

FOCUS Telecom  
Technology and Services Group  
Carrier-Focused  
Telecom Technology  
Quarterly

Fall 2014 Report

Vol. 4, No. 4

FOCUS

Investment Banking

Seasoned, Systematic, Successful<sup>SM</sup>

## Investment Banking and Advisory Services

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

Sellside Assignments  
Buyside Engagements  
Capital Formation  
Valuation and Fairness Options

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# Carrier-Focused Telecom Technology Quarterly

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

The FOCUS Telecom Technology and Services group consists of four professionals with a mix of backgrounds that include both C-level operating expertise and experience at leading middle market investment banks. 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.

In 2014, members of the FOCUS Telecom team will be attending many conferences and meetings throughout the U.S. and are always delighted to receive introductions to

innovative companies in the industry. We hope to see you at one of these events, and look forward to exploring your capital market needs as you continue to grow your enterprise.

## Sub Sector Definitions

- **Large Cap:** Large, diversified companies with products across a variety of sub sectors
- **OSS/BSS Software:** Software systems that manage and bill the customer base and monitor and maintain telecom networks
- **IP Networking:** Carrier Ethernet switching, routers and IP Multimedia Subsystem (“IMS”) components
- **Wireline Access and Transport:** DSL equipment, PON equipment and WDM-based transport
- **Cable and Video:** Products such as headends and servers that support video delivery as well as broadband products for cable networks
- **Broadband Wireless:** High capacity, fixed wireless equipment
- **Test and Measurement:** Equipment used by both service providers and manufacturers to test and monitor networks and equipment

## Summary Comments

### Public Markets

While FOCUS' Carrier-Focused Telecom Technology Index (CFTTI) was able to show a slight gain of 0.6% in this most recent three month period, it significantly underperformed both the S&P 500 (gain of 4.1%) and the NASDAQ (gain of 8.0%). Five of the seven sub sectors in the CFTTI had gains for the period, but only one (Broadband Wireless) outperformed the broader indices. Year-over-year the CFTTI is sitting on a gain of more than 14%, although even with this strong uptick, the sector still trails the broader indices by a wide margin. In short, the CFTTI is performing well in absolute terms but does not look as strong relative to the overall market. The sector revenue and EBITDA multiples ended the period at 1.4x and 9.0x, respectively. These multiples are both up compared to the year ago period, but neither showed any meaningful change from our Summer reporting period.

### Large Cap

After a rare turn as the top performing sub sector in our Summer report, the Large Cap sub sector was basically flat with a gain of 0.5% over the past three months. ZTE was the sub sector's best performer with a gain of 7.9%, while Nokia's gain of 4.0% made it the second best performer. On the down side, Alcatel Lucent suffered a loss of more than 15% while Juniper was down slightly more than 5%. However, even with these retreats Alcatel-Lucent and Juniper are both still among the sub sector's best performing stocks over the past 12 months. The sub sector revenue multiple of 1.4x is a significant increase compared to the 1.0x a year ago. The sub sector EBITDA multiple is also up over this same time frame, expanding from 7.3x to 8.3x.

### OSS/BSS Software

The OSS/BSS Software sub sector had a second straight three-month period of modest gains, this time posting an increase of 3.5%. Last period's top performers Amdocs and Subex both lost momentum and were down for the three month period, but other stocks picked up the slack. In particular, AsiaInfo-Linkage was up more than 20% while NetScout Systems was not far behind with a gain of 18.5%. Evolving Systems rounded out the trio of top performers with a gain of 16.0%.

Year-over-year the OSS/BSS Software sub sector is still one of the best performing sub sectors in the CFTTI with a gain of 27.4%. Compared to a year ago, the sub sector revenue multiple grew from 1.5x to 1.9x and the sub sector EBITDA multiple grew from 9.1x to 11.4x. Companies that made significant contributions to these

multiple increases include Amdocs, AsiaInfo-Linkage and NetScout Systems.

### IP Networking

After a big gain in our Spring report and a big loss in our Summer report, the IP Networking sub sector had a relatively calm period with a three month gain of 2.9%. Ruckus Wireless led the way for the period with a gain of 28.8%, while Broadsoft took the silver with a gain of 10.6%. On the negative side, Allot Communications, Mavenir Systems and Sandvine all weighed down the index with double digit losses for the three-month period. Year-over-year, the IP Networking sub sector is down slightly with a 1.7% loss, and multiples have shown a similar slight decline. The sub sector revenue multiple fell from 2.4x a year ago to its current 2.3x. The sub sector EBITDA multiple also dropped slightly from 136.3x to 132.9x.

### Wireline Access and Transport

The Wireline Access and Transport sub sector reversed the losses in our Summer report and was one of the better performing sub sectors for this three-month period. In fact, its gain of 6.2% made it the second best performing sub sector for our Fall reporting period. Access vendor Calix was a heavy contributor to the increase with a gain of nearly 30%, and fellow access vendor Zhone also was up more than 10%. Likewise, transport vendors Infinera and Net Insight also enjoyed double digit gains for the period. Despite these recent gains, revenue and EBITDA multiples have fallen from the year ago period and now stand at 1.3x revenue and 25.7x EBITDA.

### Cable and Video

After an impressive string of first and second place finishes, the Cable and Video sub sector had a tough time of it in this most recent three-month period. In fact, it was the worst performing sub sector with a loss of 10.3% over this time frame. Six of the seven stocks in the index were in the red, with Amino the only exception. Even with this drop, however, the sub sector is still up nearly 50% year-over-year. Multiples are flat to slightly down from this time last year. The sub sector revenue multiple remained constant at 1.0x, while the EBITDA multiple fell from 12.3x to 9.6x.

### Broadband Wireless

The Broadband Wireless sub sector turned in a surprisingly strong performance with a gain of 29.2% in the last three months. Importantly, the gains were not simply concentrated in sector leader Ubiquiti Networks, but also were

enjoyed by all the companies in the sub sector. Ubiquiti did gain nearly 30% in the past three months, but it was actually outperformed by both Aviat Networks and Redline Communications. With these recent gains, the sector revenue and EBITDA multiples are now 3.0x and 26.1x, respectively.

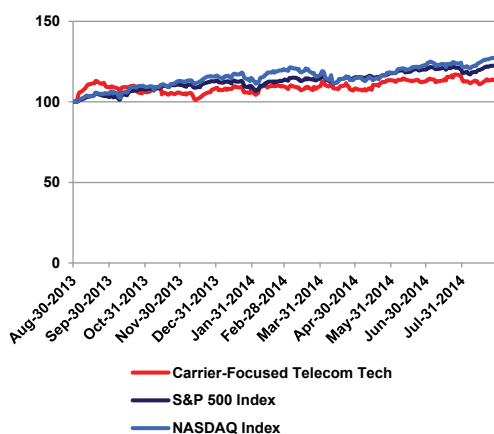
### Test and Measurement

The Test and Measurement sub sector continues to be challenged. Its loss of 8.3% in the past three months made

it the second worst performing sub sector over this reporting period. Six of the eight stocks in the index were in negative territory, although sector bellwether JDSU was one of those that managed to turn in a positive performance. Sub sector multiples also continue to fall. The current sub sector revenue multiple is 1.4x, a significant drop from 1.8x a year ago. The sub sector EBITDA multiple is also down during this same time period, falling from 13.1x to 11.9x.

## Carrier-Focused Telecom Technology: Public Market Summary

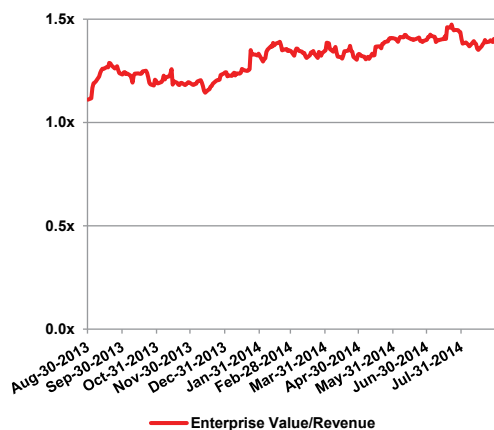
Twelve Month Index Returns



Sector and Sub Sector Returns

	12 Month	3 Month
Carrier-Focused Telecom Tech	14.4%	0.6%
Large Cap	15.5%	0.5%
OSS/BSS	27.4%	3.5%
IP Networking	-1.7%	2.9%
Wireline Access and Transport	-4.3%	6.2%
Cable and Video	45.5%	-10.3%
Broadband Wireless	22.3%	29.2%
Test and Measurement	-22.4%	-8.3%
S&P 500	22.7%	4.1%
NASDAQ	27.6%	8.0%

Revenue Multiple Trends

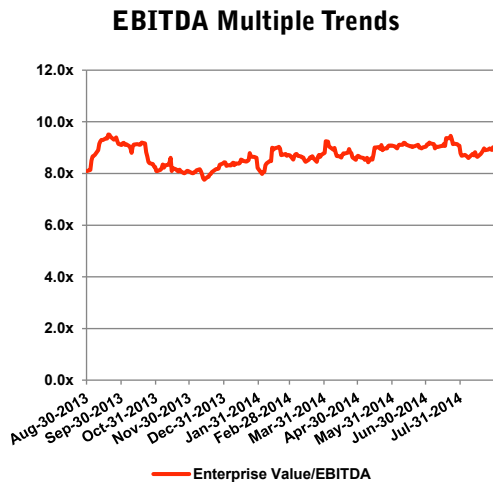


Sector and Sub Sector Revenue Multiples

	8/31/2014	8/31/2013
Carrier-Focused Telecom Tech	1.4x	1.1x
Large Cap	1.4x	1.0x
OSS/BSS	1.9x	1.5x
IP Networking	2.3x	2.4x
Wireline Access and Transport	1.3x	1.5x
Cable and Video	1.0x	1.0x
Broadband Wireless	3.0x	2.5x
Test and Measurement	1.4x	1.8x

Source: Capital IQ

## Carrier-Focused Telecom Technology: Public Market Summary (continued)



Source: Capital IQ

### Sector and Sub Sector EBITDA Multiples

	8/31/2014	8/31/2013
Carrier-Focused Telecom Tech	9.0x	8.1x
Large Cap	8.3x	7.3x
OSS/BSS	11.4x	9.1x
IP Networking	132.9x	136.3x
Wireline Access and Transport	25.7x	48.3x
Cable and Video	9.6x	12.3x
Broadband Wireless	26.1x	38.3x
Test and Measurement	11.9x	13.1x

## Carrier-Focused Telecom Technology Stocks

### M&A

After the very slow M&A market that we commented on in our Summer report, M&A activity in the Carrier Focused Telecom Technology sector picked up significantly in terms of announced transactions. This period saw 20 announced transactions, nearly double what we saw in the Summer reporting period. However, the pickup in activity was not broad-based, with a lone sub sector (OSS/BSS Software) singlehandedly responsible for the increase. In fact, four of our seven sub sectors did not see any M&A activity at all this reporting period. Furthermore, dollar volume was light with only \$298 million in announced transaction dollar volume for the period. In summary, while the M&A market appears active and is on pace to equal or exceed typical volumes (at least in terms of deal numbers), outside of the OSS/BSS Software sub sector activity is significantly down from typical levels.

### OSS/BSS Software

The OSS/BSS Software sub sector saw 16 announced transaction for the period. This represented 80% of the reported transactions for the period. Within OSS/BSS Software, there were a number of active areas. CLX, Eng-house Systems, mBlox, and NewNet all made acquisitions that added to their messaging capabilities; while Empirix, EXFO, and NetBoss Technologies all made acquisitions in the area of analytics.

One of the more interesting acquisitions was certainly Ericsson's acquisition of billing provider Metratech. While Metratech has a strong presence in the communication service provider vertical, Ericsson's stated reason for making the acquisition was to expand beyond telecom into markets like transport and utilities while also improving its position in the "Internet of Things" market. Finally, Cisco acquired multi-vendor service orchestration vendor Tail-f Systems as it continues to build its OSS/BSS product offerings through acquisition.

### IP Networking

There were no transactions in the IP Networking sub sector this reporting period.

### Wireline Access and Transport

There were no transactions in the Wireline Access and Transport sub sector this reporting period.

### Cable and Video

There were no transactions in the Cable and Video sub sector this reporting period.

### Broadband Wireless

We saw two transactions in the Broadband Wireless sub sector this period. The most notable was Nokia's acquisition of Panasonic's wireless base station business. This transaction demonstrates both Nokia's return to the deal

table after completing its corporate reorganization and the continued consolidation in the market for RAN equipment as smaller players are forced to abandon the market. In the period's other transaction, Cirtek Holdings acquired REMEC Broadband Wireless to expand its position in the wireless market.

### Test and Measurement

After a rare three month period with no transactions in our Summer report, the Test and Measurement sub sector bounced back a bit this Fall with two announced transactions. Spirent continued its acquisitive ways by acquiring the Radvision Technology Business Unit that provides testing tools for real-time IP services like voice and video.

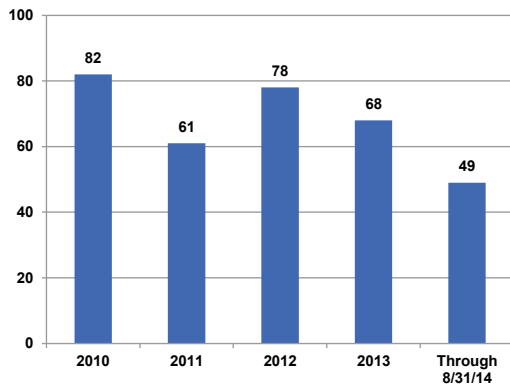
It was not surprising that this business unit had become non strategic to Radvision, a provider of videoconferencing systems that is now owned by Avaya. In addition to the Spirent/Radvision transaction, we also note that Chinese vendor Beijing Tongtech acquired wireless network test and optimization vendor Beijing Hugeland Technologies.

### Transactions with Multiples

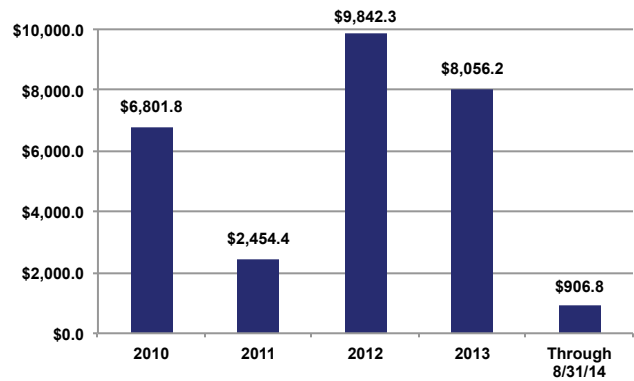
This reporting period had only a single transaction with a multiple. This belonged to Enghouse Networks' purchase of Jinny Software for 0.7x revenue. This multiple is lower than what we typically see in the OSS/BSS Software sub sector, but consistent with multiples Enghouse Systems has paid for companies in the past.

## Carrier-Focused Telecom Technology: M&A Summary

**M&A Activity: Number of Transactions**



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





## Announced Transactions (6/1/14 – 8/31/14)

Acquiror	Target	Date Announced	Sector	Purchase Price	Description
Beijing Tongtech	Beijing Hugeland Technologies	8/14/14	Test and Measurement	\$67.2	Specializes in the test and optimization of wireless networks and the provision of integrated solutions for mobile network optimization.
Empirix	Verios Software & Systems	8/14/14	OSS/BSS Software	NA	Provides real-time analytics solutions for high-volume distributed networks.
Comverse	Solaimes	8/5/14	OSS/BSS Software	\$4.2	Infrastructure solutions for carriers, MVNOs, and service providers including a Rich Communication Suite solution gateway.
Enghouse Systems	Jinny Software	8/4/14	OSS/BSS Software	\$17.7	Provides mobile messaging and advertising, call completion and voice and value added solutions.
Nokia	Panasonic (RAN Assets)	7/31/14	Broadband Wireless	NA	Mobile phone (LTE/3G) wireless base station systems for mobile operators and related wireless equipment systems.
Ericsson	MetraTech	7/29/14	OSS/BSS Software	NA	Metadata-based billing, commerce and settlement solutions adaptable to multiple business models and industries.
Cirtek Holdings	REMEC Broadband Wireless	7/24/14	Broadband Wireless	NA	Telecommunications infrastructure products for voice, video and data transfer over wireless networks.
mBlox	CardboardFish	7/14/14	OSS/BSS Software	NA	Application to Person (A2P) SMS text messaging solutions provider.
Enghouse Systems	Basset	7/4/14	OSS/BSS Software	\$9.4	Wholesale revenue management systems for the telecommunications and utility industries worldwide.
Nokia	NICE Systems (3D Geolocation Assets)	7/3/14	OSS/BSS Software	NA	Three dimensional modelling aimed at delivering better accuracy of network performance for multivendor networks.
Spirent Communications	Radvision (Technology Business Unit)	7/2/14	Test and Measurement	\$25.0	Toolkits for IP communication protocols and testing tools for real-time voice and video over IP.
NetBoss Technologies	Ventraq	7/1/14	OSS/BSS Software	NA	Large-scale data integration, network and business analytics for communication service providers and large enterprises.
DataJack	Unified Signal	6/30/14	OSS/BSS Software	NA	SaaS-based billing and back office solution that enables companies to resell cellular service as well as other telecom services.
Undisclosed	Clarity OSS (Certain Assets)	6/24/14	OSS/BSS Software	NA	Software that analyzes network data, provides a consolidated view of network performance and implements network changes.
EXFO	Aito Technologies	6/19/14	OSS/BSS Software	NA	Customer experience analytics for real-time analysis, discovery and reporting applications.
Cisco Systems	Tail-f Systems	6/17/14	OSS/BSS Software	\$175.0	Configuration management software that provides multi-vendor service orchestration and network automation solutions.
CLX	Voltari (North American Messaging Business)	6/12/14	OSS/BSS Software	NA	Messaging business in North America with direct operator connections in both the USA and Canada.
NewNet Communication Technologies	NewPace Technologies	6/11/14	OSS/BSS Software	NA	Large-scale VoIP offerings and global instant messaging products that are fully compatible with LTE & VoLTE network infrastructure.
ViaSat	NetNearU	6/9/14	OSS/BSS Software	NA	Operations support system for managing public Internet access networks including Wi-Fi, Wi-Max, Hotspot and Metro deployments.
MYCOM	Objective Systems Integrators (OSI)	6/3/14	OSS/BSS Software	NA	Platform that provides service, performance and fault management for complex mobile and fixed Telecom networks.

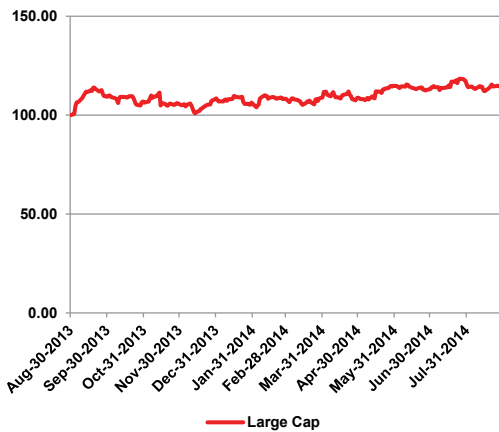
## Announced Transactions with Revenue Multiples (9/1/13 – 8/31/14)

Acquiror	Target	Date Announced	Sector	Purchase Price	Revenue Multiple	EBITDA Multiple	Description
Enghouse Systems	Jinny Software	8/4/14	OSS/BSS Software	\$17.7	0.7 x	NA	Provides mobile messaging and advertising, call completion and voice and value added solutions.
WidePoint	Soft-ex	5/6/14	OSS/BSS Software	\$6.0	1.0 x	14.6 x	Web-based telecom data intelligence and telecom expense management tools for mobile and fixed operators and enterprises.
Synchronoss Technologies	OnMobile (VoxMobili Division)	5/3/14	OSS/BSS Software	\$26.0	1.5 x	NA	Solution for mobile operators that enables subscribers to manage, store and sync address book and link contacts with social networks.
Kudelski	Teleneor Broadcast Holding (Conax Division)	3/26/14	Cable and Video	\$249.6	2.4 x	6.2 x	Solutions for securing multi-device and digital TV services for cable, satellite, terrestrial and IPTV operators.
Westell	Cellular Specialties	3/3/14	Broadband Wireless	\$39.0	1.1 x	NA	In-building wireless connectivity products including digital repeaters and modems and distributed antenna system interface units.
Aeroflex	Shenick	2/6/14	Test and Measurement	\$28.5	3.0 x	NA	Per-flow Internet protocol test and measurement solutions for virtualized and physical network infrastructure.
Sonus Networks	Performance Technologies	12/13/13	IP Networking	\$41.5	1.6 x	28.0 x	Diameter and SS7 signaling and multi-protocol gateways and servers.
JDS Uniphase	Network Instruments	12/11/13	Test and Measurement	\$200.0	5.0 x	NA	Network troubleshooting and analysis solutions including packet capture, application management and data collection and analysis.
Ixia	Net Optics	10/29/13	Test and Measurement	\$190.0	3.4 x	NA	Network and virtualization taps and application-aware network performance monitoring solutions and network packet brokers.
Pace	Aurora Networks	10/23/13	Cable and Video	\$310.0	1.4 x	10.3 x	Optical transport systems including headend and hub products, CWDM Ethernet access systems and optical node products.
Marlin Equity	Tellabs	10/21/13	Wireline Access and Transport	\$329.9	0.4 x	84.6 x	Digital cross-connect systems, managed transport systems and Metro Ethernet switching products as well as access solutions.



## Sub Sector Analysis: Large Cap

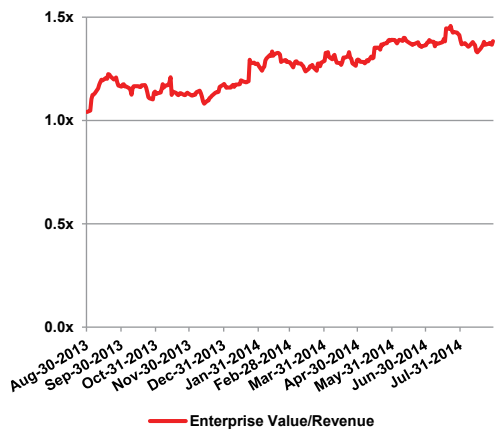
### Twelve Month Index Returns



### Company Returns

	12 Month	3 Month
Large Cap Index	15.5%	0.5%
Aicatel-Lucent	34.5%	-15.2%
Cisco	7.2%	1.5%
Ericsson	6.0%	0.3%
Juniper	22.7%	-5.2%
Nokia	117.6%	4.0%
ZTE	-15.2%	7.9%

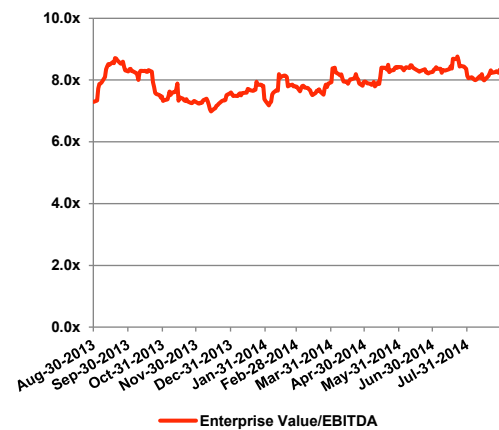
### Revenue Multiple Trends



### Company Revenue Multiples

	8/31/2014	8/31/2013
Large Cap Index	1.4x	1.0x
Aicatel-Lucent	0.6x	0.4x
Cisco	2.1x	1.9x
Ericsson	1.0x	0.9x
Juniper	1.9x	1.7x
Nokia	1.4x	1.1x
ZTE	0.8x	0.9x

### EBITDA Multiple Trends



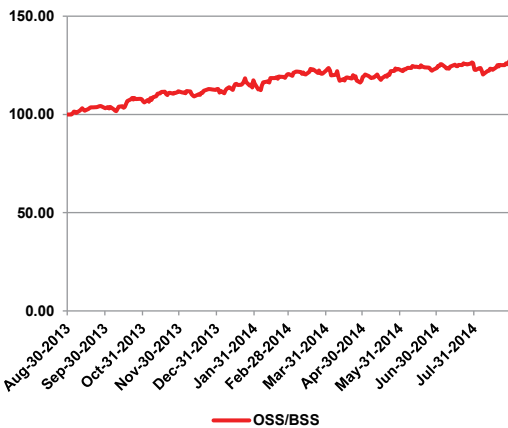
### Company EBITDA Multiples

	8/31/2014	8/31/2013
Large Cap Index	8.3x	7.3x
Aicatel-Lucent	9.7x	37.7x
Cisco	7.9x	6.5x
Ericsson	7.3x	8.2x
Juniper	10.7x	11.1x
Nokia	8.6x	2.4x
ZTE	18.7x	NM

Source: Capital IQ

## Sub Sector Analysis: OSS/BSS Software

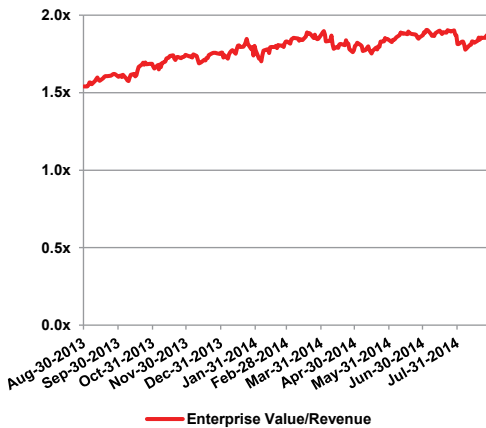
### Twelve Month Index Returns



### Company Returns

	12 Month	3 Month
OSS/BSS Index	27.4%	3.5%
Amdocs	27.8%	-2.1%
AsialInfo-Linkage	14.9%	21.3%
Astellia	-13.1%	-16.3%
Comptel	29.7%	-1.2%
Comverse	-18.4%	-0.2%
CSG Systems	17.8%	5.5%
Evolving Systems	12.4%	16.0%
NetScout Systems	85.5%	18.5%
Radcom	4.7%	7.0%
Redknee	-21.4%	-38.9%
Subex	89.0%	-23.4%
Synchronoss	28.5%	39.1%
Tecnotree	-27.7%	-19.5%

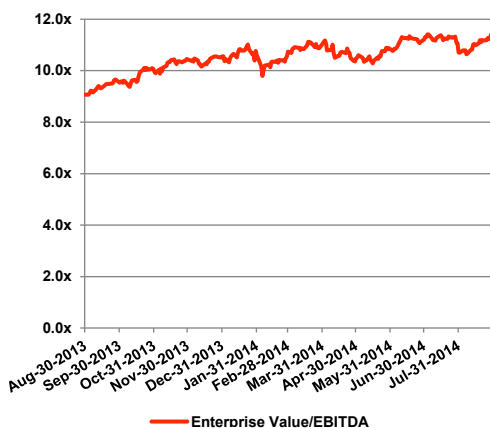
### Revenue Multiple Trends



### Company Revenue Multiples

	8/31/2014	8/31/2013
OSS/BSS Index	1.9x	1.5x
Amdocs	1.8x	1.5x
AsialInfo-Linkage	4.5x	3.9x
Astellia	0.4x	0.6x
Comptel	0.8x	0.7x
Comverse	0.6x	0.6x
CSG Systems	1.4x	1.2x
Evolving Systems	3.6x	3.2x
NetScout Systems	4.1x	2.5x
Radcom	2.0x	2.3x
Redknee	1.2x	3.5x
Subex	2.6x	2.1x
Synchronoss	4.6x	4.4x
Tecnotree	0.8x	0.6x

### EBITDA Multiple Trends



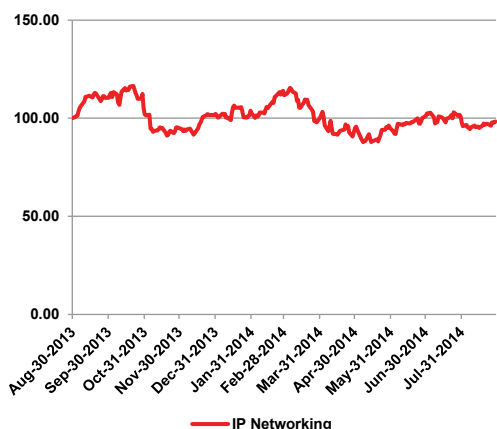
### Company EBITDA Multiples

	8/31/2014	8/31/2013
OSS/BSS Index	11.4x	9.1x
Amdocs	9.8x	7.8x
AsialInfo-Linkage	12.5x	10.9x
Astellia	5.4x	NM
Comptel	7.5x	8.4x
Comverse	7.6x	5.8x
CSG Systems	8.6x	6.6x
Evolving Systems	14.6x	11.7x
NetScout Systems	16.5x	10.6x
Radcom	NM	NM
Redknee	101.7x	49.0x
Subex	15.2x	11.1x
Synchronoss	17.7x	21.1x
Tecnotree	NM	NM

Source: Capital IQ

## Sub Sector Analysis: IP Networking

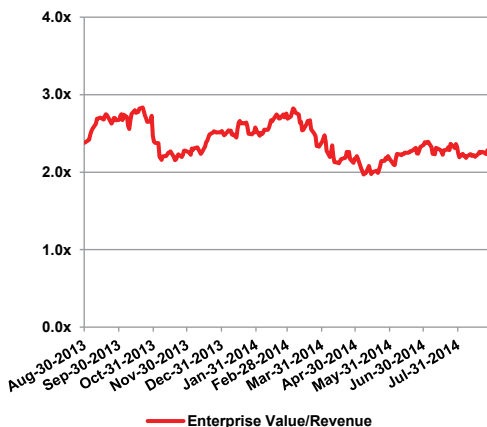
### Twelve Month Index Returns



### Company Returns

	12 Month	3 Month
IP Networking Index	-1.7%	2.9%
Allot Communications	-11.2%	-18.4%
Audiocodes	-13.3%	-10.8%
Broadsoft	-25.9%	10.6%
Dialogic	-17.5%	-24.1%
Mavenir Systems	NA	-15.6%
Procera Networks	-20.5%	6.4%
Radisys	-9.1%	-5.5%
Ruckus Wireless	2.4%	28.8%
Sandvine	68.2%	-12.3%
SONUS Networks	9.3%	2.7%

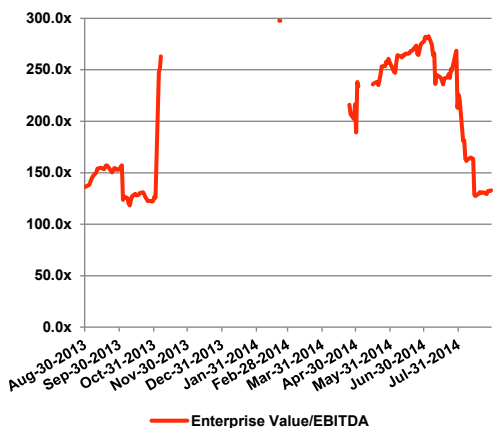
### Revenue Multiple Trends



### Company Revenue Multiples

	8/31/2014	8/31/2013
IP Networking Index	2.3x	2.4x
Allot Communications	2.2x	2.6x
Audiocodes	1.6x	1.7x
Broadsoft	3.3x	5.0x
Dialogic	0.8x	0.6x
Mavenir Systems	2.8x	NA
Procera Networks	1.3x	2.4x
Radisys	0.5x	0.4x
Ruckus Wireless	3.3x	3.8x
Sandvine	2.6x	1.7x
SONUS Networks	2.8x	2.9x

### EBITDA Multiple Trends



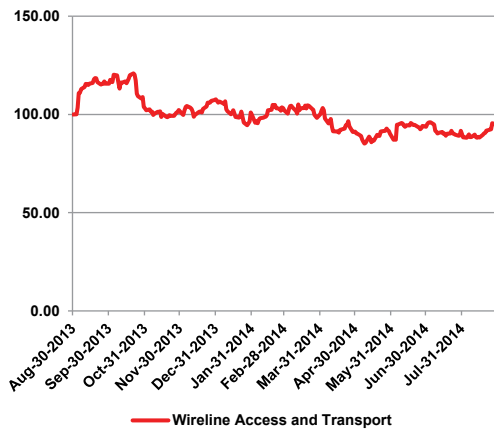
### Company EBITDA Multiples

	8/31/2014	8/31/2013
IP Networking Index	132.9x	136.3x
Allot Communications	64.0x	142.7x
Audiocodes	40.0x	63.4x
Broadsoft	627.4x	53.9x
Dialogic	10.2x	NM
Mavenir Systems	NM	NA
Procera Networks	NM	NM
Radisys	NM	NM
Ruckus Wireless	88.8x	58.0x
Sandvine	9.7x	11.8x
SONUS Networks	177.2x	NM

Source: Capital IQ

## Sub Sector Analysis: Wireline Access and Transport

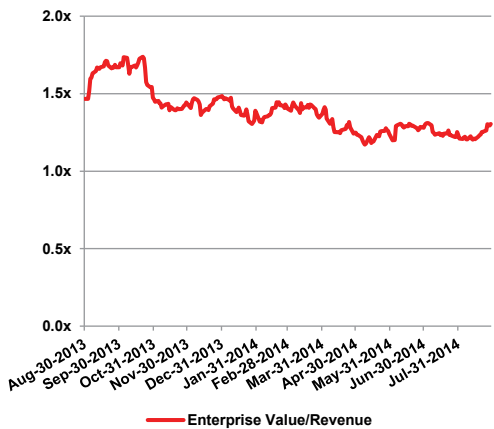
### Twelve Month Index Returns



### Company Returns

	12 Month	3 Month
Wireline Access & Transport Index	-4.3%	6.2%
ADTRAN	-4.3%	2.9%
ADVA	-21.5%	-11.8%
BATM	26.2%	-7.4%
Calix	-18.3%	28.7%
CIENA	3.9%	6.6%
Communications Systems	-6.5%	-0.5%
Cyan	-59.5%	1.6%
Infinera	14.1%	16.3%
MRV Communications	30.1%	2.1%
Net Insight	62.8%	14.5%
Orckit Communications	-85.8%	-40.0%
Transmode Systems	-35.1%	-24.4%
Zhone Technologies	34.2%	11.3%

### Revenue Multiple Trends

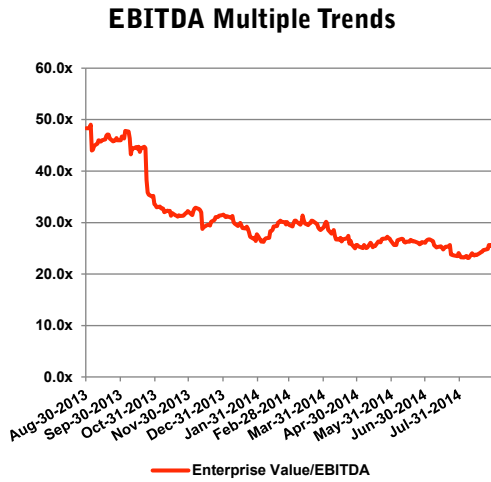


### Company Revenue Multiples

	8/31/2014	8/31/2013
Wireline Access & Transport Index	1.3x	1.5x
ADTRAN	1.8x	2.1x
ADVA	0.3x	0.5x
BATM	0.7x	0.4x
Calix	1.2x	1.6x
CIENA	1.3x	1.4x
Communications Systems	0.6x	0.8x
Cyan	1.4x	2.9x
Infinera	1.9x	1.8x
MRV Communications	0.5x	0.3x
Net Insight	1.9x	1.3x
Orckit Communications	1.8x	2.1x
Transmode Systems	1.6x	2.3x
Zhone Technologies	0.8x	0.7x

Source: Capital IQ

## Sub Sector Analysis: Wireline Access and Transport *continued*



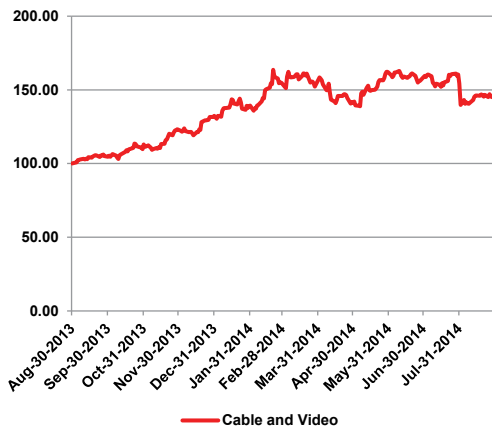
Source: Capital IQ

## Company EBITDA Multiples

	8/31/2014	8/31/2013
Wireline Access & Transport Index	25.7x	48.3x
ADTRAN	16.2x	25.9x
ADVA	6.5x	7.1x
BATM	44.8x	20.7x
Calix	75.4x	125.2x
CIENA	20.2x	24.1x
Communications Systems	7.9x	12.5x
Cyan	NM	NM
Infinera	36.9x	NM
MRV Communications	NM	NM
Net Insight	22.6x	NM
Orckit Communications	NM	NM
Transmode Systems	12.5x	12.6x
Zhone Technologies	25.6x	NM

## Sub Sector Analysis: Cable and Video

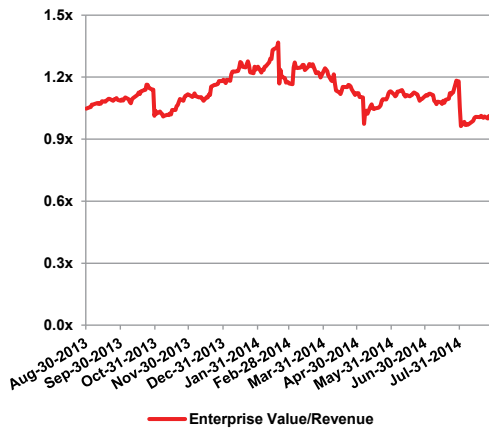
### Twelve Month Index Returns



### Company Returns

	12 Month	3 Month
Cable and Video Index	45.5%	-10.3%
Amino	0.0%	5.7%
Arris	95.3%	-7.6%
Envivio	-27.8%	-19.4%
Harmonic	-7.1%	-9.3%
NetGem	-20.2%	-42.1%
Pace	24.1%	-12.8%
SeaChange	-24.1%	-20.8%

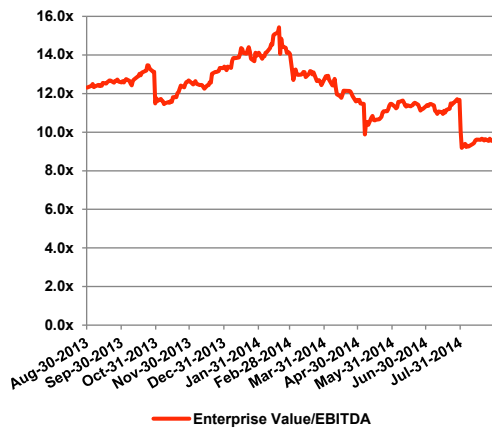
### Revenue Multiple Trends



### Company Revenue Multiples

	8/31/2014	8/31/2013
Cable and Video Index	1.0x	1.0x
Amino	1.0x	0.9x
Arris	1.1x	1.7x
Envivio	0.1x	0.5x
Harmonic	1.0x	1.2x
NetGem	0.5x	0.7x
Pace	0.8x	0.5x
SeaChange	1.0x	1.4x

### EBITDA Multiple Trends



### Company EBITDA Multiples

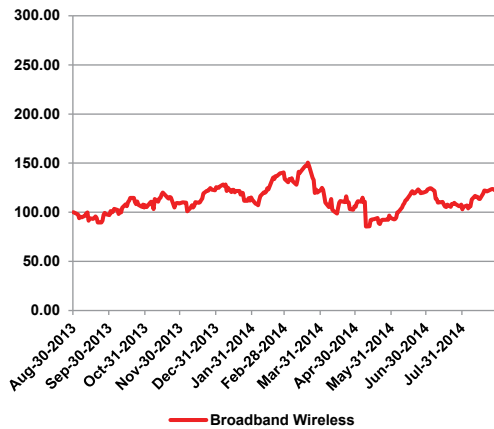
	8/31/2014	8/31/2013
Cable and Video Index	9.6x	12.3x
Amino	5.4x	6.7x
Arris	9.6x	16.1x
Envivio	NM	NM
Harmonic	18.1x	26.7x
NetGem	4.1x	4.9x
Pace	8.1x	6.8x
SeaChange	697.6x	12.6x

Source: Capital IQ



## Sub Sector Analysis: Broadband Wireless

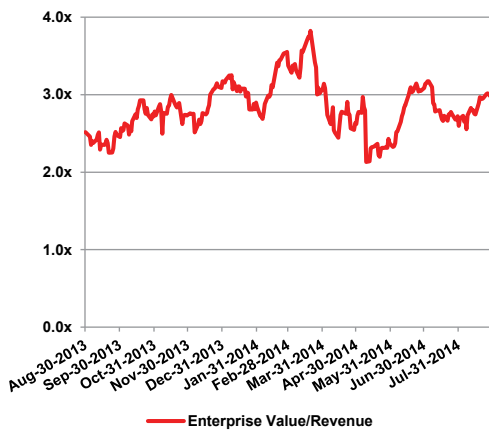
### Twelve Month Index Returns



### Company Returns

	12 Month	3 Month
Broadband Wireless Index	22.3%	29.2%
Aviat Networks	-38.2%	48.1%
Ceragon Networks	-32.1%	5.6%
DragonWave	-44.4%	14.5%
Redline Communications	-33.6%	34.0%
Ubiquiti Networks	29.4%	29.7%

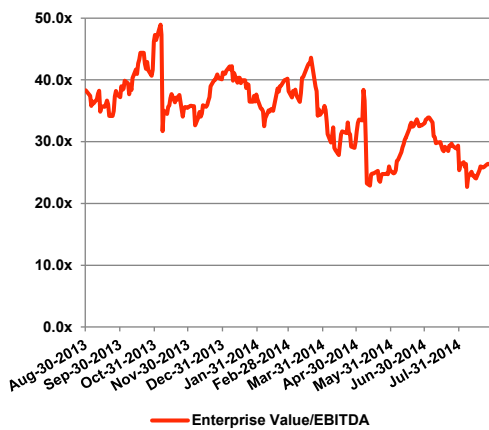
### Revenue Multiple Trends



### Company Revenue Multiples

	8/31/2014	8/31/2013
Broadband Wireless Index	3.0x	2.5x
Aviat Networks	0.2x	0.2x
Ceragon Networks	0.6x	0.4x
DragonWave	1.0x	0.7x
Redline Communications	1.4x	2.2x
Ubiquiti Networks	6.5x	9.0x

### EBITDA Multiple Trends



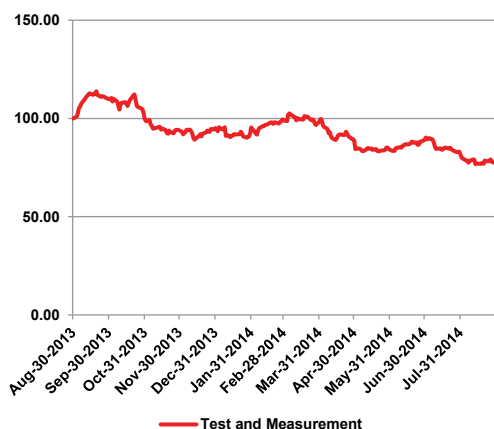
### Company EBITDA Multiples

	8/31/2014	8/31/2013
Broadband Wireless Index	26.1x	38.3x
Aviat Networks	NM	6.5x
Ceragon Networks	NM	NM
DragonWave	NM	NM
Redline Communications	NM	NM
Ubiquiti Networks	18.8x	30.7x

Source: Capital IQ

## Sub Sector Analysis: Test and Measurement

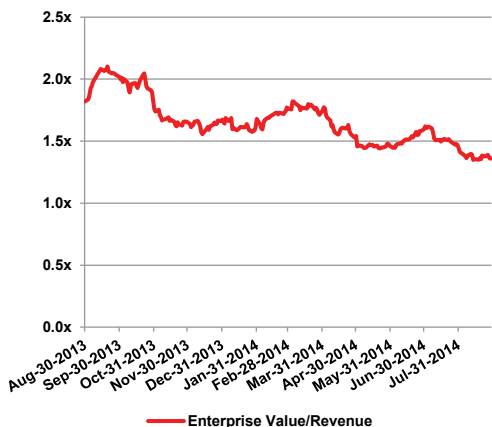
### Twelve Month Index Returns



### Company Returns

	12 Month	3 Month
Test and Measurement Index	-22.4%	-8.3%
Anite	-13.8%	-1.1%
Anritsu	-30.3%	-17.5%
Ascom	4.3%	-24.1%
EXFO	-3.8%	2.4%
Gigamon	-67.8%	-36.0%
Ixia	-33.7%	-17.2%
JDS Uniphase	-10.0%	5.3%
Spirant	-12.1%	-2.4%

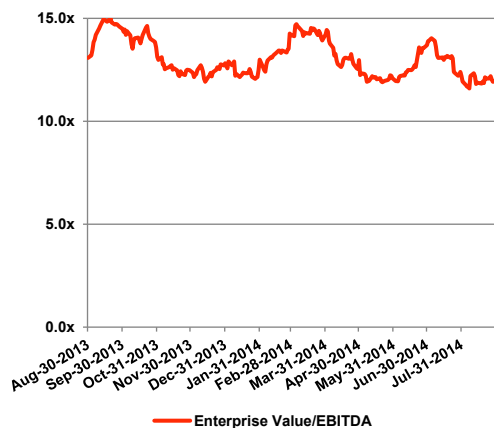
### Revenue Multiple Trends



### Company Revenue Multiples

	8/31/2014	8/31/2013
Test and Measurement Index	1.4x	1.8x
Anite	2.3x	2.6x
Anritsu	1.0x	1.6x
Ascom	1.0x	1.0x
EXFO	0.9x	0.9x
Gigamon	1.4x	7.8x
Ixia	1.8x	2.3x
JDS Uniphase	1.4x	1.5x
Spirant	2.0x	2.3x

### EBITDA Multiple Trends



### Company EBITDA Multiples

	8/31/2014	8/31/2013
Test and Measurement Index	11.9x	13.1x
Anite	14.1x	11.0x
Anritsu	6.1x	9.0x
Ascom	7.0x	7.0x
EXFO	16.5x	18.9x
Gigamon	NM	NM
Ixia	11.1x	10.8x
JDS Uniphase	15.4x	17.1x
Spirant	13.0x	10.6x

Source: Capital IQ

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