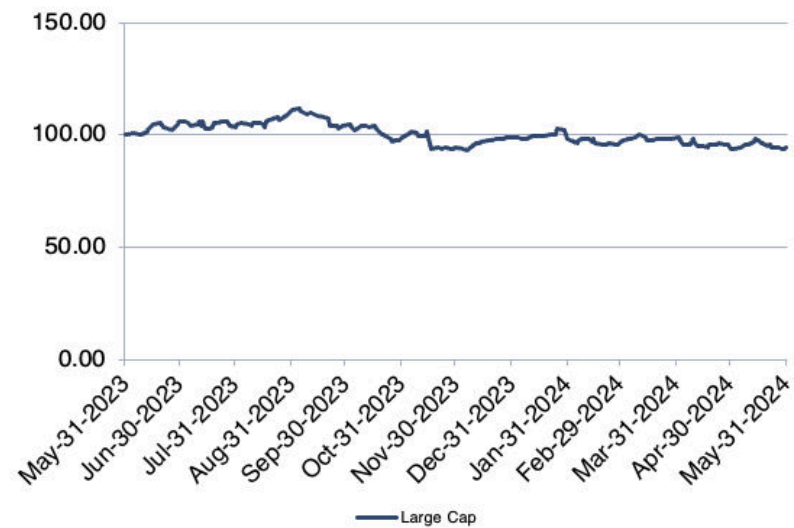


## SUB SECTOR DEFINITIONS

- **Large Cap:** Large, diversified companies with products across a variety of sub sectors
- **Broadband Access and Transport:** DSL equipment, PON equipment and WDM-based transport
- **Broadband Wireless:** High capacity, fixed wireless equipment
- **Enterprise Networking:** Enterprise-grade switches and routers (wireline and wireless), application and bandwidth management tools such as WAN optimization and application acceleration and network management tools
- **OSS/BSS Software:** Software systems that manage and bill the customer base and monitor and maintain telecom networks
- **Test and Measurement:** Equipment used by both service providers and manufacturers to test and monitor networks and equipment
- **Unified Communications and Contact Center:** PBXs, videoconferencing-related products and software products designed to enhance the efficiency of contact center networks.

**SUB SECTOR ANALYSIS: LARGE CAP**

**Twelve Month Index Return**



**Company Returns**

	12 Month	3 Month
Large Cap Index	-5.2%	-2.1%
Cisco	-6.4%	-3.9%
Ericsson	19.0%	12.9%
Juniper	17.5%	-3.7%
Nokia	-3.7%	10.5%
ZTE	-24.8%	-10.4%

**Company Revenue Multiples**

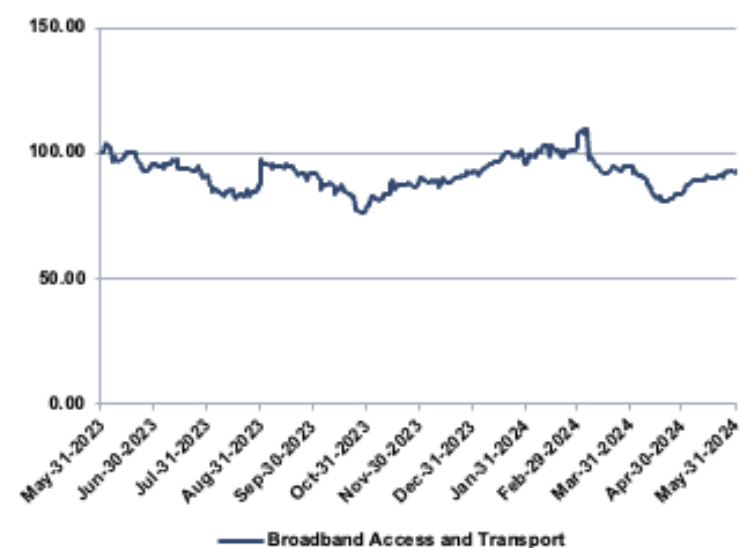
	5/31/24	5/31/23
Large Cap Index	2.1x	1.9x
Cisco	3.6x	3.4x
Ericsson	0.9x	0.6x
Juniper	2.3x	1.9x
Nokia	0.8x	0.7x
ZTE	0.7x	1.1x

**Company EBITDA Multiples**

	5/31/24	5/31/23
Large Cap Index	10.3x	9.5x
Cisco	12.0x	11.6x
Ericsson	9.2x	5.0x
Juniper	18.4x	13.1x
Nokia	5.4x	5.2x
ZTE	7.8x	9.8x

## SUB SECTOR ANALYSIS: BROADBAND ACCESS AND TRANSPORT

### Twelve Month Index Return



### Company Returns

	12 Month	3 Month
Broadband Access & Transport Index	-7.2%	-8.9%
ADTRAN	-37.7%	-2.5%
BATM	-22.7%	-14.9%
Calix	-23.4%	2.4%
CIENA	3.1%	-15.5%
Dasan Zhone Solutions	-75.5%	0.0%
Harmonic	-30.6%	-6.9%
Infinera	16.7%	13.9%
Tejas Networks	57.5%	47.7%

### Company Revenue Multiples

	5/31/24	5/31/23
Broadband Access & Transport Index	1.7x	2.0x
ADTRAN	0.9x	1.0x
BATM	0.5x	0.8x
Calix	2.1x	3.0x
CIENA	1.7x	1.8x
DASAN Zhone Solutions	0.2x	0.5x
Harmonic	2.6x	3.2x
Infinera	1.2x	1.0x
Tejas Networks	8.8x	11.4x

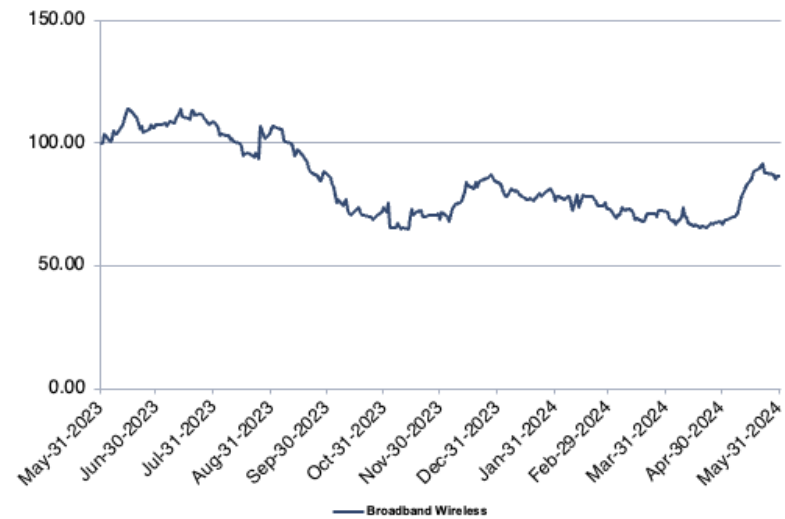
### Company EBITDA Multiples

	5/31/24	5/31/23
Broadband Access & Transport Index	18.9x	21.1x
ADTRAN	NM	102.3x
BATM	21.9x	37.2x
Calix	67.2x	42.6x
CIENA	16.8x	15.9x
DASAN Zhone Solutions	NM	NM
Harmonic	62.6x	29.4x
Infinera	49.0x	32.9x
Tejas Networks	185.3x	NM



**SUB SECTOR ANALYSIS: BROADBAND WIRELESS**

**Twelve Month Index Return**



**Company Returns**

	12 Month	3 Month
Broadband Wireless Index	-13.7%	18.3%
Aviat Networks	0.9%	-12.9%
Cambium Networks	-79.5%	-24.5%
Ceragon Networks	46.9%	-13.8%
Ubiquiti Networks	-12.3%	22.2%

**Company Revenue Multiples**

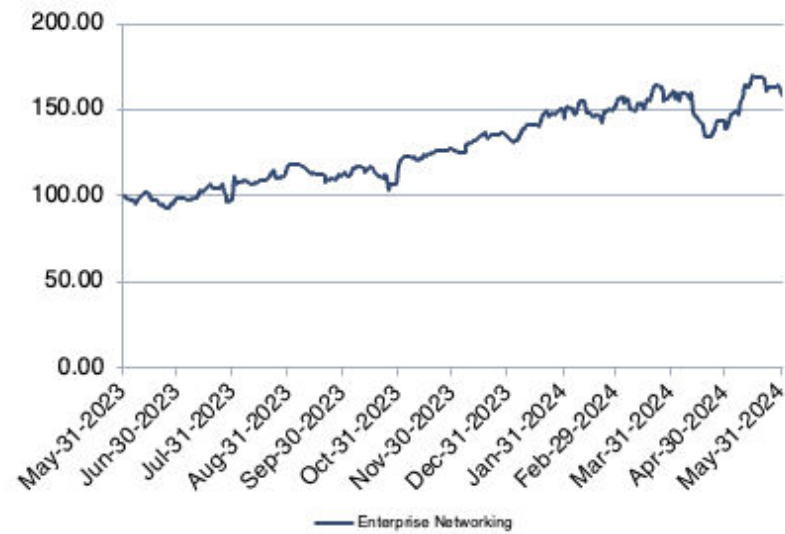
	5/31/24	5/31/23
Broadband Wireless Index	3.6x	4.1x
Aviat Networks	1.0x	1.0x
Cambium Networks	0.7x	1.4x
Ceragon Networks	0.7x	0.6x
Ubiquiti Networks	5.0x	5.7x

**Company EBITDA Multiples**

	5/31/24	5/31/23
Broadband Wireless Index	18.8x	18.6x
Aviat Networks	10.2x	9.8x
Cambium Networks	NM	12.7x
Ceragon Networks	7.0x	19.3x
Ubiquiti Networks	18.1x	20.5x

## SUB SECTOR ANALYSIS: ENTERPRISE NETWORKING

### Twelve Month Index Return



### Company Returns

	12 Month	3 Month
Enterprise Networking Index	58.8%	4.1%
A10 Networks	1.7%	13.8%
Accton	35.0%	-5.5%
Aerohive Networks	-22.7%	-33.7%
Arista Networks	78.9%	7.2%
D-Link	-18.8%	-9.7%
Extreme Networks	-45.9%	-11.8%
F5 Networks	14.5%	-9.7%
NetGear	-1.6%	-7.9%
Radware	3.2%	14.2%
Unizyx Holding (Zyxel)	-12.0%	-10.5%

### Company Revenue Multiples

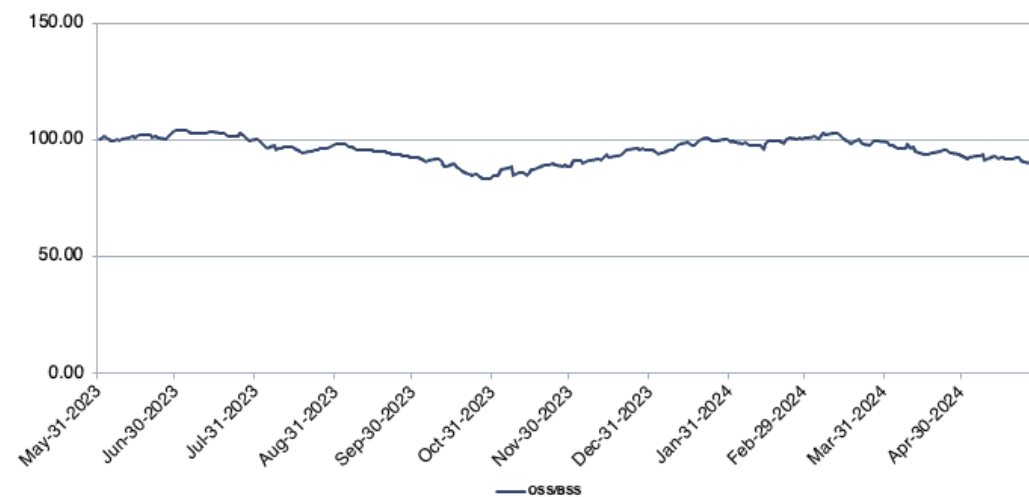
	5/31/24	5/31/24
Enterprise Networking Index	7.1x	4.6x
A10 Networks	3.8x	3.5x
Accton	3.0x	2.2x
Aerohive Networks	3.0x	2.8x
Arista Networks	14.5x	9.9x
D-Link	0.6x	0.6x
Extreme Networks	1.3x	2.2x
F5 Networks	3.3x	3.0x
NetGear	0.2x	0.2x
Radware	2.0x	1.8x
Unizyx Holding (Zyxel)	0.5x	0.5x

### Company EBITDA Multiples

	5/31/24	5/31/24
Enterprise Networking Index	28.0x	21.5x
A10 Networks	19.5x	16.6x
Accton	22.1x	16.1x
Aerohive Networks	9.1x	NM
Arista Networks	35.1x	26.7x
D-Link	93.4x	12.2x
Extreme Networks	20.5x	22.7x
F5 Networks	12.2x	15.8x
NetGear	NM	NM
Radware	NM	NM
Unizyx Holding (Zyxel)	12.3x	6.8x

**SUB SECTOR ANALYSIS: OSS/BSS SOFTWARE**

**Twelve Month Index Return**



**Company Returns**

	12 Month	3 Month
OSS/BSS Index	-10.6%	-11.4%
Amdocs	-16.1%	-13.4%
CSG Systems	-10.1%	-20.9%
Lumine Group	90.7%	1.3%
NetScout	-32.7%	-5.1%
Optiva	-39.2%	16.0%
Radcom	-1.6%	-6.3%
Subex	2.6%	-22.8%
Synchronoss	5.0%	-2.7%
Tecnotree	-37.3%	-11.4%

**Company Revenue Multiples**

	5/31/24	5/31/23
OSS/BSS Index	2.6x	2.6x
Amdocs	1.9x	2.4x
CSG Systems	1.5x	1.6x
Lumine Group	13.2x	11.7x
NetScout Systems	1.4x	2.1x
Optiva	2.5x	2.1x
Radcom	1.2x	1.4x
Subex	4.7x	5.0x
Synchronoss	1.9x	2.1x
Tecnotree	1.2x	1.7x

**Company EBITDA Multiples**

	5/31/24	5/31/23
OSS/BSS Index	13.6x	12.5x
Amdocs	10.2x	12.2x
CSG Systems	10.4x	10.2x
Lumine Group	45.8x	46.4x
NetScout Systems	8.9x	11.5x
Optiva	NM	11.3x
Radcom	536.8x	NM
Subex	NM	NM
Synchronoss	240.0x	37.6x
Tecnotree	3.6x	6.2x

**SUB SECTOR ANALYSIS: TEST AND MEASUREMENT**

**Twelve Month Index Return**



**Company Returns**

	12 Month	3 Month
Test and Measurement Index	-13.3%	-0.9%
Anritsu	-14.6%	-14.5%
Spirent	5.1%	77.0%
Viavi	-23.6%	-21.3%

**Company Revenue Multiples**

	5/31/24	5/31/23
Test and Measurement Index	1.7x	1.7x
Anritsu	1.0x	1.1x
Spirent	2.6x	1.9x
Viavi	1.9x	2.1x

**Company EBITDA Multiples**

	5/31/24	5/31/23
Test and Measurement Index	14.9x	9.4x
Anritsu	7.2x	6.9x
Spirent	25.6x	9.7x
Viavi	20.9x	13.0x

## SUB SECTOR ANALYSIS: UNIFIED COMMUNICATIONS AND CONTACT CENTER

### Twelve Month Index Return



### Company Revenue Multiples

	5/31/24	5/31/23
Unified Comms & Contact Center Index	2.2x	3.0x
8x8	1.0x	1.2x
Crexendo	1.4x	1.0x
Enghouse Systems	2.7x	4.3x
Five9	3.8x	6.0x
RingCentral	2.1x	2.4x
Sangoma Technologies	1.1x	0.8x
Twilio	1.7x	2.6x
Verint	2.7x	3.2x
Zoom	2.6x	3.3x

### Company Returns

	12 Month	3 Month
Unified Comms & Contact Center Index	-13.9%	-10.6%
8x8	-33.1%	-3.5%
Crexendo	99.4%	-41.4%
Enghouse Systems	-27.8%	-23.3%
Five9	-29.3%	-23.3%
RingCentral	-1.4%	2.3%
Sangoma Technologies	67.8%	49.3%
Twilio	-17.6%	-3.7%
Verint	-17.3%	-6.2%
Zoom	-8.6%	-13.3%

### Company EBITDA Multiples

	5/31/24	5/31/23
Unified Comms & Contact Center Index	29.1x	NM
8x8	57.9x	NM
Crexendo	25.6x	NM
Enghouse Systems	12.0x	20.6x
Five9	NM	NM
RingCentral	48.8x	NM
Sangoma Technologies	69.3x	10.2x
Twilio	NM	NM
Verint	18.3x	23.4x
Zoom	14.1x	62.3x



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