

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.

FALL 2024



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## OVERVIEW

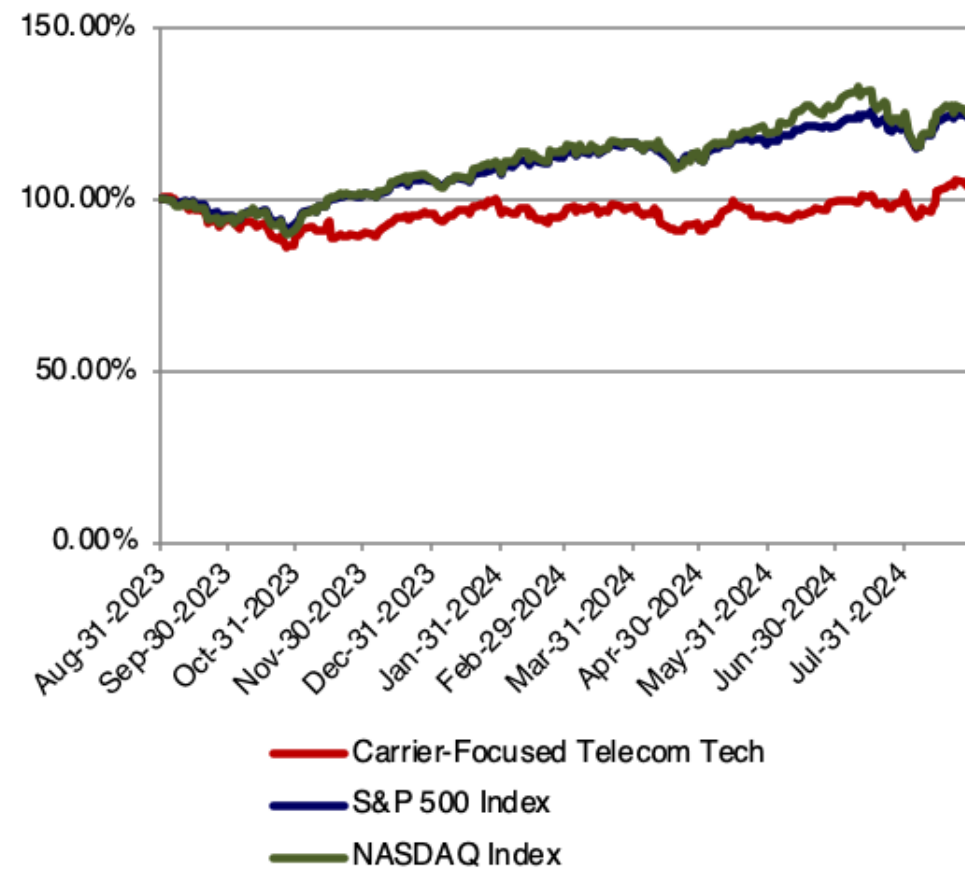
# With a three-month gain of 11.3%, the FOCUS Telecom Technology Index (TTI) handily outperformed the broader indices.

The S&P 500 was up only 7.0% over this same time frame, while the NASDAQ had an even lower return of 5.8%. This period's strong gain pushed the year-over-year return for the TTI up to 5.8%. However, when viewed over the last twelve months, the TTI significantly underperformed both the 25.3% gain in the S&P 500 and the 26.2% gain in the NASDAQ. Sector multiples closed out the period at 2.9x revenue and 15.4x EBITDA. Both of these are meaningfully higher than year-ago multiples of 2.5x revenue and 13.6x EBITDA.

The TTI's gains this period were broad-based, as every single sub sector turned in a positive performance. Broadband Wireless led the way with a three-month gain of 31.9%. This was largely the result of a 35.2% gain at Ubiquiti Networks. In contrast, fellow fixed wireless access company Cambium shed nearly half of its value with a loss of 46.1%. Another sub sector that performed well was Enterprise Networking, which gained 17.4% in our fall reporting period. Extreme Networks was the top performing stock in this sub sector with a gain of 41.3%. Other switching companies such as Aerohive and Arista Networks also delivered double digit gains. Finally, strong performances by both CIENA and Harmonic helped to push the Broadband Access and Transport sub sector up 15.5% over the past three months.

**PUBLIC MARKETS SUMMARY**

**Twelve Month Index Returns**

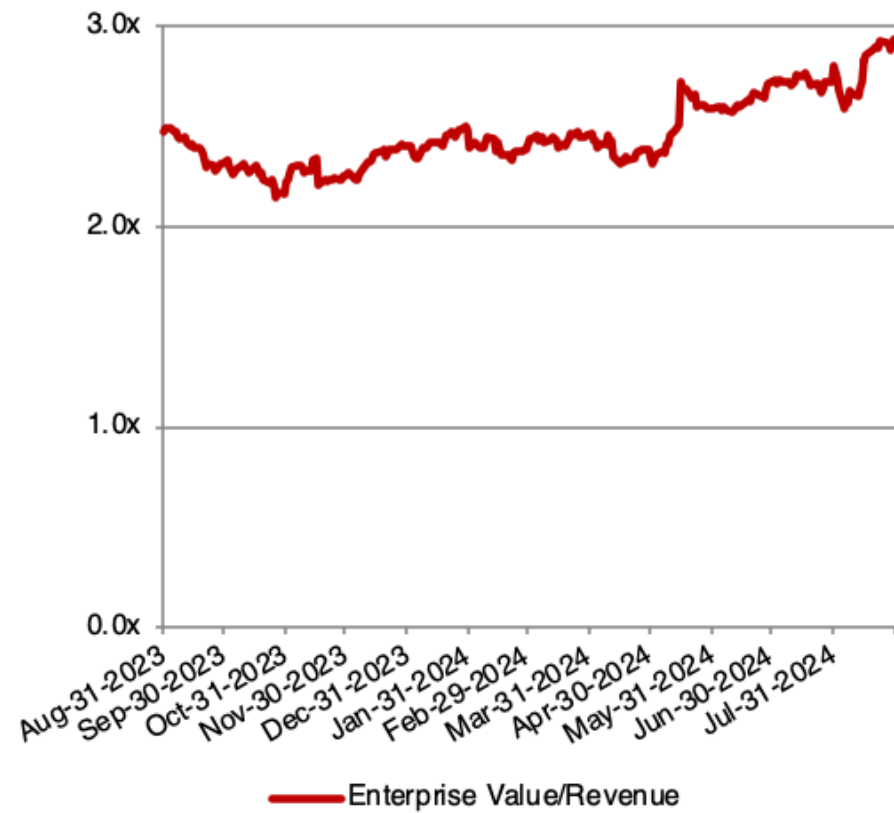


**Sector and Sub Sector Returns**

	12 Month	3 Month
Telecom Technology	5.8%	11.3%
Large Cap	-6.9%	9.2%
Broadband Access and Transport	9.9%	15.5%
Broadband Wireless	8.0%	31.9%
Enterprise Networking	58.8%	17.4%
OSS/BSS	-3.1%	0.9%
Test and Measurement	-2.7%	8.4%
Unified Comms and Contact Center	-8.1%	5.8%
S&P 500	25.3%	7.0%
NASDAQ	26.2%	5.8%

**PUBLIC MARKETS SUMMARY CONTINUED**

**Revenue Multiple Trends**

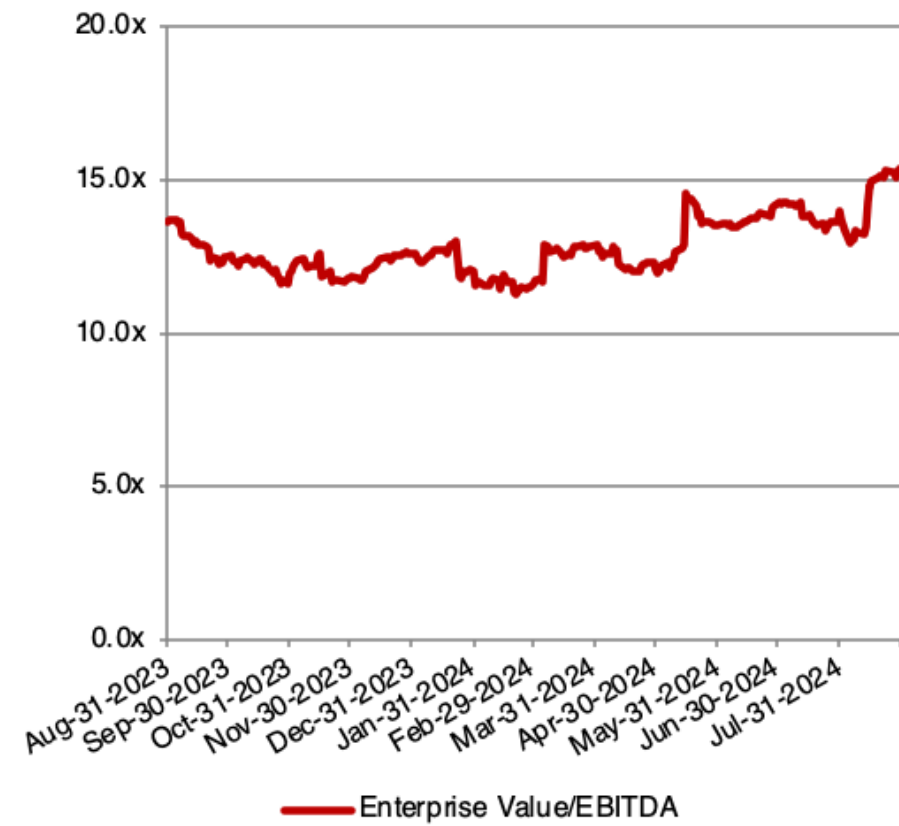


**Sector and Sub Sector Revenue Multiples**

	8/31/24	8/31/23
Telecom Technology	2.9x	2.5x
Large Cap	2.4x	2.1x
Broadband Access and Transport	2.0x	1.8x
Broadband Wireless	4.6x	4.3x
Enterprise Networking	8.4x	5.3x
OSS/BSS	2.6x	2.5x
Test and Measurement	1.9x	1.8x
Unified Comms and Contact Center	2.3x	2.9x

**PUBLIC MARKETS SUMMARY CONTINUED**

**EBITDA Multiple Trends**



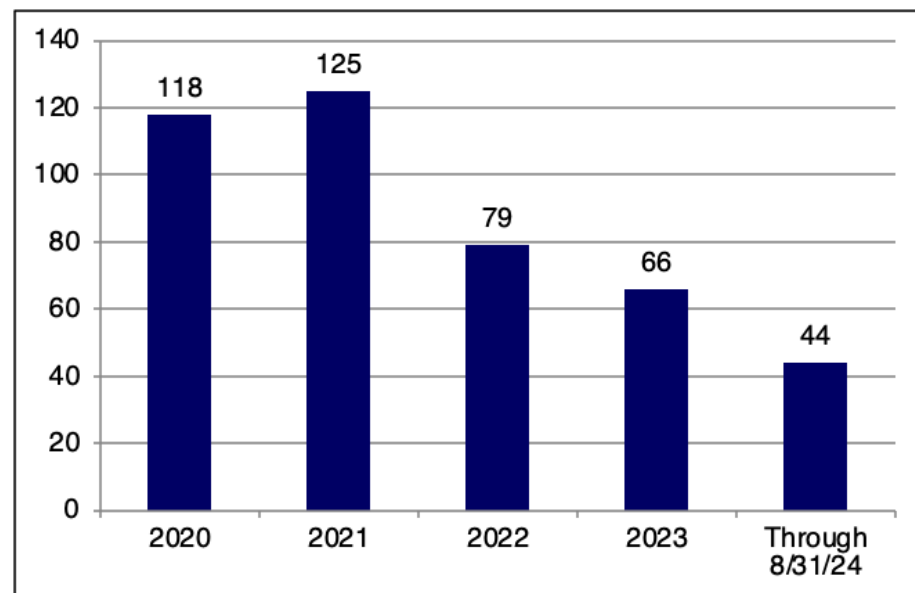
**Sector and Sub Sector EBITDA Multiples**

	8/31/24	8/31/23
Telecom Technology	15.4x	13.6x
Large Cap	11.5x	10.7x
Broadband Access and Transport	27.6x	17.4x
Broadband Wireless	24.4x	18.6x
Enterprise Networking	32.6x	23.9x
OSS/BSS	14.0x	12.8x
Test and Measurement	16.8x	11.7x
Unified Comms and Contact Center	27.1x	257.8x

## M&A ACTIVITY

The number of Telecom Technology M&A transactions dipped this period with only 15 transactions in the last three months. Much of the slowdown can be attributed to the OSS/BSS Software sub sector, which saw only two transactions for the period. While the number of deals was low, the total announced transaction dollar value of deals remained high at \$5.5 billion. This was due to the acquisition of Infinera by Nokia for nearly \$2.3 billion, the acquisition of CommScope's mobile networks business by Amphenol for \$2.1 billion and Koch Equity's purchase of the iConectiv business unit from Ericsson for \$1.0 billion. When viewed over the full year, it appears that it will be nip and tuck to see if the total number of Telecom Technology M&A transactions for 2024 will surpass even the low number of transactions that we saw in 2023.

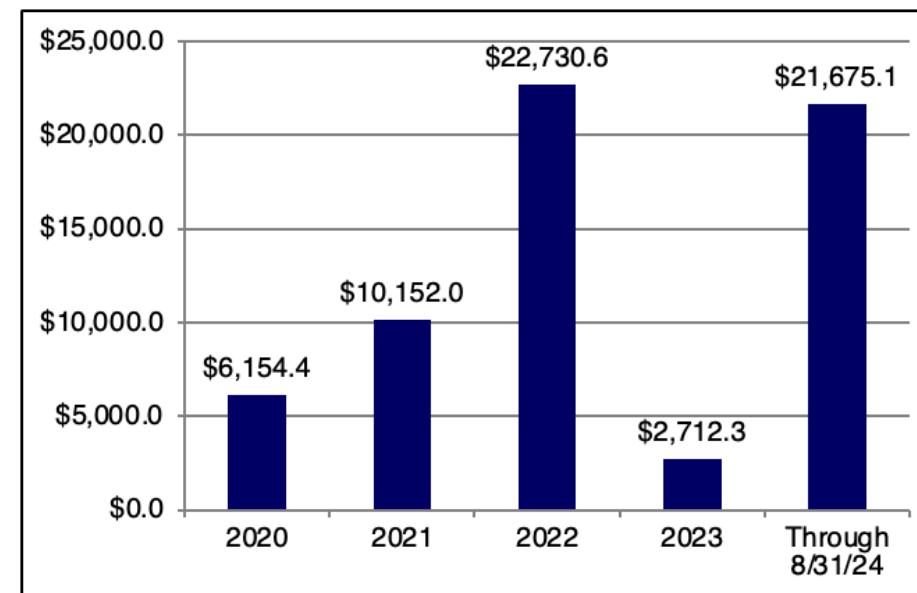
### Number of Transactions



However, the total announced transaction dollar value of deals for 2024 is on track to exceed anything we have seen in the past five years.

This period saw three transactions with announced multiples. Nokia's acquisition of Infinera, the period's largest transaction, had multiples of 1.5x revenue and 43.0x EBITDA. The other large transaction this period with an announced multiple was Amphenol's acquisition of the mobile networks business of CommScope. This transaction had a higher revenue multiple of 1.8x, but a much lower EBITDA multiple of 7.0x. Finally, the Persistent Systems acquisition of contact center software company Starfish Associates had a revenue multiple of 1.9x. There was not an announced EBITDA multiple for this transaction.

### \$ Value of Transactions in Millions



## ANNOUNCED TRANSACTIONS (6/1/24 - 9/30/24)

Acquiror	Target	Date Announced	Sector	Purchase Price	Description
Patton Electronics	Raymar Information Technology	8/26/24	Enterprise Networking	NA	Supplies industrial communications equipment and network solutions for businesses, utilities and governments.
Koch Equity	Ericsson (iconectiv Business)	8/17/24	OSS/BSS Software	\$1,000.0	Provider of core network and operations management, numbering and data exchange services.
KábelszatNet-2002 Kft.	Commscope (CMTS and QAM Assets)	8/14/24	Broadband Access and Transport	NA	Network connectivity systems and related services for wired and wireless telecom services providers.
Valsoft	Equinix	8/13/24	OSS/BSS Software	NA	Software for fraud management, business assurance and network monitoring for customers in the telecommunications industry.
Five9	Acqueon Technologies	8/8/24	Unified Communications and Contact Center	\$167.1	Develops and offers contact center and customer interaction management software.
Focus Telecom Polska	Systell	8/7/24	Unified Communications and Contact Center	NA	Develops contact center systems and software products.
Patton Electronics	Artel Video Systems	8/3/24	Enterprise Networking	NA	Media transport solutions for direct fiber, IP and managed optical networks.
Amphenol	Commscope (Mobile Networks Business)	7/18/24	Broadband Wireless	\$2,100.0	Outdoor wireless networks and distributed antenna systems.
Imker Capital	AVM Computersysteme Vertriebs	7/10/24	Broadband Access and Transport	NA	Products for broadband connectivity and home networking applications that include DSL, cable and LTE hub devices.
Keysight Technologies	AnaPico	7/8/24	Test and Measurement	NA	Test and measurement instruments including RF signal generators, frequency synthesizers and phase noise analyzers.
Aviat Networks	4RF	7/3/24	Enterprise Networking	NA	Industrial wireless access solutions including narrowband point-to-point/multi-point radios and Private LTE and 5G routers.
Persistent Systems	Starfish Associates	7/3/24	Unified Communications and Contact Center	\$15.4	Unified communications and contact center software with features for integration, automation, auditing and logging and migration.
Nokia	Infinera	6/27/24	Broadband Access and Transport	\$2,254.7	Optical networking systems for metro optical networks, long-haul networks, submarine networks, 5G mobile transport and datacenter interconnect.
ARCOS	TextPower	6/25/24	Unified Communications and Contact Center	NA	Cloud-based text messaging software solutions for enterprise alerts and security authentication.
EMERAM Capital Partners	Garderos Software Innovations	6/10/24	Enterprise Networking	NA	Self-managing and cyber-secure industrial-grade routers.



## ANNOUNCED TRANSACTIONS WITH REVENUE MULTIPLES (9/1/23 – 8/31/24)

Acquiror	Target	Date Announced	Sector	Purchase Price	Revenue Multiple	EBITDA Multiple	Description
Amphenol	Commscope (Mobile Networks Business)	7/18/24	Broadband Wireless	\$2,100.0	1.8 x	7.0 x	Outdoor wireless networks and distributed antenna systems.
Persistent Systems	Starfish Associates	7/3/24	Unified Communications and Contact Center	\$15.4	1.9 x	NA	Unified communications and contact center software with features for integration, automation, auditing and logging and migration.
Nokia	Infinera	6/27/24	Broadband Access and Transport	\$2,254.7	1.5 x	43.0 x	Optical networking systems for metro optical networks, long-haul networks, submarine networks, 5G mobile transport and datacenter interconnect.
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.

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

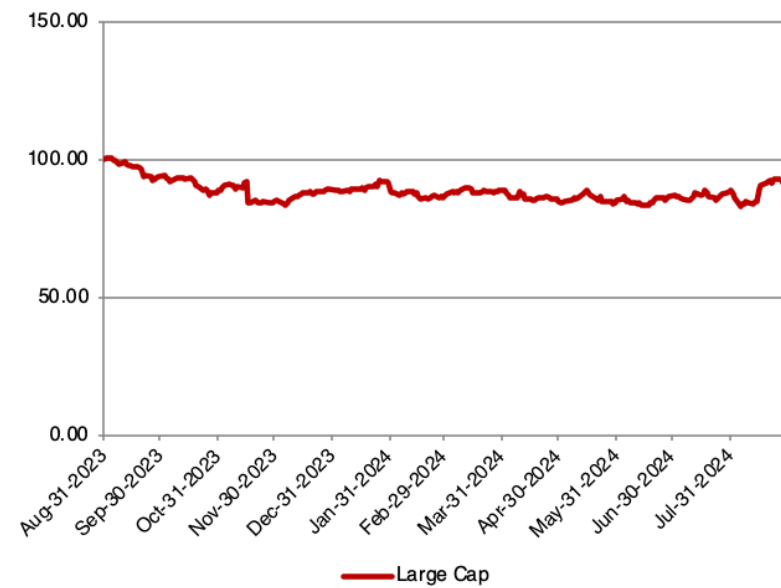


## SUB SECTOR DEFINITIONS

- **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	-6.9%	9.2%
Cisco	-11.9%	8.7%
Ericsson	44.4%	21.3%
Juniper	33.5%	9.0%
Nokia	10.0%	13.0%
ZTE	-28.3%	-5.9%

**Company Revenue Multiples**

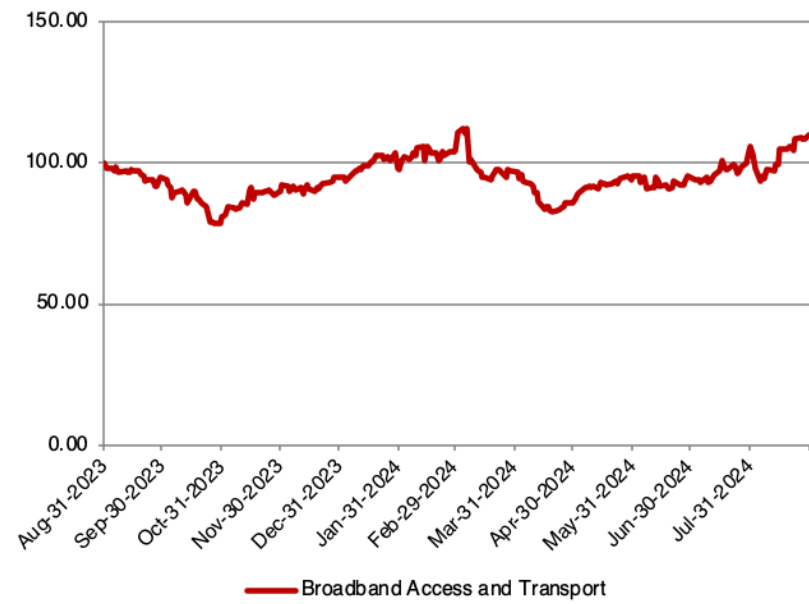
	8/31/24	8/31/23
Large Cap Index	2.4x	2.1x
Cisco	4.0x	3.8x
Ericsson	1.1x	0.7x
Juniper	2.6x	1.7x
Nokia	0.9x	0.8x
ZTE	0.8x	1.2x

**Company EBITDA Multiples**

	8/31/24	8/31/23
Large Cap Index	11.5x	10.7x
Cisco	14.0x	12.5x
Ericsson	6.7x	6.2x
Juniper	24.6x	11.8x
Nokia	6.4x	5.4x
ZTE	8.2x	10.3x

**SUB SECTOR ANALYSIS: BROADBAND ACCESS AND TRANSPORT**

**Twelve Month Index Return**



**Company Returns**

	12 Month	3 Month
Broadband Access & Transport Index	9.9%	15.5%
ADTRAN	-34.7%	0.5%
BATM	-20.8%	16.8%
Calix	-19.9%	4.3%
CIENA	15.3%	19.7%
Dasan Zhone Solutions	-93.5%	-89.8%
Harmonic	35.3%	18.2%
Infinera	34.4%	10.0%
Tejas Networks	49.0%	18.3%

**Company Revenue Multiples**

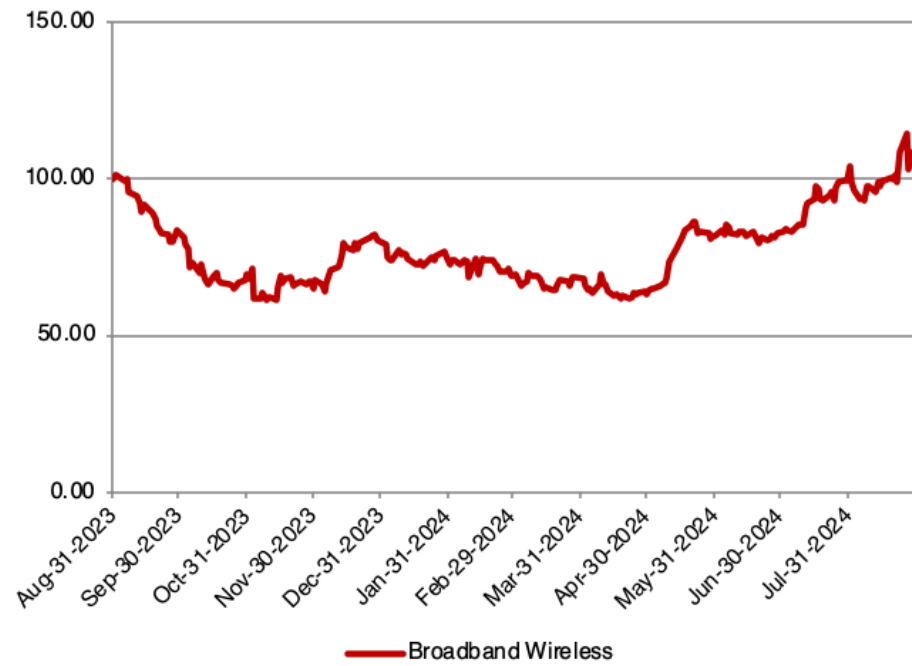
	8/31/24	8/31/23
Broadband Access & Transport Index	2.0x	1.8x
ADTRAN	1.0x	0.9x
BATM	0.8x	1.0x
Calix	2.3x	2.9x
CIENA	2.1x	1.8x
DASAN Zhone Solutions	0.1x	0.3x
Harmonic	3.2x	2.0x
Infinera	1.4x	1.0x
Tejas Networks	6.3x	14.0x

**Company EBITDA Multiples**

	8/31/24	8/31/23
Broadband Access & Transport Index	27.6x	17.4x
ADTRAN	NM	NM
BATM	21.9x	51.9x
Calix	240.3x	40.9x
CIENA	23.2x	15.0x
DASAN Zhone Solutions	NM	NM
Harmonic	96.6x	20.2x
Infinera	66.7x	22.4x
Tejas Networks	57.5x	NM

**SUB SECTOR ANALYSIS: BROADBAND WIRELESS**

**Twelve Month Index Return**



**Company Returns**

	12 Month	3 Month
Broadband Wireless Index	8.0%	31.9%
Aviat Networks	-22.1%	-11.2%
Cambium Networks	-81.2%	-46.1%
Ceragon Networks	52.8%	13.3%
Ubiquiti Networks	10.6%	35.2%

**Company Revenue Multiples**

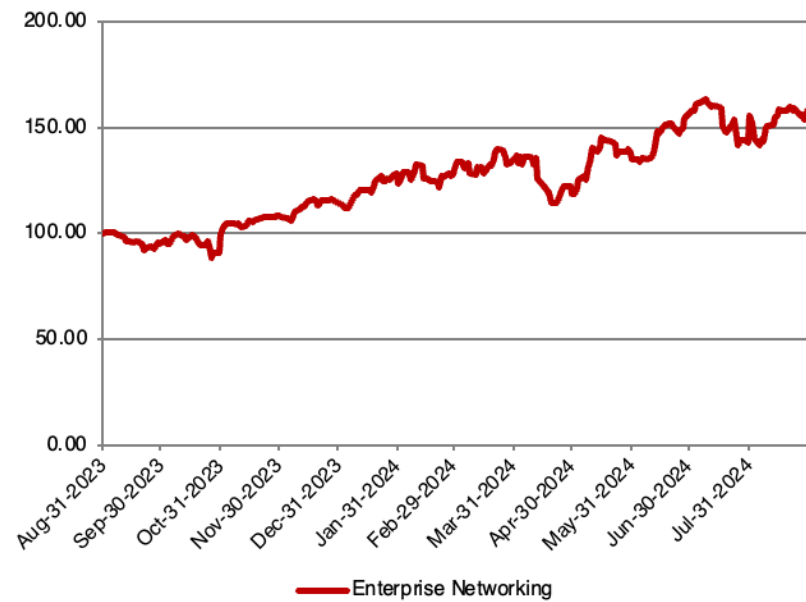
	8/31/24	8/31/23
Broadband Wireless Index	4.6x	4.3x
Aviat Networks	0.9x	1.1x
Cambium Networks	0.5x	0.8x
Ceragon Networks	0.8x	0.6x
Ubiquiti Networks	6.4x	6.0x

**Company EBITDA Multiples**

	8/31/24	8/31/23
Broadband Wireless Index	24.4x	18.6x
Aviat Networks	9.1x	10.9x
Cambium Networks	NM	9.0x
Ceragon Networks	6.9x	12.1x
Ubiquiti Networks	23.8x	20.7x

**SUB SECTOR ANALYSIS: ENTERPRISE NETWORKING**

**Twelve Month Index Return**



**Company Returns**

	12 Month	3 Month
Enterprise Networking Index	58.8%	17.4%
A10 Networks	-7.5%	-9.1%
Accton	5.8%	2.4%
Aerohive Networks	-14.2%	24.6%
Arista Networks	81.0%	18.7%
D-Link	-24.9%	7.0%
Extreme Networks	-42.6%	41.3%
F5 Networks	24.1%	20.2%
NetGear	23.1%	17.5%
Radware	26.2%	7.4%
Unizyx Holding (Zyxel)	-20.4%	-7.0%

**Company Revenue Multiples**

	8/31/24	8/31/24
Enterprise Networking Index	8.4x	5.3x
A10 Networks	3.4x	3.5x
Accton	3.0x	3.0x
Aerohive Networks	2.9x	4.0x
Arista Networks	16.6x	10.8x
D-Link	0.7x	0.8x
Extreme Networks	1.9x	2.7x
F5 Networks	4.0x	3.3x
NetGear	0.3x	0.3x
Radware	2.3x	1.5x
Unizyx Holding (Zyxel)	0.5x	0.5x

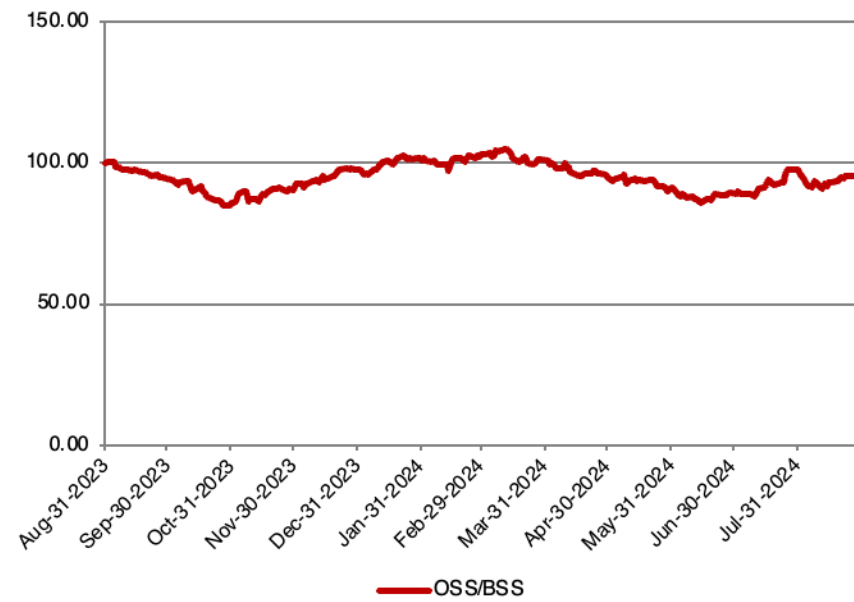
**Company EBITDA Multiples**

	8/31/24	8/31/24
Enterprise Networking Index	32.6x	23.9x
A10 Networks	18.8x	16.6x
Accton	22.4x	21.5x
Aerohive Networks	14.9x	12.6x
Arista Networks	39.5x	28.7x
D-Link	NM	19.9x
Extreme Networks	NM	24.6x
F5 Networks	14.7x	15.9x
NetGear	NM	NM
Radware	NM	NM
Unizyx Holding (Zyxel)	15.4x	6.5x



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

**Twelve Month Index Return**



**Company Returns**

	12 Month	3 Month
OSS/BSS Index	-3.1%	0.9%
Amdocs	-2.5%	10.1%
CSG Systems	-10.7%	12.4%
Lumine Group	41.6%	-14.2%
NetScout	-25.0%	4.6%
Optiva	-12.5%	-25.0%
Radcom	9.7%	5.5%
Subex	-17.6%	7.0%
Synchronoss	64.6%	63.2%
Tecnotree	-54.8%	-19.6%

**Company Revenue Multiples**

	8/31/24	8/31/23
OSS/BSS Index	2.6x	2.5x
Amdocs	2.1x	2.2x
CSG Systems	1.6x	1.7x
Lumine Group	10.9x	11.1x
NetScout Systems	1.6x	2.0x
Optiva	2.3x	1.8x
Radcom	1.3x	1.2x
Subex	5.1x	7.2x
Synchronoss	2.1x	2.5x
Tecnotree	1.0x	1.9x

**Company EBITDA Multiples**

	8/31/24	8/31/23
OSS/BSS Index	14.0x	12.8x
Amdocs	10.9x	11.8x
CSG Systems	11.2x	11.2x
Lumine Group	45.0x	43.3x
NetScout Systems	10.7x	11.0x
Optiva	NM	10.6x
Radcom	49.1x	NM
Subex	NM	NM
Synchronoss	45.6x	NM
Tecnotree	3.3x	6.7x

**SUB SECTOR ANALYSIS: TEST AND MEASUREMENT**

**Twelve Month Index Return**



**Company Returns**

	12 Month	3 Month
Test and Measurement Index	-2.7%	8.4%
Anritsu	9.6%	9.5%
Spirent	17.4%	0.0%
Viavi	-17.6%	14.5%

**Company Revenue Multiples**

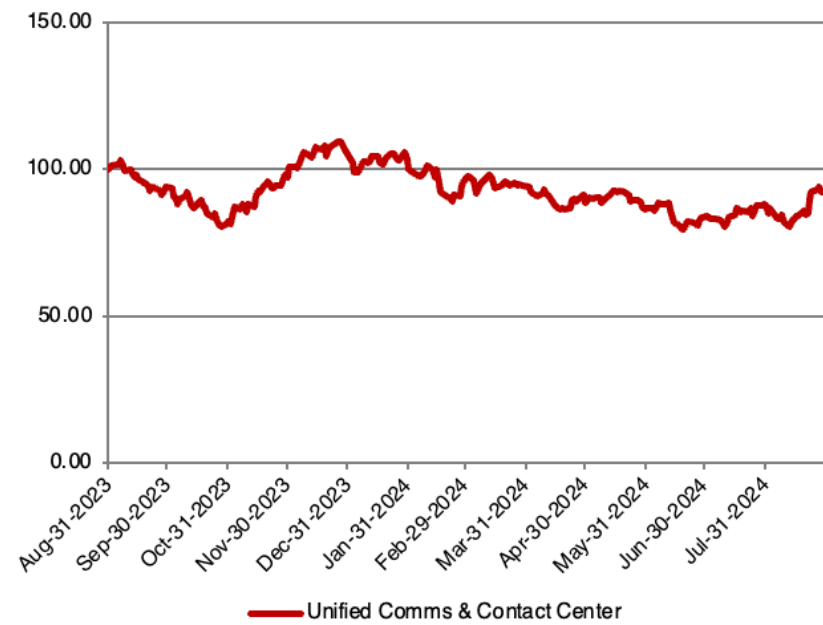
	8/31/24	8/31/23
Test and Measurement Index	1.9x	1.8x
Anritsu	1.1x	1.0x
Spirent	2.7x	1.8x
Viavi	2.1x	2.3x

**Company EBITDA Multiples**

	8/31/24	8/31/23
Test and Measurement Index	16.8x	11.7x
Anritsu	7.7x	7.5x
Spirent	30.2x	10.4x
Viavi	25.2x	16.7x

**SUB SECTOR ANALYSIS: UNIFIED COMMUNICATIONS AND CONTACT CENTER**

**Twelve Month Index Return**



**Company Returns**

	12 Month	3 Month
Unified Comms & Contact Center Index	-8.1%	5.8%
8x8	-42.2%	-31.1%
Crexendo	159.3%	58.8%
Enghouse Systems	-3.8%	8.7%
Five9	-55.4%	-31.0%
RingCentral	7.8%	-2.5%
Sangoma Technologies	39.3%	-5.7%
Twilio	-1.5%	9.3%
Verint	-2.6%	6.4%
Zoom	-2.7%	12.6%

**Company Revenue Multiples**

	8/31/24	8/31/23
Unified Comms & Contact Center Index	2.3x	2.9x
8x8	0.8x	1.1x
Crexendo	2.2x	1.1x
Enghouse Systems	2.8x	3.3x
Five9	2.6x	6.2x
RingCentral	2.0x	2.1x
Sangoma Technologies	1.0x	0.9x
Twilio	1.9x	2.2x
Verint	2.8x	3.1x
Zoom	3.0x	3.5x

**Company EBITDA Multiples**

	8/31/24	8/31/23
Unified Comms & Contact Center Index	27.1x	257.8x
8x8	49.2x	NM
Crexendo	30.9x	NM
Enghouse Systems	12.2x	12.1x
Five9	NM	NM
RingCentral	35.0x	NM
Sangoma Technologies	66.7x	12.8x
Twilio	211.3x	NM
Verint	17.8x	23.4x
Zoom	16.2x	52.6x

## ABOUT FOCUS INVESTMENT BANKING

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